केंद्रीय विद्यालय संगठन क्षेत्रीय कार्यालय रायपुर

Kendriya Vidyalaya Sangathan Regional Office Raipur

Class -XII

Study Material -Geography- 2022-23

केंद्रीय विद्यालय संगठन क्षेत्रीय कार्यालय रायपुर

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Chapter-1 Human geography: Nature and Scope

- Geography is integrative, empirical and practical. It has two main branches i.e. Physical Geography and Human Geography
- Physical Geography studies about physical phenomena and human geography studies-

"The relationship between the physical/Natural and the human world, the spatial distributions of human phenomena and how they come about, the social and economic differences between different part of the world"

It includes –

- The relationship between physical and human world
- Spatial distributions of human phenomena
- Social and economic differences between different part of the world

Definition of human geography by Geographers

- "Human geography is the synthetic study of relationship between human societies and earth's surface." -- Ratzel

  Synthesis has been emphasised

- "Human geography is the study of the changing relationship between the unresting man and the unstable earth" -- Ellen C Semple

  Dynamism in the relationship is the keyword

Nature of Human Geography

1- **Naturalisation of humans (Environmental Determinism)**

- **Ratzel**, **Ellen C Sempl**e etc are main followers of this concept.
- Human being interact with their physical environment with the **Technology.** Technology loosens the shackles of environment on human beings.
- But in the early stages of the interaction with their natural environment human were greatly influenced by it.
- This type of interaction between primitive human society and strong force of nature was termed as '**Environmental Determinism**'
- Naturalised human, who listened to nature, was afraid of its fury and worshipped it. Physical environment for such societies becomes 'Mother Nature'
- Like Benda in Abujh Maad area of Central India, they survive on Shifting cultivation, collecting Mahua.

2- Humanisation of the Nature (Possibilism)

- **Paul Vidal de la Blache**, **Fabre** etc. are main follower of this concept
- The people begin to understand their environment and forces of the nature with the passage of time. With social and cultural development, humans develop better and more efficient technology.
- Human activities create cultural landscape like health resorts, ports and coasts, oceanic routes, satellites in the space etc.

- Now nature provides opportunities and human being make use of these and slowly nature gets humanised. Scholars termed as **Possibilism**.
- Winters in town of Trondheim mean fierce winds and heavy snow. Skies are dark for months. Yet people lives, grow vegetable and temperature is controlled.
- It is technology that has allowed the people of Trondheim and others to overcome the constraints imposed by the Nature.

3- **Neodeterminism** or **Stop and Go determinism**

- Propounded by **Griffith Taylor** who introduced another concept as middle path (Madhyam marg).
- At cross road, Red light means '**Stop**' and green light means '**Go**'. The concept shows that neither is there a situation of absolute necessity (Environment determinism) nor there is a condition of absolute freedom (Possibilism).
- It means that human can conquer nature by obeying it. They have to respond to red signals and can proceed after green signal. Means **Possibilism can be created with the limit** which do not damage the environment and there is no free run without accident.
- Due to **free run** some developed countries has created bad effects like Ozone layer depletion, global warming, receding glaciers and degrading lands etc.
- The neo-determinism conceptually attempts to bring a balance nullifying 'either' 'or' dichotomy.

Dynamism of Human Geography

Period	Approaches	Broad Features
Early Colonial Period	exploration and discriptions	Imperial and trade interests prompted the discovery and exploration of new areas, this description is important aspect of geographer
Later Colonial Period	Regional Analysis	The idea was that all regions were part of a whole i.e. (the earth) so understanding the parts in totality would lead to an understanding of the whole
1930s though the inter-war period	Areal differentiation	The focus was on identifying the uniqueness of any region and understanding how and why it was different from others
Late 1950s to the late 1960s	Spatial Organisation	Marked by the use of computer and sophisticated statistical tools. This phase is known as Quantitative revolution. Main objective was to identify mappable pattern for different human activities
1970s	Emergence of Humanistic, Radical and Behavioural School	1- Due to discontentment with Quantitative revolution it emerged 2- Humanistic/ Welfare included aspect such as housing, health and education. 3- Radical employed Marxian theory to explain basic cause of poverty, deprivation and social equality. problem due to capitalism. 4- Behavioural emphasis on experience and perception of space by social categories based on ethnicity, race and religion, etc.
1990s	Post modernism in Geography	The great generalizations and the applicability of universal theories to explain the human conditions were questioned. Local context

Field and sub-fields of Human Geography

Human Geography develops close interface with other sister disciplines in social science in order to understand and explain human elements on the surface of the earth.

Table 1.2: Human Geography and Sister Disciplines of Social Sciences

Fields of Human Geography	Sub-fields	Interface with Sister Disciplines of Social Sciences
Social Geography	—	Social Sciences – Sociology
	Behavioural Geography	Psychology
	Geography of Social Well-being	Welfare Economics
	Geography of Leisure	Sociology
	Cultural Geography	Anthropology
	Gender Geography	Sociology, Anthropology, Women's Studies
	Historical Geography	History
	Medical Geography	Epidemology
Urban Geography	—	Urban Studies and Planning
Political Geography	—	Political Science
	Electoral Geography	Psephology
	Military Geography	Military Science
Population Geography	—	Demography
Settlement Geography	—	Urban/Rural Planning
Economic Geography	—	Economics
	Geography of Resources	Resource Economics
	Geography of Agriculture	Agricultural Sciences
	Geography of Industries	Industrial Economics
	Geography of Marketing	Business Studies, Economics, Commerce
	Geography of Tourism	Tourism and Travel Management
	Geography of International Trade	International Trade

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1st Chapter Human Geography Nature and Scope

MCQ

1. Who has defined Human Geography as the study of relationship between human societies and earth's surface?

a. Ratzel

b. Ellen C. Semple

c. Blasche

d. Al Idrisi

2. Human Geography is study of changing relationship between unresting man and the unstable earth.

a. Ratzel

b. Ritter

c. Kant

d. Ellen C. Semple

3. Who coined the term neo-determinism?

a. Griffith Taylor

b. Ratzel

c. Blache

d. Christaller

4. Arrange the following approaches in a sequence order according to their development

1. Spatial organization 2. Regional approach 3. Areal differentiation 4. Humanistic approach

a. 1 4 2 3

b. 4 1 3 2

c. 2 3 1 4

d. 3 2 4 1

4. Who gave the concept of ‘stop and go determinism’?

a. Griffith Taylor

b. Ratzel

c. E.C Semple

d. Vidal de la Blache

5. Which of the following is not a sub field of social geography?

a. Medical geography

b. Historical geography

c. Cultural geography

d. Military geography

6. In which period quantitative thought became popular in geographical studies?

a. 1850

b. 1920

c. 1900

d. Late 1950s

7. Which school of thought is mainly concerned with social well being of people

a. Radical

b. Behavioural

c. Welfare

d. Possibilism

8. Stop and go determinism is also known as

a. Possibilism

b. Determinism

c. Neo determinism

d. None of the above

9. Which of the following is a sub field of economic geography?

a. Geography of leisure

b. Milita-ry geography

c. Historical geography

d. Geography of agriculture

10. The study of inter relationship between human and environment is

a. History

b. Human Geography

c. Economics

d. Political science

11. The most important factor in the interaction between people and environment

a. Human intelligence

b. Technology

c. People ‘s perception

d. Human brotherhood

12. Which of the following is not an approach of human geography

a. Radical

b. Behavioural

c. Welfare

d. Explanation and description

13. Who is considered the father of human geography?

a. Eratosthenes

b. Ratzel

c. E.c Semple

d. Vidal de la Blache

14. Psephology is sister disciplines of which sub fields of human geography

a. Military geography

b. Electoral geography

c. Agriculture geography

d. industries geography

15. The idea that all the regions were a part of whole i.e the earth is under which approaches

a. Spatial organization

b. Emergency of humanistic

c. Areal differentiation

d. Regional analysis

16. Historical Geography to which field of human geography

a. Political Geography

b. Social Geography

c. Settlement Geography

d. Economic

17. Geography_____ School of thought employed Marxian theory to explain the basic cause of poverty, deprivation and social inequality

a. Welfare or Humanistic

b. Radical

c. Behavioural

d. None of these

18. Naturalisation of humans means

a. Low level of technological development

b. high level of technological development

c. moderate level of technological development

d. None of these

19. Which subject is called Mother Discipline?

a. Geography

b. Economics

c. History

d. Political Science

20. Which approach of Human Geography was followed in colonial period?

a. Areal differentiation

b. Spatial organization

c. Behavioural

d. Regional

21. Who is not a French geographer out of the following?

a. Blache

b. Bruches

c. Demanzia

d. Ritter

Important Questions (For 3 and 5 Marks)

1. Define human geography. How it is different from physical geography? Explain
2. Differentiate between ‘naturalisation of human’ and ‘humanisation of nature’.
3. Who propounded Neodeterminism? Explain about this concept.
4. Explain briefly about the dynamic approaches of human geography.
5. Does human Geography has some subfield also? If yes then explain briefly.

Chapter-2, Population: Distribution, Density, Growth and Composition

- The people of a country are its real wealth.
- "Asia has many places where people are few and few places where people are very many" – George B Cressey
- The population is unevenly distributed. 90% of the world population lives in about 10% of its land area.
- The 10 most populous countries of the world contribute about 60% of the world's population. Of these 10 countries, 6 are located in Asia.

1. **China 1.44 bn**
2. **India 1.38 bn**
3. United states
4. **Indonesia**
5. **Pakistan**
6. 6. Brazil
7. 7. Nigeria
8. **8. Bangladesh**
9. **9. Russia**
10. 10. Mexico

Desnity of Population

- Density of population means **number of people living in per square km** or per unit area.
- Density of population= $\frac{\text{Population}}{\text{Area}}$
- For example area of region X is 100 sq km and the population is 150000 persons. So density of population is calculated like this
- Density of population= $\frac{150000}{100}$ = **1500 people/sq km**

Factors influencing the distribution of Population

1. **Geographical factors**

I- Availability of water – People prefer to live in areas where fresh water is easily available. That's why river valleys are densely populated.

II- Landforms – people prefer to live on flat plains so that they can easily construct road, industries or can cultivate to grow crops.

III- Climate – An extreme climate such as very hot or cold deserts or very heavy or low rainfall areas are uncomfortable for human habitation. Due to pleasant climate Mediterranean regions were inhabited from early period.

IV- Soils – Fertile soils are important for agricultural and allied activities which support intensive agriculture.

2. Economic factors

I- Minerals - Area with mineral deposits attract industries. Mining and industrial activities generate employment. For example Katanga Zambia copper belt in Africa.

II- Urbanisation – Cities offer better employment opportunities, educational and medical facilities, better means of transportation and communication and good civic amenities which attract population.

III- Industrialisation – Industrial belts provide job opportunities not for only factory workers but also transport operators, shopkeepers, bank employees, doctors, teachers and other services. The Kobe-Osaka region of Japan is thickly populated because of presence of a number of industries.

3. Social and Cultural Factors

- People tend to move away from the places where there is **social and political unrest**.
- Many times government offers incentives to people to live in sparsely or move away from overcrowded places.

Component of Population Change

Three components of population change – **Birth**, **Death** and **Migration**

1. CBR (Crude Birth Rate) is expressed as number of live births per thousand of population in a particular year. It is calculated as:

$$\text{CBR}=\frac{\text{Bi}}{\text{P}}\times 1000$$

Where Bi = Live Births during the year and P= Mid year population

- Population growth occurs not only by increasing births rate but also due to decreasing death rate.

2. CDR (Crude Death Rate) is expressed as number of death per thousand of population in a particular year. It is calculated as:

$$\text{CDR}=\frac{\text{D}}{\text{P}}\times 1000$$

Where D = Number of deaths during the year and P= Mid year population

3. Migration

- When people move form one place (Place of origin called Emigrant and process is Emigration) to another (Place of destination called Immigrant and process is Immigration), the place of origin shows a decrease in population while the population increase in the place of destination.
- Migration may take place from Rural to rural, rural to urban, urban to urban and urban to rural areas.
- **Push** factors make the place of origin seem less attractive for reasons like unemployment, poor living condition, political turmoil, unpleasant climate, natural disaster, epidemics and socio-economic backwardness.
- **Pull** factors make the place of destination seem more attractive than the place of origin for reasons like better job opportunities and living conditions, peace and stability, security of life and property and pleasant climate.

Trends in population growth

- Population on earth is more than seven billion. It is only from the last few centuries the population has increased at an alarming rate.
- In the first century A.D. it was below 300 million. Around 1750, at the dawn of the industrial revolution, the world population was 550 million after that world's population exploded.

- There were 4 billion people in 1975 and in 1987 it became 5 billion and again 1999 population increased to 6 billion. At present it has crossed 7 billion. It has been projected that in 2025 it may be 8 billion.
- Technical advancement helped in the reduction of death rate and provided a stage for accelerated population growth.
- The steam engine replaced human and animal energy and provided mechanised energy of water and wind this increased agricultural and industrial production.
- Inoculation (vaccine) against epidemics and other communicable disease, improvement in medical facilities and sanitation contributed to a rapid decline in death rates throughout the world.
- The growth of population is low in developed countries as compared to developing countries.

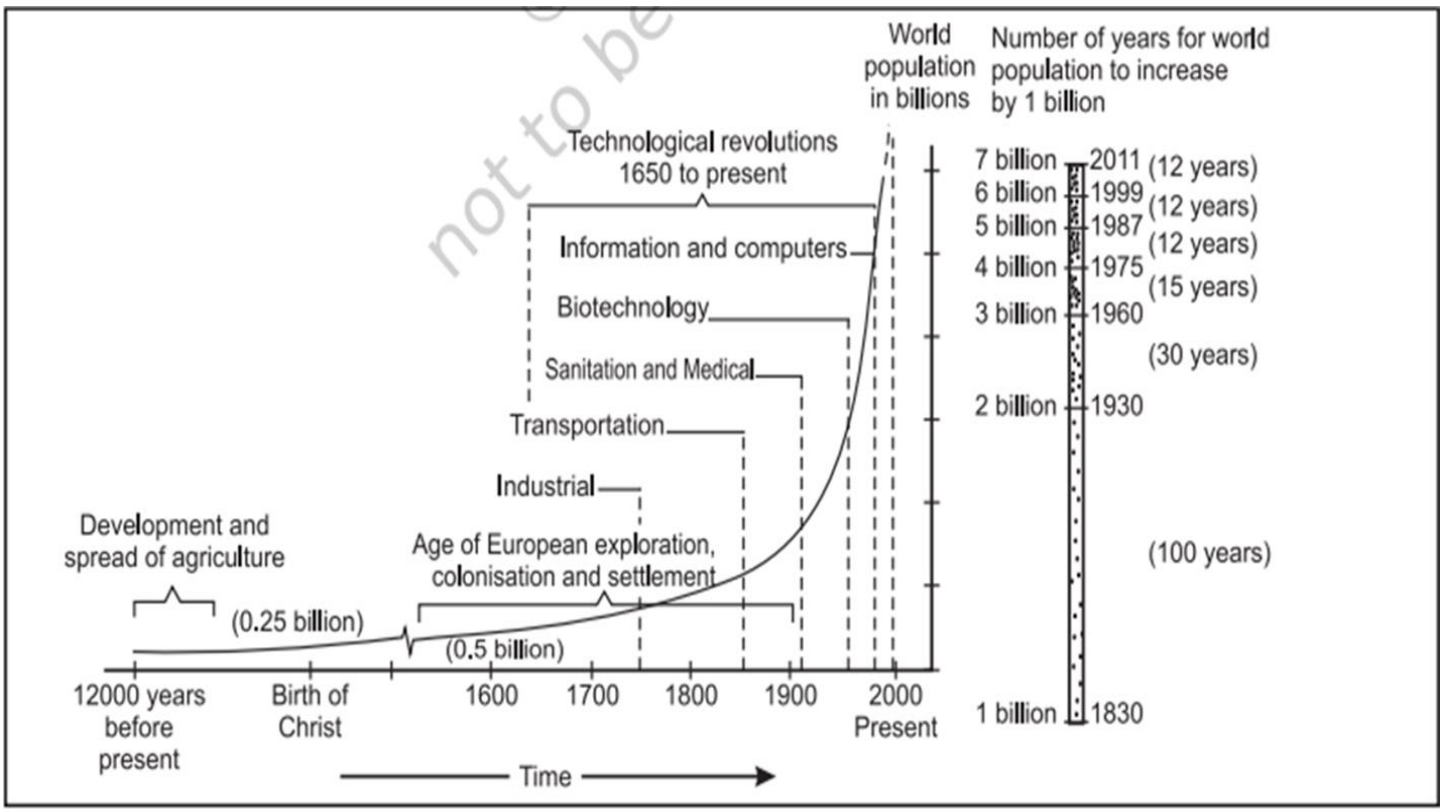


Fig. 2.2: Resource, Technology and Population Growth

Demographic Transition Theory

- This theory can be used to describe and predict the future population of any area/ country.
- This theory tells that the population of any region changed from high births and high deaths to low births and low deaths as society progresses from agrarian and illiterate to urban industrial and literate society. It has three stages.

First stage –

- Has high birth rate and high death rate
- the population growth is slow
- People are engaged in agriculture
- Life expectancy is low
- People are mostly illiterate
- Have low level of technology

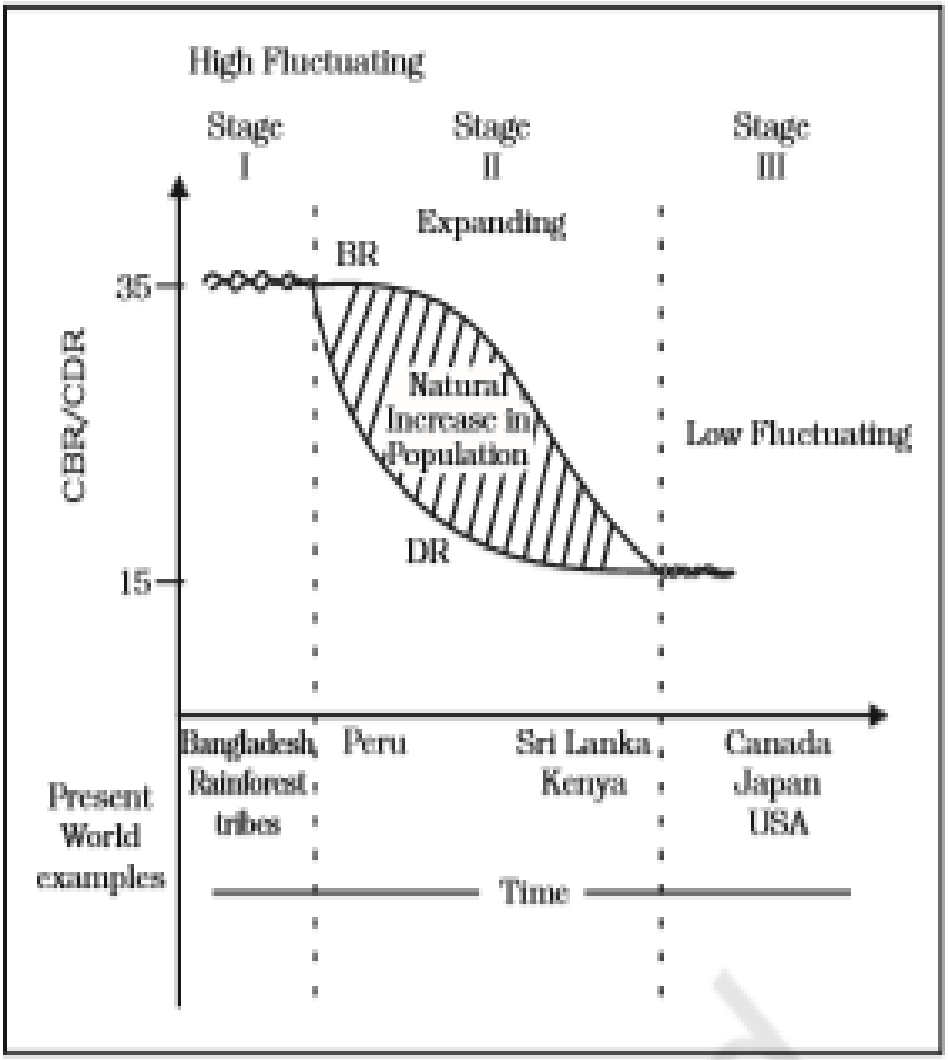
- Bangladesh and rainforest countries are in this stage

Second stage-

- Fertility remains high in the beginning of this stage but starts declining
- Improvements in sanitation and health lead to decline in mortality.
- Due to the gap population began to increase rapidly
- Peru, Sri Lanka and Kenya are in this stage.

Third / last stage –

- Both fertility and mortality decline considerably.
- Population is either stable or grows slowly
- Population becomes urbanised, literate and highly technical and deliberately control the family size.
- Japan, Canada and USA are in this stage.



Some basic concept of Population Geography

- **Growth of population**: Change of population in particular areas between two points of time. For example in

- 2001 population of India was 102.7 crores
- 2011 population of India was 121.02 crores Means growth of Indian population is 18.15 crores

- **Growth rate of population**: How many **percentage** of population increased or decreased
- **Natural growth of population**:

  Natural growth= Birth- death
- **Actual growth of population**:

  = Birth - death + Immigration – Emigration
- **Positive growth of population** means the number of people increased in comparison to earlier number
- **Negative growth of population** means the number of people decreased in comparison to earlier number.

MCQs

Which one from the following is not related with the Second stage of Demographic transition theory?

a- Peru and Kenya are in second stage

b- High birth rate and high death rate

c- Fertility remains high in the beginning of this stage but starts declining

d- Improvement in sanitation and health lead to decline in mortality

Answer- b- High birth rate and high death rate

Explanation: High birth rate and high death rate is related with First stage of Demographic Transition theory.

Which one from the following is related with Natural Growth of Population?

a- Natural growth = Birth- death

b- Natural growth = Birth- Death+ Migration

c- Natural growth = Birth- Dearth+ Immigration- Emigration

d- Natural growth = Death- Birth+ Immigration+ Emigration

Answer- a- Natural growth = Birth- death

Explanation: In Natural growth, only Birth and death is focussed. We do not talk about migration

Which one from the following is related with Second Stage of Demographic Transition Theory?

a- Improvements in sanitation and health lead to decline in mortality.

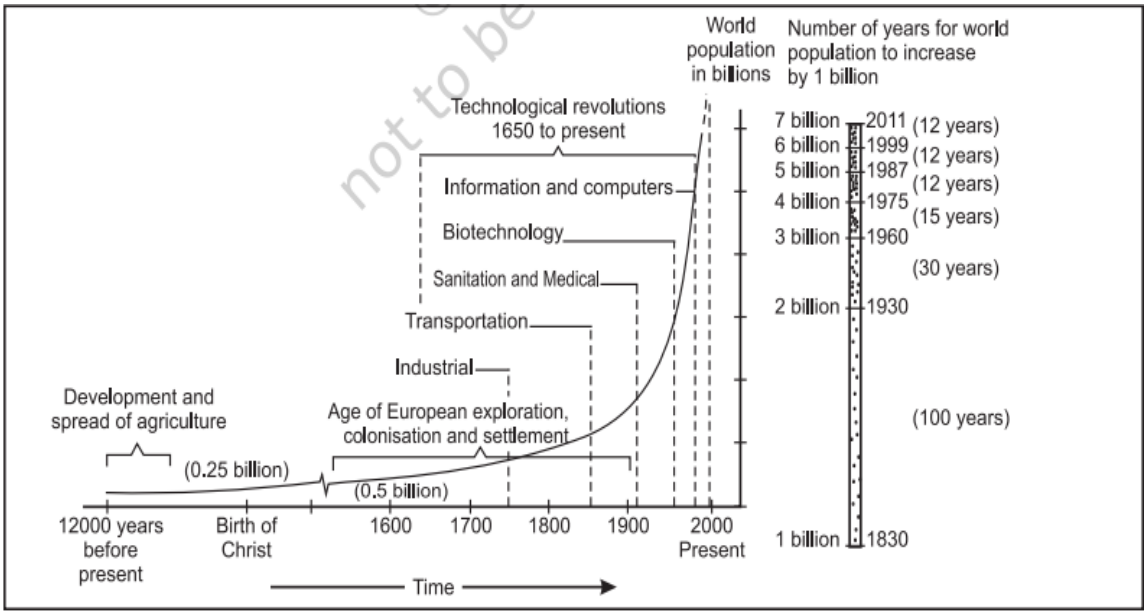
b- People are mostly illiterate

c- The population growth is slow

d- Population becomes urbanised, literate and highly technical and deliberately control the family size.

Answer- a- Improvements in sanitation and health lead to decline in mortality.

Source Based Questions



Answer the following questions.

16.1- How much time was taken for the population of the world to be 2 billion from 1 billion?

a- 15 years

b- 12 years

c- 215 years

d- 100 years

Answer- d- 100 years

16.2- How much time was taken for doubling of population from 2 to 4 billion?

a- 24 years

b- 100 years

c- 45 years

d- 27 years

Answer- c- 45 years

16.3- When Industrial revolution was started?

a- After 1850 AD

b- After 1750 AD

c- After 1600 AD

d- Before 1750 AD

Answer- b- After 1750 AD

16.4- When the world population is expected to be 8 billion?

a- 2025 AD

b- 2030 AD

c- 2031 AD

d- 2035 AD

Answer- a- 2025 AD

Important Questions (for 3 and 5 marks)

- What are the components of population change? Explain them.
- What are geographical factors which influence the distribution of population? Explain in detail.
- Which theory predict the future population of any area? Explain in detail about it.
- Describe the trends of world's population growth.
- What do you know about the density of population? How to calculate it?
- "Asia has many places where people are few and few places where people are very many" support this statement in your words.
- Differentiate between growth of population and growth rate of population.

Chapter-4th Human Development

Growth and Development –
Both refer to changes over period of time

Growth

- Quantitative change and value neutral
- May have positive or negative sign
- If the population of a city grows from 1 lakhs to 2 lakhs over a period of time, we say that city has grown.

Development

- Qualitative change and value positive
- It occurs when there is positive change/ growth in quality.
- If facilities like housing, basic services and employment etc also increased with the population then it will be Development of that city.
- The concept of human development was introduced by Dr Mahbub-ul-Haq. He created the Human Development Index (HDI) in 1990.
- UNDP(The United Nations Development Programme) has used his concept of human development to publish the human development Report annually since 1990

According to him **"Development is all about enlarging people's choices in order to lead long, healthy lives with dignity."**

It includes

- Development enlarges **people's choice** which keep changing also
- To create conditions where people can live **meaningful lives**.
- People must be **healthy**
- Participate in the society and be free to achieve their goals.

Therefore access to **resource**, **health** and **education** are the key areas in human development. Very often due to the

- inability to acquire knowledge,
- their material poverty
- social discrimination
- inefficiency of institutions and other reasons

which prevents them from leading healthy lives, being able to get educated or to have means to live a decent life.

The four pillars of Human Development

1. **Equity-** The opportunities available to people must be equal irrespective of their gender, race, income and caste etc.
2. **Sustainability-** continuity in the availability of opportunities, to have sustainable human development. If a community does not send his girl child to school, many opportunities will be lost in future of that child.
3. **Productivity-** productivity must be constantly enriched by building capabilities in people because it is people who are real wealth of the nation. That's why efforts to increase their knowledge, provide better health facilities ultimately lead to better work efficiency.
4. **Empowerment-** means to have power to make choices, which comes form increasing freedom and capability.

Approaches to Human Development

1. **Income approach-**

- One of the oldest approaches of human development
- The ideas of that of income reflects higher the level of income, the higher is the level of human development

2. **Welfare approach-**

- The approach argues for higher government expenditure on education, health and social amenities.
- In it the government is responsible for increasing level of human development by maximising expenditure on welfare.

3. **Basic needs approach-**

- It was proposed by ILO (International Labour Organisation),
- There are six basic needs i.e. health, education, food, water supply, sanitation and housing. In it human choice is ignored.

4. **Capability approach-**

- This approach is associated with Prof. Amartya Sen.

- Building human capabilities in the areas of health, education and access to resources is key to increase human development.

Measuring Human Development

- The human development index (HDI) ranks the countries based on their performance in the key areas of health, education, and access to resource.
- These rankings are based on a score between 0 to 1.
- A higher life expectancy means people have a greater chance of living longer and healthier lives. So indicator chosen to assess health is **life expectancy**.
- For assessing education, Literacy rate and gross enrolment ratio represent access to knowledge. So indicator chosen to assess education is **literacy rate.**
- Access to resource is measured in terms of purchasing power in (**US dollars**).
- Each of these dimensions is given a weightage of 1/3. HDI is sum total of weights assigned to all the dimensions.
- Therefore score of 0.983 is considered very high and 0.268 means very low level of human development.
- The human poverty index measures the shortfall in human development because HDI measures attainments in human development.
- HPI is non-income measure. It assess-

  - the probability of not surviving till age of 40 years.

  - adult literacy rate

  - the number of people who do not have clean water

  - the number of small children who are underweight.
- Since 1990, UNDP has been publishing Human Development Report every year.
- HDI and HPI are two indices to measure human development used by UNDP (United Nations Development Programme)
- Bhutan is the only country in the world to officially proclaim the Gross National Happiness (GNH). GNH encourage us to think of the spiritual, non- Material and qualitative aspects of development.

International Comparison

- Often smaller countries have better than larger ones in human development. Such as Sri Lanka, Trinidad and Tobago have a higher rank in comparison to India.
- Norway (number One), Australia, Switzerland etc are at top of this rank. India’s HDI is 131 place.
- Many countries of Europe have high score on HDI.
- The countries which have been recorded low in HDI suffer through political turmoil, social instability, civil war and famine.

Level of Human Development	Score in Development Index	Number of Countries
Very High	above 0.800	59
High	between 0.701 up to 0.799	53
Medium	between 0.550 up to 0.700	39
Low	below 0.549	38

Source: Human Development Report, 2018

MCQs

1. Which one of the following is not a country with high human development?

A) Norway B) Argentina C) Japan D) Egypt

2. Which one of the following scholars introduced the concept of human development?

A) Professor Amartya Sen B) Doctor Mahbub ul haqC) Ellen C sample D) Ratzel

3. Which country is the first in rank in human development index?

A) Latvia B) Norway C) Finland D) Austria

4. Which is not used to measure the human development index

A) Literacy rate B) Per capita income C)Life expectancy D) Social status of the people

5. What was the rank of India in UNDP in the year 2006?

A) 130 B)136 C) 126 D)128

6. What is the range of measuring human development index?

A) 1 to 10 B)1 to 20 C) 1 to 100 D)1 to 1000

7. Which country have introduced the Gross National Happiness index first?

A) Nepal B) Bhutan C) Bangladesh D) Sri Lanka

8. Which one of the following best describes development?

A) Increasing size B) Positive change in qualityC) A constant in size simple D) Change in the quality.

9. Which of the one is not a Pillar of human development?

A) Equity B) Sustainability C) Productivity D) Capacity

10. Development means-

A) Improvement in quality B) Always positive C) Value added D) All of the above

11- Assertion

India's Human Development Index (HDI) rank in the world is 134.

Reason

HDI measures achievement in economic growth, standard of living and mortality rate.

A. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion

B. Both Assertion and reason are correct but Reason is not the correct explanation for Assertion.

C. Assertion is correct but reason is incorrect.

D. Both Assertion and reason are incorrect.

12- Fill in the blank

The concept of Human Development was developed by _____

15 Match the following and choose the correct option,

	List I	List II
A)	Health	1. Purchasing Power
B)	Education	2. Life Expectancy
C)	Access to resources	3. Adult Literacy Rate

Select correct answer

	A	B	C
A)	2	3	1
B)	3	2	1
C)	1	2	3
D)	2	1	3

Important Question as Homework (3 and 5 Marks)

1. Differentiate between growth and development.
2. What do you know about human development? How is it measured?
3. Explain all the pillars of Human Development.
4. Distinguish between ‘Basic need approach’ and ‘Capability approach’.
5. Distinguish between HDI and HPI.
6. What conclusion do you find after making international comparison of HDI.

Chapter-5th Primary Activities

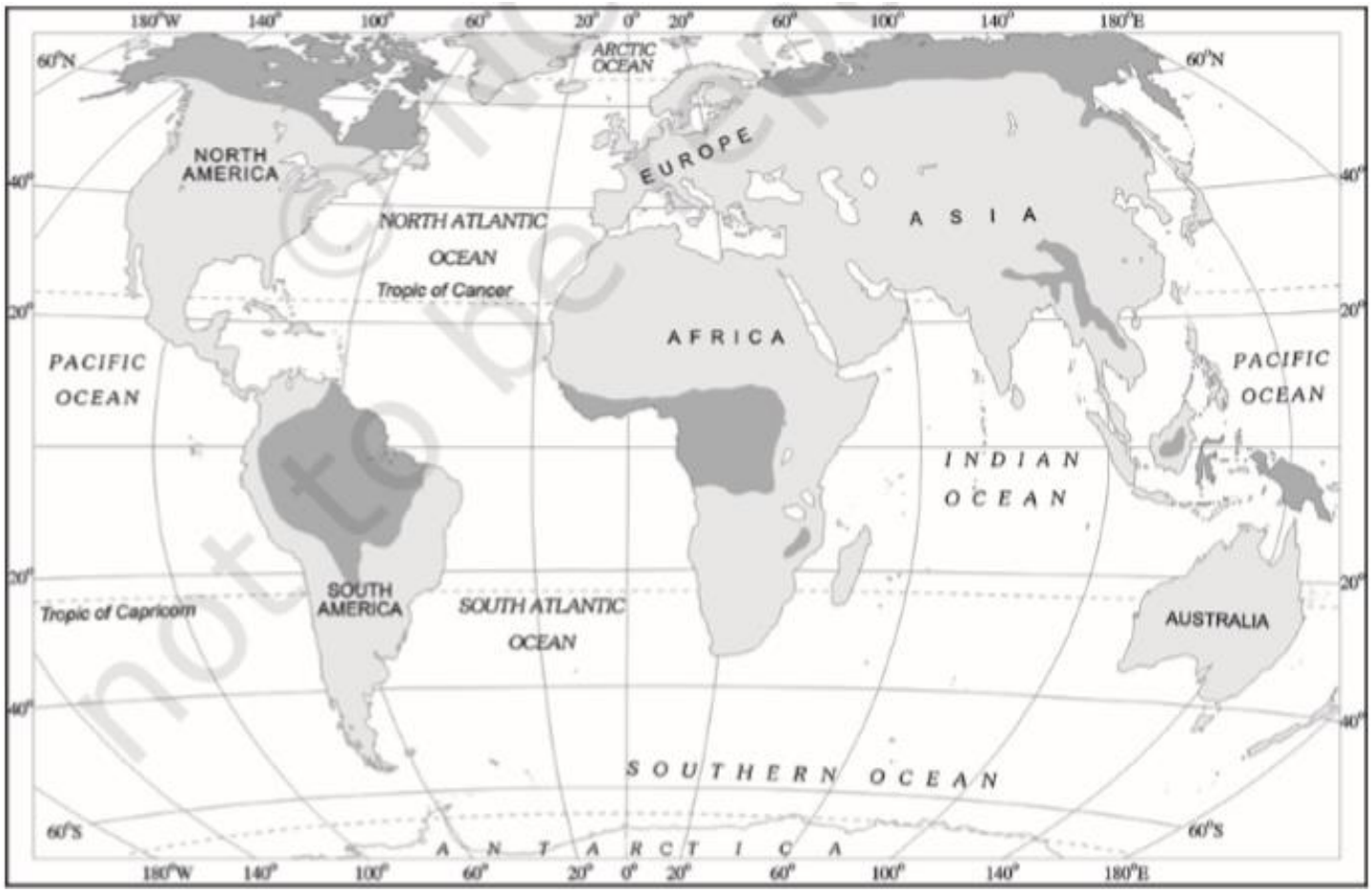
- Human activities which generate income are known as economic activities. Broadly they are divided into Primary, Secondary, Tertiary, Quaternary and Quinary activities.

Primary activities –

- Primary activities utilizes earth's resource such as land, water, vegetation, building material and minerals etc. means the products of primary activities, we get from nature.
- It includes hunting and gathering, pastoral activities, fishing, forestry, agriculture and mining etc.

1. Hunting and gathering-

- primitive societies depended on wild animals with the help of primitive tools made of stones, arrows etc.
- Gathering is practised in regions with harsh climatic conditions. People extract both plants and animals to satisfy their needs for food, shelter and clothing. Gathering is practice in high latitude zones and low latitude zones such as Amazon basin, tropical Africa etc.
- In modern times some gathering is market oriented. People gather quinine, tannin, leaves, cosmetics, fibre, nuts, rubber, balata, gums and resins etc. For example areas of subsistence gathering
- In modern times some gathering is market oriented. People gather quinine, tannin, leaves, cosmetics, fibre, nuts, rubber, balata, gums and resins etc. For example areas of subsistence gathering



2. Pastoralism –

- Due to hunting was unsustainable activity, human began to domesticate animals. It is done by two ways- Nomadic herding and Commercial Livestock Rearing.

Nomadic herding-

- Naturally particular animals are found in particular place. Such as

  - In Tropical Africa cattle

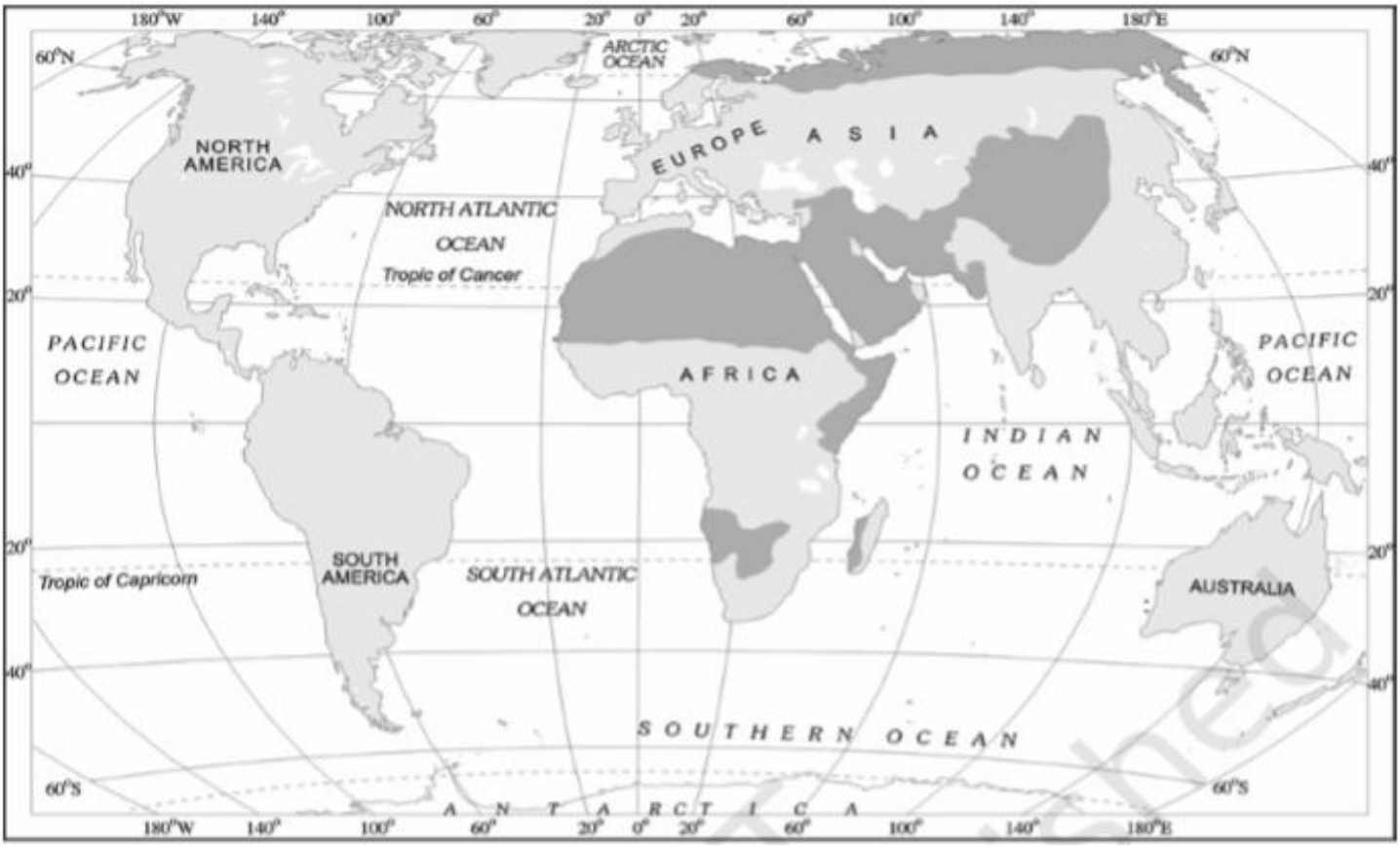
- In Sahara and Asiatic desert Sheep, goats and camel

- In mountainous areas of Tibet and Andes Yak, Llamas

- in Arctic and Sub Arctic areas Reindeer

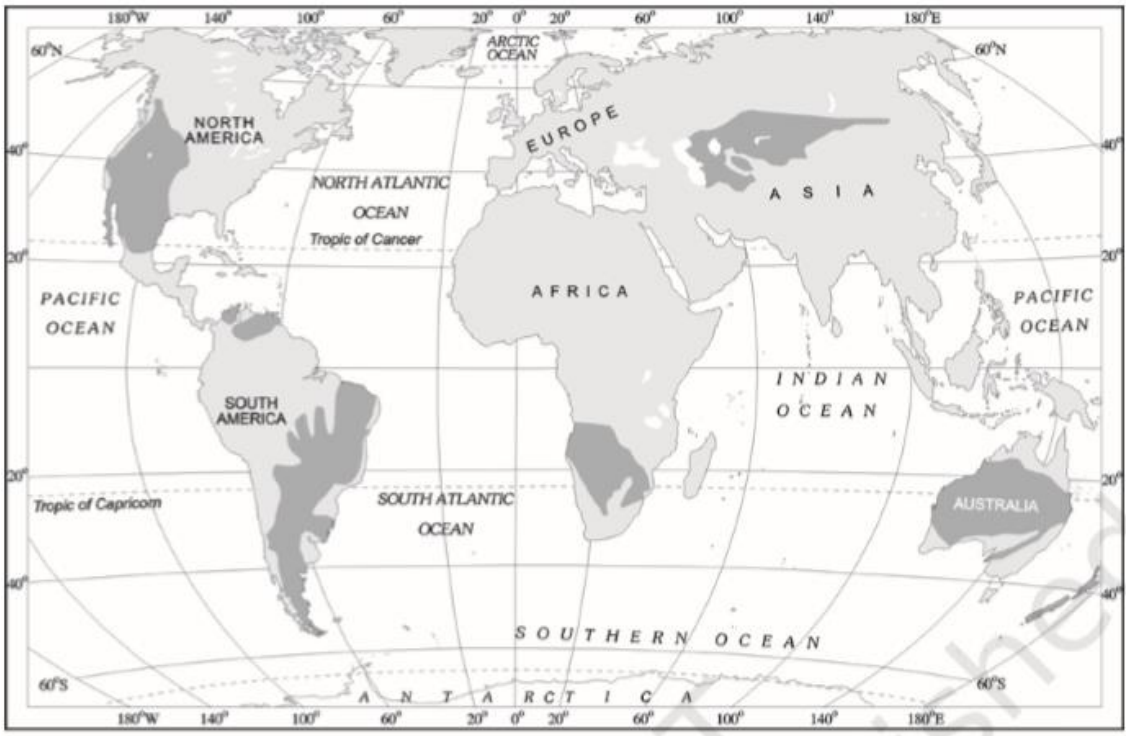
above important animals are found.

- The process of migration from plain areas to pastures on mountain during summers and again from mountain pastures to plain areas during winters is known as **Transhumance**.
- In Himalayas, Gujjars, Bakarwals, Gaddis and Bhotiyas migrate from plains to mountains. Similarily in the Tundra regions the nomadic herders move from south to north in summers vice versa.



Commercial Livestock Rearing-

- Unlike nomadic herding, commercial livestock rearing is more organised, scientific and capital intensive.
- In this only one type of important animals such as sheep, cattle, goats and horses are reared.
- Products such as meat, wool, hides and skin are processed and packed scientifically and exported to different world markets.
- The main emphasis is on breeding, genetic improvement, disease control and health care of the animals.
- New Zealand, Australia, Argentina, Uruguay and United States of America are important countries where commercial livestock rearing is practiced



Agriculture –

1. **Subsistence agriculture** is done for consumption purpose only, is of two types

I- Primitive subsistence agriculture or **shifting cultivation** or **Slash and burn agriculture** is widely practised by many tribes.

- In it the vegetation is usually cleared by fire, the ashes becomes fertilizers. Cultivated by primitive techniques using old unsophisticated instruments and seeds.
- When the fertility of the soil decrease and production decrease they shift some other place. And repeat the same .

It is called differently on different places on the world. In North east India- **Jhuming**, in central America (Mexico)- **Milpa**, In Indonesia and Malaysia- **Ladang** etc.

II- Intensive subsistence agriculture-

- Largely found in densely populated areas of monsoon Asia. It is of two types.

A- Intensive Subsistence Agriculture dominated by Wet paddy cultivation.

- Characterised by **Rice** crop
- Land holdings are very small
- High density of population
- Mostly done by human labour
- Use of machinery is limited.
- **The yield per unit area is high but per labour productivity is low**

- Farm yard manure is used to maintain fertility.

B- Intensive subsidence agriculture dominated by crops other than paddy:

- Due to difference in relief, climate, soil, and other factors, it is not practical to grow Paddy in many part of monsoon area.
- Wheat, soyabean, barley etc are grown in China, North Korea, Japan and India.

2. Plantation agriculture –

- Plantation agriculture introduced by European in colonies. Some important crops are tea, coffee, cocoa, rubber, cotton, oil palm, sugarcane, bananas and pineapples.

  - farming occurs in large estates

  - large capital investment is required

  - managerial and technical support is essential

  - scientific method of cultivation

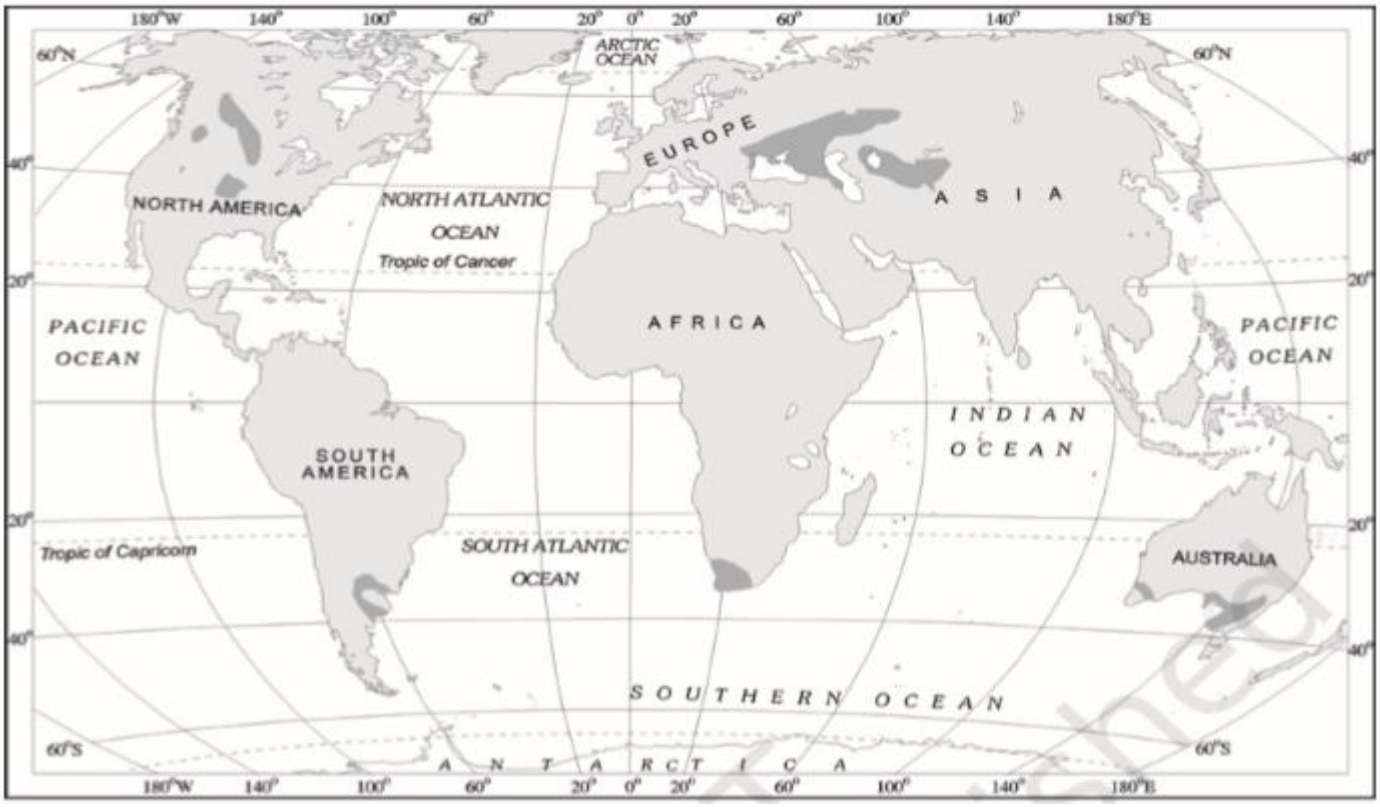
  - single crop specification

  - good transport and communication is required

  - skilled and cheap labour is required
- The French established cocoa and coffee plantation in west Africa.
- British set up large tea garden in India and Sri Lanka. Rubber plantation in Malaysia and sugarcane and Banana plantation in West indies.
- Spanish and American invested in coconut and sugarcane in Philippines. Dutch once had monopoly for sugarcane in Indonesia.
- Coffee fazendas (large plantations) in Brazil are managed by European

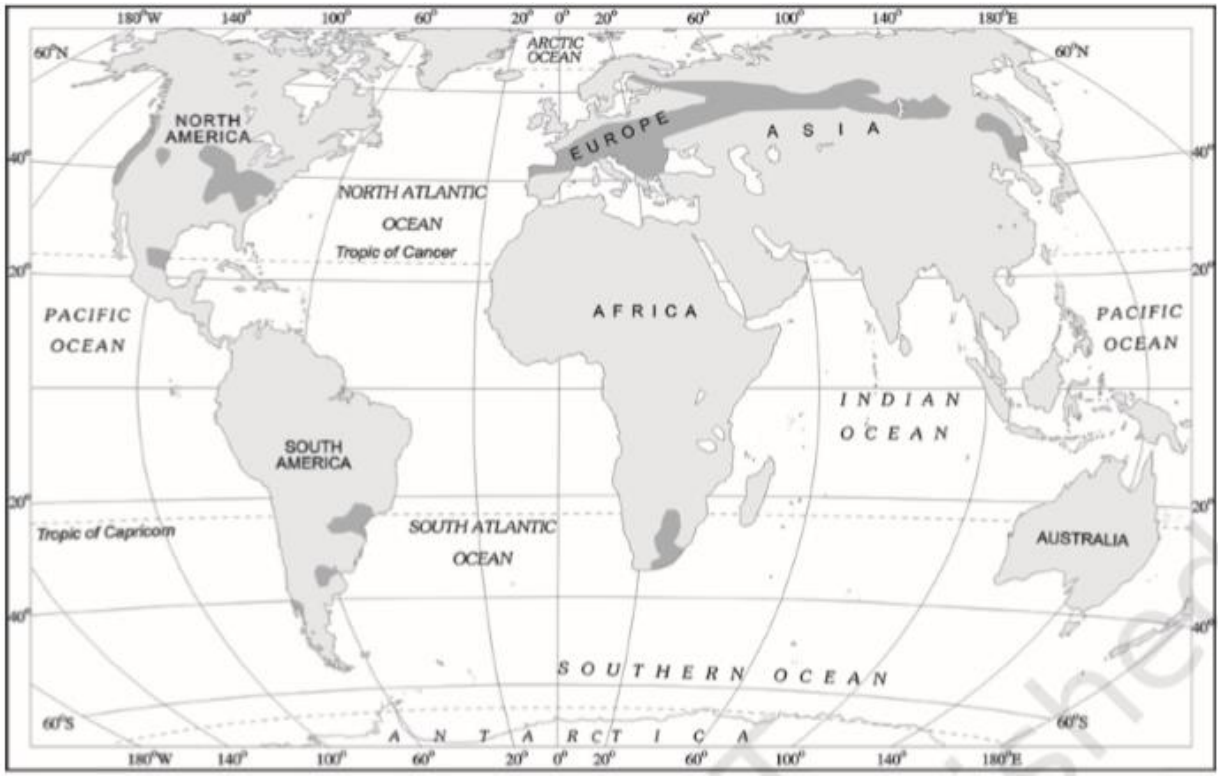
3. Extensive Commercial Grain Cultivation –

- Commercial grain cultivation is practiced in the interior parts of semi-arid lands of the midlatitudes. **Wheat** is the principal crop, though other crops like corn, barley, oats and rye are also grown.
  - The size of farms are very large
  - Entire operation of cultivation is mechanised
  - Low yield per acre but high yield per person
  - Fully developed in Eurasian Steppes, Prairies in North America, Pampas in Argentina, Velds in South Africa, Downs in Australia and Canterbury Plains in New Zealand.



4- Mixed farming –

- Found in highly developed parts of the world. e.g. North-western Europe, Eastern North America, parts of Eurasia and the temperate latitudes of Southern continents
  - Farms are moderate in size
  - Usually crops associated with it are wheat, barley, oats, rye, maize and **fodder** and roots crops.
  - Crop rotation and intercropping play important role for maintaining fertility.
  - Equal emphasis on **Crop cultivation** and **Animal husbandary**
  - Animals like cattle, sheep, pigs and poultry etc provide main income along with crops.
  - Extensive use of chemical fertilizers
  - Green manures also important
  - Skilled and expert farmers do



5. Dairy farming-

- Highly capital intensive
- Animal sheds, storage facilities for fodder
- Special emphasis is laid on cattle breeding, health care and veterinary services.
- Highly labour intensive
- There is no off season
- Practised near urban and industrial centres for fulfilling demand
- Refrigeration, Pasteurisation and Preservation process are required.
- Transportation and communication also require.
- Rigorously done in North west Europe, Canada, South East Australia, New Zealand and Tasmania

6- Mediterranean Agriculture-

- This commercial agriculture is practised surrounding to Mediterranean sea in Europe, southern California, Central Chile and western part of South Africa
  - Viticulture (Grapes cultivation) is speciality
  - Best quality wines are prepared by Grapes
  - Also produced Fig and Olives
  - Fruits and vegetables are grown in winter so highly demand in European and North America

7. Market Gardening and Horticulture –

- Cultivation of high value crops such as vegetables, fruits and flowers.
- Good transportation links with urban centre.
- Emphasis on the use of irrigation, HYV seeds, fertilizers, insecticides, green house for colder regions

- Developed in densely populated regions such of north west Europe, north eastern USA and the Mediterranean regions. Netherland specialises in growing flowers, especially Tulips.
- The regions where farmers specialise in vegetables only, the farming is know as truck farming. The distance of truck farms from the market is governed by the distance that a truck can cover overnight, hence the name truck farming.

Co-operative Farming

- A group of farmers form a co-operative society by pooling in their resources voluntarily for more efficient and profitable farming.
- Co-operative societies help farmers
- Farmers sell the products at the most favourable terms
- Products are available at cheaper rates.
- Successful in many western European countries like Denmark, Netherland, Belgium, Sweden and Italy etc.
- In Denmark, practically every farmer is a member of a co-operative.

Collective farming

- Farming is based on social ownership of the means of production and collective labour.
- **Kolkhoz** was introduced in erstwhile Soviet Union to boost agricultural production for self- sufficiency.
- The farmers used to pool in all their resources like land, livestock and labour.
- They are allowed to retain very small plots to grow crops in order to meet their daily requirements.
- Government fixes target to the crop and purchase it on pre defined price.

10- Mining -

Factors Affecting Mining Activity depends on profitability of mining operations which includes

- Physical factors (Size, grade and mode of occurrence of deposits)
- Economic factors (Demand for mineral and technology available.)

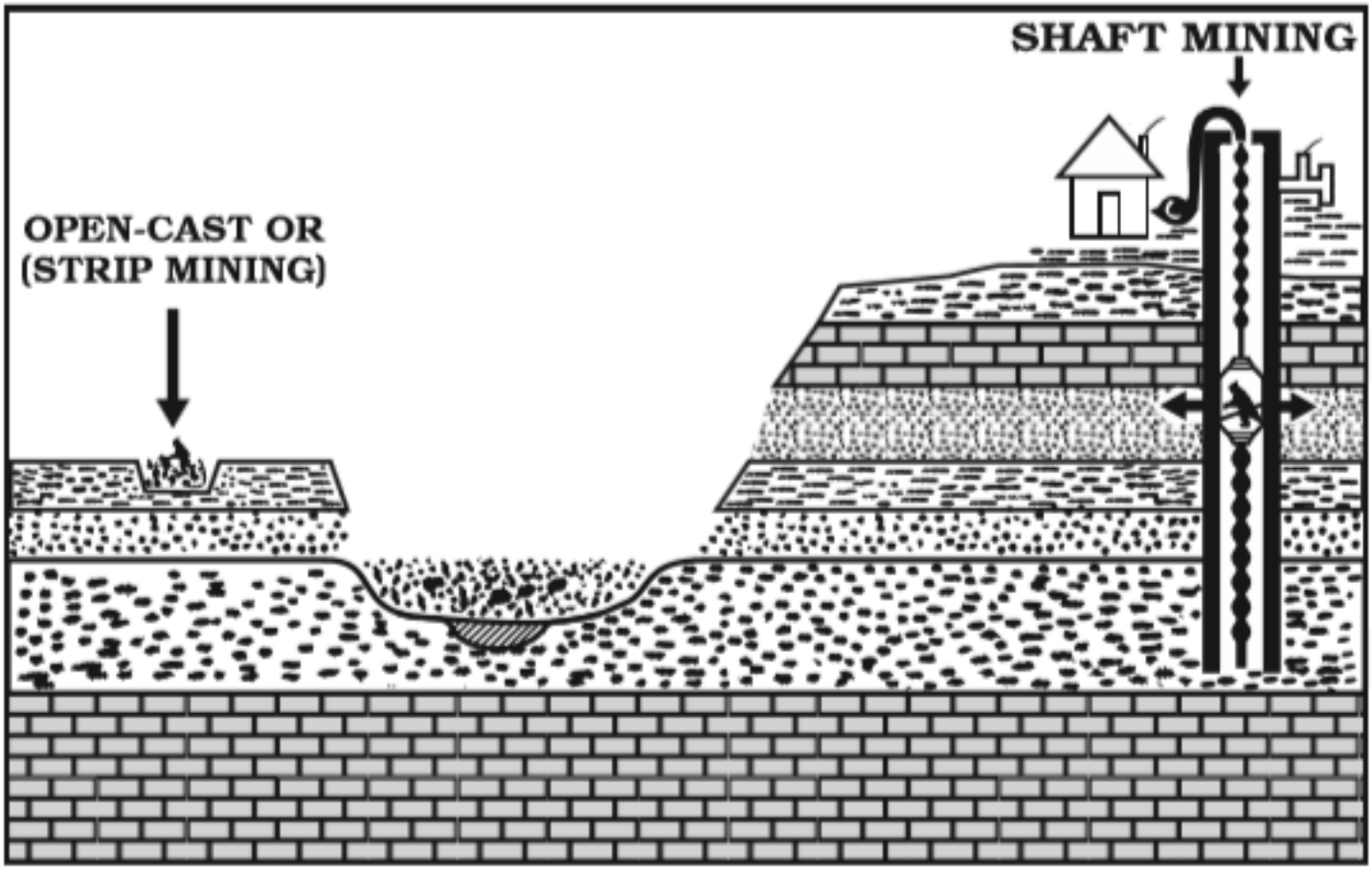
Methods of mining-

- Mining is of two types –

Open cast mining is easiest and cheapest way of mining minerals that occur close to surface.

Shaft method (Underground mining method) when the ore lies deep below the surface, it is used. In it vertical shafts have to be sunk. It requires specially designed lifts, drills, haulage vehicles and ventilation system for safety.

Several countries of Africa and few of south America and Asia have over fifty percent of the earnings from minerals alone.



MCQs

Which one from the following is not related with Gathering?

a- Gathering is practised in regions with harsh climatic conditions.

b- People extract both plants and animals to satisfy their needs for food, shelter and clothing.

c- Gathering is practised in mid latitude zone

d- In modern times some gathering is market oriented.

Answer: c- Gathering is practised in mid latitude zone

Explanation: Gathering is practise in high latitude zones and low latitude zones such as Amazon basin, tropical Africa etc not in Mid latitude zone

Shifting cultivation is known by different names in different areas of the world. Which one among the following is wrong name of Shifting cultivation in their respective country?

a- North East India - Jhuming

b- Mexico - Milpa

c- Indonesia - Ladang

d- Sri Lanka - Rey

Answer- d- Sri Lanka - Rey

Explanation: The name of Shifting cultivation in Sri Lanka is Chena not Rey. Rey is spoken in Vietnam.

In which type of agriculture "The yield per unit area is high but per labour productivity is low"?

a- Extensive commercial grain cultivation

b- Intensive Subsistence agriculture dominated by Wet Paddy cultivation

c- Plantation agriculture

d- Mediterranean agriculture

Answer- b- Intensive Subsistence agriculture dominated by Wet Paddy cultivation

Explanation: The yield per unit area is high but per labour productivity is low in Intensive subsistence agriculture. In it Paddy is very important crop. Just opposite to it is- The yield per unit area is low but per person productivity is high in Extensive commercial grain farming.

Which one from the following is unmatched?

a- French - Cocoa in East Africa

b- British - Tea garden in Sri Lanka

c- Spanish - Coconut in Philippines

d- Dutch - Sugarcane in Indonesia

Answer- a- French - Cocoa in East Africa

Explanation: European introduced in their colonies planation agriculture.

• The French established cocoa and coffee plantation in west Africa.

• British set up large tea garden in India and Sri Lanka. Rubber plantation in Malaysia and sugarcane and Banana plantation in West indies.

• Spanish and American invested in coconut and sugarcane in Philippines. Dutch once had monopoly for sugarcane in Indonesia.

• Coffee fazendas (large plantations) in Brazil are managed by European

CASE Study

Read the Case Study given below and answer the questions that follow:

Market Gardening and Horticulture Market gardening and horticulture specialise in the cultivation of high value crops such as vegetables, fruits and flowers, solely for the urban markets. Farms are small and are located where there are good transportation links with the urban centre where high income group of consumers is located. It is both labour and capital intensive and lays emphasis on the use of irrigation, HYV seeds, fertilisers, insecticides, greenhouses and artificial heating in colder regions.

This type of agriculture is well developed in densely populated industrial districts of north west Europe, north eastern United States of America and the Mediterranean regions. The

Netherlands specialises in growing flowers and horticultural crops especially tulips, which are flown to all major cities of Europe. The regions where farmers specialise in vegetables only, the farming is known as truck farming. The distance of truck farms from the market is governed by the distance that a truck can cover overnight, hence the name truck farming.

Answer the following questions

16.1- Which country has specialisation in growing tulips?

a- England

b- New Zealand

c- Denmark

d- Netherland

Answer- d- Netherland

16.2- What is meaning of Truck farming?

a- The distance that is covered by truck to transport grains.

b- The distance from rural areas to urban areas

c- The distance that a truck can cover overnight

d- The time taken by truck for transportation of raw material

Answer- c- The distance that a truck can cover overnight

16.3- Where Horticulture Market gardening cultivation is practised?

a- Industrial districts of Australia

b- North eastern USA

c- North east Asia

d- North East Europe

Answer- b- North eastern USA

16.4- Which crops are cultivated in Horticulture Market gardening?

a- Vegetables, fruits and flowers

b- Wheat and Mustard

c- Banana and Apple

d- Rice and Maize

Answer- a- Vegetables, fruits and flowers

Important Questions (3 and 5 Marks)

1. Distinguish between Nomadic herding and Commercial livestock Rearing.
2. What do you know about primary activities?
3. What do you know about gathering? Do you thing it is happening today also?
4. Briefly explain about 'Transhumance'.
5. What is slash an burn agriculture? What is called it on various place of the world?
6. "The yield per unit area is high but per labour productivity is low" in which type of farming it occurs? Describe that type of agriculture.
7. "Generally Plantation agriculture was started by European colonialist." Do you agree with this statement? If yes then describe it.
8. Discuss the important characteristic features of plantation agriculture.
9. Describe the significance of Extensive commercial grain farming.
10. Distinguish between Mixed farming and Dairy farming.
11. What are important characteristics of truck farming?
12. "Mediterranean agriculture is very important for valuable crops." support it.
13. Distinguish between Co-operative agriculture and Collective agriculture.
14. Explain the factors which affect the mining activities and types of mining.

Chapter-6th Secondary Activities

Secondary Activities -

- Secondary activities add value to natural resources by transforming raw materials into valuable products.
- Such as **Cotton** which is primary product (Natural Resource), processed then cloth is prepared by it. In this process, both **form** is changed and **value** is increased.
- Secondary activities are concerned with manufacturing, processing and construction (infrastructure) industries.
- Manufacturing means making of any products by using hands or machines. In this process, raw materials are processed and another valuable finished goods are prepared. Such as by using iron ore, steel is prepared.

Characteristics of modern large scale manufacturing

- **Specialisation of skills/ methods of production -**

Mass production involves production of large quantities of standardised parts by each worker performing only one task repeatedly

- **Mechanisation-**

It refers to using gadgets which accomplish task. Automation (without aid of human thinking during the manufacturing process) is the advanced stage of mechanisation.

- **Technological innovations-**

Combating pollution, Eleminating waste and inefficiency for quality control are important aspects of modern manufacturing.

- **Organisational Structure and Stratification-**

Modern manufacturing is characterised by:

  - A complex machine technology
  - Extreme labour work specialisation
  - Vast capital
  - Large organisations
  - Executive bureaucracy

- **Uneven Geographic Distribution-**

The distribution of Manufacturing industries are very uneven because they are concentrated on very less places. These places have become the centres of economic and political powers.

Factors which influence the industrial location:

Industries maximise profits by reducing costs. Therefore, industries should be located at points where the production costs are minimum.

- **Access to Market-**

'Market' means people who have a demand for the goods and also have the purchasing power (ability to purchase) to be able to purchase from the sellers at a place.

The densely populated regions of South and South-east Asia also provide large markets.

- **Access to Raw material-**

Industries based on cheap, bulky and weight-losing material (ores) are located close to the sources of raw material such as steel, sugar, and cement industries. Vice versa.

- **Access to labour supply-**

Some types of manufacturing still require skilled labours.

- **Access to sources of energy-**

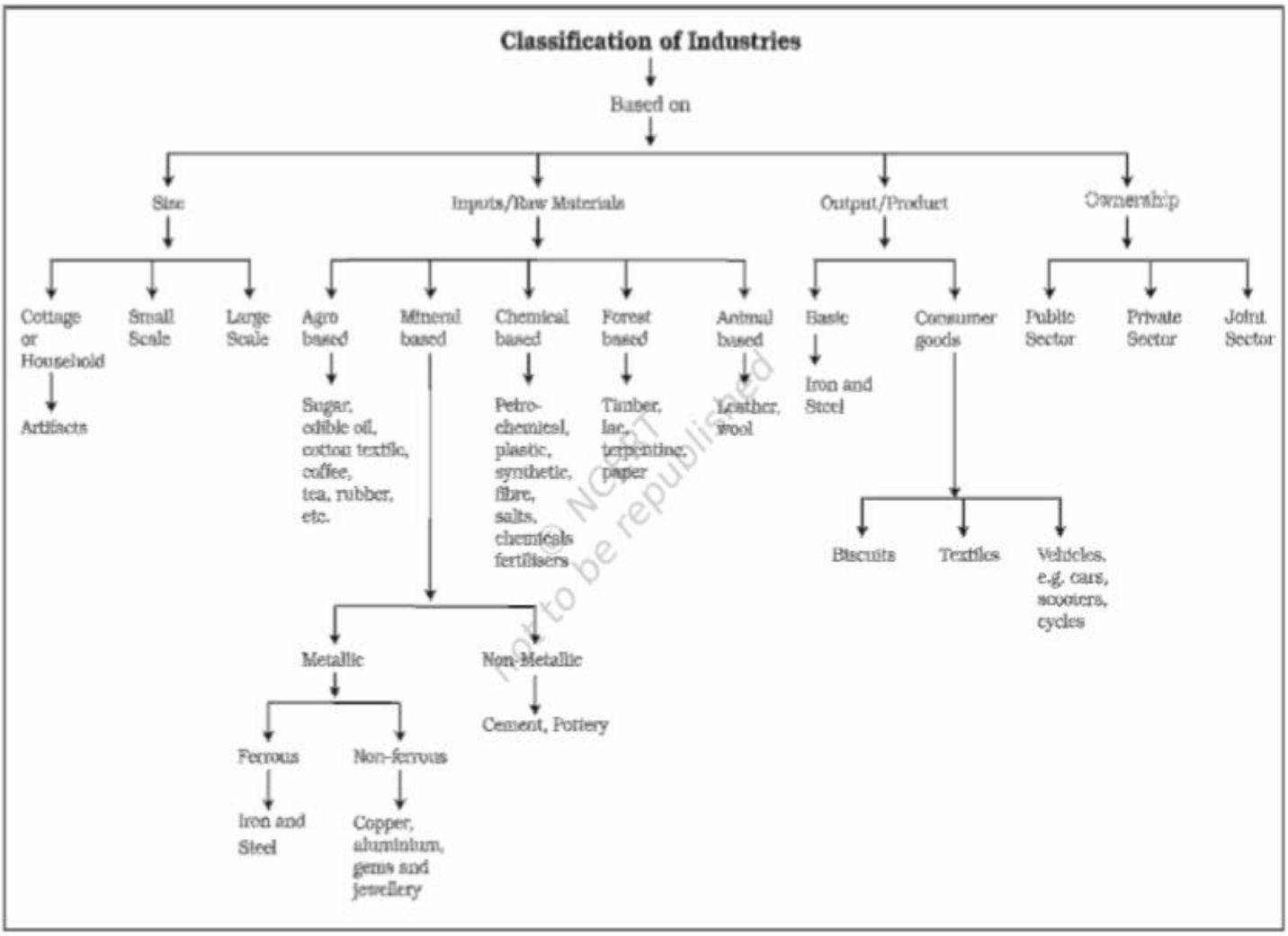
Aluminium industry use more power which are close to source of Energy. At present, hydroelectricity and petroleum are important source of energy.

- **Access to Transportation and Communication Facilities**

Speedy and efficient transport facilities to carry raw materials to the factory and to move finished goods to the market are essential for the development of industries. Its cost plays important role in location of industries. Communication also plays vital role.

- **Government policy-**
- **Access to Agglomeration Economies/ Links between Industries-**

Many industries benefit from nearness to a leader-industry and other industries.



Classification of manufacturing industries-

Manufacturing industries are classified on the basis of their size, inputs/raw materials, output/products and ownership

1- Industries based on size are classified into household or cottage, small-scale and large-scale.

- **Household or cottage industries** are smallest manufacturing unit, use local raw materials, generally produced by the family members of fabrics, mats, containers, tools, furniture and shoes etc.
- **Small- scale manufacturing** industries use simple power-driven machines and semi- skilled labour. It provides employment. Developed in India, China, Indonesia and Brazil etc.
- **Large scale manufacturing** industries involves a large market, various raw materials, enormous energy, specialized workers, advanced technology, assembly line mass production and large capital.

2- Industries based on Inputs/ Raw materials-

- **Agro based Industries** uses the raw materials which are obtained from the agriculture. Sugar, pickels, fruits juices, beverages (Tea and coffee), spices, oils, textiles (Cotton, jute, silk) are included in it.
- **Minerals based industries** use minerals as raw materials. Such as iron and steel, aluminium, copper and jewellery industries etc.
- **Chemical based industries** use natural chemical minerals such as mineral oil (Petroleum) is used in petro-chemical industry. Salt, sulphur and potash manufacturing are also included in it.

- **Forest based material industries** use raw material which are obtained from forest such as Furniture, wood, bamboo and lac etc.
- **Animal based industries** use the raw material which are obtained from the animals such as leather, woollen textiles etc.

3- Industries based on Output/ Product-

- **Basic industries-** The industry whose products are used to make other goods by using them as raw materials are basic industries. Such as Iron/steel machines for textile industry clothes for use by consumers.
- **Non-Basic Industries** or **Consumer goods industries**- the consumer goods industries produced goods which are consumed by consumers directly.

4- Industries based on Ownership-

- **Public sector industries** are owned and managed by the Governments like PSUs (Public Sector Undertakings). Like NTPC, BHEL, NALCO etc.
- **Private sector industries** are owned and managed by private organization. Like Reliance, Wipro etc.
- **Joint sector industries** are managed by Joint stock companies. Such as Indian Oil Skytanking Ltd and Ratnagiri Gas and Power Private Ltd.

Traditional Large-Scale Industrial Regions –

- Based on heavy industry, often located near coal-field and engaged in metal smelting, heavy engineering, chemical manufacturing or textile production. Known as smokestack industries. Can be recognised as-
  - High proportion of employment in manufacturing industries
  - High density housing, often inferior type
  - Unattractive environment
  - Problems of unemployment, emigration etc.

The Ruhr coal- field, Germany –

- This has been most important industrial region of Europe. Due to Coal and Iron were found abundantly but now declined so iron ores are imported by waterways of Rhine river.
- This region is responsible for 80% of Germany's total steel production. There are problems of industrial waste and pollution.
- The future prosperity of Ruhr is based on less on the products of coal and steel for which it was initially famous.
- New industries like the huge Opel car assembly plant, new chemical plants, universities etc resulting in a 'New Ruhr' Landscape.

Iron and steel industries-

- The iron and steel industry is called basic industry because it provides raw material for many other industries. It is very heavy and bulky industries too.
- Pig iron is extracted form iron ore then it is converted into steel by adding materials like manganese, coal and limestone.

- This industry is most complex and capital intensive, concentrated in North America, Europe, Asia. In USA, most industries are established in Appalachian region (Pittsburgh), Great lake region (Chicago – Gary, Erie, Cleveland, Lorain, Buffalo and Duluth)
- Pittsburgh area is now losing ground and has become "Rust bowl" of USA.
- In Europe, UK, Germany, France, Belgium, Luxemburg, Netherlands and Russia are leading producers.
- In Asia, the most important centres include Nagasaki and Tokyo-Yokohama in Japan; Shanghai, Tienstin and Wuhan in China; in India Jamshedpur, Kulti- Burnpur, Durgapur, Roukela, Bhilai, Boraro, Salem, Visakhapatnam and Bhadravati.

Cotton textile industry-

- It has three sub sectors i.e. Handloom, powerloom and mill sectors. Handloom sector is labour intensive requires semi skilled workers.
- The powerloom sector introduces machines and becomes less labour intensive and the volume of production increases. Cotton textile mill sector is highly capital intensive and produces fine clothes in bulk.
- It requires good quality cotton as raw material. India, China, USA, Pakistan, Uzbekistan, Egypt produce more than half of the world's raw cotton.
- Europe alone accounts for nearly half of the world's cotton imports.
- The industry has to face very stiff competition with synthetic fibers hence it has shown decline trend in many countries.
- This industry is shifting to developing countries where labour coasts are low.

High technology (High-tech) industries-

- It is best understood as the application of intensive research and development (R and D) efforts leading to the manufacture of products of an advanced scientific and engineering character.
- White collar workers make up a large share of the total workforce even more than blue collar worker.
- Robotics on the assembly line, computer-aided design (CAD) and manufacturing, electronic controls of smelting and refining processes are notable examples of a high tech industries.
- High-tech industries which are regionally concentrated, self-sustained and highly specialized are called **technopolies**. The Silicon valley near San Francisco and Silicon forest near Seattle are examples of technopolies.

(1) . Choose the right answer from the four alternatives

(I) Which one of the following statements is wrong?

(a) Cheap water transport has facilitated the given belon Jute mill industry along the Hogl

(B)Sugar, cotton textiles and vegetable oils are footloose industries.

(C)The development of hydro-electricity and petroleum reduced, to a great extent, the

importance of coal energy as a locational factor for industry.

(d) Port towns in India have attracted industries.

Ans. (b)

(II) In which one of the following types of economy are the factors of production owned individually?

(a) Capitalist

(B) Socialist

(C) Mixed

(d) None

Ans. (a)

(III) Which one of the following types of industries produces raw materials for other industries?

(a) Cottage Industries

(B) Small-Scale Industries

(c) Basic Industries

(d) Footloose Industries

Ans : (c)

(IV) Which one of the following pairs is correctly matched ?

(a) Automobile industry: Los Angeles

(b) Shipbuilding industry: Lusaka

(c) Aircraft industry: Florence

(d) Iron and Steel industry: Pittsburgh

Ans. (d)

2. Write a short note on the following in about 30 words.

(i) High-tech industry

(ii) Manufacturing

(iii) Footloose industries

Ans. (i) The high technology (high-tech) industries are the latest technology based modern manufacturing activities. High-tech is not an entity but a concept. Highly developed scientific and engineering tool sand instruments are made after intensive research and investigation. The number of white collar and blue collar enterprising people are more in these industries. These include scientists, engineers, trained technicians, administrators and sales specialists work in a closely knit system.

(ii) The conversion of raw material into more useful and valuable fabricated articles with the help of machines is called manufacturing. For example, the conversion of bauxite into aluminum and cotton in cloth, changes the nature of raw material and it becomes more useful and valuable. The principle aim of manufacturing industries is that "the more a material is changed in its form, greater will be its value and utility." The modern manufacturing industry is characterized by complex organization, specialized labour, use of machinery and inanimate power and mass qualitative production.

(iii) The industries that improve their products to suit the world market employ highly skilled labour and use high technology. The main features of foot-loose industries are as

follows:

- These are light industries, use components in place of raw materials.
- Foot-loose industries use electricity from national power grid as a source of power.
- Products are small and transported easily.
- These are clean and pollution free industries and hence are located near residential colonies.
- These industries have many alternatives for their localization

Answer the following in not more than 150 words.

(1) Differentiate between primary and secondary activities.

Primary Activities

- Primary activities are those activities through which man fulfils his needs and desires by using resources which are gifted by nature.
- These activities are directly related with nature.
- Gathering, lumbering, fishing, livestock rearing, agriculture, mining are the examples of primary activities.
- Primary activities are simple and no capital investment is required.

Large-Scale Industries

- Secondary activities are those activities through which raw-materials are converted into finished goods with the help of technology.
- Manufacturing of cloth from cotton, sugar from sugar primary cane, steel from iron ore and dairy products from animals are the examples of secondary activities.
- These activities are indirectly related to the nature.
- Secondary activities are complex and huge capital investment on technology is required.

Objective/Very Short Answer Type Questions [1 Mark]

1. "Footloose industries can be located in a wide variety of places." (True/False)

Ans. True

2._____ is the smallest manufacturing unit.

Ans. Household industries or cottage manufacturing

3. Public sector industries are owned and managed by_____

Ans. the government

4._____industries are owned by individual investors.

Ans. Private sector

5. The region is responsible for 80 percent of Germany's total steel production.

Ans. Ruhr Region

6. The iron and steel industries are called as

(a) Footloose industries

(b) High-Tech industries

(c) Cottage Industries

(d) Basic Industries

Ans. (d)

Short Answer Type Questions (3 Marks)

7. Name the leading country in petrochemical industries

Ans. United States of America is the leading country in petrochemical industry.

8. Define technopole.

Ans: A technopole is planned development within a concentrated area for technology innovative industrial related production. Technopolis include science or technological parks, science cities and other high-tech industrial complexes.

9. How United Kingdom, north-west European countries and Japan manufacture cotton yarn?

Ans. The United Kingdom, north-west European countries and Japan manufacture cotton yarn by importing raw cotton from Uzbekistan, Egypt, China and USA

10. Define foot-loose industries.

Ans. Industries, which improve their products to compete with world market, employ highly skilled labour and use high technology are said to be foot-loose industries.

11. Define manufacturing industries.

Ans. Manufacturing industries are characterized by complex organization, specialized labour, use of latest technology and power for mass quality production.

12. Explain the role of raw material, labour and energy sources in the location of industries in the world.

- Raw Material The industries are mainly localized near the source of raw materials as these are the soul of the industries. They are established in the area surrounding raw materials to minimize the transport cost. The sugar mills are located near the source of raw material. The industries of perishable goods such as dairy products are also located near the place of availability. The paper and pulp industries and saw mills are located in coniferous forest areas due to easy approach to raw materials.

- Labour. The skill and techniques of manufacturing is very essential. The skilled labour and technique of appliances increase the quality and quantity of production. The manufacturing of watches in Switzerland, toys and electronics in Japan are world famous due to skilled and specialized labour force.
- Energy/Power Resources. Coal, petroleum and hydroelectricity are the chief sources of power. The heavy industries need this energy in abundance. The industries are generally established in those areas,

which have the best facility of power generation. The Damodar Valley of India and Rhur Valley in Germany are the main industrial center's due to bulk coal reserves and hydel power.

13. Explain how good management, skilled labour, and government policies are important factors in the location of an industry.

Ans. Besides availability of raw material, power and water; good management, skilled labour and government policies are important factors for the localisation of industries:

- Skilled Labour. In the world of everchanging demand of products, the skilled trained labour can raise production qualitatively.
- Good Management Location of an industry at a particular place should be favourable so that it attracts good managers to work.
- Government Policies. Government can encourage or restrict the development of industries. It is the responsibility of the government to ensure the which are used in the best way so balance in the development of coutory role in developing Most family Un Most Only and equality in the distribution of wealth.

14. Name the three groups of industries of the world candled on the basis of their size and write down characteristics of each group.

Ans : The number of people employed, capital investment and volume of production determine the size of industries On the basis of age these are classified into three parts

- Cottage or Household Industries. The goods are made with the help of family members at home by using local raw material. The tools and equipment are simple and goods are sold in the local market Potters, carpenters, weavers produce goods in cottage industries
- Small-Scale Industries Modem techniques are used by labour to produce goods. The raw materials are obtained from outside and also goods are sold through traders beyond the local markets. Small scale industries are also described as "Auxilliary Industry", as they provide spare parts to the large scale industries.
- Large-Scale Industries. These are huge in size, high capital investment and give employment to large number of people. Quality and quantity of goods produced in the industry are taken care of Raw materials are obtained from distant places and goods are sold to distant markets. Iron a

15. What is agro-based industry? Give two examples each of agro-based industries with the name of their raw material and steel, petro-chemical industries are examples of large scale industries.

Ans. Industry, which accesses its raw materials from agricultural sector is said to be agro-based industry. The two examples of agro-based industries are:

• Cotton textile industry uses cotton as a raw material and mainly localized near the raw material. The New England Region' of the USA has maximum concentration of cotton textile industries, as the region is leading in cotton production.

• Sugar industry uses sugarcane as a raw material obtained from agricultural sectors. Uttar Pradesh and Bihar, the leading sugarcane producing states. have maximum concentration of sugar mills.

16. Name any three groups of Industries of the world, which are classified a on the basis of the raw materials used by them. Also give one appropriate example of each.

Ans. The three groups of industries of the world, which are classified on the basis of raw materials used by them are as follows: .

- Agro-Based Industries. These industries access raw materials from the agricultural sector. E.g. Sugar industries, cotton textile industries and vegetable oil industries.
- Mineral-Based Industries. The industries that use raw materials based on minerals i.e., metals and non-metals like iron and steel industries, copper and aluminum smelting.
- Forest-Based Industries. Industries use forest products as raw materials like paper and pulp industries and furniture industries.

17. What are secondary activities and why are they called so ?

Ans. Secondary activities are the activities which involve the transformation of raw material into more valuable and useful goods or products. Hence manufacturing industries are included in the secondary activities. Cotton in the ball has limited use, but after it is transformed into yarn becomes more valuable and is used for making clothes. Secondary activities, hence are concerned with manufacturing, processing and construction industries.

18. Describe the organizational characteristics of modern manufacturing.

Ans. The modern manufacturing industries are characterized by:

- The use of latest and complex technology.
- Skilled and extremely specialized labour force is acquired for producing bulk goods with less capital and efforts.
- Huge capital investment, with continuous update in technology.
- Large-scale industries give long term dividends.
- Large organisation with bureaucracy.

19. Why are cottage industries mainly confined to rural areas?

Ans. The cottage industry is the smallest unit of manufacturing industries and is mainly confined to the rural areas, where farmers utilise their vacant time lying in between sowing and harvesting seasons. Farmers make ropes, baskets, clothes, etc, during the slack period. These industries are mainly confined to rural areas because:

- In cottage industry, the craftsman manufactures the goods available in local areas.
- Family members are engaged in making goods. The skills of production are passed on from one generation to other.
- The goods produced are usually consumed by the craftsman and his family members.
- Capital and transport do not affect cottage industries.

20. How is market one of the major influencing factors for the localization of an industry?

Ans. The existence and close proximity of market for the manufactured goods is the most important factor in localization of industries. Hence 'market' is the place where producer and consumer satisfy their needs. The developing and underdeveloped countries of Asia and Africa have low purchasing capacity. Lower purchasing capacity offers small markets. The developed countries of Europe and the north America provide wide global market as purchasing power of the people is high. The densely populated regions of South and South-East Asia provide large markets.

21. Describe the types of industries based on ownership.

Ans. On the basis of ownership, industries are divided in three major types, which are as follows:

- Public Sector Industries. Industries which are owned and managed by the state. The state establishes and runs these units. SAIL, DRDO, ONGC, etc. come under public sector industries.
- Private Sector Industries. Industries owned and managed by an individual or a corporate body belong to the private sector. Individuals invest their capital to establish these industries and manage them as private enterprise. E.g. Reliance, Tata.
- Joint Sector Industries. An industry owned and managed jointly by the state and private initiatives falls in the joint sector. E.g. oil refineries, fertilizer plants.

22. Define foot-loose industries. What causes favour the free choice of location of industries?

Ans. Foot-loose industries are those industries which are free to choose their site of location. Following are the major causes that give foot-loose industries free choice of location:

- Foot-loose industries are mainly light industries which do not process raw materials rather they obtain parts, components from the nearby factories and assemble them into finished products.
- To meet the requirements of electricity, they are not bound to be located near the sources of power as National Grid transmits electricity to far off corners.
- Their production is small and these employs less labour force.
- They can be located in the residential areas also as they do not cause any pollution.
- Small finished products can be moved easily and cheaply by the roadways.

Long Answer Type Questions (5 Marks)

23.Explain any four geographical factors, in the contest of the world, that affect the location of an industry at a particular place.

Ans. Factors are responsible for the location of industries

Environment: Physical attraction of an area is an important factor controlling the location of industries. For example, the aircraft industry has moved to the south western part of the country as warm climate reduces the cost of heating the hangars.

24. "Large-scale and small-scale industries are equally important for the economy of a country." Support this statement with two examples each.

Ans. The significance of large scale industries in the economy of a country are:

• The large scale industries produced goods on large scale and mainly sent to global market. Quality production and specialisation help the country to earn value added foreign exchange, that enhances national income.

• These industries offer mass employment opportunities to highly trained and skilled labour force and are helpful in reducing unemployment from the country.

25. Explain the factors that favour the localisation of an industry, Following factors favour the localisation of an industry:

Ans :

- Nearness of Raw Material: The heavy and basic industries are mainly localised near the source of raw material, as the raw material is the soul of industries. They are established in the area surrounding raw material to minimise the transport cost. The sugar industries are located near the raw material, as sugarcane is a perishable product and delays in transport can affect the production. The heavy raw material based industries are found generally near the availability of raw material. The paper and pulp industries and saw mills are located in the coniferous forest region due to easy availability of raw material.

- Power Resources: Coal, petroleum and hydro electricity are the chief sources of power. The heavy industries need power in abundance. These industries are generally localised near the areas of facility of power generation. The Damodar valley in India, Rhur valley in Germany are the main industrial centres due to easy availability of coal and hydro-electric power. The iron and steel industry, fertiliser, aluminium and copper smelting are power intensive industries, hence located near the sources of power.
- Means of Transport: The means of transport are 'arteries and veins' of industries, as these connect producer to consumer. Hence industries are set upin those places which are endowed with cheap. quick and abundant means of transport.
- Suitable Climatic Condition: Climate plays an important role in their establishment. The cold climate affects health and ultimately the efficiency of work. The damp climate is helpful to cotton textile industry. The dry atmospheric conditions are helpful for aircraft industry.
- Abundant Labour Force. The skill and technique of manufacturing something is very essential. The skilled labour and technique of appliances increases the quality and quantity of production. The manufacturing of watches in Switzerland, toys and electronics in Japan, glasswork in Ferozabad and textile in Lancashire are famous due to skilled and specialised labour force.
- Nearness to the Market. Goods are produced to meet the demand of market. If the market is nearby the cost is low. The goods produced can compete with other manufacturers. Besides the perishable goods such as cheese, butter, meat and eggs, etc. need market very close to the producing site. The thick population creates high demand. Demand widens the market.
- Capital: Capital is the main factor to run an industry. it depends upon the economic condition of a country. To start any industry on large scale, huge amount of capital is needed. The stable government and security of investment of capital proves helpful in the industrial development of a country.

Case Based Questions (1 Mark each)

26. Read the given passage below and answer the questions that follow: "Cotton Textile Industries has three sub sectors, Le handloom, power loom and mill sectors. Handloom sector is labour intensive and provides employment to semi-skilled workers. It requires small capital investment Mahatma Gandhi propagated the Khadi as part of the independence movement in India. This sector involves spinning, weaving and finishing of the fabrics. The power loom sector introduces machines and becomes less intensive and the volume of production increases, Cotton textile mill sector is highly capital intensive and produces fine clothes in bulk."

(a) Handloom Sector involves which of the following activities?

(i) Production of fabrics in bulk

(ii) Machines are used for making fabrics

(iii) Spinning and weaving manually

(iv) None of the above

(b) Power loom is characterized by the:

(i) low level of technology

(ii) less labour intensive

(iii) manual production

(iv) high capital investment

(c) Mahatma Gandhi propagated the Khadi as part of the independence movement in India to

(i) unify Indians and Britishers.

(ii) promote fashion.

(iii) promote Indian goods.

(iv) turn Indians against each other.

(d) The large number of workforce is employed in which sub-sector of cotton textile industry?

(i) Handloom

(ii) Power loom

(iii) Mill Sector

(iv) All of theme

Ans. (a) (iii)

(b) (ii)

(c) (iii)

(d) (i)

27. Read the given passage below and answer the questions that follow:

"High technology, or simply high-tech, is the latest generation of manufacturing activities. It is best under stood the application of intensive research and development (R and D) efforts leading to the manufacture of products of an advanced scientific and engineering character Professional (white collar) workers make up a large share of the total workforce. These highly skilled specialists greatly outnumber the actual production (blue collar) workers Robotics on the assembly line, computer-aided design (CAD) and manufacturing, electronic controls of smelting and refining processes, and the constant development of new chemical and pharmaceutical products are notable examples of a high-tech industry

(a) The high-tech industrial landscape is characterized by:

(i) massive assembly structures

(ii) neatly spaced and dispersed

(iii) unattractive environment

(v) all of the above

(b) The workers which are engaged in production are known as:

(i) red collar workers

(ii) blue collar workers

(iii) pink collar workers

(vi) grey collar workers

(c) The high-tech industries are localised in the outer periphery of urban areas due to:

(i) high cost of land in urban area

(ii) absence of the skilled labour force

(iii) absence of transport and communication linkages

(iv) encouraging government policies

(d) The high-tech industries does not involve the application of:

(i) intensive research and development

(ii) traditional manufacturing

(ii) scientific and engineering controls

(iv) highly specialized production

Important Questions

1. What do you know about the manufacturing? Explain.
2. Describe the characteristics of modern large scale manufacturing industries.
3. Mr X is an industrialist, he wants to establish his factory. What are the factors must be kept in mind during establishment of his factory? Explain.
4. Classify the manufacturing industry on the basis of raw material with examples.
5. Briefly explain The Ruhr coal- field region.
6. Describe the distribution of iron and steel industry globally.
7. Describe the distribution of cotton textile industry globally.
8. What do you know about high-tech industry? To whom you can say Technopolies?

Chapter- 7th Tertiary and Quaternary Activities

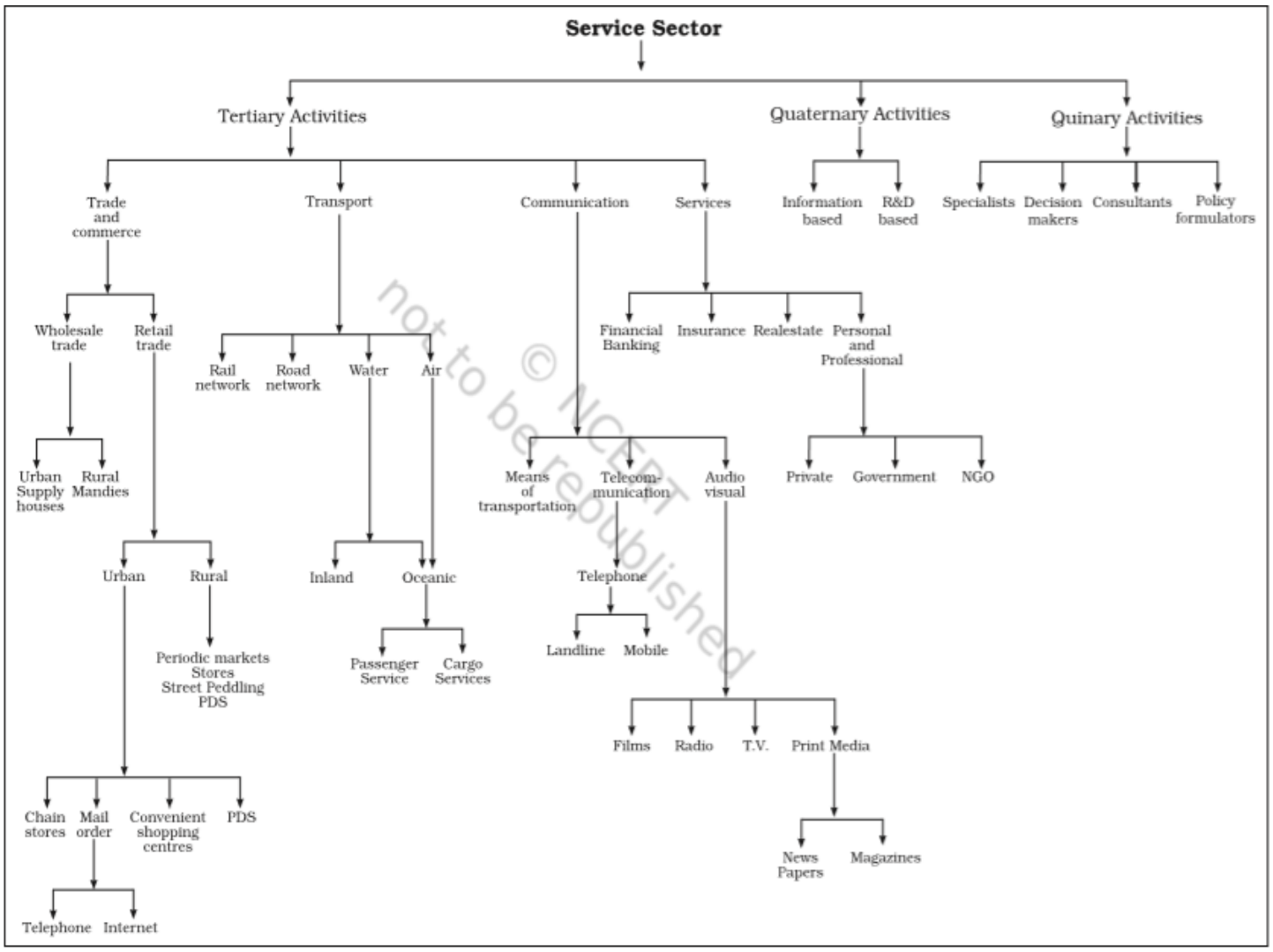
Tertiary activities are related to the **service sector.**

- Manpower is an important component of the service sector as most of the tertiary activities are performed by skilled labour, professionally trained experts and consultants.
- Common examples are the work of plumbers, electrician, technician, barber, shopkeeper, teacher, doctor, lawyers and publishers etc. the product of these people are intangible.

- In the initial stages of economic development, larger proportion of people worked in the primary sector. In a developed economy, the majority of workers get employment in tertiary activity and a moderate proportion is employed in the secondary sector.

Trade and commerce

- The rise of trading from barter at the local level to money-exchange of international scale has produced many centres and institutions such as **trading centres** or collection and distribution points.
- **Rural marketing centres** cater to nearby settlements. They are significant centres for making available goods and services which are most frequently demanded by rural folk.
- **Periodic markets** in rural areas are found where there are no regular markets and local periodic markets are organised at different temporal intervals weekly or bi-weekly.
- **Urban marketing centres** offer manufactured goods as well as many specialised services of such as Lawyers, Teachers, Consultants, Physicians and doctors etc.



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Retail tradaing-

- This is the business activity concerned with the sale of goods directly to the consumers. In it door-to-door, mail order, automatic vending machine are also included.

Wholesale trading-

- Wholesaling refers to all of the transactions in which products are bought for **resale**, for the making of other products, or for general business operations.

- Wholesalers often provide credit to retailer for their operation.

Transport-

- Transport is a service or facility by which people, materials and manufactured goods are physically carried from one location to another.
- Modern society requires speedy and efficient transport systems to assist in the production, distribution and consumption of goods.
- Transport distance can be measured as: **km distance** or actual distance of route length; **time distance** or the time taken to travel on a particular route; and **cost distance** or the expense of travelling on a route.
- Isochrone lines are drawn on a map to join places equal in terms of the time taken to reach them.
- Different places are linked together to form a **network**. Networks are made up of **nodes** and **links**. A **node** is the meeting point of two or more routes. Every road that joins two nodes is called a **link**.

Factors Affecting Transport

- **Demand-** The larger the population size, the greater is the demand for transport.
- **Routes** depend on: location of cities, towns, villages and industrial centres etc.

Communication

- Communication services involve the transmission of words and messages, facts and ideas.
- The use of telecommunications is linked to the development of modern technology. Due to it the time reduced is from weeks to minutes.
- Radio and television also help to relay news, pictures, and telephone calls to vast audiences around the world and hence they are termed as mass media.
- Newspapers are able to cover events in all corners of the world. Satellite communication relays information of the earth and from space.
- The internet has truly revolutionised the global communication system.

Tourism-

- It has become the world's single largest tertiary activity. Tourism fosters the growth of infrastructure industries, retail trading, and craft industries.
- Many local persons, are employed to provide services like accommodation, meals, transport, entertainment and special shops serving the tourists.
- **Tourist regions-** Around the Mediterranean Coast, the West Coast of India, monuments, heritage sites and cultural cites are some of the popular tourist destinations in the world.

Factors affecting tourism-

- Demand- Due to improvement in he standard of living and increased leisure time, people go for tour in holidays.
- Transport- Development in various types of transportation as Airways, Waterways, Roadways and Railways have also facilitated for tour.

Tourist attraction

1. **Climate-** tourists are attracted to those places which have healthy climate. That's why Mediterranean regions are mostly travelled by the Europeans.

2. **Landscape-** many people like to spend their holidays in Mountains, Lakes and other spectacular natural places.
3. **History and Art-** People visit ancient or picturesque towns and archaeological sites, and enjoy exploring castles, palaces and churches.
4. **Culture and Economy-** Home-stay has emerged as a profitable business such as **heritage** homes in Goa, **Madikere** and Coorg in Karnataka.

Medical services for overseas patients in India-

- India has emerged as the leading country of **medical tourism** in the world. Medical tourism has brings abundant benefits to developing countries like India, Thailand, Singapore and Malaysia.
- Medical tourism means tour for medical treatment.

Quaternary Activities-

- Quaternary activities involve some of the following: the collection, production and dissemination of information or even the production of information.
- Quaternary activities centre around research, development and may be seen as an advanced form of services involving specialised knowledge and technical skills.
- Personnel working in office buildings, elementary schools and university classrooms, hospitals and doctors' offices, theatres, accounting and brokerage firms are the services fall in the quaternary activities.

Quinary Activities-

- The highest level of decision makers or policy makers perform quinary activities.
- Quinary activities are services that focus on the creation, re-arrangement and interpretation of new and existing ideas; data interpretation and the use and evaluation of new technologies. Often referred to as 'gold collar' professions.
- Senior business executives, government officials, research scientists, financial and legal consultants, etc

Outsourcing -

- Outsourcing or contracting out is giving work to an outside agency to improve efficiency and to reduce costs. When outsourcing involves transferring work to overseas locations, it is described by the term **off shoring**, although both off - shoring and **outsourcing** are used together.
- Business activities that are outsourced include information technology (IT), human resources, customer support and call centre services and at times also manufacturing and engineering.
- The comparative advantage is the main reason for continuing outsourcing. Outsourcing countries are facing resistance from job-seeking youths in their respective countries.

Difference between KPO and BPO

Knowledge Process Outsourcing

- It requires highly **skilled** business experts.
- Highly **knowledgeable** employees that are outsourced.
- The **salary** of KPO employees are much higher.
- KPO employees are highly **qualified** such as engineer, doctor, CA, Lawyers etc provide in depth knowledge and expertise.

Business Process Outsourcing

- It is more about size, quantity and competencies.
- It insists for labour and Less skilled employees.
- The salary of BPO employees are lesser.
- BPO provides services like customer care, technical support through vice process and telemarketing and sales etc.

Digital Divide-

- There are wide ranging economic, political and social differences among countries.
- That's why, Opportunities emerging from the Information and Communication Technology based development is unevenly distributed across the globe.
- How quickly countries can provide ICT access and benefits to its citizens is the deciding factor.
- The citizens of developed countries are using ICT abundantly but people of developing countries are lag behind. This is known as **digital divide**.
- It also is existing within the countries. Cities are using ICT but rural areas are much behind.

MCQs

1- Which one from the following is not expressed in distance?

a- Km Distance

b- Cost Distance

c- Time Distance

d- Profit Distance

2- Heritage homes are found in which from the following state of India?

a- Goa

b- Karnataka

c- Tamil Nadu

d- Kerala

3- Which one from the following is not correct for Digital Divide?

a- Digital divide is not found in developing country

b- It divides the family

c- Both of above

d- None of above

4- Which one from the following is not correct?

a- The salary of KPO employees are much higher

b- KPO employee focus on quantity

c- BPO provides the services like Customer care, technical support and telemarketing

d- The salary of BPO employee are lesser than of KPO

5- Which one from the following in not correctly matched?

a- Gold Collar job- the Employee of secondary sector

b- Blue collar job- the employee of manufacturing industries

c- Red collar job- the workers who work outside from home in agricultural land

d- White collar job- the employee of service sector

6- Which is known as periodic market?

a- Periodic markets are found in urban area

b- Periodic markets are found in Rural area

c- Periodic markets provide specialist services

d- Periodic markets are opened all days of the week.

Important Questions

1. Explain in detail the significance of transport and communication services.
2. Discuss the significance and growth of the service sector in modern economic development.
3. How tourism has become very beneficial at present? What are the factors which influence tourism.
4. What do you know about Medical Tourism? Explain.
5. Distinguish between Quaternary and Quinary activities.
6. Distinguish between KPO and BPO.
7. Do you think outsourcing is beneficial for developing countries? Explain its positive and negative impact.
8. How can you tell about Digital divide?

Chpater- 8th Transport and Communication

- Transport, communication and trade establish links between producing centres and consuming centres.
- In earlier days, the means of transport and communication were the same. But today both have acquired distinct and specialised forms.

Transport

- Transport is a service or facility for the carriage of persons and goods from one place to the other using humans, animals and different kinds of vehicles. Such movements take place over land (Roadways, Railways), water (Waterways) and air (Airways).

Modes of Transportation

- Road transport is cheaper and faster over short distances and for door-to-door services. Railways are most suited for large volumes of bulky materials over long distances within a country.
- High-value, light and perishable goods are best moved by airways. In a well-managed transport system, these various modes complement each other.

Land Transport

- Among the newer developments in land transportation are pipelines, ropeways and cableways. Liquids like mineral oil, water, sludge and sewers are transported by pipelines.
- **Horses** are used as a draught animal even in the Western countries. **Dogs** and **reindeer** are used in North America, North Europe and Siberia to draw sledges over snow-covered ground. **Mules** are preferred in the mountainous regions; while **camels** are used for caravan movement in deserts. In India, **bullocks** are used for pulling carts.

Roads

- Road transport is the most economical for short distances compared to railways. It offers door-to-door service.
- Roads play a vital role in a nation's trade and commerce and for promoting tourism.
- The world's total motorable road length is only about 15 million km, of which North America accounts for **33** per cent. The highest road density and the highest number of vehicles are registered in this continent compared to Western Europe.

Highways

- In North America, highway density is high, about 0.65 km per sq km. Every place is within 20 km distance from a highway.
- **The Trans Canadian highway** links Vancouver in British Columbia (West coast) to St. John's city in Newfoundland (East coast).
- **The Pan-American highway**, a large portion has been constructed, will connect the countries of South America, Central America and North America.
- **The Trans Continental Stuart Highway** connects Darwin (north coast) and Melbourne via Tennant Creek and Alice Springs in Australia.
- Europe has a large number of vehicles and a well-developed highway network. In China, highways Criss-Cross the country connect all the major cities.
- In India, there are many highways. National Highway no 7 is largest which connects Varanasi to Kanyakumari.

Border roads-

- They play an important role in integrating people in remote areas with major cities and providing defense.

Railways

- Railways are a mode of land transport for bulky goods and passengers over long distances. There are about 13 lakh km of railways open for traffic in the world.

- Europe has one of the most dense rail networks in the world. There are about 4,40,000 km of railways, most of which is double or multiple-tracked. Belgium has the highest density of 1 km of railway for every 6.5 sq kms area.
- In Russia, 90 per cent of the country's total transport with a very dense network west of the Urals.
- North America has one of the most extensive rail networks accounting for nearly 40 per cent of the world's total.
- Australia has about 40,000 km of railways, of which 25 per cent are found in New South Wales alone.
- There is only one trans-continental rail route linking Buenos Aires (Argentina) with Valparaiso (Chile) across the Andes Mountains through the Uspallatta Pass located at a height of 3,900 m.

Trans-Continent Railways- Trans–continental railways run across the continent and link its two ends.

Trans–Siberian Railway

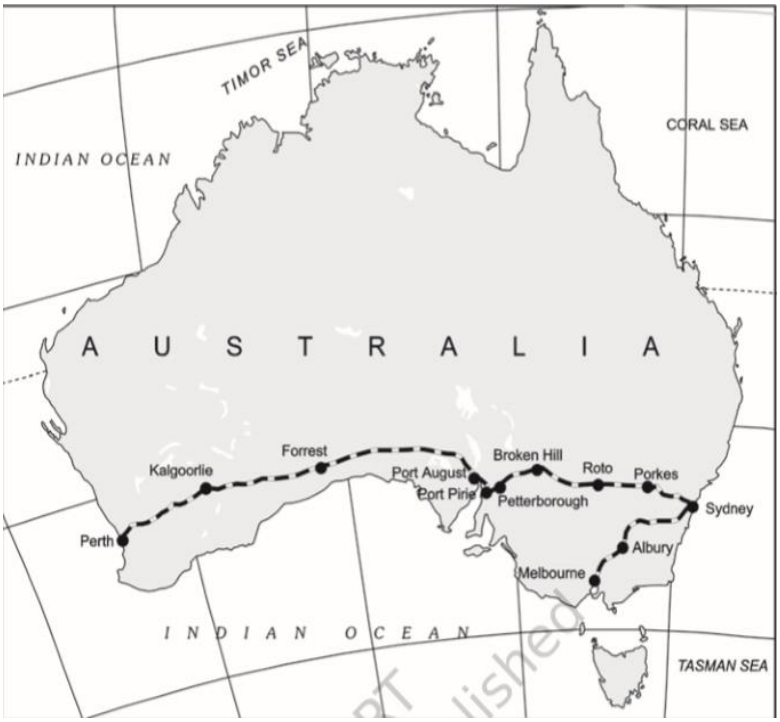
- It connects St. Petersburg in the west and Vladivostok at eastern coast. It is largest (9332 km) Transcontinental railway in the world.
- It is double tracked and electrified trans-continental railway in the world.
- It runs across the Ural Mountains Ob and Yenisei rivers Chita is an important agrocentre and Irkutsk, a fur centre.

Trans-Canadian Railways

- This 7,050 km long rail-line in Canada runs from Halifax in the east to Vancouver on the Pacific Coast passing through Montreal, Ottawa, Winnipeg and Calgary.
- This line is the economic artery of Canada. Wheat and meat are the important exports on this route.
- It connected the Quebec-Montreal Industrial Region with the wheat belt of the Prairie Region and the Coniferous Forest region in the north.

The union and Pacific Railway

- This rail-line connects New York on the Atlantic Coast to San Francisco on the Pacific Coast passing through Cleveland, Chicago, Omaha, Evans, Ogden and Sacramento.



The Australian Trans-Continental Railway

- This rail-line runs west-east across the southern part of the continent from Perth on the west coast, to Sydney on the east coast.
- It passes through Kalgoorlie, Broken Hill and Port Augusta.

The Orient Express

- This line runs from Paris to Istanbul passing through Strasbourg, Munich, Vienna, Budapest and Belgrade.
- The journey time has been reduced 96 hours from 10 days by sea route.
- There is a proposal to build a Trans–Asiatic Railway linking Istanbul with Bangkok via Iran, Pakistan, India, Bangladesh and Myanmar.

Water Transport

- Greatest advantage of it is that it does not require **route** construction. It is much **cheaper** because the friction of water is far less than that of land. The energy cost of water transportation is lower. It is divided into Sea routes and inland waterways.

Sea Routes

- The development of refrigerated chambers for perishable goods, tankers and specialised ships has also improved cargo transport.

Important Sea Routes

1- The Northern Atlantic sea route

- It links North West Europe and North East USA, which are two industrially developed regions.
- One fourth of the world's foreign trade moves on this route.
- So it is busiest sea route and called Big Trunk route. Both side coasts have highly advanced ports and harbor facility.

2- The Mediterranean- Indian sea route

- Port Said, Aden, Mumbai, Colombo and Singapore are some of the important ports on this route.
- Suez canal has greatly reduced the distance and time as compared to the earlier route of Cape of good hope.

3- The Cape of good hope sea route

- This trade route connects the highly industrialised Western European region with West Africa, South Africa, South-east Asia and the commercial agriculture and livestock economies of Australia and New Zealand.

4- The Southern Atlantic Sea route

- This sea route is another important one across the Atlantic Ocean which connects West European and West African countries with Brazil, Argentina and Uruguay in South America

5- The North Pacific sea route

- Trade across the vast North Pacific Ocean moves by several routes which converge at Honolulu.
- This route links the ports on the west- coast of North America with those of Asia.

6- The South Pacific sea route

- This sea route connects Western Europe and North America with Australia, New Zealand and the scattered Pacific islands via the Panama Canal.
- Honolulu is an important port on this route.

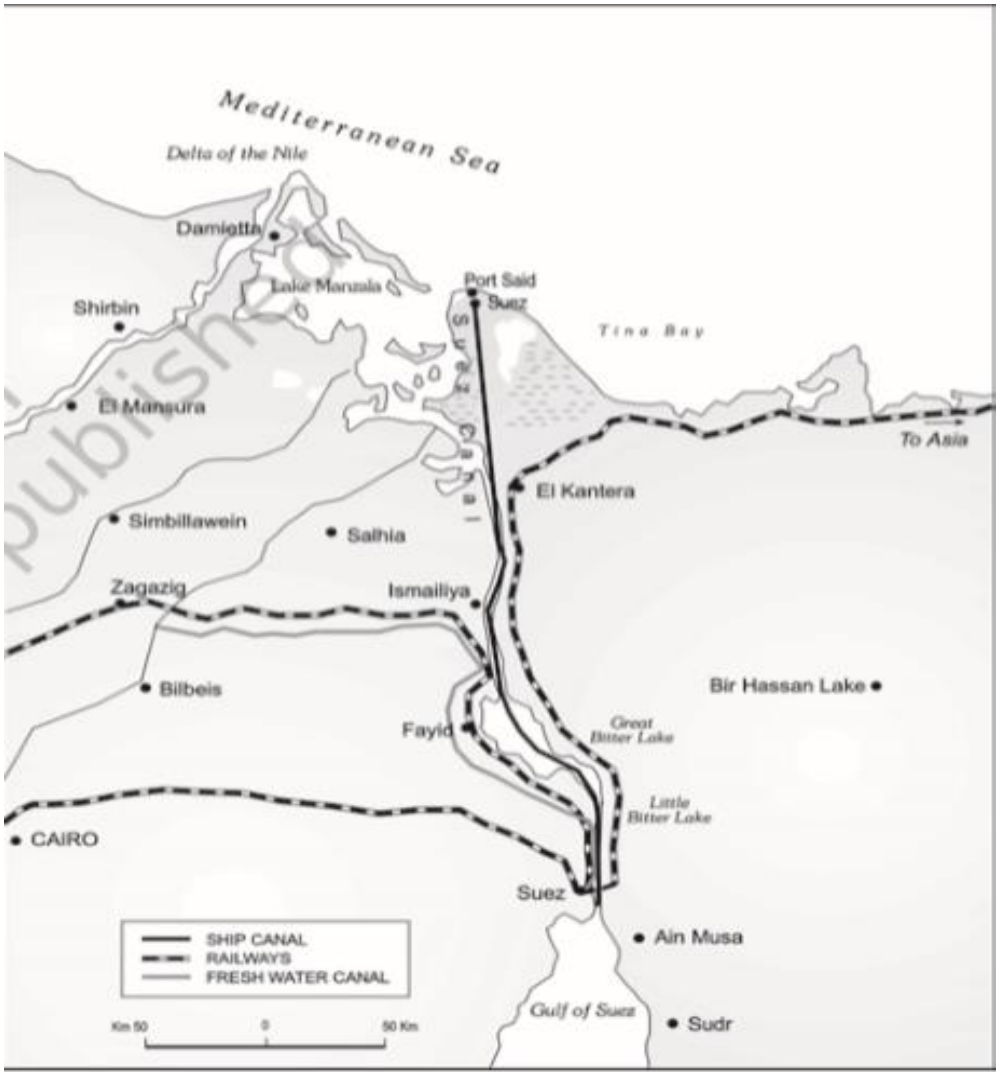
Shipping canal

1- Suez canal

- Constructed in 1869 in Egypt between Port Said in north, Port Suez in the south linking Mediterranean sea and the Red Sea.
- It has reduced distance between Mumbai to London. Its distance is 160 km and 11-15 m deep.
- About 100 ships travel daily and each ship takes 10-12 hours.
- A railway follows the canal to Suez, and from Ismailia there is a branch line to Cairo.

2- Panama Canal

- This canal connects the Atlantic Ocean in the east to the Pacific Ocean in the west. It has been constructed across the Panama Isthmus between Panama City and Colon.
- It is about 72 km long. It has a six lock system and ships cross the different levels (26 m up and down) through these locks before entering the Gulf of Panama.
- It shortens the distance between New York and San Francisco y 13000 km by sea.
- The economic significance of this canal is relatively less than Suez canal.



Inland waterways

- Rivers, canals, lakes and coastal areas have been important waterways.
- The development of inland waterways is dependent on the navigability width and depth of the channel, continuity in the water flow, and transport technology in use.
- Rivers are the only means of transport in dense forests. They were the main highways of transportation as in the case of India but lost importance because of competition from railways, lack of water due to diversions for irrigation and their poor maintenance.

The Rhine waterway

- The Rhine flows through Germany and Netherlands. It is navigable for 700 km from Rotterdam, at its mouth in the Netherlands to Basel in Switzerland.
- It flows through a rich coalfield and the whole basin has become a prosperous manufacturing area. It is the busiest waterway of Europe.
- It connects the industrial areas of Switzerland, Germany, France, Belgium and the Netherlands with the North Atlantic Sea Route.

The Danube waterway

- The Danube river rises in the Black Forest and flows eastwards through many countries and serves eastern Europe.
- The chief export items are wheat, maize, timber, and machinery.
- It is navigable up to Taurna Severin.

The Volga waterway

- It provides a navigable waterway of 11,200 km and drains into the Caspian Sea.
- The Volga-Moscow Canal connects it with the Moscow region and the Volga-Don Canal with the Black Sea.

The great lakes-St. Lawrence seaway

- The estuary of St. Lawrence River, along with the Great Lakes, forms a unique commercial waterway in the northern part of North America.
- The ports on this route like Duluth and Buffalo are equipped with all facilities of ocean ports.

The Mississippi waterways

- The Mississippi-Ohio waterway connects the interior part of U.S.A. with the Gulf of Mexico in the south.
- Large steamers can go through this route up to Minneapolis.

Air Transport

- Air transport is the fastest means of transportation, but it is very costly, preferred by passengers for long distance travel.
- Travel by air can now be measured by hours and minutes instead of years and months.
- Today, more than 250 commercial airlines offer regular services to different parts of the world.
- Supersonic aircraft, cover the distance between London and New York within three and a half hours.
- At present no place in the world is more than 35 hours away.

Inter-Continental Air routes

- In the Northern Hemisphere, there is a distinct east-west belt of inter-continental air routes.
- Dense network exists in Eastern U.S.A., Western Europe and Southeast Asia. U.S.A. alone accounts for 60 per cent of the airways of the world.
- There are limited air services between 10-35 latitudes in the Southern hemisphere due to sparser population, limited landmass and economic development.

Pipelines

- Pipelines are used extensively to transport liquids and gases such as water, petroleum and natural gas for an uninterrupted flow.
- In New Zealand, milk is being supplied through pipelines from farms to factories.
- In U.S.A. there is a dense network of oil pipelines from the producing areas to the consuming areas.
- Big Inch is one such famous pipeline, which carries petroleum from the oil wells of the Gulf of Mexico to the North-eastern States.
- In Europe, Russia, West Asia and India pipelines are used to connect oil wells to refineries, and to ports or domestic markets.
- The proposed Iran-India via Pakistan international oil and natural gas pipeline will be the longest in the world.

Communication

- The telephone is the most commonly used mode. In developing countries, the use of cell phones, made possible by satellites, is important for rural connectivity.
- The use of optic fibre allow large quantities of data to be transmitted rapidly, securely, and are virtually error-free.

Satellite Communication

- Today Internet is the largest electronic network on the planet connecting about 1,000 million people in more than 100 countries.
- Calling to a friend, sending sms, watching television are facilitated by satellite communication.
- India has also made great progresses in satellite development. Aryabhatt was launched on 19 April 1979, Bhaskar-I in 1979 and Rohini in 1980.
- Bhaskar Challenger and INSAT I-B made long distance communication, television and radio very effective.

Cyber space – Internet

- Cyberspace is the world of electronic computerised space. It is encompassed by the Internet such as the World Wide Web (www).
- There were less than 50 million Internet users in 1995, about 400 million in 2000 A.D. and over two billion in 2010.
- As billions use the Internet each year, cyberspace will expand the contemporary economic and social space of humans through e-mail, e-commerce, e-learning and e-governance.
- It is these modern communication systems, more than transportation, that has made the concept of global village a reality.

<u>MCQ Type Questions</u>

(i)The Trans–Continental Stuart Highway runs between

(a) Darwin and Melbourne

(b) Edmonton and Anchorage

(c) Vancouver and St. John's City

(d) Chengdu and Lhasa

(ii) Which country has the highest density of railway network?

(a) Brazil (c) Canada

(b) U.S.A (d) Russia

(iii) The Big Trunk Route runs through

(a) The Mediterranean – Indian ocean

(b) The North Atlantic Ocean

(c) The South Atlantic Ocean

(d) The North Pacific Ocean

(iv) The Big Inch pipeline transports

(a) Milk (c) Water

(b) Liquid petroleum gas (LGP) (d) Petroleum

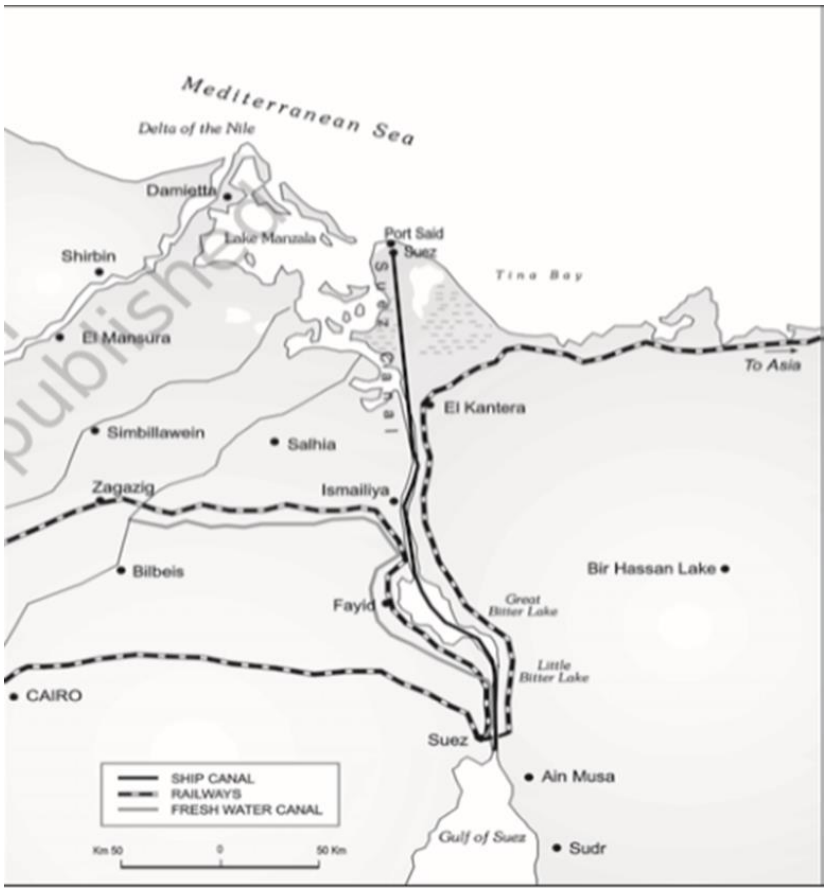
(v) Which one pair of the following places is linked by Channel Tunnel?

(a) London – Berlin (c) Berlin – Paris

(b) Paris – London (d) Barcelona – Berlin

Short Answer Type Questions

1. Observe the given map and answer the following questions:



(1.1)Namethe shipping canal shown in the map.

(1.2)What do the railway lines and fresh water canal indicate about the relief of the region inthe map?

(1.3)How did relief helps in reducing the cost of construction of this Shipping

canal?

Ans : (1) TheSuezCanal

(2) Generally a plain region

(3) Construction cost is comparatively low due to plain terrain

2. Listthefactors vvhich affect the inland water transport? (3)

Ans : 1. Navigability of the water body/channel

2. Width and depth of the Canal/riversetc.

3. Continuity in the waterflow

4. Transport technology

5. Demand

3. Why is Road transport better than rail transport? (3)

Ans : (i) Construction and maintanence is cheaper than railways

(ii) Provides "Door to Door" services

(iii) Can be constructed over undulating terrain

4. What are the disadvantages ofAir Transport. (3)

Ans : (i) It is a very costly mode of transport and only rich people can afford it

(ii) Flights cannot be operated in bad vveather

(iii) Accidents and hijacking of planes have become a serious problem these days.

5. List outthe advantagesof pipelinetransport (3)

Ans : (i) Pipelines can be laid through difficultterrain as well as under water

(ii) Initial cost of laying pipeline is high but subsequent cost of maintenance and operation is low

(iii) Pipelinesensure steady supply

(iv) It minimizes tranship losses and delays

(v) It involvesvery low consumptionof energy

(vi) It is a quick, cheap, efficient and environmentfriendly mode of transportation

<u>Long Answer Type Questions</u>

1. Suggest measures to overcome the problems of urban transport. (5)

. Ans: - Higher Parking Fee

Mass Rapid Transit

ImprovedPublicBus Service

Expressways

Promoting Metro trains

2. Elucidatethe statement- "In a well managed transport system,various modes complement each other." (5)

Ans: - Road transport is cheaper and faster over short distancesandfor door- to- door services

- Railways are most suitedfor large volumesof bulky materialsover long distances within a country

High value, lightand perishable goods are best moved by airways

Ocean transport is a cheaper means of haulage of bulky material over long distances from one continentto another

Pipelines are used extensively to transport liquids and gasesfor an uninterrupted flow

3. Which is the busiest sea route in the world. Describe its four Characteristics. (5)

Ans: The busiest Sea route in the world is the Northern Atlantic Sea Route

Characteristics

-This links North eastern USA and North Western Europe, the two

industrially developed regions oft he world.

-The foreign trade over this route is greater than that of the rest ot the world

One fourth ofthe world's foreign trade moves on this route

-Both the coasts have highly advanced ports and harbour facilities

-It is also called the Big Trunk Route

4. What is the significance of inland waterways? Explain the three factors responsible

for the development of inland waterways in the world. 5

Ans: Inland waterways are the cheapest means of transport in the interior parts of the

coun• try very heavy cargo like coal, cement, timber and metallic ores can be

transported through inland waterways and they are the only means of transport in dense forests.

Factors responsible for development of inland waterways

-navigability- vvidth and depth ofthe channel -

continuity in the water flow

-transport technology in use

-Demand

5. Name the vital man-made shipping canal which connects the Atlantic Ocean to the Pacific Ocean. state any four characteristics of this canal. (5)

Ans: - The PanamaCanal connects theAtlantic Oceanin the eastto the Pacific

in the west.

The PanamaCanal has been constructed across the Panama Isthmus

between Panama city and Colon

The canal is 72 km long and involves a very deep cutting for a length of 12 km

It has a six lock system

It shortens the distance between New Yorkand San Francisco.

6. Two man made navigationcanals serve as gateways of Commerce for both the

eastern and western worlds.Explain . 5

Ans: The SuezCanal and the PanamaCanal are two vital man - made navigation canals

or waterways which serve as gateways ofCommercefor the easternand western

worlds.

Suez Canal

--links Mediterranean Sea and Red Sea

--reduces direct sea route distance between Liverpool and Colombo

Panama Canal

--Connects the Atlantic Ocean in the east and Pacific Ocean in the west

--Shortens the distance between New York and San Francisco by 13000 km

by sea

--the distance betweenWestern Europe and the West coast of USA, and

north, eastern and central USAand East and South eastAsiais shortened.

8. Write any 5 features of Trans-Siberian railway.

Ans (1) Longestrailwaylinewith 9332 Kms length.

(2) Connectsst. Peterburg on westwith Bladivostate on the east

(3) CrossesOb, Yenisi and Ural mountain.

(4) Constructed for the economicdevelopmentof Siberia

(5) Chila is an agrocentre and Irkutsk as fur centre.

Extra Questions

1. Transport and communication services are called the lifeline of a country, Explain.
2. Air transport becoming more popular in the world day by day in spite of its high cost. Why?
3. Why railway is preferred more rather than roadways although Roadways provide door-to- door services.
4. Why more than 90% foreign trade are carried out through waterways not by other means of transportation? Explain.
5. What do you know about trans continental highways? Briefly explain about the trans-continental Stuart highway.
6. Describe about the trans-continental Siberian railway and Orient express.
7. Briefly explain any five important sea routes.
8. Make a Comparison between Suez and Panama canal.
9. Which famous inland waterway are found in Germany and in USA? Explain about them.
10. By which technology, it is possible to send sms, call to friend and watching TV. Explain about it.

Chapter- 9th International Trade

International Trade

- ***Trade means the voluntary exchange of goods and services. Two parties are required to trade. One person sells and the other purchases.***
- ***Trade may be conducted at two levels: international and national. International trade is the exchange of goods and services among countries across national boundaries***
- ***The initial form of trade in primitive societies was the barter system, where direct exchange of goods took place.***
- ***The difficulties of barter system were overcome by the introduction of money. In the olden times, before paper and coin currency***
- ***2020-21***
- ***Fundamentals of Human Geography82***
- ***came into being, rare objects with very high intrinsic value served as money, like, flintstones, obsidian, cowrie shells, tiger's paws, whale's teeth, dogs teeth, skins, furs, cattle, rice, peppercorns, salt, small tools, copper, silver and gold.***

History of International

- ***The Silk Route is an early example of long distance trade connecting Rome to China – along the 6,000 km route. The traders transported Chinese silk, Roman wool and precious metals and many other high value commodities from intermediate points in India, Persia and Central Asia.***
- ***Fifteenth century onwards, the European colonialism began and along with trade of exotic commodities, a new form of trade emerged which was called slave trade. The Portuguese, Dutch, Spaniards, and British captured African natives and forcefully transported them to the newly discovered Americas for their labour in the plantations. Slave trade was a lucrative business for more than two hundred years till it was abolished in Denmark in 1792, Great Britain in 1807 and United States in 1808***
- ***The industrialised nations imported primary products as raw materials and exported the value added finished products back to the non-industrialised nations.***

Basis of International Trade

Basis of International Trade

(i) Difference in national resources: The world's national resources are unevenly distributed because of differences in their physical make up i.e. geology, relief soil and climate.

(a) Geological structure: It determines the mineral resource base and topographical differences ensure diversity of crops and animals raised. Lowlands have greater agricultural potential. Mountains attract tourists and promote tourism.

(b) Mineral resources: They are unevenly distributed the world over. The availability of mineral resources provides the basis for industrial development. (c) Climate: It influences the type of flora and fauna that can survive in a given region. It also ensures diversity in the range of various products, e.g. wool production can take place in cold regions, bananas, rubber and cocoa can grow in tropical regions.

(ii) Population factors: The size, distribution and diversity of people between countries affect the type and volume of goods traded.

(a) Cultural factors: Distinctive forms of art and craft develop in certaincultures which are valued the world over, e.g. China produces the finest porcelains and brocades. Carpets of Iran are famous while North African leather work and Indonesian batik cloth are prized handicrafts.

(b) Size of population: Densely populated countries have large volume of internal trade but little external trade because most of the agricultural and industrial production is consumed in the local markets. Standard of living of the population determines the demand for better quality imported products because with low standard of living only a few people can afford to buy costly imported goods.

(iii) Stage of economic development: At different stages of economic development of countries, the nature of items traded undergo changes. In agriculturally important countries, agro products are exchanged for manufactured goods whereas industrialised nations export machinery and finished products and import food grains and other raw materials.

(iv) Extent of foreign investment: Foreign investment can boost trade in developing countries which lack in capital required for the development of mining, oil drilling, heavy engineering, lumbering and plantation agriculture. By developing such capital intensive industries in developing countries, the industrial nations ensure import of food stuffs, minerals and create markets for their finished products. This entire cycle steps up the volume of trade between nations.

(v) Transport: In olden times, lack of adequate and efficient means of transport restricted trade to local areas. Only high value items, e.g. gems, silk and spices were traded over long distances. With expansions of rail, ocean and air transport, better means of refrigeration and preservation, trade has experienced spatial expansion.

World Trade OrganisationIn1948, to liberalise the world from high customs tariffs and various other types of restrictions, General Agreement for Tariffs and Trade (GATT) was formed by some countries.

- ***In 1994, it was decided by the member countries to set up a permanent institution for looking after the promotion of free and fair trade amongst nation and the GATT was transformed into the World Trade Organisation from 1st January 1995.***
- ***WTO is the only international organisation dealing with the global rules of trade between nations. It sets the rules for the global trading system and resolves disputes between its member nations.***
- ***WTO also covers trade in services, such as telecommunication and banking, and others issues such as intellectual rights. The WTO has however been criticised and opposed by those who are worried about the effects of free trade and economic globalisation. It is argued that free trade does not make ordinary people's lives more prosperous. It is actually widening the gulf between rich and poor by making rich countries more rich.***
- ***This is because the influential nations in the WTO focus on their own commercial interests. Moreover, many developed countries have not fully opened their markets to products from developing countries. It is also argued that issues of health, worker's rights, child labour and environment are ignored.***

GATEWAYS OF INTERNATIONAL TRADE

Ports

The chief gateways of the world of international trade are the harbours and ports. Cargoes and travellers pass from one part of the world to another through these ports.

The ports provide facilities of docking, loading, unloading and the storage facilities for cargo. In order to provide these facilities, the port authorities make arrangements for maintaining navigable channels, arranging tugs and barges, and providing labour and managerial services. The importance of a port is judged by the size of cargo and the number of ships handled. The quantity of cargo handled by a port is an indicator of the level of development of its hinterland.

Types of Port

Ports are classified according to the types of traffic which they handle.

Types of port according to cargo handled:

- ***(i) Industrial Ports: These ports specialise in bulk cargo-like grain, sugar, ore, oil, chemicals and similar materials.***
- ***(ii) Commercial Ports: These ports handle general cargo-packaged products and manufactured good. These ports also handle passenger traffic.***
- ***(iii) Comprehensive Ports: Such ports handle bulk and general cargo in large volumes.***

Types of port on the basis of location:

- ***(i) Inland Ports: These ports are located away from the sea coast. They are linked to the sea through a river or a canal. Such ports are accessible to flat bottom ships or barges. For example, Manchester is linked with a canal; Memphis is located on the river Mississippi; Rhine has several ports like Mannheim and Duisburg; and Kolkata is located on the river Hoogli, a branch of the river Ganga.***
- ***(ii) (ii) Out Ports: These are deep water ports built away from the actual ports. These serve the parent ports by receiving those ships which are unable to approach them due to their large size. Classic combination, for example, is Athens and its out port Piraeus in Greece.***

Types of port on the basis of specialised functions:

- ***(i) Oil Ports: These ports deal in the processing and shipping of oil. Some of these are tanker ports and some are refinery ports. Maracaibo in Venezuela, Esskhira in Tunisia, Tripoli in Lebanon are tanker ports. Abadan on the Gulf of Persia is a refinery port.***
- ***(ii) Ports of Call: These are the ports which originally developed as calling points on main sea routes where ships used to anchor for refuelling, watering and taking food items. Later on, they developed into commercial ports. Aden, Honolulu and Singapore are good examples.***
- ***(iii) Packet Station: These are also known as ferry ports. These packet stations are exclusively concerned with the transportation of passengers and mail across water bodies covering short distances. These stations occur in pairs located in such a way that they face each other across the water body, e.g. Dover in England and Calais in France across the English Channel.***
- ***(iv) Entrepot Ports: These are collection centres where the goods are brought from different countries for export. Singapore is an entrepot for Asia. Rotterdam for Europe, and Copenhagen for the Baltic region.***
- ***(v) Naval Ports: These are ports which have only strategic importance. These ports serve warships and have repair workshops for them. Kochi and Karwar are examples of such ports in India.***

****

MCQ Type Questions

(i) Most of the world's great ports are classified as:

(a) Naval Ports

(b) Oil Ports

(c) Comprehensive Ports

(d) Industrial Ports

(ii) Which one of the following continents has the maximum flow of global

trade?

(a) Asia

(b) North America

(c) Europe

(d) Africa

Short Answer Type Questions

1. Why are ports always referred to as gateway of international trade? (3)

Ans The world port is derived from the latin word "Porta" meaning Gateway

Port is a connecting link between land and water

It is a place on the coast where ships start and end their journey

Here reached Cargo is unloaded and the Cargo which is to be exported is loaded

Port provides facillties of export and import

It is well connected to the interior of the country by a good network of roadways and railways.

2. Classify ports on various bases. (3)

Ans On the basis of Cargo handled :

(i) Industrial ports

(ii) Commercial ports

(iii) Comprehensive ports

On the basis of location :

(i) Inland ports

(ii) Out ports

On the basis of specialised functions

(i) Oil ports

(ii) Ports of call

(iii) Packet stations

(iv) Entrepot ports

(v) Naval ports

3. Explain five basis of International Trade

Ans : (i) Variationin the availability of naturalresources

(ii) Differencein the level of economicdevelopment

(iii) PopulationFactors<

(iv) Transportation

(v) GovernmentPolicies

(vi) Extent of foreign

Investment

Cultural Factors

Size of Population

Long answer Type Questions

01. Definethe Word port? Write the classification of ports onthe basis oftheir location (1+2+2=5)

Ans. Port - Ports are the medium of trade between two countries.It is that place on the coast where cargo in large quantity is received from oceanic routes and sent to the interior parts ofthe country.

Two types of Ports

(i) Outports

(ii) Inland ports

(a) Outports- deepwater port built awayfrom actual port

(b) Inland port - located away from the coast and liked with the seathrough a river or a canal.

02. What is internationaltrade? Which are the twotypes of international trade? Give one Characteristicsof each. (1 +2+2=5)

Ans International Trade - The movement of goods and Services from areas of Surplus to deficit area between two countries.

The Two types of international trade

(1) Bilateral Trade

(2) Multilateral Trade

The exchanging of good between two countries

The exchange takes place between several countries

on regular basis.

03. "Ports are the gateways of international trade." Justify the statement (5)

Ans : (i) It is a gateway from land to sea or from sea to land

(ii) Coast provide facilities such as docking, loading etc

(iii) It handles export & Importtrade of Country

(iv) Imports are sent to hinterland of a port

(v) Travellerspass from one part of theworldto another

04. Classifythe ports onthe basis of Specialized functions and give one example each.

(2¥2 + 2¥2 = 5)

Ans (i) Oil ports- Abadan on the Gulf of Persia

(ii) Ports of Call- Singapore

(iii) Packet station - Doverin England

(iv) EntrepotPorts - Rotterdamfor Europe

(v) Naval Ports- Kochi

05. Wr~e shortnotes onthe followingtopics

Ans (1) Barter system

(2) Slavetrade

(c) Dumping

06. What are the function ofWTO.

Ans. (1) Solves disputesamongthe countries.

(2) Provide trade services.

(3) Dealswith the global rules oftrade between nations.

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STUDY MATERIAL OF GEOGRAPHY-2022-23

CLASS 12

Chapter – 1 Population Distribution, Density, Growth and Composition

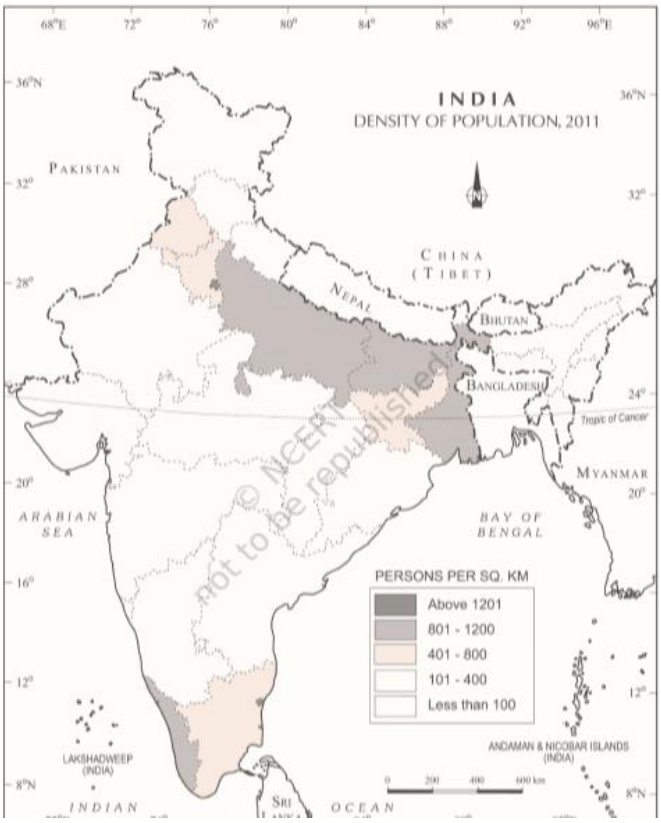
- India is the second most populous country after China i.e. 1210 million (2011). India's population is larger than the total population of North America, South America and Australia.
- First population census in India was conducted in 1872 but its first complete census was conducted only in 1881. after that Population data are collected after 10 years.

Distribution of population

- The distribution of population distribution is uneven. Uttar Pradesh, Maharashtra, Bihar , West Bengal, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Rajasthan, Karnataka and Gujarat together account for about 76% of the total Population of the country.
- On the other hand share of population is very small in Jammu and Kashmir and Ladakh (1.04%), Arunachal Pradesh (0.11%), and Uttarakhand (0.84%)
- It is clear that climate along with terrain and availability of water and soils largely determines the pattern of the population distribution
- That's why Northern Indian Plains, Deltas, Coastal Plains have higher proportion of population than interior districts of southern and central Indian states, Himalayas, some of north eastern and western states.
- Socio-economic and historical factors, agricultural development, pattern of human settlement, development of transport network, industrialisation and urbanisation.
- Even though the uses of natural resources like land and water in populated regions have shown the sign of degradation, the concentration of population remains high because of an early History of human settlement and development of transport network.
- On the other hand, the urban regions of Delhi, Mumbai, Kolkata, Bengaluru, Pune, Ahmedabad, Chennai and Jaipur have high concentration of population due to industrial development and urbanization drawing a large numbers of rural-urban migrants.

Density of population- is expressed as number of persons per unit area. It is in 2011 is 382 persons per sq. km in India. Means it is human and land relationship.

- It increased from 117 persons/ sq km in 1951 to 382 persons/ sq km in 2011.
- minimum density of population is 17 of Arunachal Pradesh and Maximum of Bihar 1102 and decreasing order West Bengal 1029, Kerala 859 and Uttar Pradesh 828.
- बि+प+के+उ+ह+त+पं+झा = बिपकेउहतपंझा means (Bihar, West Bengal, Kerala, Uttar Pradesh, Haryana, Tamil Nadu, Panjab and Jharkhand) is decreasing order of density of population.



Physiological density.

$$=\frac{\textbf{Total Population}}{\textbf{Net Cultivated areas}}$$

- Agricultural density

$$=\frac{\textbf{Total agricultural population}}{\textbf{Net Cultivated areas}}$$

In above, agricultural population includes cultivators and agricultural labourers and their family members.

Growth of population –

- Growth of population is the change in the **number** of people living in a particular area between two points of time.
- While growth rate is expressed in **percentage** of above. Annual growth rate of population is 1.64 % 2011.
- The growth rate of population in India over the last one century has been caused by annual birth rate and death rate and rate of migration.
- Maximum growth of population was between 1991-2001 i.e. 182.3 million. But maximum growth rate was between 1961-1971 i.e. 24.80%.

There are four distinct phases of growth identified in the last century.

Phase-1: The period from 1901 -1921

- **Stagnant** or stationary phase of growth of India's population.
- Growth rate was very low even recorded negative
- Both birth rate and death rate were high.
- Found poor health, medical services, illiteracy, inefficient distribution system of food.

Phase – 2: The period from 1921- 1951

- Period of steady growth of population
- Overall improvement in health and sanitation through out the country brought down the mortality rate.
- Crude birth rate was remain high in this period.
- Recorded higher growth compared to Phase 1.

Phase – 3 The period from 1951- 1981

- It is called the period of population explosion in India.
- It was due to rapid fall of mortality rate and high birth rate.
- Average annual growth rate was as high as 2.2 %.
- After independence centralised planning process and economy started showing up ensuring the improvement of living condition of people at large.
- Many immigrants also came from Tibet, Bangladesh, Nepal and even form Pakistan contributed high growth rate.

Phase - 4: from 1981- till now

- Growth rate of country's population though remained high, has started slowing down gradually.
- A downward trend of crude birth rate is held responsible.
- Late marriage, improved quality of life and particularly education of female.

Still growth rate of population is high. World development report projected that country's population will touch 1350 million by 2025.

Regional variation in population growth –

- States like Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Odisha, Puducherry and Goa show a low rate of growth not exceeding 20 % over the decade.
- Gujarat, Maharashtra, Rajasthan, Punjab, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Sikkim, Assam, West Bengal, Bihar, Chhattisgarh and Jharkhand growth rate is 20-25 %.
- During 2001-2011, the growth rates of almost all States and Union Territories have registered a lower figure compared to the previous decade, namely, 1991-2001.
- There are many challenges for the society as far as the adolescents are concerned because some of them are in the trap of these problems like – illiteracy particularly females, school dropouts, low intake of nutrients, drug abuse and alcoholism and commitence of crimes etc.
- The government of India also formulated the National Policy for skill development and entrepreneurship in 2015 to provide an umbrella framework to all skilling activities being carried out within the country.

Population Composition:

- Population composition is the cluster of demographic attributes such as religion, region, caste, marital status, literacy, education, language, occupational characteristics, age, sex, place of birth and ethnic characteristics which is distinct field of study within the Population Geography.

1. Rural-Urban composition:

- There are 640867 villages according to census 2011. States like Bihar and Sikkim have very high percentage of rural population. Very low percentage (Around 50%) of rural dewellers are in Goa and Maharashtra.
- Urban population (31.16 per cent) in India is quite low but it is showing a much faster rate of growth over the decades. The growth rate of urban population has accelerated due to enhanced economic development and improvement in health and hygienic conditions.

Linguistic Composition –

- India is the land of linguistic diversity. In the context of modern India, there are 22 scheduled languages.
- Among the scheduled language, speaker of Hindi is have the highest percentage.

Linguistic Classification-

- Major Indian languages belong to four language families.

Family	Sub-Family	Branch/Group	Speech Areas
Austric (Nishada) 1.38%	Austro-Asiatic	Mon-Khmer	Meghalaya, Nicobar Islands
		Munda	West Bengal, Bihar, Orissa, Assam, Madhya Pradesh, Maharashtra
	Austro- Nesian		Outside India
Dravidian (Dravida) 20%		South-Dravidian	Tamil Nadu, Karnataka, Kerala
		Central Dravidian	Andhra Pradesh, M.P., Orissa, Maharashtra
		North Dravidian	Bihar, Orissa, West Bengal, Madhya Pradesh
Sino-Tibetan (Kirata) 0.85%	Tibeto - Myanmari	Tibeto-Himalayan	Jammu & Kashmir, Himachal Pradesh, Sikkim
		North Assam	Arunachal Pradesh
	Siamese-Chinese	Assam- Myanmari	Assam, Nagaland, Manipur, Mizoram, Tripura, Meghalaya
Indo - European (Aryan) 73%	Indo-Aryan	Iranian	Outside India
		Dardic	Jammu & Kashmir
		Indo-Aryan	Jammu & Kashmir, Punjab, Himachal Pradesh, U.P., Rajasthan, Haryana, M.P., Bihar, Orissa, West Bengal, Assam, Gujarat, Maharashtra, Goa.

Source : Ahmed, A. (1999) : Social Geography, Rawat Publication, New Delhi

NCERT Published

Composition of Working Population –

- In India, the proportion of workers (Both and marginal) is only 39.8% but 60 % people are non-workers(2011). Means there are larger proportion of dependent population.
- The states with larger % of workers are in Himanchal Pradesh, Sikkim, Chhattisgarh, Andhra Pradesh, Karnataka, Arunachal Pradesh, Nagaland, Manipur and Meghalaya.
- About 54.6% people are cultivators and agricultural labourers, 3.8% engaged in household industries and 41.6 % are engaged in Trade, commerce, construction, repair and other services.
- Main Worker is a person who works for at least 183 days (or six months) in a year.
- Marginal Worker is a person who works for less than 183 days (or six months) in a year
- Himachal Pradesh and Nagaland have very large shares of cultivators.

- Bihar, Andhra Pradesh, Chhattisgarh, Odisha, Jharkhand, West Bengal and Madhya Pradesh have higher proportion of agricultural labourers.
- The highly urbanised areas like Delhi, Chandigarh and Puducherry have a very large proportion of workers being engaged in other services

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- The highly urbanised areas like Delhi, Chandigarh and Puducherry have a very large proportion of workers being engaged in other services

Competency Based Question

Multiple Choice questions

Q 1.
How many Million Plus towns are there in India (in 2001)?
(A) 25
(B) 27
(C) 30
(D) 54

Answer: (D) 54

Q 2.
What is the average sex ratio In India (2011)?
(A) 910
(B) 923
(C) 940
(D) 953

Answer: (C) 940

Q 3.
What is life expectancy in India?
(A) 55 years
(B) 60 years
(C) 66 years
(D) 70 years

Answer: (C) 66 years

Q 4.
The literacy rate in India is:
(A) 55%
(B) 60%
(C) 74%
(D) 67%

Answer: (C) 74%

Q 5.
In how many years India's population will be doubled?
(A) 32 years
(B) 34 years
(C) 36 years
(D) 38 years

Answer: (C) 36 years

Q 6.
India's population as per the 2011 census is:
(A) 1028 million
(B) 3287 million
(C) 3182 million
(D) 1210 million

Answer: (D) 1210 million

Q 7.
Which one of the following states has the highest density of population in India?
(A) West Bengal
(B) Uttar Pradesh
(C) Kerala
(D) Bihar

Answer: (D) Bihar

Q 8.
Which one of the following states has the highest proportion of the urban population in India according to the 2001 Census?
(A) Tamil Nadu
(B) Kerala
(C) Maharashtra
(D) Goa

Answer: (D) Goa

Q 9.
Which one of the following is the largest group of India?
(A) Sino-Tibetan
(B) Austric
(C) Indo-Aryan
(D) Dravidian

Answer: (B) Indo-Aryan

Q 10
India's population as per 2001 census is:
(a) 1028 million
(b) 3182 million

(c) 3287 million
(d) 20 million

Answer:
(a) 1028 million

Assertion and Reason Based questions

Q 1.

Assertion . Density of population, is expressed as number of persons per unit area.

Reason; The density of population in India (2011) is 382 persons per sq km

Alternatives

A. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion
B. Both Assertion and reason are correct but Reason is not the correct explanation for Assertion.
C. Assertion is correct but reason is incorrect.
D. Both Assertion and reason are incorrect.

ANSWER .A

Q 2.

Assertion : Population data are collected through Census operation held every 9 years in our country

Reason; The first population Census in India was conducted in 1872 but its first complete Census was conducted only in 1881.

Alternatives

A. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion
B. Both Assertion and reason are correct but Reason is not the correct explanation for Assertion.
C. Assertion is correct but reason is incorrect.
D. Assertion incorrect and reason are correct.

ANSWER .D

Source Based Question

Study the data given below carefully in the table and answer the following questions

Decadal Growth Rates in India, 1901-2011 Census

Census year	Total Population	Growth Rate	
		** Years Absolute Number*	*% of Growth*
1901	238396327	----------	----------
1911	252093390	(+) 13697063	(+) 5.75
1921	251321213	(-) 772117	(-) 0.31
1931	278977238	(+) 27656025	(+) 11.60
1941	318660580	(+) 39683342	(+) 14.22
1951	361088090	(+) 42420485	(+) 13.31
1961	439234771	(+) 77682873	(+) 21.51
1971	548159652	(+) 108924881	(+) 24.80
1981	683329097	(+) 135169445	(+) 24.66
1991	846302688	(+) 162973591	(+) 23.85
2001	1028610328	(+) 182307640	(+) 21.54
2011**	1210193422	(+) 181583094	(+) 17.64

Q1 Which decade Shows minus growth rate ?

a)1911-1921 b) 1921-1931 c)1931-1941 d) 1941-1951

Answer-A 1911-21

Q2 What is the main reasons for the decline in the population of this decade?

a) high mortality and low birth rate b)low mortality and high birth rate

c) high mortality and high birth rate d) low mortality and low birth rate

Answert- c) high mortality and high birth rate

Q3.Which decades are referred to as the period of steady population growth?

a)1901-1941 b) 1921-1951 c)1951-2001 d) 1971-1991

Answer- b) 1921-1951

(Very Short Answer Type Questions)

1. What is the average density of population in India?
   Answer: 382 persons per sq. km.
2. Which state has the highest density of population in India? Also mention density. (C.B.S.E. 2009)
   Answer: Bihar—1102 persons per sq. km.
3. What is the average annual rate of growth of population in India?
   Ans: 1.76 percent.
4. Where does India rank in the world as regards area?

Answer: Area—Seventh place.

5. When was the first complete census held in India?

Answer: In 1881.

(Short Answer Type Questions)

1. Name the states which have less population in comparison to the extent of their land area.

Ans. States with lowest density of population are Arunachal Pradesh (17 persons per sq km), Mizoram, (52 persons per sq km and Sikkim (86 persons per sq km). The union territory with lowest population density is Andaman and Nicobar Island with 46 persons per sq km.

2. ”Socio-economic factors influence high density of population”. Give reasons.

Ans. The socio-economic factors influence high density of population:

   a. Evolution of settled agriculture and agricultural development.
   b. Pattern of human settlement.
   c. Development of transport network.
   d. Urbanisation and industrilisation before.
   e. River plains and coastal areas; urban centres/industrial areas.

3. Differentiate between Main Workers and Marginal Workers.

Ans- **Main Workers:** A person who works for at least 183 days in a year. They are the main contributors to a nation’s GDP.

Marginal Workers: A person who works for less than 183 days in a year. They are mostly engaged in the agricultural sector.

4. What is sex ratio ? How is it calculated in India ? (C.B.S.E. 2013)

Ans-The ratio between the number of women and men in the population is called the sex ratio. It is number of females per 1000 males. In India the sex ratio is worked out using the formula. sex Ratio = Female Population / Male Population ×1000

5. Which are the major demographic attributes of human population ?
   Answer:
   The major attributes of population are :
   (a) Sex Ratio. A population is comprised by males and females ; who are of different age groups.

(b) Rural and urban population. They may be residing in villages, small and medium towns or large cities.

(c) Working and non-working population. A substantive proportion of population may consist of non-workers who are either too young to work or do not work because they are ill or too old to accept any work.

(Long Answer Type Questions)

1. Distinguish between Birth-rate and Growth-rate.
   Ans-

Birth-rate	Growth-rate

1. The number of live births per thousand persons during a certain period is called the birth rate.	1. It is the difference between the birth rate and death rate per 1000 persons.
2. It is calculated for every 1000 persons for a year.	2. The growth-rate of population is expressed as percentage during a certain period of time.
3. A high birth-rate shows an increasing population.	3. When birth-rate is more than death-rate, it shows a positive growth rate.

Q 2 Define population growth. What are the different phases of population growth in India observed?

Ans –

Phase-1: The period from 1901 -1921

- **Stagnant** or stationary phase of growth of India's population.
- Growth rate was very low even recorded negative
- Both birth rate and death rate were high.
- Found poor health, medical services, illiteracy, inefficient distribution system of food.

Phase – 2: The period from 1921- 1951

- Period of steady growth of population
- Overall improvement in health and sanitation throughout the country brought down the mortality rate.
- Crude birth rate was remained high in this period.
- Recorded higher growth compared to Phase 1.

Phase – 3 The period from 1951- 1981

- It is called the period of population explosion in India.
- It was due to rapid fall of mortality rate and high birth rate.
- Average annual growth rate was as high as 2.2 %.
- After independence centralised planning process and economy started showing up ensuring the improvement of living condition of people at large.
- Many immigrants also came from Tibet, Bangladesh, Nepal and even form Pakistan contributed high growth rate.

Phase - 4: from 1981- till now

- Growth rate of country's population though remained high, has started slowing down gradually.
- A downward trend of crude birth rate is held responsible.

- Late marriage, improved quality of life and particularly education of female.

<u>Extra Questions</u>

1. "The distribution of population is very uneven" support this statement.
2. Distinguish between 'agricultural density' and 'physiological density'.
3. Do you find any difference between 'growth rate of population' and 'growth of population'? If yes then describe in the context of India.
4. Why first phase of Indian population is known as 'stagnant' and third phase 'explosive' in the last century? Explain. **OR** What were all four phases of growth identified in the last century.

5. Do you find any spatial variation of population growth? Explain in the favour.
6. Define population composition. Explain rural and urban composition.
7. Describe the linguistic composition of India.

Chapter – 4 HUMAN SETTLEMENT (INDIA PEOPLE AND ECONOMY)

- **Human Settlement means cluster of dwellings of any type or size where human beings live.**

There are various factors and conditions responsible for having different types of rural settlements in India. These include:

- **Physical features – nature of terrain, altitude, climate and availability of water**
- **Cultural and ethnic factors – social structure, caste and religion**
- **Security factors – defense against thefts and robberies.**

Types of rural settlements

1. **Clustered, agglomerated or nucleated,**
2. **Semi-clustered or fragmented,**
3. **Hamleted,**
4. **Dispersed or isolated.**

Clustered settlements

- **Such settlements are generally found in fertile alluvial plains and in the northeastern states.**
- **Sometimes, people live in compact village for security or defence reasons, such as in the Bundelkhand region of central India and in Nagaland.**

Semi-clustered Settlements

- **In this case, one or more sections of the village society choose or is forced to live a little away from the main cluster or village.**
- **Generally found in Gujarat plains and some part of Rajasthan, where land owning and dominant community occupies the central part of the village and lower strata of society settle on the outer flanks of the village.**
- **Human Settlement means cluster of dwellings of any type or size where human beings live.**

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Hamleted Settlements

- **Sometimes settlement is fragmented into several units physically separated from each other bearing a common name.**
- **These units are locally called panna, para, palli, nagla, dhani, etc.**
- **Such villages are more frequently found in the middle and lower Ganga plain, Chhattisgarh and lower valleys of the Himalayas.**

Dispersed Settlements

- **Found in the form of isolated huts or hamlets of few huts in remote jungles, or on small hills with farms or pasture on the slope.**
- **Many areas of Meghalaya, Uttarakhand, Himachal Pradesh and Kerala have this type of settlement.**

Evolution of towns in India

On the basis of their evolution in different periods, Indian towns may be classified as: Ancient, Medieval and Modern towns

Ancient towns – There are number of towns in India having historical background spanning over 2000 years.

- **Most of them developed as religious and cultural centres. Varanasi, Prayagraj, Pataliputra (Patna), Madurai are some examples of ancient towns in the country.**

Medieval towns- Most of the fort towns which came up on the ruins of ancient towns. Important among them are Delhi, Hyderabad, Jaipur, Lucknow, Agra and Nagpur. There are about 100 existing medieval towns at present.

Modern towns- These towns were developed by British and other Europeans in India. They developed Surat, Daman, Goa, Pondicherry, Mumbai, Chennai, Kolkata.

- **Towns based on modern industries also evolved after 1850. Jamshedpur as example.**
- **After independence a large number of towns have been developed as administrative headquarters e.g. Chandigarh, Bhubneswar, Gandhinagar, Dispur, Bhilai, Sindri, Barauni, etc.**
- **Some satellite towns developed around Metropolitan cities such as Ghaziabad, Rohatak, Gurugram around Delhi.**

Smart Cities Mission-

- **The objective of the Smart Cities Mission is to promote cities that provide core infrastructure, a clean and sustainable environment and give a decent quality of life to its citizens.**

- **Making areas less vulnerable to disasters using fewer resources and providing cheaper services.**
- **The focus is on sustainable and inclusive development of the city.**

Competency Based Question

Multiple Choice questions

1. Which of the following types of rural settlements is found in the fertile alluvial plains and north-eastern states of India?

   i. Clustered

   ii. Semi-clustered

   iii. Hamleted

   iv. Dispersed

Ans- Clustered

2. Which is a medieval town?

   i. Pataliputra

   ii. Delhi

   iii. Mumbai

   iv. Chandigarh

Ans.- Delhi

3. Which is the most ancient town In India?

(i)Hyderabad
(ii) Varanasi
(iii) Agra
(iv) Chennai

Ans. Varanasi

4. In which of the following parts of India dispersed rural settlements is not expected?

(i)Kerala
(ii) Chhattisgarh
(iii) Meghalaya
(iv) Himachal Pradesh

Ans. Chhattisgarh

5. In which valley were Harappa and Mohanjodaro towns located?

(i)Ganga

(ii) Narmada
(iii) Indus
(iv) Brahmaputra

Ans. Indus

6. Name the town that is not located on the banks of a river.

(i)Kolkata
(ii) Agra
(iii) Bhopal
(iv) Patna

Ans. Bhopal

7. Which of the following is a mining town?

(i) Jharia
(ii) Satna
(iii) Srinagar
(iv) Aligarh

Ans. Jharia

8. Which of the following is not a medieval town?

(i) Hyderabad
(ii) Nagpur
(iii) Jaipur
(iv) Madurai

Ans. Madurai

9. Which is an administrative town?

(i) Varanasi
(ii) Surat
(iii) Gandhinagar
(iv) Rohtak

Ans. Gandhinagar

10. Dwellings are of how many types in rural India?

1. 1
2. 2
3. 3
4. 4

Ans. 4

11. Which of following is the functional classification of an urban settlement?
    a. Administrative
    b. Industrial.
    c. Mining Town
    d. all of the above

Ans. all of the above

12. Urbanization is expressed in terms of----------
    a. Absolute number.
    b. Ratio
    c. Percentage
    d. none of the above

Ans. Percentage

13. Towns are classified on the basis of Evolution as -.
    a. Ancient Towns
    b. Modern Towns
    c. Medieval Towns
    d. All of the above

Ans.- All of the above

14. The type of settlement is locally known as Para, Pani, Nagal and Dhani is
    a. Clustered
    b. Semi Clustered
    c. Hamleted
    d. Dispersed

Ans. Hamleted

15. Which of the following is Garrison Town
    a. Agra
    b. Jharia
    c. Kolkata
    d. Varanasi

Ans. Agra

16. Which of the following is an educational Town
    a. Varanasi
    b. Aligarh
    c. Pilani
    d. All the above

Ans. All the above

17. Assertion (A) Settlements can be of various types

Reason (R) Various physical factors affect the growth of settlements

1 . Both A and R are true and A is the correct explanation of R

2 . Both A and R are true and R is the correct explanation of A

3 . A is true but R is false

4 . A is false but R is true

Ans. 1 . Both A and R are true and A is the correct explanation of R

Explanation:- various factors affects the growth of settlements. That's why settlements are of various types.

18 .Assertion (A) When cities grow, their functions also grow

Reason (R) Cities can have only one function

1. Both A and R are true and A is the correct explanation of R

2. Both A and R are true and R is the correct explanation of A

3. A is true but R is false

4. A is false but R is true

Ans. 3. A is true but R is false

Explanation:- Cities performs so many functions at a time. We can classify cities on their major functions.

19.Assertion (A) Cities can have various functions.

Reason (R) State and national capitals provide various administrative services

A. Both A and R are true and A is the correct explanation of R

B. Both A and R are true and R is the correct explanation of A

C. A is true but R is false

D. A is false but R is true

Ans. A. Both A and R are true and A is the correct explanation of R

Explanation:- States and national capital perform so many functions at a time.

20 .Consider the following features and choose the correct title after associating them.

I. More often such a pattern may also result from segregation or fragmentation of large compact village.

II. The land- owning and dominant community occupies the central part of the main village whereas people of lower strata of society and menial workers settle on the outer flanks of the village.

III They are found in Gujarat plains and some parts of Rajasthan.

Options

1. Helmeted Settlement

2. Semi-clustered or fragmented

3. Clustered Settlements

4. Isolated Settlements

Explanation:- All the feature are found in semi-clustered settlements.

1 mark Questions (Very Short Answer Type Questions)

Q 1. What is the meaning of a settlement?
Answer:
Human Settlement means cluster of dwellings or any type of size where human beings live.

Q 2.Which type of the rural settlement in India includes Panna, Para, Palli, Nagla, Dhani, etc.

Answer: Hamleted settlement.

Q 3. Give any two examples of mining towns in India, (C.B.S.E. 2013)

Or

Name any two towns of India, initially developed as mining towns. (C.B.S.E. Outside Delhi 2017 Set-11)

Answer: Jharia and Raniganj.

Q 4.Name any one area of hamleted settlement in India. (Outside Delhi 2019)

Answer: Chhattisgarh, Lower Valleys of Himalayas.

Q.5 Which town was developed as centre of modern industries after 1850? (Sample Paper 2018-19)
Answer:
Jamshedpur.

3 Marks Questions (Short Answer Type Questions)

1. What are the basic differences between rural and urban settlements?

Ans.

The basic differences between rural and urban settlements are as follows :

• The rural settlements derive their life support or basic economic needs from land based primary economic activities, whereas, urban settlements, depend on processing of raw materials and manufacturing of finished goods on the one hand and a variety of services on the other.

• Cities act as nodes of economic growth, provide goods and services not only to urban dwellers but also to the people of the rural settlements in their hinterlands in return for food and raw materials. This functional relationship between the urban and rural settlements takes place through transport and communication network.

• Rural and urban settlements differ in terms of social relationship, attitude and outlook. Rural people are less mobile and therefore, social relations among them are intimate. In urban areas, on the other hand, way of life is complex and fast, and social relations are formal.

2.Decribe the temporal development of towns in India.

Ans.

Ancient Towns There are number of towns in India having historical background spanning over 2000 years. Most of them developed as religious and cultural centres. Varanasi is one of the important towns among these. Prayag (Allahabad), Pataliputra (Patna), Madurai are some other examples of ancient towns in the country.

Medieval Towns About 100 of the existing towns have their roots in the medieval period. Most of them developed as headquarters of principalities and kingdoms. These are fort towns which came up on the ruins of ancient towns. Important among them are Delhi, Hyderabad, Jaipur, Lucknow, Agra and Nagpur.

Modern Towns The British and other Europeans have developed a number of towns in India. Starting their foothold on coastal locations, they first developed some trading ports such as Surat, Daman, Goa, Pondicherry, etc. The British later consolidated their hold around three principal nodes – Mumbai (Bombay), Chennai (Madras), and Kolkata (Calcutta) – and built them in the British style. Rapidlyextending their domination either directly or through control over the princely states, they established their administrative centres, hilltowns as summer resorts, and added new civil

3. “Smart City Mission” is a step ahead towards development of technology in cities. Explain.

Ans.

It was launched in 25th June 2015 by the union government.

1-Smart Cities Mission The objective of the Smart Cities Mission is to promote cities that provide core infrastructure, a clean and sustainable environment and give a decent quality of life to its citizens.

2- One of the features of Smart Cities is to apply smart solutions to infrastructure and services in order to make them better. For example, making areas less vulnerable to disasters, using fewer resources and providing cheaper services.

3-The focus is on sustainable and inclusive development and the idea is to look at compact areas, create a replicable model, which will act like a lighthouse to other aspiring cities

4. What is the meaning of a settlement ? What is its base ?
Answer:
Human Settlement means cluster of dwellings or any type of size where human beings live. For this purpose, people may erect houses and other structures and command some area or territory as their economic support-base. Thus, the process of settlement inherently involves grouping of people and apportioning of territory as their resource base.

5.Discuss the factors that determine the type of rural settlements. (C.B.S.E. 2011)
Answer:
The rural settlements vary in size, shape and lay-out plans. The types of rural settlement depends upon the following factors :
(i) Physical Factors. Physical factors such as relief, altitude, drainage, water table, climate and soil play an important role in determining the type of settlement. In dry areas, the houses are clustered around a source of water.

(ii) Cultural Factors. Ethnic and cultural factors such as tribal, caste or communal identity are also important in determining the lay-out of a rural settlement. The nucleus of the settlement is occupied by land-owners. Harijan Dwellings are located on the periphery away from the main settlement. The settlement is divided into several units.

(iii) Historical factors. The Northern plains of India have been exposed to frequent invasions from invadors and conquerors. The villagers preferred to live in compact settlement in order to defend against the invaders.

5 Marks questions (Long Answer Type Questions)

1. Can one imagine the presence of only one-function town? Why do the cities become multi-functional ?

Ans.

The cities are not static in their function. The functions change due to their dynamic nature. Even specialised cities, as they grow into metropolises become multifunctional wherein industry, business, administration, transport, etc., become important. The functions get so intertwined that the city cannot be categorised in a particular functional class.

1-Administrative towns and cities Towns supporting administrative headquarters of higher order are administrative towns, such as Chandigarh, New Delhi, Bhopal, Shillong, Guwahati, Imphal, Srinagar, Gandhinagar, Jaipur, Chennai, etc.

2-Industrial towns Industries constitute prime motive force of these cities, such as Mumbai, Salem, Coimbatore, Modinagar, Jamshedpur, Hugli, Bhilai, etc.

3-Transport Cities They may be ports primarily engaged in export and import activities such as Kandla, Kochchi, Kozhikode, Vishakhapatnam, etc., or hubs of inland transport, such as Agra, Dhulia, Mughalsarai, Itarsi, Katni, etc.

4-Commercial towns Towns and cities specialising in trade and commerce are kept in this class. Kolkata, Saharanpur, Satna, etc., are some examples.

5- Mining towns These towns have developed in mineral rich areas such as Raniganj, Jharia, Digboi, Ankaleshwar, Singrauli, etc.

6- Garrisson Cantonment towns These towns emerged as garrisson towns such as Ambala, Jalandhar, Mhow, Babina, Udhampur, etc

7-Educational towns Starting as centres of education, some of the towns have grown into major campus towns, such as Roorki, Varanasi, Aligarh, Pilani, Allahabad, etc.

8-Religious and cultural towns Varanasi, Mathura, Amritsar, Madurai, Puri, Ajmer, Pushkar, Tirupati, Kurukshetra, Haridwar, Ujjain came to prominence due to their religious/cultural significance.

9-Tourist towns Nainital, Mussoorie, Shimla, Pachmarhi, Jodhpur, Jaisalmer, Udagamandalam (Ooty), Mount Abu are some of the tourist destinations.

2. Describe the factors which affect the types of settlements in India.

Ans. (i) Physical feature -

A - Nature of land / Relief

B - Altitude

C - Climate and water supply

(ii) Cultural and human factors

- A- Caste

B - Religion.

(iii) Security factors

A - Political disturbances

B- War.

Q 3.Discuss the factors that determine the type of rural settlements. (C.B.S.E. 2011)
Answer:
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(i) Physical Factors. Physical factors such as relief, altitude, drainage, water table, climate and soil play an important role in determining the type of settlement. In dry areas, the houses are clustered around a source of water.

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(iii) Historical factors. The Northern plains of India have been exposed to frequent invasions from invadors and conquerors. The villagers preferred to live in compact settlement in order to defend against the invaders.

Q 4. Distinguish between Hamleted and dispersed settlement.

Hamleted Settlements	Dispersed Settlements
Hamleted settlements are the result of the fragmentation of a large village. Theses units are locally called para, palli, nagla, dhani, etc. but they still bear a common name that of the village from which they have separated.	The dispersed settlement pattern in India appears in the form of isolated huts or hamlets of a few huts in remote jungles or on small hills with forms or pastures on the near slope.
This degradation of a large village is often motivated by social and ethnic factors.	Extreme dispersion of settlement is after caused by extremely fragmental nature of the land resource base of habitable areas.
Such village is more frequent in middle and lower Ganga plains, Chhattisgarh and lower valleys of the Himalayas.	These type of settlements are found in many areas of Meghalaya, Uttaranchal and Himachal Pradesh.

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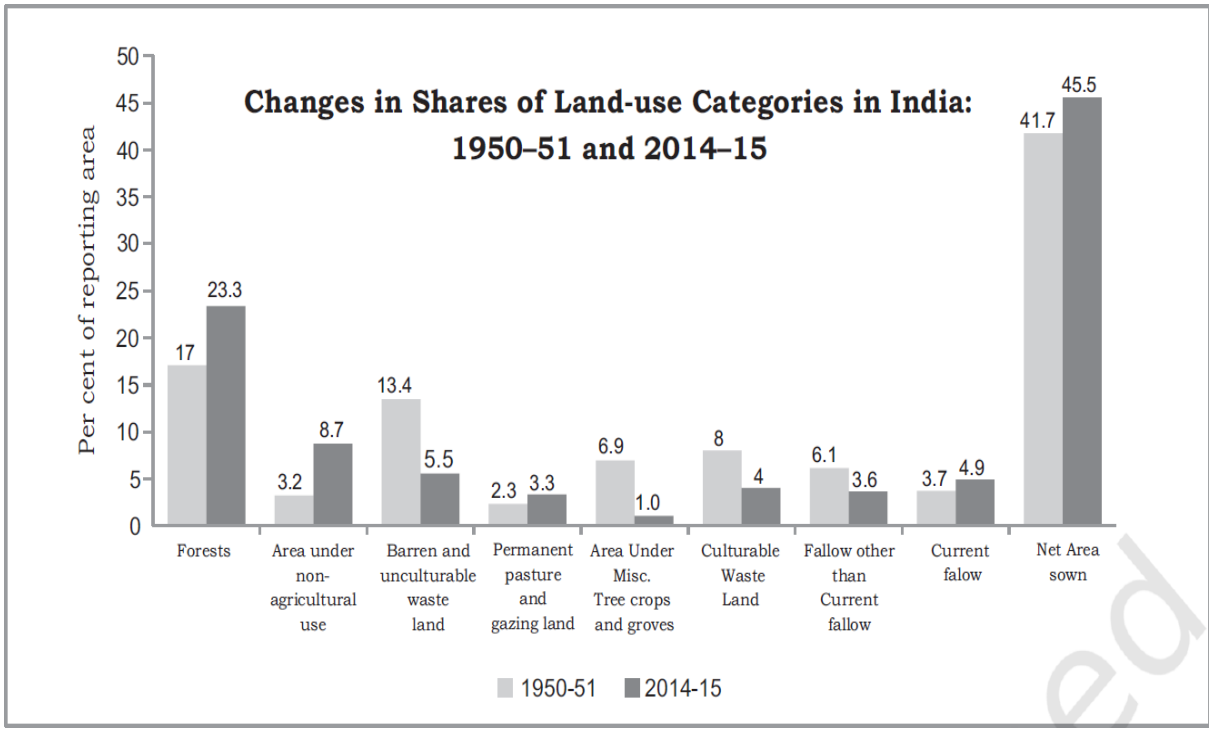
Chapter – 5 Land Resources and Agriculture

Land Use Categories

Land use categories as maintained in the Land Revenue records are as –

- **Forest-** area under actual forest cover is different from area classified as forest.
- **Barren and Wastelands-** includes hilly terrains, desert land, ravine etc.
- **Land put to Non-agricultural** Uses- includes infrastructure (road, canals etc), industry, shops etc.
- **Area under Permanent Pastures and Grazing Lands-** like village panchayat (also called Common Property Resources)
- **Area under Miscellaneous Tree Crops and Groves (Not included in Net sown Area)-** orchards and fruit trees are included, mostly privately owned.
- **Culturable Wasteland-** uncultivated land from more than five years. It can be cultivable.
- **Current fallow-** uncultivated land for one or less than one agricultural year.
- **Fallow other than Current fallow-** uncultivated land from more than one year but less than five years.
- **Net Area Sown-** the area where crops are sown and harvested.



- The rate of increase is the highest in case of area under non-agricultural uses.
- The increase in net area sown is a recent phenomenon due to use of culturable waste land for agricultural purpose.

Common Property Resources

- CPRs are owned by the community (the state). It includes Community forests, pasture, village water bodies and other public spaces etc.
- For a land scarce but labour abundant country like India, a high cropping intensity is desirable not only for fuller utilisation of land resource, but also for reducing unemployment in the rural economy.
- The cropping intensity (CI) is calculated as follows

Cropping season in India

Kharif season

- Kharif season crops includes tropical crops such as Rice, Cotton, Jute, Jowar, Bajara and Tur.
- Kharif Crops are sown when South West Monsoon advances and harvested in October/ Noverber or before when winter season starts.

Rabi Season

- Rabi cropping season begins with the onset of the winter in October/November and ends in March- April when summer begins.
- Wheat, gram, mustard and pea are the main crops.

Zaid Season

- Zaid is short duration summer cropping season begins after harvesting of Rabi crops.
- Watermelon, cucumbers, vegetables and fodder crops are main crops.

Types of Farming

Irrigated farming- its objective is to protect the crops from adverse effects.

Rainfed farming- includes Dryland farming and Wetland farming.

- **Dryland farming** is largely confined to the region having annual rainfall less than 75 cm. it includes the crops like Ragi, Bajra, Moong, Gram and Guar.
- **Wetland farming** happens where rainfall is in excess. It includes the crops like Rice, Jute and Sugarcane etc.

Food grains are sown on the 2/3 of total cropped area in the country. The cereal occupy about 54% of total of total cropped area in India (11% of the world area).

Rice-

- Rice is sown at very large area of India in many states. In the southern states and West Bengal, climatic condition allow to cultivate 2 to 3 crops annually.
- West Bengal, Uttar Pradesh, Punjab, Tamil Nadu, Haryana, Andhra Pradesh, Telangana and Kerala are leading producer of it.
- In West Bengal, three crops of rice called 'Aus', 'Aman' and 'Boro' are sown. This is state is largest producer of Rice in India.
- India produces 22.07 % of rice of the world after China. In Punjab and Haryana Rice is cash crops unlike the rest of India.

Wheat-

- It is second most important cereal crop. 12.8 % of world production in India. It is of Rabi crop.
- About 85% of total area are in the North and central region of the country.
- Uttar Pradesh, Madhya Pradesh, Punjab, Haryana and Rajasthan are leading wheat producing states.

Jowar-

- It is coarse cereal crop. Madhya Pradesh, Andhra Pradesh and Telangana are main producers. It is Kharif crop.
- Maharashtra alone produces more than half of the total jowar production of the country. Many people use it as fodder crop.

Bajra-

- Bajra is sown in hot and dry climatic conditions in northwestern and western parts of the country.
- Leading producers of *bajra* are the states of Maharashtra, Gujarat, Uttar Pradesh, Rajasthan and Haryana. It is rainfed crop.

Maize-

- It is food as well as fodder.
- The leading producers of maize are the states of Karnataka, Madhya Pradesh, Bihar, Andhra Pradesh, Telangana, Rajasthan and Uttar Pradesh.

Pulses-

- Pulses are leguminous crop which increase the natural fertility of the soil.
- They are sown in 11% of the total cropped area in Deccan, central plateau and north-western part in India.

Gram-

- It is rainfed Rabi crop . Sown in central, western and north-western part of the country.
- Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh, Telangana and Rajasthan are main producer.

Tur (Arhar)-

- It is rainfed crop. Sown in dry area of central and southern states of the country.
- Marahashtra account for 1/3 of total production. UP, Karnataka, Gujarat and Madhya Pradesh are main producer.

Groundnut-

- It is rainfed crop.
- Gujarat, Rajasthan, Tamil Nadu, Telangana, Andhra Pradesh, Karnataka and MP are main producer.

Rapeseed and Mustard-

- It is Rabi crop, sown in North-western and central part of India.
- Rajasthan contributes about 1/3 production. Rajasthan, Haryana and Madhya Pradesh are main producer.

Fibre Crops

Cotton-

- It is Kharif crop. 'Narma' variety is sown mostly. It requires clear sky during flowering stage.
- India ranked 2nd after China in production. It has three Cotton growing area.
  - Punjab, Haryana and northern Rajasthan
  - Gujarat and Maharashtra in the west.
  - Plateau of Andhra Pradesh, Karnataka and Tamil Nadu

Jute-

- India accounts 3/5 production of the world, whereas West Bengal produces 75% of total jute production in India.
- Bihar and Assam are other growing area.

Sugarcane- (2.4% Cropped area)

- Cultivated in sub-humid and humid climate. Its largest producer is Uttar Pradesh.
- UP, Mahasrashtra, Gujarat, Karnataka, Tamil Nadu, Telangana and Andhra Pradesh are leading producer.

Tea-

- Tea has rich content of caffeine and tannin. It required undulating topography of hilly area.
- Mostly grown in Assam (53.2%). Darjeeling, Jalpaiguri and Cooch behar in West Bengal, lower slope of Nilgiri and Cardamon hills in western ghats are other producer.
- India produces 21.22% tea of the world and ranks 2nd in export.

Coffee-

- There are three varieties of coffee i.e. Arabica, Robusta and Liberica. India grows **Arabica** superior variety mostly.
- India ranked 8th (3.17%) in production in the world. Brazil is at first position. It is cultivated in Karnataka (2/3 alone), Kerala and Tamil Nadu.

Agricultural Development in India

- New seed varieties of wheat (Mexico) and rice (Philippines) known as high yielding varieties (HYVs) were available for cultivation by mid-1960s.
- India took advantage of this and introduced package technology comprising HYVs, along with chemical fertilisers in irrigated areas of Punjab, Haryana, Western Uttar Pradesh, Andhra Pradesh and Gujarat.
- Assured supply of soil moisture through irrigation was a basic pre-requisite for the success of this new agricultural technology. This strategy of agricultural development paid dividends instantly and increased the foodgrains production at very fast rate. This spurt of agricultural growth came to be known as 'Green Revolution'.

- This also gave fillip to the development of a large number of agro-inputs, agro-processing industries and small-scale industries. This strategy of agricultural development made the country self-reliant in foodgrain production.
- But Green Revolution was initially confined to irrigated areas only. This led to regional disparities in agricultural development in the country till 1970s, after which the technology spread to the Eastern and Central parts of the country. The Planning Commission of India focused its attention on the problems of agriculture in rainfed areas in 1980s. It initiated agro-climatic planning in 1988 to induce regionally balanced agricultural development in the country. It also emphasised on the need for diversification of agriculture and harnessing of resources for the development of dairy farming, poultry, horticulture, livestock rearing and aquaculture. Initiation of the policy of liberalisation and free market economy in 1990s influenced the course of development of Indian agriculture.

Problems of Indian Agriculture

- Dependence on Erratic Monsoon
- Constraints of Financial Resources and Indebtedness
- Low productivity
- Lack of Land Reforms
- Small Farm Size and Fragmentation of Landholdings
- Lack of Commercialisation
- Vast Underemployment
- Degradation of Cultivable Land

COMPETENCY BASED QUESTIONS

MCQ Type uestions

(i) Which one of the following is NOT a land-use category?

(a) Fallow land

(b) Marginal land

(c) Net Area Sown

(d) Culturable Wasteland

(ii) What one of the following is the main reason due to which share of forest

has shown an increase in the last forty years?

(a) Extensive and efficient efforts of afforestation

(b) Increase in community forest land

(c) Increase in notified area allocated for forest growth

(d) Better peoples' participation in managing forest area.

(iii) Which one of the following is the main form of degradation in irrigated

areas?

(a) Gully erosion

(b) Wind erosion

(c) Salinisation of soils

(d) Siltation of land

(iv) Which one of the following crops is not cultivated under dryland farming?

(a) Ragi

(b) Jowar

(c) Groundnut

(d) Sugarcane

(v) In which of the following group of countries of the world, HYVs of wheat

and rice were developed?

(a) Japan and Australia

(b) U.S.A. and Japan

(c) Mexico and Philippines

(d) Mexico and Singapore

Short Answer Type Questions

1.What are common property resource? Explain. (3)

Ans These are the resources which can be used by all membersof the community like -

CommunityHall,Pastures,ruralwater area etc.

No member of the communityhas ownership on any part of these resources.All the memberscan only not use these resources but they have certain duties to save and protectthese resources.

2. Which arethe major crop seasons ofIndia?Explaineach. (3)

Ans Crop seasons 1. Rabi

2. Kharif Explain

3. Jayad.

3. Distinguish between Dry agriculture and wet agriculture:

Ans Dry farming :

(i) Practised in the area having less than 75 cm rainfall

(ii) Main crops are Ragi,Bajra and Moong etc.

(iii) Practised Mainly in western India.

Wet farming -

(i) Practised in the area having more than 75cm of rainfall.

(ii) Main crops are- Rice, Jute, and Sugarcane etc.

(iii) Practised Mainly in Eastern India.

4. Name one Kharif and one Rabi crop of pulse and mention two significance of pulses.(3)

Ans Tur- Kharif

Gram-Rabi

Significance -

(i) Pulses are leguminous crops which add fertility in the soil by concentration of nitrogen

(ii) Pulses are the sources of protein for vegetarian people.

5. Explain any three factors responsible for high productivity of crops in India. (3)

Ans:

1. High Yielding varieties of seed (HYV Seeds)

2. Fertilizers

3. Mechanization off arms.

Long Answer Type Questions

Q1. Classify the Land use category adopted by Land Revenue Record in India. (5)

Ans Land use categories adopted by Land Revenue record are as following -

1. Area under forest

2. Land put to non agriculture uses

3. Barren and waste Lands

4. Area under Permanent Pastures and Grazing Lands.

5. Area under Miscellaneous Tree crops and Groves (Not included is net sown area)

6. Culturable waste- Land

7. Current Fallow

8. Fallow other than current Fallow

9. Net area sown

Q 2. Explain the Important Geographical condition along with the major producing area of Rice in India. (5)

Ans Geographical Condition

1. It is considered to be a crop of tropical humid areas.

2. This crop is sown in the areas receiving rainfall of 150 cm and above where the rainfall is less irrigation is used for its cultivation.

3. Alluvial and clay soil most suitable

4. Required Temperature is 25°CTO 30°c.

5. Skill and Chief Labour is required

6. These are successfully grown from sea level to about 2000 m altitude.

Production and distribution

1. Rice is a staple food for the overwhelming majority of population in India.

2. It has about 3000 varities in the world.

3. The production of Rice is stretched from the net area of Eastern part to dry and

irrigated areas in India.

4. Three crops of Rice grow in West Bengal called 'aus' aman and boro.

5. In North Western parts of the country, it is grown as a kharif crop.

6. In India contribution 22% of Rice production in the world and ranks second after

china.

7. Five important producing state are -

(i) West Bengal

(ii) Punjab

(iii) uttar Pradesh

(iv) Andhra Pradesh

(v) TamilNadu.

Q 3. Explain the important problems of Indian Agriculture.

. Ans : The importantproblemsof Indianagriculture are :

– Dependence on Erratic Monsoon

– Constraints of Financial Resources and Indebtedness

– Low productivity

– Lack of Land Reforms

– Small Farm Size and Fragmentation of Landholdings

– Lack of Commercialisation

– Vast Underemployment

– Degradation of Cultivable Land

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Chapter -6 WATER RESOURCES

- 71 per cent of the earth's surface is covered with water but freshwater constitutes only about 3 per cent of the total water.
- In that 3%, ground water is very less i.e. 0.68% on which generally everything is depend.

Surface Water Resources

- There are about 10,360 rivers and their tributaries longer than 1.6 km each.
- Although 1/3 area of India is covered by Ganga, Brahmaputra and Barak yet they have 60% of the total surface water resources.
- Much of the annual water flow of Godavari, Krishna and the Kaveri has been harnessed but it is yet to be done in Ganga and Brahmaputra rivers.

Groundwater Resources

- The total replenishable groundwater resources in the country are about 432 cubic km. The level of groundwater utilisation is relatively high in the river basins lying in north-western region and parts of south India.

Oceans	:	97.3	Saline Water
Ice-caps	:	02.0	Fresh Water
Ground water	:	0.68	
Fresh water lakes	:	0.009	
Inland seas and salt lakes	:	0.009	
Atmosphere	:	0.0019	
Rivers	:	0.0001	
		100.00	

Water Resources of India

- World's Surface area of India = 2.45%
- World's water resources = 4%
- World's population = 17.7%
- Total water available from precipitation in a year

  = 4000 cubic km
- The mean annual flow in all the river basins in India is estimated to be =1869 cubic km
- The groundwater utilization is very high in the states of Punjab, Haryana, Rajasthan and Tamil Nadu.
- Chhattisgarh, Odisha, Kerala etc. utilise only a small proportion of their groundwater potentials.
- Gujarat, Uttar Pradesh, Bihar, Tripura and Maharashtra are utilizing their groundwater resources at a moderate rate.

Lagoons and Backwaters

- Due to indented coastline, a number of lagoons and lakes are found. The states like Kerala, Odisha and West Bengal have vast water in it.
- Although water is brackish yet it is used for fishing, and irrigating certain verities of paddy crops and coconut etc.

Water demand and utilization

- Agriculture accounts for most of the surface and groundwater utilisation, it accounts for 89 per cent of the surface water and 92 per cent of the groundwater utilisation.
- Industrial sector uses limited i.e. 2% of the surface water and 5% of the ground water.
- Domestic sector uses 9% of the surface water.
- In this way the share of agricultural sector is very high. But in future share of domestic and industrial sectors are likely to increase.

Demand of water for irrigation

- Irrigation is needed because of spatio-temporal variability in rainfall in the country. The large tracts of the country are deficient in rainfall and are drought prone. North-western India and Deccan plateau constitute such areas.
- Even in the area of ample rainfall like west Bengal and Bihar irrigation is required during 'Break in Monsoon'.
- **Multiple cropping** and **high yielding varieties seeds** (HYVs) require regular moisture supply.
- Because of irrigation, Green revolution strategy was successful in Punjab, Haryana and Western Uttar Pradesh.
- In Punjab, Haryana and Western Uttar Pradesh, more than 85% of their net shown area is under irrigation. 76.1% in Punjab and 51.3% in Haryana agricultural areas are irrigated by tube well and wells.

Problems due to overirrigation

- Decline in groundwater table.
- Due to it **fluoride** concentration has increased in Rajasthan and Maharashtra.
- Due to it **arsenic** concentration has increased in West Bengal and Bihar.
- Soil is becoming **saline** in Punjab and Haryana.
- The per capita availability of water is decreasing day by day.

Deterioration of water quality

- Water gets polluted by foreign matters, such as micro-organisms, chemicals, industrial and other wastes.
- When toxic substances enter lakes, streams, rivers, ocean and other water bodies, they get dissolved or lie suspended in the water.
- These pollutants also seep down and pollute groundwater. Ganga and Yamuna are two most polluted rivers in the country.

Water Conservation and Management

- There is great need to encourage watershed development, rainwater harvesting, water **recycling and reuse**.

Prevention of water pollution

- The Central Pollution Control Board (**CPCB**) in collaboration with State Pollution Control Boards has been monitoring water quality of national aquatic resources at **507** stations.
- Although Water (**Prevention and Control of Pollution) Act 1974** and **Environment Protection Act 1986** have been enacted yet it is found that they have not been implemented effectively.
- There is strong need to generate **public awareness** about importance of water and impacts of water pollution.

Recycle and Reuse of water

- We can improve fresh water availability by **recycle and reuse**.
- **Wastewater** can be attractive for industries for **cooling** and fire fighting.
- In urban areas water after bathing and washing utensils can be used for **gardening**.
- This would **conserve better quality** of water for drinking purposes.
- Currently, recycling of water is practiced on a **limited scale**.

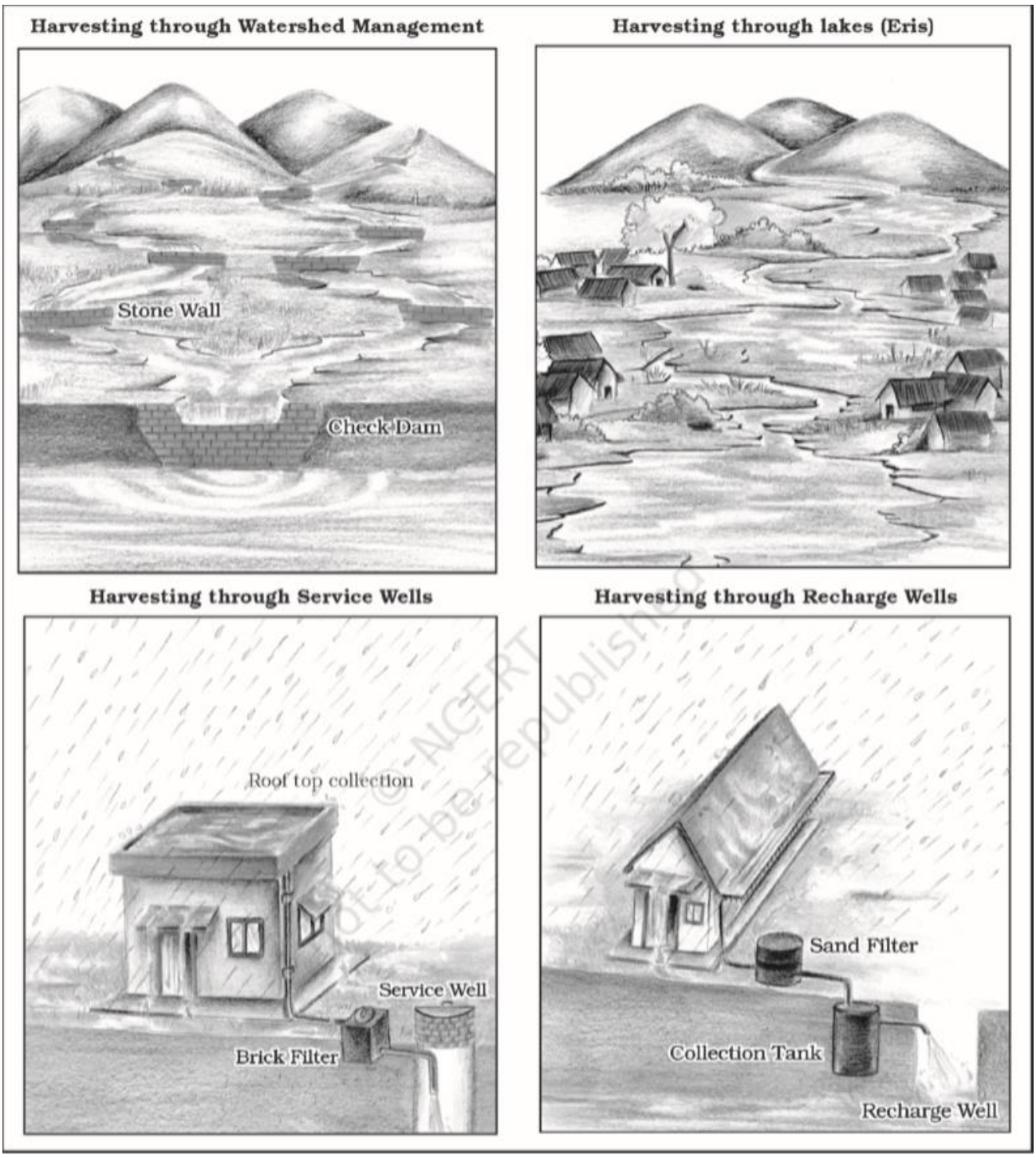
Watershed Management

- Watershed management basically refers to **efficient management** and **conservation** of surface and groundwater resources. It involves prevention of runoff and storage and recharge of groundwater through various methods like **percolation tanks**, **recharge wells**, etc.

- However, in broad sense watershed management includes conservation, **regeneration** and **judicious use** of all resources – natural (like land, water, plants and animals) and human with in a watershed.
- **Haryali** is a watershed development project sponsored by the **Central Government** which aims at enabling the rural population to conserve water for **drinking, irrigation, fisheries and afforestation**.
- **Neeru-Meeru** (Water and You) programme (in Andhra Pradesh) and **Arvary Pani Sansad** (in Alwar, Rajasthan) have taken up constructions of various water-harvesting structures such as **percolation tanks**, **dug out ponds** (**Johad**), check dams, etc., through people's participation.
- **Tamil Nadu** has made water harvesting structures in the houses **compulsory**.

Rainwater Harvesting

- Rainwater harvesting is a method to capture and store rainwater for various uses and recharge groundwater aquifers.
- It increases water availability, checks the declining groundwater table, improves the quality of groundwater through dilution of contaminants, like **fluoride** and **nitrates**, **prevents soil erosion**.
- In Rajasthan, rainwater harvesting structures locally known as Kund or Tanka (a covered underground tank) are constructed near or in the house or village to store harvested rainwater



National Water Policy-2002

- Providing drinking water to all human beings and animals should be the first priority.
- Measures should be taken to limit and regulate the exploitation of groundwater
- Both surface and groundwater should be regularly monitored for quality.
- Awareness of water as a scarce resource should be fostered.
- Conservation consciousness should be promoted through education, regulation, incentives and disincentives.

Jal Kranti Abhiyan (2015-16)

- Launched by government of India in 2015-16 with an aim to ensure water security through per capita availability of water in the country.

- Aims at involving local bodies, NGOs and citizens at large in creating awareness regarding its objectives.
- The following activities have been proposed under the Jal Kranti Abhiyan-
  - Selection of water stressed village in each 672 districts of the country to create a 'Jal Gram'.
  - Ídentification of model command area from UP, Haryana, Karnataka, Telangana, Tamil Nadu, Rajasthan etc.
  - Abatement of pollution
    a) Water conservation and artificial recharge
    b) Reducing groundwater pollution
    c) Construction of Arsenic-free wells in selected areas
  - Creating mass awareness through social media, radio, TV, print media, poster and essay writing competitions in the schools.

Competency Based Question

Multiple Choice questions

Q1. Which chemical has concentrated in water in Bihar?

(i) Salt

(ii) Salinity

(iii) Fluoride

(iv) Arsenic

Answer

(iv) Arsenic

Q2. What is the mean annual flow in India?

(i) 1,869 cubic km

(ii) 1,988 cubic km

(iii) 1,698 cubic km

(iv) 3,869 cubic km

Answer

(i) 1,869 cubic km

Q3. Which one is not related to watershed development project:

(i) Haryali

(ii) Neeru-Meeru

(iii) ArwariPaniSansad

(iv) Van Mahotsava

Ans :

(IV) Van Mahotsava

Q4. Which one of the following types describes water as a resource?

(A) Abiotic resource

(B) Non-renewable Resources

(C) Biotic Resource

(D) Cyclic Resource.

Answer

(D) Cyclic Resource

Q5. Identify the sector that consumes the highest amount of water in India.

(i) Industry

(ii) Agriculture

(iii) Domestic

(iv) None of these

Answer

(ii) Agriculture

Q6. Haryali program is related to development of:

(i) Forest Cover

(ii) Watershed Development

(iii) Soil Conservation

(iv) Food Grain Production

Answer

(ii) Watershed Development

Q7. The total useful water resources of India is:

(i) 1122 cubic km

(ii) 1222 cubic km

(iii) 1322 cubic km

(iv) 1422 cubic km

Answer

(i) 1122 cubic km

Q8. Which one of the following South Indian states has the highest groundwater utilisation

(in per cent) of its total groundwater potential?

(i) Tamil Nadu

(ii) Karnataka

(iii) Andhra Pradesh

(iv) Kerala

Answer

(i) Tamil Nadu

Q9. Environment Protection Act was implemented in:

(i) 1974

(ii) 1986

(iii) 1988

(iv) 1997

Answer

(ii) 1986

Q10. What is the share of India in the world's water resources?

(i) 1%

(ii) 2%

(iii) 3%

(iv) 4%

Answer

(iii) 4%

Q11. Which of the following figures in cubic kilometres correctly shows the total annual precipitation in India?

(i) 2,000

(ii) 3,000

(iii) 4,000

(iv) 5,000

Answer

(iv) 4,000

Q12. Which group of states is highly affected by concentration of fluoride in ground water resources:

(i) Uttar Pradesh

(ii) Bihar-West Bengal

(iii) Rajasthan-Maharashtra

(iv) Punjab-Haryana

Answer

(i) Rajasthan-Maharashtra

Q13. How much freshwater is there out of total resources?

(i) 0.5%

(ii) 1.0%

(iii) 2.5%

(iv) 3.0%

Answer

(ii) 3.0%

Q14. Which one of the following rivers has the highest replenish able groundwater resource

in the country?

(i) The Indus

(ii) The Brahmaputra

(iii) The Ganga

(iv) The Godavari

Answer

(iii) The Ganga

Q15. Which group of states is highly affected by concentration of Arsenic:

(i) Rajasthan-Maharashtra

(ii) Punjab-Haryana

(iii) West Bengal-Bihar

(iv) Madhya Pradesh-Chhattisgarh

Answer

(ii) West Bengal-Bihar

Q16. The highest proportion of the total water used in the country is in which one of the

following sectors?

(i) Irrigation

(ii) Industries

(iii) Domestic use

(iv) None of the above

Answer

(i) Irrigation

Q17. Which of the following options describe water as a resource?

(i) Biotic resource and non-renewable

(ii) A biotic and non-renewable resource

(iii) Biotic and renewable resource

(iv) A biotic and renewable resource

Answer

(iii) A biotic and renewable resource

Q18. Neeru-Meeru program belongs to which state?

(i) Gujarat

(ii) Rajasthan

(iii) Punjab

(iv) Andhra Pradesh

Answer

(iv) Andhra Pradesh

Q19. In which year, Government of India has launched 'Jal Kranti Abhiyan' ?

(i) 2011-12

(ii) 2013-14

(iii) 2015-16

(iv) 2017-18

Answer

(ii) 2015-16

20. Assertion/Reason

Directions:

In the questions given below are two statements labelled as Assertion

(A) and other Labelle as Reason (R). In the context of two statements which one of the

following is correct?

Codes:

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true, but R is not the correct explanation of A

(c) A is true, but R is false

(d) A is false, but R is true

Q 1. Assertion (A) Irrigation is needed in India because of spatio-temporal variability of

rainfall in the country.

Reason (R) Agriculture accounts for 92% of groundwater utilisation in India.

Answer (b) Both A and R are true, but R is not the correct explanation of A

Q. 2. Assertion (A) India has to take quick steps and make policies and laws for

conservation of water resources.

Reason (R) The per capita availability of water is declining due to increasing population and

existing resources are getting polluted.

Answer (a) Both A and R are true and R is the correct explanation of A

(Case Study based questions)

1. Read the following passage and answer the questions that follow.

Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become

an example for watershed development throughout the country. In 1975, this village was

caught in a web of poverty and illicit liquor trade. The transformation took place when a

retired army personnel, settled down in the village and took up the task of watershed

development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition. Voluntary labour was

necessary to ensure minimum dependence on the government for financial aids. Even those who were working outside the village contributed to the development by committing a month's salary every year. Work began with the percolation tank constructed in the village. In 1975, the tank could not hold water. The embankment wall leaked. People voluntarily repaired the embankment. The seven wells below it swelled with water in summer for the first time in the living memory of the people. The people reposed their faith in him and his visions. A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and un touch ability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stallfeeding. The cultivation of water intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. "It made the community leaders complete representatives of the people." A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A Rs. 22 lakh school building was constructed using only the resources of the village. No donations were taken. Money, if needed, was borrowed and paid back. The villagers took pride in this selfreliance. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment.

(i) Which of the following method of water conservation brought prosperity in Ralegan

Siddhi?

(a) Rainwater harvesting

(b) Watershed development

(c) Groundwater recharge

(d) Construction of dams.

Answer (b) Watershed development

(ii) The village of Ralegan Siddhi was suffering from which of the following social evils?

(a) Dowry system

(b) Illicit Liquor Trade

(c) Untouchability

(d) All of the above

Answer (d) All of the above

(iii) Which of the following measures were taken to increase democratic participation in the village?

(a) Construction of school

(b) Local body elections

(c) Liquor prohibition

(d) All of the above

Answer(b) Local body elections

(iv) Which of the following made Ralegan Siddhi independent of government's financial aid?

(a) Prohibition of liquor

(b) Voluntary labour

(c) Local body election

(d) Agriculture

Answer (b) Voluntary labour

Source Based Questions

Q 1. Read the following passage and answer the questions that follow.

India has traditionally been an agrarian economy, and about two-third of its population have been dependent on agriculture. Agriculture accounts for most of the surface and groundwater utilisation, it accounts for 89 per cent of the surface water and 92 per cent of the groundwater utilisation. While the share of industrial sector is limited to 2 per cent of the surface water utilisation and 5 per cent of the ground-water, the share of domestic sector is higher (9 per cent) in surface water utilisation as compared to groundwater. The share of agricultural sector in total water utilisation is much higher than other sectors. However, in future, with development, the shares of industrial and domestic sectors in the country are likely to increase. In agriculture, water is mainly used for irrigation. Irrigation is needed because of spatiotemporal variability in rainfall in the country. The large tracts of the country are deficient in rainfall and are drought prone. North-Western India and Deccan plateau constitute such areas. Winter and summer seasons are more or less dry in most part of the country. Hence, it is difficult to practise agriculture without assured irrigation during dry seasons. Even in the areas of ample rainfall like West Bengal and Bihar, breaks in monsoon or its failure creates dry spells detrimental for agriculture. Water need of certain crops also makes irrigation necessary. For instance, water requirement of rice, sugarcane, jute, etc. is very high which can be met only through irrigation. Provision of irrigation makes multiple cropping possible.

It has also been found that irrigated lands have higher agricultural productivity than

unirrigated land. Further, the high yielding varieties of crops need regular moisture supply,

which is made possible only by a developed irrigation systems. In fact, this is why that green

revolution strategy of agriculture development in the country has largely been successful in

Punjab, Haryana a Western Uttar Pradesh. Also, the over-use of and groundwater resources

has led to decline in groundwater table in these states. In fact, over withdrawals in some

states, like Rajasthan and Maharashtra, has increased fluoride concentration in groundwater, and this practice has led to increase in concentration of arsenic in parts of West Bengal and Bihar.

(i) Groundwater table has declined in which of the following states?

(a) Punjab

(b) Rajasthan

(c) Maharashtra

(d)All of these

Answer (d) All of these

(ii) Which sector is using the largest proportion of groundwater in India?

(a) Industries

(b) Households

(c) Agriculture

(d) Services

Answer (c) Agriculture

(iii) The concentration of which of the following harmful element has increased in

groundwater in West Bengal?

(a) Mercury

(b) Lead

(c) Arsenic

(d) Fluoride

Answer (c) Arsenic

(iv) Which among these is a benefit of using means of irrigation in agriculture?

(a) Multiple cropping

(b) Mixed cropping

(c) Inter cropping

(d) Crop rotation

Answer (a) Multiple cropping

Q 2.Read the following passage and answer the questions that follow.

Watershed management basically refers to efficient management and conservation of surface and groundwater resources. It involves prevention of runoff and storage and recharge of groundwater through various methods like percolation tanks, recharge wells, etc. However, in broad sense watershed management includes conservation, regeneration and judicious use of all resources - natural (like land, water, plants and animals) and human with in a watershed. Watershed management aims at bringing about balance between natural resources on the one hand and society on the other. The success of watershed development largely depends upon community participation. The Central and State Governments have initiated many watershed development and management programmes in the country. Some of these are being implemented by non-governmental organisations also.

Haryali is a watershed development project sponsored by the Central Government which aims at enabling the rural population to conserve water for drinking, irrigation, fisheries and afforestation. The Project is being executed by Gram

Panchayats with people's participation. Neeru-Meeru (Water and You) programme (in Andhra Pradesh) and Arvary Pani Sansad (in Alwar, Rajasthan) have taken up constructions of various water-harvesting structures such as percolation tanks, dug out ponds (Johad), check dams, etc., through people's participation. Tamil Nadu has made water harvesting structures in the houses lizes compulsory. No building can be constructed without making structures for water harvesting. Watershed development projects in some areas have been successful in rejuvenating environment and economy. 2nd However, there are only a few success od stories. In majority of cases, the programme is still in its nascent stage. There is a need to generate awareness regarding benefits of watershed development and management among people in the country, and through this integrated water resource management approach water availability can be ensured on sustainable basis.

(i) What is the most important component to make watershed development successful?

(a) Government funds

(b) People's participation

(c) Planning

(d) Voluntary labour

Answer (b) People's participation

(ii) Which of the following is the correct definition of watershed management?

(a) Conservation of surface water

(b) Conservation of groundwater

(c) Conservation of all water resources

(d) Conservation of all natural resources in a watershed

Answer (d) Conservation of all natural resources in a watershed

(iii) Which of the following is a water harvesting structure?

(a) Johad

(b) Check dam

(c) Tanka

(d) All of the above

Answer (d) All of the above

(iv) Neeru Meeru watershed program has been started by which state?

(a) Tamil Nadu

(b) Andhra Pradesh

(c) Telangana

(d) Kerala

Answer (b) Andhra Pradesh

Short answer type questions (3 marks)

Q 1. How has rainwater harvesting helped in the development of certain areas of India? Explain with examples. (All India 2015)
Answer:
Rainwater harvesting helped in the development of certain areas of India in the following ways:

- Rainwater harvesting is a cheap and environmentally friendly technique that guides to store rainwater into bore wells, pits, etc.
- It also recharges groundwater aquifers for different uses.
- It improves the quality of groundwater by dilution of pollutants like fluoride and nitrates.
- It prevents soil erosion and flooding conditions.
- It can be used to arrest saltwater intrusion in coastal areas if used to recharge aquifers.

Q 2. Examine the success of watershed management programme implemented in Jhabua District of Madhya Pradesh. (All Indio 2015)
Answer:
The people of Jhabua district are benefitted in the following ways from the implementation of Watershed Management Programmes:

- The drinking water is available.
- The water for irrigation is available.
- It also enhanced afforestation in the area.

Q 3.
"The assessment, efficient use and conservation of water are necessary to ensure development."

Explain in the light of values regarding the conservation of water resources. (Delhi 2015)
OR
Why is the conservation of water resources necessary? Explain any three reasons. (All Indio 2011)

Answer:
There is a need to conserve water resources due to the following reasons:
Low Availability of Fresh Water
In India fresh water is not available to meet the demand of a large number of population. Increasing population is also shrinking the per capita availability of water. To guarantee the adequate supply of fresh water, we need to create awareness among people for conservation of water resources.

To Irrigate Crops
India is an agrarian economy. Most of its population is depended on agriculture. Water is required to irrigate crops and ensure the employment of agrarian workers and the development of the economy.

For Sustainable Development
Water is a life-giving precious resource if we do not save and conserve it, development cannot be possible.

So, to ensure sustainable development we need to be such a citizen who is responsible to sensitize people with positive cooperation about the necessity of water conservation.

Q 4.
Analyse the economic and social values of rainwater harvesting. (HOTS; Delhi 2014)
Answer:
The economic and social values of rainwater harvesting are given below:

- Rainwater harvesting technique is environment-friendly as well as cost-effective for people.

- This technique guides to store rainwater into bore wells, pits, etc for future use and in times of scarcity of water.
- It creates sensitivity and awareness among people about the benefits of conservation and reuse of water.
- This technique helps to reduce floods like situation and also save life and property.
- It help's to reduce conflict among states and communities.

Long answer type questions (5 marks)

Q 1.
"Indiscriminate use of water by- increasing population and industrial expansion has led to degradation of the water quality considerably in India." Explain the values that can help in maintaining the quality of water. (CBSE2018)

Answer:
Water quality refers to purity of water quality of water suffers from its large scale pollution almost throughout the country, it has been estimated that three fourths of the surface water in India is polluted water. Following steps are necessary for conservation of water resources.

- Developing water-saving technology and methods.
- Preventing pollution of water.
- Encouraging watershed development, rainwater harvesting, water recycling and reuse and conjunctive use of water for sustaining water supply in long run.

Q 2.
Why is conservation of water necessary ? State its two methods. (C.B.S.E. 2011)
Or
Why is conservation of water essential in India? Explain any three different methods of water conservation with examples. (Outside Delhi 2019)
Answer:
Water Conservation and Management. Since there is a declining availability of fresh water and increasing demand, the need has arisen to conserve and effectively manage this precious life giving resource for sustainable development. Given that water availability from sea/ocean, due to high cost of desalinisation, is considered negligible.

India has to take quick steps and make effective policies and laws, and adopt effective measures for its conservation. Besides developing water saving technologies and methods, attempts are also to be made to prevent the pollution. There is a need to encourage watershed development, rainwater harvesting, water recycling and reuse, and conjunctive use of water for sustaining water supply in long run.

Q 3.
Name the low cost techniques to recharge groundwater.
Answer:

- Roof water-harvesting.
- Refilling of dug wells.
- Recharging of hand pumps.
- Construction of percolation pits.
- Trenches around fields.
- Bundhs and stop dams on rivulets.

Q 4.
What are the objectives of Rainwater-harvesting ?
Answer:

- Soil conservation.
- Conservation of water.
- Conservation of arable land.
- Development of horticulture.
- Development of forestry and silvi-culture.
- Conservation of environment.
- Increase in agricultural output.
- Checking environmental degradation.

Q 5.
What are the aims of Rainwater harvesting ?
Or
Examine the importance of 'rain water harvesting*. (Delhi 2019)
Answer:
Rainwater Harvesting. It is a technique of increasing the recharge of groundwater by capturing and storing rainwater locally in subsurface water reservoirs to meet the household needs. Objectives of the rainwater-harvesting are to:

- Meet the ever increasing demand for water.
- Reduce the run-off which chokes drains.
- Avoid the flooding of roads.
- Augment the groundwater storage and raise the water table.
- Reduce groundwater pollution.
- Improve the quality of groundwater.
- Reduce the soil erosion
- Supplement domestic water requirement during summer and drought.

Important Questions

1. It is said that the water resources in India have been depleting very fast. Discuss the factors responsible for depletion of water resources?
2. Why the groundwater utilization is very high in the states of Punjab, Haryana, Rajasthan and Tamil Nadu?
3. What is watershed management? Do you think it can play an important role in sustainable development?
4. Why do you think that irrigation is necessary?
5. What are various problems due to overirrigation?
6. What are the steps taken by the government to prevent the water pollution?
7. How can we recycle and reuse the water?
8. What do you know about Watershed management? How is it being carried in the various part of India with examples?
9. What are objectives of 'Jal Kranti Abhiyan'?
10. Do you think that Rain water harvesting can play an important role in sustainable development? If yes then how?

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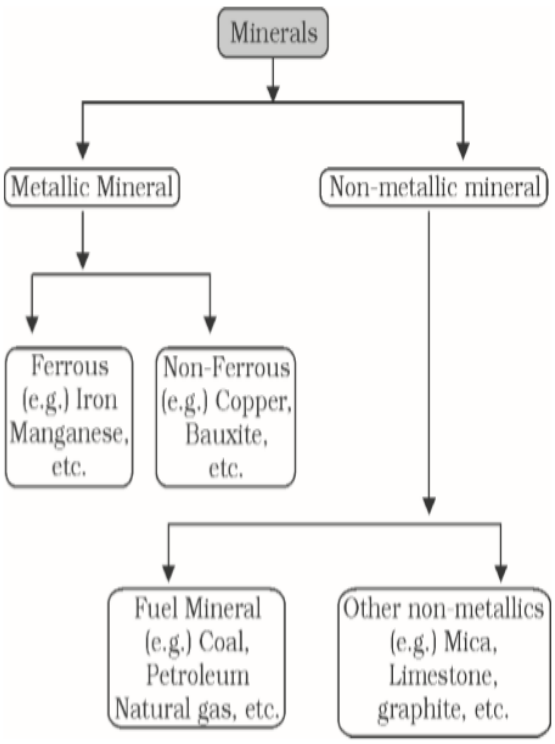
Chapter – 7- Mineral and Energy Resources

- **A mineral is a natural substance of organic or inorganic origin with definite chemical and physical properties.**
- **Bulk of the valuable minerals are mainly associated with metamorphic and igneous rocks of the peninsular India. The vast alluvial plain tract of north India is devoid of minerals of economic use.**
  - **Minerals are unevenly distributed over space.**
  - **Good quality minerals are very less in quantity as compared to low quality minerals.**
  - **Minerals are exhaustible over time.**

Distribution of minerals in India

- **Most of the major mineral resources occur to the east of a line linking Mangaluru and Kanpur.**
- **Minerals are generally concentrated in three broad belts in India.**



North-Eastern Plateau Region

- **This belt covers Chhotanagpur (Jharkhand), Odisha Plateau, West Bengal and parts of Chhattisgarh.**
- **It has variety of minerals viz. iron ore coal, manganese, bauxite, mica.**

The South-Western Plateau Region

- **This belt extends over Karnataka, Goa and contiguous Tamil Nadu uplands and Kerala.**
- **This belt is rich in ferrous metals, bauxite, Manganese and Limestone. It lacks coal deposits except Neyveli lingnite.**

The North-Western Region

- **This belt extends along Aravali in Rajasthan and part of Gujarat and minerals are associated with Dharwar system of rocks.**
- **Copper, Zinc, Sandstone, Granite, Marble, Gypsum and Petroleum etc. are found abundantly.**

Ferrous Mineral

Ferrous minerals such as iron ore, manganese, chromite, etc.

Iron Ore

- **India has the largest reserve of iron ore in Asia. 'Haematite' and 'Magnetite' are the two main important types are found in India.**
- **About 95 per cent of total reserves of iron ore is located in the States of Odisha, Jharkhand, Chhattisgarh, Karnataka, Goa, Telangana, Andhra Pradesh and Tamil Nadu.**
- **Odisha is the largest producers of Iron ore in India. Important mines in Odisha are Gurumahisani, Sulaipet, Badampahar (Mayurbhanj), Kiruburu (Kendujhar), Bonai (Sundergarh).**
- **Jharkhand produces iron ore from Noamundi and Gua are located in Poorbi and Pashchimi Singhbhum districts.**
- **Chhattisgarh produces iron ore from Dalli and Rajhara (Durg), Dantewara and Bailadia.**
- **In Karnataka Iron ore deposits occur in Sandur-Hospet area of Bellari district, Bana budan hills and Kudremukh in Chikkamangaluru district and part of Shivamoga, Chitradurg and Tumkura districts.**
- **Cuddapah and Anantpur districts are important producer in Tamil Nadu.**
- **Goa has also emerged as an important producer of iron ore.**

Manganese

- **Odisha is the leading producer of Manganese. Major mines are located in Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi and Bolangir.**
- **Karnataka is another major producer and here the mines are located in Dharwar, Ballari, Belagavi, North Canara, Chikkmagaluru, Shivamogga, Chitradurg and Tumakuru.**
- **Nagpur, Bhandara and Ratnagiri districts are important producers in Maharashtra.**
- **The manganese belt of Madhya Pradesh extends in a belt in Balaghat-Chhindwara-Nimar-Mandla and Jhabua districts.**
- **Telangana, Goa, and Jharkhand are other minor producers of manganese.**

Non-Ferrous Minerals

India is poor in it.

Bauxite

- **Bauxite is raw material of Alluminium. It is found mainly in peninsular and coastal tracts of the country.**

- **Odisha is the largest producer of Bauxite. Kalahandi, Sambalpur, Bolangir and Koraput are important producers.**
- **Chhattisgarh has bauxite deposits in Amarkantak plateau while Katni Jabalpur area and Balaghat in M.P. have important deposits of bauxite.**
- **Kolaba, Thane, Ratnagiri, Satara, Pune and Kolhapur in Maharashtra are important producers.**
- **Tamil Nadu, Karnataka and Goa are minor producers of bauxite.**

Copper

- **Copper is an indispensable metal in the electrical industry for making wires, electric motors, transformers and generators.**
- **The Copper deposits mainly occur in Singhbhum district in Jharkhand, Balaghat district in Madhya Pradesh and Jhunjhunu and Alwar districts in Rajasthan.**
- **Also found in Guntur district in Andhra Pradesh, Chitradurg and Hasan districts in Karnataka.**

Non-Metal Minerals

Mica

- **Mica is mainly used in the electrical and electronic industries.**

- **In Jharkhand, high quality mica is obtained in a belt extending over a distance of about 150 km, in length and about 22 km, in width in lower Hazaribagh plateau.**
- **In Andhra Pradesh, Nellore district produces the best quality mica.**
- **In Rajasthan, mica belt extends for about 320 kms from Jaipur to Bhilwara and around Udaipur.**
- **Other important states of it are Telangana, West Bengal, Madhya Pradesh.**

Energy Resources

Coal

- **Coal occurs in rock sequences mainly of two geological ages, namely Gondwana and tertiary deposits. Mainly used in thermal power generation and smelting of iron ore.**
- **About 80 per cent of the coal deposits in India is of bituminous type and is of non-coking grade.**
- **Over 97 per cent of coal reserves occur in the valleys of Damodar, Sone, Mahanadi and Godavari.**
- **Raniganj, Jharia, Bokaro, Giridih, Karanpura are important coal fields in Jharkhand. Jharia is the largest coal field followed by Raniganj.**
- **The most important coal mining centres are Singrauli in Madhya Pradesh, Korba in Chhattisgarh, Talcher and Rampur in Odisha, Chanda- Wardha, Kamptee in Maharashtra and Singareni in Telangana.**
- **Tertiary coals occur in Assam, Arunachal Pradesh, Meghalaya and Nagaland.**
- **Lignite occur in coastal areas of Tamil Nadu.**

(Miners collapse and often die even if small quantities of the highly poisonous CO are present in the air. So they trust on birds because of birds' reaction when 0.15% CO (Carbon Monoxide) they feel uneasy. When 0.30% is CO then bird falls off its perch in two to three minutes.)

Petroleum

- **Crude petroleum consists of hydrocarbons of liquid, is an essential source of energy for all automobiles, railways, aircrafts etc.**
- **There are many bi-products are of it such as synthetic rubber, synthetic fiber, medicine, Vaseline, lubricants, wax, soap and cosmetics.**
- **Crude petroleum occurs in sedimentary rocks of the tertiary period.**
- **Oil and Natural Gas Commission was set up in 1956.**
- **In Assam, Digboi, Naharkatiya, Hugrijon and Moran are important oil producing areas.**

- **In Gujarat, Kalol, Mehsana, Nawagam, Kosamba and Lunej are important oil producing areas.**
- **Mumbai High which lies 160 km off Mumbai, an offshore producing site.**
- **Oil and Natural gas have been found in Krishna-Godavari and Kaveri basin.**
- **There are two types of oil refinery. Field based – Digboi and Market based – Barauni.**

Natural Gas.

- **The Gas Authority of India Limited was set up in 1984 as a public sector undertaking to transport and market natural gas.**
- **It is obtained along with oil in all the oilfields.**
- **Exclusive reserves have been located along the eastern coast as well as (Tamil Nadu, Odisha and Andhra Pradesh), Tripura, Rajasthan and off-shore wells in Gujarat and Maharashtra.**

Non-Conventional Source of Energy

- **Sustainable energy resources are only the renewable energy sources like solar, wind, hydro-geothermal and biomass.**
- **These energy sources are more equitably distributed and environment-friendly.**
- **The non-conventional energy sources will provide more sustained, eco-friendly cheaper energy after the initial cost is taken care of.**

Nuclear Energy Resources

- **Uranium and Thorium are important minerals for this energy. Uranium deposits occur in the Dharwar rocks.**
- **Uranium found along with Singhbhum copper belt. In Rajasthan Udaipur, Alwar and Jhunjhunu districts.**
- **Uranium also found in Durg district of Chhatisgarh, Bhandara district in Maharashtra.**
- **Thorium is mainly obtained from monazite and ilmenite in the beach sands along the coast of Kerala and Tamil Nadu.**
- **World's richest monazite deposits occur in Palakkad and Kollam districts of Kerala, near Vishakhapatnam in Andhra Pradesh and Mahanadi river delta in Odisha.**
- **Atomic Energy Commission was established in 1948.**
- **The important nuclear power projects are Tarapur (Maharashtra), Rawatbhata near Kota (Rajasthan), Kalpakkam (Tamil Nadu), Narora (Uttar Pradesh), Kaiga (Karnataka) and Kakarapara (Gujarat).**

Solar Energy

- **Sun rays tapped in photovoltaic cells can be converted into energy, known as solar energy.**
- **It is cost competitive, environment friendly and easy to construct. Solar energy is 7 per cent more effective than coal or oil based plants and 10 per cent more effective than nuclear plants.**
- **It is generally used in heaters, cookers etc.**
- **The western part of India has greater potential for the development of solar energy in Gujarat and Rajasthan.**

Wind Energy

- **Wind energy is absolutely pollution free, inexhaustible source of energy. The kinetic energy of wind, through turbines is converted into electrical energy.**
- **India, already has started generating wind energy. The permanent wind systems such the trade winds, westerlies and seasonal wind like monsoon have been used as source of energy.**
- **In Rajasthan, Gujarat, Maharashtra and Karnataka, favourable conditions for wind energy exist.**

Tidal and Wave Energy

- **Ocean currents are the store-house of infinite energy.**
- **Large tidal waves are known to occur along the west coast of India.**
- **Hence, India has great potential for the development of tidal energy along the coasts but so far these have not yet been utilised.**

Geothermal Energy

- **The heat energy of the Magma which comes from the interior of the Earth can successfully be tapped and converted to electrical energy.**
- **Apart from this, the hot water that gushes out through the geyser wells is also used in the generation of thermal energy. It is known as Geothermal Energy.**
- **In India, a geothermal energy plant has been commissioned at Manikaran in Himachal Pradesh.**
- **The first successful attempt to tap the underground heat was made in the city of Bose, Idaho (USA) in 1890.**

Bio-Energy

- **Bio-energy refers to energy derived from biological products which includes agricultural residues, municipal, industrial, garbage and other wastes.**

- **It can be converted into electrical energy. It can improve economic life of rural areas in developing countries, reduce environmental pollution.**
- **One such project converting municipal waste into energy is Okhla in Delhi.**

Conservation of Minerals Resources

- **Improvising the technology so that low-grade ores can be used profitably.**
- **By re-using, improving, and recycling methods, materials can be manufactured from minerals, and by replacing other materials as well.**
- **People can conserve mineral resources by utilizing renewable resources. For example, using hydroelectricity, wind, wave, geothermal energy and solar power as sources of energy may conserve mineral resources such as coal.**
- **Use of scrap is specially significant in metals like copper, lead and zinc in which India's reserves are meagre.**
- **Export of strategic and scarce minerals must be reduced, so that the existing reserve may be used for a longer period.**

Sustainable development calls for the protection of resources for the future generations.

MCQs Questions. (1mark)

Question 1.
Which is the hardest mineral?
(A) Diamond
(B) Granite
(C) Basalt
(D) Gabbro

Answer

Answer: (A) Diamond

Question 2.
Which one of the following is a ferrous mineral?
(A) Bauxite
(B) Iron ore
(C) Mica
(D) Coal

Answer

Answer: (B) Iron ore

Question 3.
The iron content in Hematite is:
(A) 20 – 30%

(B) 30 – 40%
(C) 40 – 50%
(D) 60 – 70%

Answer

Answer: (D) 60 – 70%

Question 4.
Which one of the following is a famous Copper mine?
(A) Bastar
(B) Khetri
(C) Nellore
(D) Jharia

Answer

Answer: (B) Khetri

Question 5.
Lignite coal is found in:
(A) Jharia
(B) Neyveli
(Q Bokaro
(D) Raniganj

Answer

Answer: (B) Neyveli

Question 6.
Where is the largest solar plant located?
(A) Nasik
(B) Madhopur
(C) Kaiga
(D) Chandrapur

Answer

Answer: (B) Madhopur

Question 7.
Which one of the following is a non-metallic mineral?
(A) Iron
(B) Limestone
(C) Manganese
(D) Copper

Answer

Answer: (B) Limestone

Question 8.
For which mineral, is Hazaribagh Plateau famous?
(A) Iron ore
(B) Copper
(C) Mica
(D) Coal

Answer

Answer: (C) Mica

Question 9.
Where is the largest coalfield of India?
(A) Jharia
(B) Raniganj
(C) Neyveli
(D) Singareni

Answer

Answer: (A) Jharia

Question 10.
In which state is Kalpakkazn located?
(A) Kerala
(B) Karnataka
(C) Tamil Nadu
(D) Andhra Pradesh

Answer

Answer: (C) Tamil Nadu

Question 11.
Which out of the following states has major oil fields?
(A) Assam
(B) Bihar
(C) Rajasthan
(D) Tamil Nadu

Answer

Answer: (A) Assam

Question 12.
On which station out of the following, the first atomic station was set up?
(A) Kalpakkam
(B) Narora
(C) RanaPartapSagar
(D) Tarapur.

Answer

Answer: (D) Tarapur

Question 13.
Out of the following, which mineral is called ‘Brown diamond’?
(A) Iron ore
(B) Lignite
(C) Manganese
(D) Mica

Answer

Answer: (B) Lignite

Question 14.
Which is the non-renewable source of energy?
(A) Hydel
(B) Solar
(C) Thermal
(D) Wind

Answer

Answer: (C) Thermal

Short Answer Type (3 mark)

Question 1.
"The non-conventional sources of energy will provide more sustained, eco-friendly and cheaper energy, if the initial cost is taken care of." Examine the statement. (CBSE 2018)
Answer:
Today non-conventional sources of energy include wind, tides, geo-thermal heat, biogas, farm and animal waste including human excreta. All these sources are renewable and inexhaustible. They are inexpensive in nature. These are pollution free. These help in decentralization of industries. Energy can be developed in rural area. These can be developed and maintained at low costs.

Due to acute shortage of conventional sources of energy, it has become necessary to explore the possibilities of using non-conventional sources of energy. These resources are more equitably distributed and environmental-friendly. These will provide more sustainable, eco-friendly and cheaper energies.

Question 2.
What is meant by 'Mumbai High' and 'Sagar Samrat' ?
Answer:
Mumbai High. Rich oil fields have been discovered in offshore region in gulf of Cambay, along the coast of Mumbai. Oil struck below the sea beds at a distance of 115 kms. from the shore on 19th February, 1974. The drilling was done with the help of Sagar Samrat (A drilling platform). This has become the richest oil field in India and is known as 'Mumbai High'. It has been connected with the coast by a sub-marine pipeline.

Question 3.
Name the different Nuclear power stations in India.
Answer:
Uranium and Thorium are used as raw materials for generating atomic power. These minerals are found in Bihar, Rajasthan, Tamil Nadu and Kerala. The Atomic Energy Commission was established in 1947 in India. There are four atomic power stations in India.

- Tarapur (Maharashtra)
- Rana Pratap Sagar (Kota)
- Kalpakkam (Chennai)
- Narora (Uttar Pradesh).

Two atomic stations at Kakarpara (Gujarat) and Kaiga (Karnataka) are at planning stage.

Question 4.
What is bio-energy ? State four advantages of bio-energy. (C.B.S.E. 2013
Answer:

Bio-energy refers to energy derived from biological products which includes agricultural residues, along with municipal, industrial and other works,

Advantages:
(i) It is a potential source of energy conversion.
(ii) It can be converted into electrial energy, heat energy or gas for cooking.
(iii) It can process waste to produce energy.
(iv) It reduces environmental pollution.

Question 5.
Give two advantages of copper. Mention four main copper mining areas of India. (C.B.S.E. 2013)
Answer:
Copper is an indispensable metal in the electrical industry for making wires, electrical motors, transformers and generators. It is also mixed with gold to provide strength to jewellery. Copper deposits are found in:

- Singhbhum district in Jharkhand
- Balaghat in Madhya Pradesh
- Jhunjhuna in Rajasthan
- Alwar in Rajasthan

Q. 6
Describe the regions producing Natural gas in India. Describe H.B.J. pipeline.
Answer:
Natural gas has emerged as a dynamic source of energy. The total production of Natural gas is 40.674 billion cubic metres in India (2012). Cambay basin, Kaveri coast, Jaisalmer and Mumbai High are the main producers of Natural gas. H.B.J. gas pipeline has been constructed for transporting gas running between Hazira, Bijapur and Jagdishpur.

It is 1700 km. long and runs through the states of Gujarat, Madhya Pradesh, Rajasthan and Uttar Pradesh. This pipeline will supply gas to Bijapur, Sawai Madhopur, Jagdishpur, Shahjahanpur, Amla, Babrala fertiliser plants.
In India, Gas Authority of India Ltd. (GAIL), Oil and Natural Gas Commission (ONGC), Indian Oil Corporation (IOC) and Hindustan Petroleum Corporation (HPC) are exploring and managing gas resources.

Question 7.
Describe the 'Iron ore belt of India'.
Answer:
The total reserves of iron ore in the country were about 28.52 billion tonnes in the year 2012. About 95 per cent of total reserves of iron ore is located in the States of Odisha, Jharkhand, Chhattisgarh, Karnataka, Goa, Andhra Pradesh and Tamil Nadu. (1) In Odisha, iron ore occurs in a series of hill ranges in Sundergarh, Mayurbhanj and Keonjhar. The important mines are Gurumahisani, Sulaipet, Badampahar (Mayurbhanj), Kiruburu (Kendujhar) and Bonai (Sundergarh).

(2) Similar hill ranges such as Jharkhand have some of the oldest iron ore mines and most of the iron and steel plants are located around them. Most of the important mines such as Noamandi and Gua are located in Poorbi and Pashchimi Singhbhum districts.

(3) This belt further extends to Durg, Dantewara and Bailadila. Dalli, and Rajhara in Durg are the important mines of iron ore in the country.

(4) In Karnataka, iron ore deposits occur in Sandur-Hospet area of Bellary district, Baba Budan hills and Kudremukh in Chikmangalur district and parts of Shimoga, Chitradurg and Tumkur districts.

(5) The districts of Chandrapur, Bhandara and Ratnagiri in Maharashtra.

Ferrous Minerals	Non-Ferrous Minerals
1. The metallic minerals which contain iron content are called ferrous minerals (Fe).	1. The minerals which do not contain iron (ferrous) content are called non- ferrous minerals.
2. Iron, Manganese. Chromite, Cobalt, etc., are ferrous minerals.	2. Copper. Lead, Zinc. Aluminium are non- ferrous minerals.
3. These are used in Iron and Steel industry. Some minerals are used as alloys in making different types of steel.	3. Each mineral has its particular utility. Some minerals are valuable according to their uses.

(6) Karimnagar, Warangal, Kurnool, Cuddapah and Anantapur districts of Andhra Pradesh.

(7) Salem and Nilgiris districts of Tamil Nadu are other iron mining regions.

(8) Goa has also emerged as an important producer of iron ore.

Question 8.
Distinguish between Ferrous and Non- ferrous minerals.
Answer:

Question 9.
Distinguish between Metallic and Non- metallic minerals
Or
Classify minerals on the basis of chemical and physical properties. (C.B.S.E. Outside Delhi 2017)
Answer:

Metallic Minerals	Non-Metallic Minerals
1. Metallic minerals are those minerals which can be melted to obtain new products.	1. Non-metallic minerals are those which do not yield new products on melting.
2. Iron, Copper, Bauxite, Tin, Manganese are some examples.	2. Coal, Salt, Clay. Marble are some examples.
3. These are generally associated with Sedimentary and Igneous rocks.	3. These are generally associated with rocks.
4. These can be reused after melting.	4. These cannot be used after melting.

Question 10.
Distinguish between Rock and Mineral ore.
Answer:

Rock	Mineral Ore
1. A rock is a natural solid material forming the earth crust.	1.A mineral is, a natural inorganic compound found in the rocks.
2. A rock is an aggregate of minerals such as granite, marble, etc.	2. Some rocks contain only one mineral and are called mineral ores such as iron ore.
3. A rock does not have a definite chemical composition.	3. It has definite chemical composition.

4. Rocks are mainly of three types—Igneous, Sedimentary and Metamorphic.	4. There are about 2000 types of minerals.

Mineral and Energy Resources Long Answer Type (5 mark)

Question 1.
Describe the production and distribution of Iron ore in India.
Answer:
Iron Ore. Iron is the most useful of all metals. It has strength, hardness and magnetic properties. Iron has become the basis of modern industrializations. It has revolutionized modern means of land, air, and water transportation. India is rich both in quality and quantity of iron ore deposits. India ranks seventh in the world with 5% production of iron ore. The iron ore deposits mainly consist of hematite and magnetite deposits with an iron content of 60 to 70%.

Production and reserves: India has iron ore reserves (about 7% of the world) about 28.82 million tons. Most of these deposits are in Jharkhand and Odisha state. These deposits are the world's richest and largest deposits.

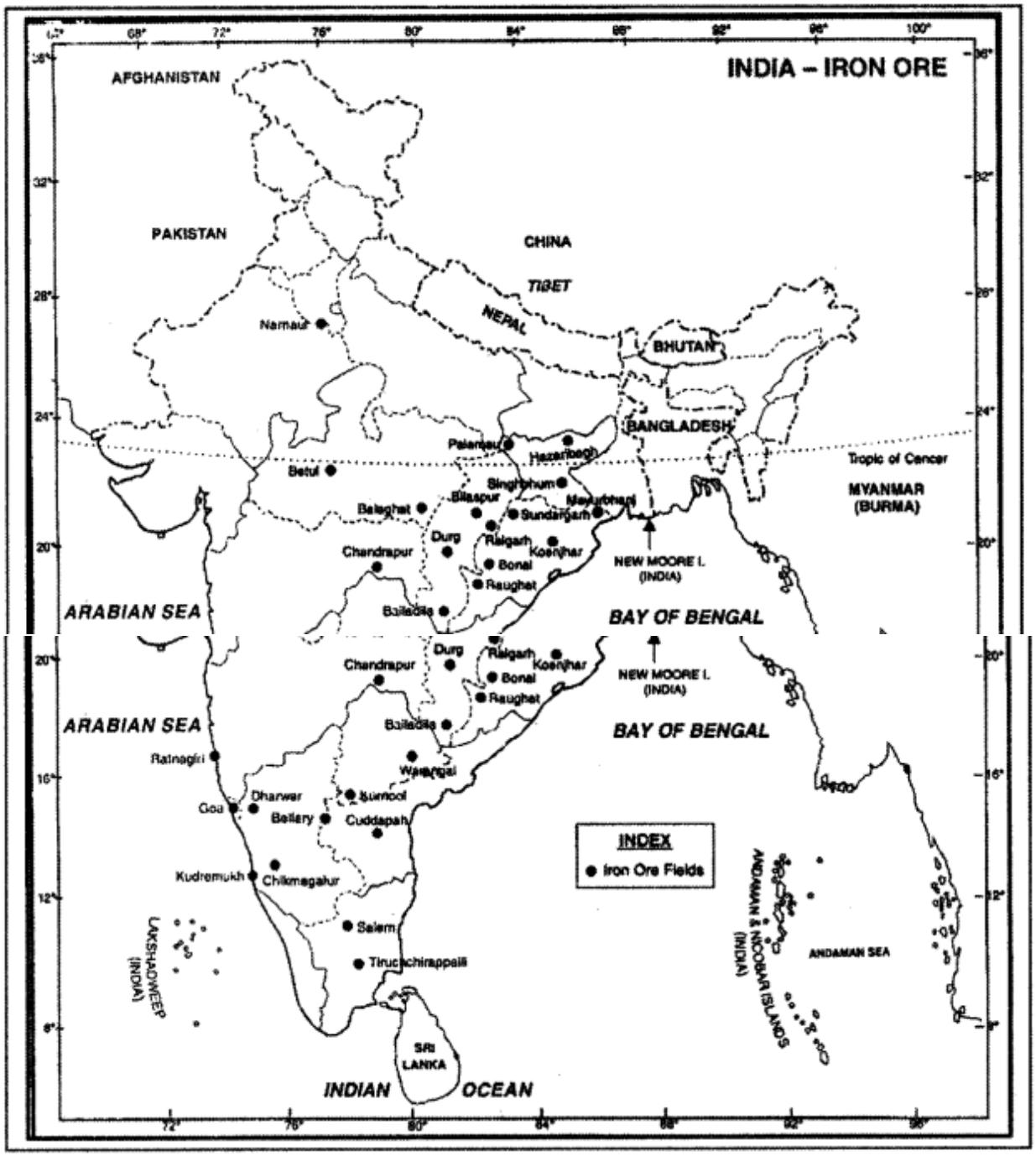
Distribution of Iron Deposits: Jharkhand and Odisha produce about 75% of total production of iron ore in India. This is called 'iron ore belt of India'. Major steel plants of India are located in this region.

- Jharkhand: Noamandi and Gua mines in Singhbhum district and Hazaribagh district of Jharkhand state.
- Odisha: Keonjhar, Mayurbhanj, Bonai districts.
- Chhattisgarh: Dhali-Rajhara hills (Durg) and Bailadila (Bastar) in Chhattisgarh state.
- Tamil Nadu: Salem and Madurai.
- Other areas: Baba Budan Hills and Kudremukh in Karnataka, Kurnool in Andhra Pradesh, Lohara, Ratnagiri and Pipalgaon in Maharashtra,

Salem and Tiruchirapalli in Tamil Nadu and Goa.India exports iron ore to Japan and some other countries. The total value of iron ore exports in 2011¬12 was ₹ 33911.7 crores. The port of Mormugao, Vishakhapatnam, Paradip and Mangalore handle these exports.

Question 2.
Describe the production and distribution of coal in India.
Answer:
COAL. Coal is the prime source of energy. It is often called the 'Mother of Industries' or 'Black gold'. It has been the basis of the Industrial Revolution. Coal is used as a raw material in iron and steel, chemical industries. Coal is the main source to produce thermal power.

India ranks seventh in the world as regards of the coal reserves. The total proven coal reserves are nearly 2,93,496.5 million tons. These reserves will not last long. The major states known for coal reserves are Jharkhand, Odisha, West Bengal, Madhya Pradesh, Andhra Pradesh and Maharashtra.



Production. Coal production started in 1774 in Raniganj coal field (West Bengal). After independence, production of coal increased 6 times.
The per capita consumption of coal has increased from 135 kg to nearly 400 kg.

Distribution. India has two types of coal fields:
(a) Gondwana coal fields (98%)
(b) Tertiary coal fields (2%)

(a) Gondwana coal fields. These belong to the period of Gondwana age. Nearly 3/4th of coal deposits are found in Damodar valley (Damuda series). Godavari, Mahanadi, Son and Wardha valley also have coal deposits.

(i) West Bengal. West Bengal has the oldest coal field of India at Raniganj. It covers an area of 1267 sq. km and the total reserves is 30616 million tonnes.

(ii) Bihar and Jharkhand State. This region produces 50% coal of India. The major coal fields of Jharia, Bokaro, Karanpura, Daltonganj are found in

Damodar valley. Coking coal from this coal-field is supplied to steel centres of Jamshedpur, Asansol, Durgapur production of coal increased 6 times.

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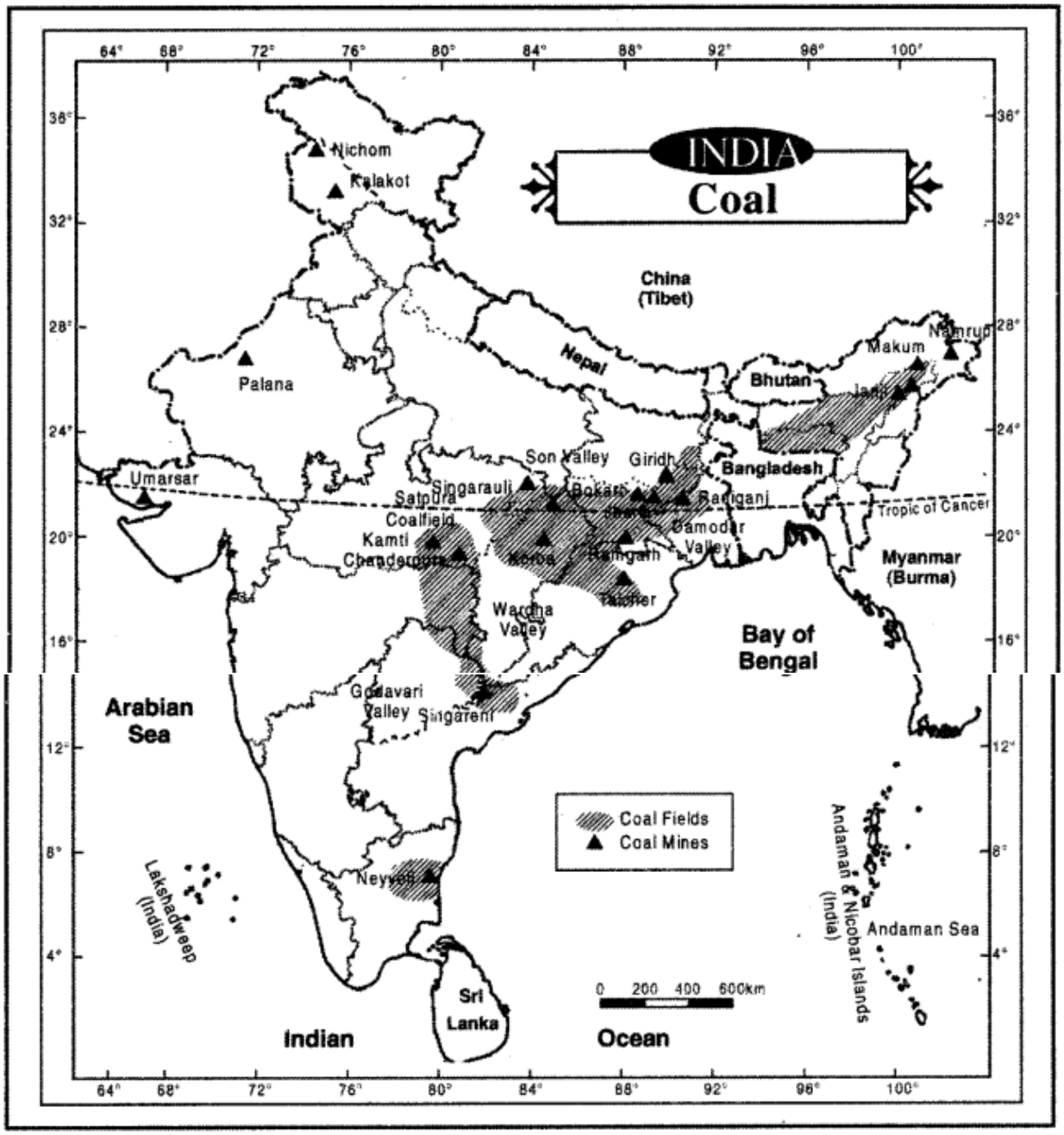
Damodar valley. Coking coal from this coal-field is supplied to steel centres of Jamshedpur, Asansol, Durgapur and Bokaro. Bihar contributes only 160 million tonnes, where as Jharkhand contributes 80356 million tonnes of coal to india (2012).

(iii) Madhya Pradesh. Madhya Pradesh has Son valley, coal-fields of Suhagpur, Korba, (Chhattisgarh), Rampur, Tatapani, Singrauli. Total reserves in 24376 million tonnes.

(iv) Other areas. Singareni in Andhra (22154.8 m.t.) Talchar in Mahanadi valley, Chanda-Wardha coal¬fields of Maharashtra (10882 m.t.).

(b) Tertiary coal Helds. This includes lignite deposits called brown coal of low quality. These include Neyveli deposits (3300 million tonnes) in Tamil Nadu, producing 600 MW of thermal power. Other areas are Makum (Assam) producing 510.5 million tonnes, Bikaner (Rajasthan), Garo Khasi Hills (576.5 m.t.), Riasi in Jammu and Kashmir



Question 3.
Describe the production and potential areas of production of Petroleum in India.
Or
Why is petroleum referred to as liquid gold? State two important uses of petroleum and name two oil fields each in Assam and Gujarat.
Ans.
Petroleum. Petroleum is the most important source of power in the present age. Many by-products such as kerosene, fuel, lubricating oils, grease, coke and asphalt are obtained from petroleum. Petrochemical products have become very useful. Petroleum is used in agriculture, industry, transport, paints, perfumes, cosmetics, etc.

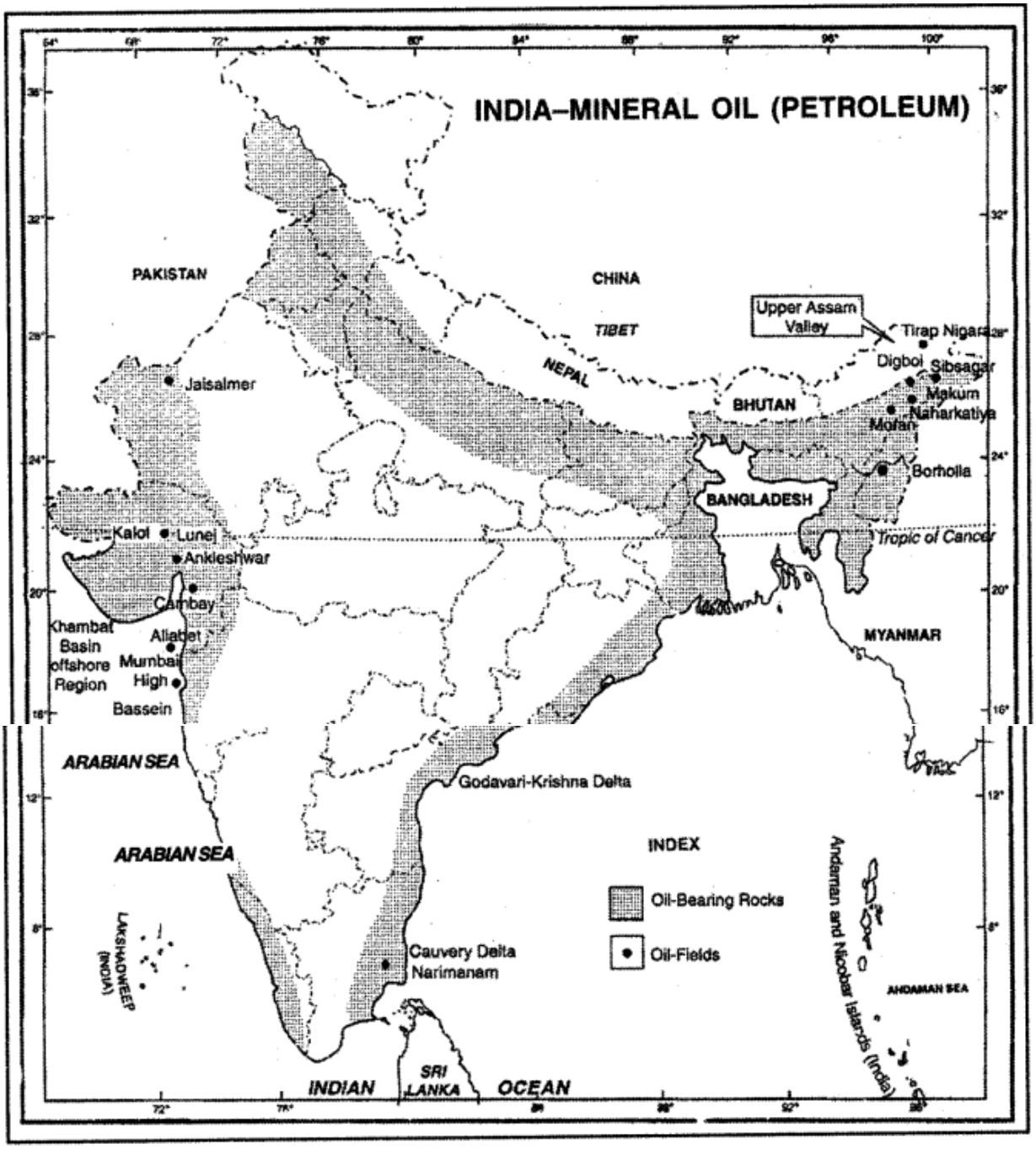
It is the source of foreign exchange for many oil exporting countries. So it is rightly called the 'liquid gold'.
Production. In about 10 lakh sq. km. oil bearing rocks are found in India. The oil reserves in India are estimated to be 759.6 million tonnes. The first oil field in India was discovered in 1867 at Makum in Assam. At present, the

production is as under:

- Assam. In Assam, oil is produced in Digboi, Moran, Naharkatiya and Sibsagar regions. It contributes 22.71% of total reserves.
- Gujarat. In Gujarat, oil is produced in Gulf of Cambay region at Kalol, Ankleshwar, Lunej, etc.

- Maharashtra. Oil has struck in the off-shore region at Mumbai High along the coast of Mumbai. It is the leading producer of crude oil in India. North Bassien and South Bassien are the important oil fields.

The production of oil in India is increasing everywhere under the organization of Oil and Natural Gas Commission (ONGC). The production of oil in India rose from 37.862 million metric tonnes in 2012. India meets about 40% of our demands by home production. We import crude oil from foreign countries and other petroleum products also. There are at present 17 oil refineries in India. These refineries are expanded to meet the increasing requirements of the country. It will help in saving a large amount of foreign exchange.



Oil-Refineries. There are already 17 refineries in the country. These refineries include
(i) Barauni (Bihar)
(ii) Mumbai (Maharashtra)
(iii) Kochi (Kerala)
(iv) Digboi (Assam)
(v) Guwahati (Assam)
(vi) Haldia (West Bengal)
(vii) Vishkhapatnam (Andhra Pradesh)
(viii) Koyali (Gujarat)
(ix) Chennai (Tamil Nadu)

(x) Mathura (U.P.)
(xi) Panipat (Haryana)
(xii) Bongaigaon and Numaligarh (Assam)
(xiii) Jamnagar (Gujarat)
(xiv) Mangalore (Karnataka)
(xv) Nagapattinam (Tamil Nadu)
(xvi) Bina (Madhya Pradesh)
(xvii) Bhatinda (Punjab).
These refineries also supply cooking gas or Liquefied Petroleum Gas (L.P.G.) as domestic fuel. It has succeeded in reducing demand on our shrinking forests.

Natural Gas. Natural gas is obtained from the oil fields. It is a prime source of energy for cooking in domestic field. It is called L.P.G. and is supplied through pipelines. Reserves of Natural gas are located in Tripura, Rajasthan, Gujarat, Tamil Nadu, Andhra Pradesh and Odisha .

The production is about 40.8 billion cubic metres. A gas pipeline, from Hazira, (Gujarat) Bijapur to Jagdishpur (U.P.)-1700 km long has been constructed to produce fertilisers at different plants at Bijapur, Sawai Madhopur, Jagdishpur, Shahjahanpur, Anwala and Barbala.

Question 4.
Describe the development of Nuclear energy in India.
Answer:
Nuclear Energy. Nuclear energy is generated by splitting atomic minerals. The process is called atomic fission. Uranium, Monazite, Thorium, Placer deposits, Cheralite, Graphite and Zirconium are used for generation of nuclear power of atomic energy. India is rich in these minerals.

The Bhabha Atomic Research Centre has been set up at Trombay (Maharashtra) for research in Nuclear Science. The first underground Nuclear Test was conducted on May 18,1974 at Pokhran (Rajasthan). Recently five underground Nuclear Tests were conducted at Pokhran, on 11th May, 1998. Thus, India became a nuclear power country.

Uranium and Thorium are used as raw materials for generating atomic power. These minerals are found in Bihar, Rajasthan, Tamil Nadu and Kerala. The Atomic Energy Commission was established in 1947 in India. There are 7 atomic power stations in India with an installed capacity of 5780 million KW:

- Tarapur (Maharashtra).
- Rana Pratap Sagar or Rawat Bhata (Kota, Rajasthan).
- Kalpakkam (Chennai, Tamil Nadu).
- Narora near Bulandshahar (Uttar Pradesh).
- Kaiga (Karnataka)
- Kakrapar (Gujarat)
- Kundankulam (Tamil Nadu)

Two atomic power stations at Kakarpara (Gujarat) and Kaiga (Karnataka) are at planning stage.

Nuclear Energy-Hope of the Future. The use of atomic energy is increasing in the field of medicine and agriculture. It is being used to improve the quality of seeds. It can be used for exploring the mineral wealth of India. Atomic energy is being used in India for many peaceful purposes like development of man-made lakes, diversion of rivers, and use in medical science. India is rich in atomic minerals like Uranium and Thorium.

Therefore, this energy can be generated easily and will last for a long period. There is shortage of coal, petroleum and water power in India. In such areas, Nuclear Energy plays a complementary role in the development of Industries. Conventional sources of energy will not last long. Nuclear power should be used to save the resources. These power stations though expensive can be easily set up. We can say ‘Nuclear energy is the hope of the future in India.’

Question 5.
Write a note on the development of non-conventional sources of energy in India.
Or
Explain the importance of five non. conventinal sources of energy with suitable examples. (CJS.S.E Outside Delhi 2017)
Answer:
Non-Conventional Sources of Energy. Today non-conventional sources of energy include wind, tides, geo-thermal heat, bio-gas, farm and animal waste including human excreta. All these sources are renewable or inexhaustible. They are inexpensive and pollution free. These help in decentralisation of Industries. Energy can be developed in rural areas and maintained at low costs.

Due to acute shortage of conventional sources of energy, it has become necessary to explore the possibilities of using non-conventional sources of energy. A Ministry of Non-Conventional Energy Sources (MNES) has been created in 1992 for this purpose. Its achievements so far are as under:

S.No.	Source	Potential	Achievement
1.	Wind-power	49130 MW	2980 MW
2.	Biomass power	17538 MW	1693 MW
3.	Solar power	20 MW/ Sq. km.	941.24 MW
4.	Power from urban wastes	1700 MW	4.75 MW
5.	Water Heating systems	…….	4,20.000
6.	Solar Cookers	…….	4,57.000
7.	Biogas plants	12 million	2.5 million
8.	Improved Chullahas	120 million	23.7 million

Wind energy. It can be used for pumping water, irrigating farms and generating electricity. The states of Gujarat, Tamil Nadu, Maharashtra and Odisha are better placed in regard to this energy. Wind mills are established in areas of high speed winds. India has a potential of 49130 MW of

power generation. The first wind farm was set up at Mandavi (Gujarat) in 1986. The Turbines of wind mills are rotated with the force of wind velocity. At present wind farms of capacity of 970 MW have been installed. India is the third country in the world to develop wind power on a large scale. There are about 3000 wind mills installed in various states in India.

2. Tidal energy. The Gulfs of Kachchh and Cambay are ideally suited to develop electricity from the energy produced by high tides entering into narrow creeks. A 900 MW tidal power station is being set up in Gulf of Kachchh. It is an inexhaustible and inexpensive source of energy.

3. Geo-thermal energy. Efforts are on to utilise natural energy of the hot springs at Manikaran in Himachal Pradesh, Puga, Parvati valley, Tattapani are other sites. Hot water is converted into steam to drive the turbines. Hot springs are used for heating purposes. India has a potential of 10600 MW of power from it.

4. Energy from urban waste. Sewage in cities is used for generating gas and electricity. Various wastes are treated such as sewage waste, vegetable waste, waste from leather, sugar, paper industries. A 4 MW energy plant at Delhi, 2.76 MW energy plant using husk in Andhra, 1MW plant at Faizabad Distillery, have been established. About 145 million tonnes of agricultural waste can generate 14000 MW power. Energy from plantations and bagasse is also developed.

5. Bio-gas based power plants. Bagasse, farm wastes, rice husk are being used to produce electricity. The National Project on Biogas was set up in 1981-82. It provides a clean and cheap source of energy in rural areas. Upto now 25 lakh Biogas plants have been installed, saving 75 lakh tonnes of fuel wood per year valued at ? 375 crore. Besides these plants generate 360 lakh tonpes of enriched manure. Smokeless chullahas (28 million) remove smoke, pollution and check deforestation and save 115 lakh tonnes of fuel wood.

6. Farm animal and human wastes (Urja Gram). By using biomass, animal, poultry wastes and human excreta, gobar gas plants are being set up in villages. The power so produced is used for cooking, lighting homes and streets and meeting irrigation needs of the village. A pilot plant (4 MW) has been set up in Delhi for the conversion of urban waste into energy.

7. Solar Energy. It is the most abundant, cheapest and inexhaustible source of energy produced from sunlight. Solar cookers are used in cooking food. Solar power is being used for cooking, water heating, water desalination, space heating, crop drying. Solar energy is used for solar lanterns, street lights, railway signals, traffic signals (as in Delhi), rural telephones, TV, radios, etc. In remote areas of Coimbatore, two projects of 25 KW provide energy. The Sagar island in West Bengal is completely solarised.

Solar cells convert the solar energy to electricity. Solar energy is the future energy in India because India receives abundant sunshine almost throughout the year to develop it.

Question 6.
Describe the distribution of mineral belts of India.
Answer:
The following three major mineral belts can be demarcated within the peninsular plateaus.
1. The North-Eastern Plateaus. It encompasses the Chotanagpur plateau, Odisha plateau and eastern Andhra Plateau.

This belt contains rich deposits of a variety of minerals used in metallurgical industries. Among them, reserves of iron ore, manganese, mica, bauxite, limestone and dolomite are large and widely distributed. This region also has copper, thorium, uranium, chromium, sillimanite and phosphate.

Along with them, coal deposits of the Damodar valley and Chhattisgarh which have facilitated the development of heavy industries are within this belt. Majority of the integrated iron and steel plants are located in this belt. Aluminium plants are also located here.

2. South-Western Plateaus. This belt extends over the Karnataka plateau and adjoining Tamil Nadu plateau and is rich in metallic minerals, particularly in iron ore, manganese and bauxite and in some non- metallic minerals. But the lack of power resource particularly coal has been an obstacle in the way of the development of heavy industries in this region. All the three gold fields of the country are located in this belt.

3. North-Western Region. This belt extends from the Gulf of Khambhat in Gujarat to the Aravalli range in Rajasthan. Petroleum and Natural gas are principal resources of this belt. Deposits of other minerals are small and scattered. However, it is known for reserves and production of several non-ferrous metals particularly copper, silver, lead and zinc.

4. Other Regions. Outside of these mineral belts, Upper Brahmaputra valley is a significant petroleum producing area. Kerala possesses enormous concentration of heavy mineral sands. Mineral deposits are also found in other parts of the country but they are scattered and reserves are inconsistent.

Important Extra Questions HOTS

Question 1.
Why is the conservation of minerals necessary ? Explain any two methods of conserving minerals. (C.B.S.E. 2011)
Answer:
Minerals are a valuable natural resource. Minerals are exhaustible and limited resources. These are non-renewable resources. Once these are used, these are gone forever. Conservation of minerals means a careful and rational utilization so that these can also be used for future generation.

For conservation of minerals, their substitutes should be used such as Aluminium is used in place of copper. Scientific methods of mining should be used to avoid wastage of minerals.

Question 2.
Give two advantages of I manganese. Mention four main I manganese producing states of India. (C.B.S.E. 2013)
Answer:
Manganese is an important raw material for smelting of iron ore. It is also used for the manufacturing of ferro-alloys.
Production:

- Odisha is the leading producer of manganese.
- Karnataka is also major prod*ucer of manganese.
- Maharashtra
- Andhra Pradesh
- Madhya Pradesh

CASE BASED STUDY

(MINERALS AND ENERGY RESOURCES)

Que 1. Read the source given below and answer the questions that follow:

Minerals have certain characteristics. These are unevenly distributed over space. There is inverse relationship in quality and quantity of minerals i.c. good quality minerals are less in quantity as compared to low quality minerals. The third main characteristic is that all minerals are exhaustible over time. These take long to develop geologically and they cannot be replenished immediately at the time of need. Thus, they have to be conserved and not misused as they do not have the second crop.

(a) Minerals may be grouped under two main categories of metallics and non-metallics on the basis of their

(i) place of their occurrence.

(ii) uses.

(iii) chemical and physical properties.

(iv) availability.

Ans : (iii) chemical and physical properties.

(b) Metallic minerals can further be divided into

(i) industrial and domestic minerals.

(ii) ferrous and non-ferrous minerals.

(iii) fuel and non-metallic minerals.

(iv) all of the above.

Ans : (ii) ferrous and non-ferrous minerals.

(c) Which of the following area is devoid of minerals of economic use?

(i) North-eastern belt of India

(ii) Chhota Nagpur (Jharkhand), Odisha Plateau, West Bengal and parts of Chhattisgarh

(iii) Aravali in Rajasthan and part of Gujarat

(iv) The vast alluvial plain tract of north India

Ans : (iv) The vast alluvial plain tract of north India

(d) Which of the following minerals are organic in nature?

(i) Mica, limestone and graphite

(ii) Coal and petroleum

(iii) Iron and manganese

(iv) Copper and bauxite

Ans. (i) Mica, limestone and graphite

Que 2. Read the source given below and answer the questions that follow Share the largest coal field followed by Bang The other river valleys associated with coal are Godav Mahanadi and Sone. The most important coal mini centres are Singrauli in Madhya Pradesh (part of Singrauli coal field lies in Uttar Pradesh), Kobs in Chhattisgarh, Talcher and Rampur in Odisha, Chanda Wardha, Kamptee and Bander in Maharashtra and Singarent in Telangana and Pandur in Andhra Pradesh

(a) Coal occurs in rock sequences mainly of two geological ages, namely

(i) ancient and recent deposits,

(ii) metallic and non-metallic deposits.

(iii) Gondwana and tertiary deposits.

(iv) ferrous and non-ferrous deposits.

Ans : (iii) Gondwana and tertiary deposits.

(b) About 80 per cent of the coal deposits in India is of

(i) tertiary type

(ii) bituminous type

(iii) hematite type

(iv) magnetite type

Ans : (ii) bituminous type

(c) Tertiary coals occur in

(i) coastal areas of Tamil Nadu, Puducherry and Gujarat

(ii) Ankaleshwar, Kalol and Mehsana

(iii) Krishna-Godavari and Kaveri basin on the east coast

(iv) Assam, Arunachal Pradesh, Meghalaya and Nagaland

Ans : (iv) Assam, Arunachal Pradesh, Meghalaya and Nagaland

(d) Lignite is also referred to as

(i) brown coal

(ii) black coal

(iii) red coal

(iv) crude coal

Ans : (i) brown coal

Important Questions

1. "Most of the major mineral resources occur to the east of a line linking Mangaluru and Kanpur." Examine the statement.
2. Explain the use of Manganese, Bauxite, Copper and distribution of these.
3. Describe the distribution of Petroleum, Coal and Natural Gas.
4. What do you know about the non-conventional sources of energy?
5. "The Non-Conventional sources of energy in India will provide more sustained and environment friendly energy" Examine the statement.
6. "Non-Conventional sources of energy will provide more sustained, eco-friendly and cheaper energy if the initial cost is taken care of." Examine the statement.
7. "Conservation of mineral resources is essential for the development of India". Examine the statement.

Chapter-9th Planning and Sustainable Development in Indian Context

- Generally there are two types of planning, i.e. Sectoral Planning and Regional Planning.

Sectoral Planning

- Means formulation and implementation of the sets of schemes or programmes aimed at development of various sectors of the economy such as agriculture, irrigation, manufacturing, power, construction, transport and communication etc.

Regional Planning

- The uneven pattern of development over space necessitates that the planners have a spatial perspective and draw the plants to reduce regional imbalance in development.

Target Area Planning-

- The area which are remained economically backward, they are targeted for special care.
- Sometimes resources-rich region also remain backward. In order to solve the regional imbalances and social disparities the Planning Commission started Targeted area.
- This planning process is known as target area planning. Such as 'Command area development programme', 'Drought prone area development programme', 'Desert development programme', 'Hill area development programme' etc are examples which have been targeted separately for their economic development.

Hill area development programme

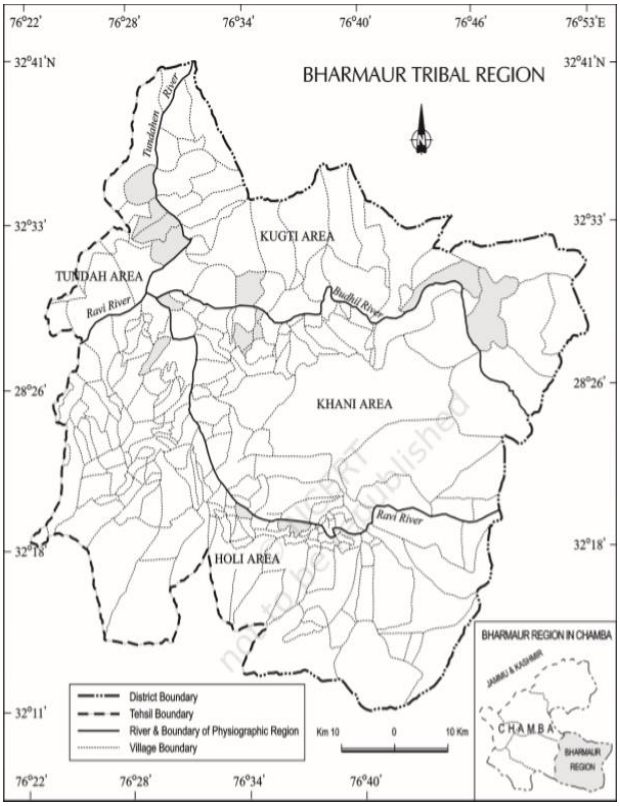
- This programme was initiated during fifth five year plan covering 15 district comprising all the hilly districts of Uttrakhand, Mikir Hills, North Cachar hills of Assam, Darjeeling district of West Bengal and Nilgiri district of Tamilnadu.
- The districts above 600 metres height and not covered under tribal sub plan were treated as backward hill areas, were included in hill area development programme.
- Planned to harness the indigenous resources Horticulture and plantation etc in those districts.

Drought prone area programme

- This programme was initiated during **fourth five year plan**.
- To create assets through employment to the people in drought-prone areas was its objective.
- Irrigation, Land Development, afforestation, grassland development and rural infrastructure etc were emphasized.
- The Restoration of ecological balance between water, soil, plants and human and animal population should be a basic consideration in the strategy.
- There were 67 districts identified by Planning Commission of India from the states as Rajasthan, Gujarat, Western Madhya Pradesh, Tamil Nadu, Andhra Pradesh, Karnataka and Telangana
- Irrigation Commission of India (1972) introduced criteria of 30% irrigated area and demarcated the drought prone areas.

Case study- Integrated tribal development project in Bharmaur region

- Bharmaur tribal area situated between Pir Panjal in north and Dhauladhar in South comprises Bharmaur and holi Tehsils of Chamba of Himachal Pradesh.
- It is inhabited by Gaddi tribes who speak Gaddi dialect who live in a very harsh climate.
- They are economically largely depend on agriculture and sheep and goat rearing.
- The most significant contribution of tribal sub plan in Bharmaur region is the development of infrastructure in terms of schools, Healthcare facilities, potable water, roads, communication and electricity.
- At present literacy rate has increased, sex ratio has improved and child marriage have declined.
- Pastoralism is declining and transhumance practice has been decreased.



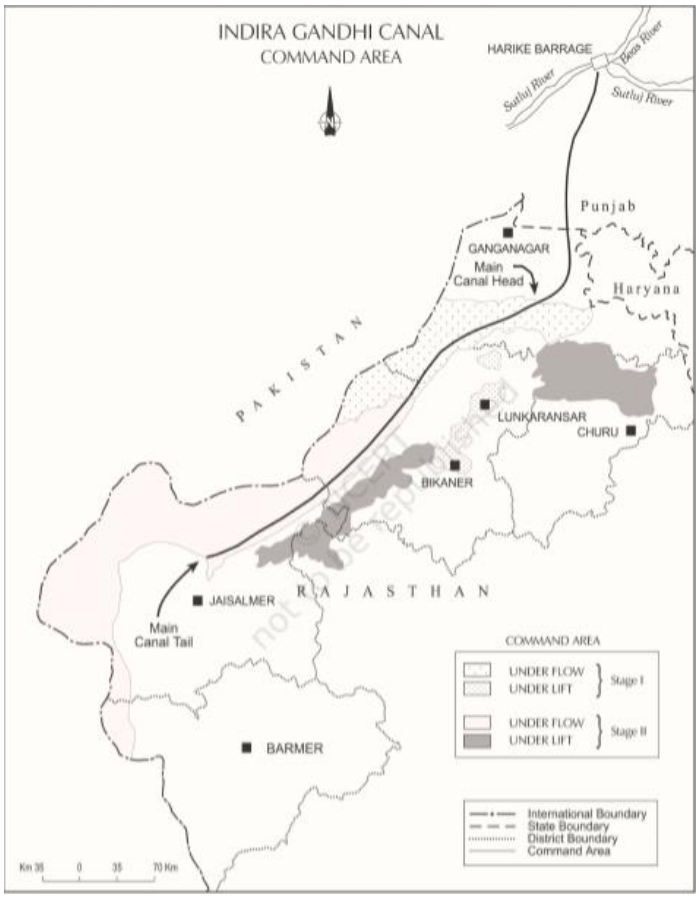
Sustainable Development

- Development is a multi-dimensional concept and signifies the positive, irreversible transformation of the economy, society and environment.
- In the post World War II era, the concept of development was synonymous to economic growth which was measured in terms of GNP (Gross National Product), Per capita income and consumption.
- But, even the countries having high economic growth, experienced speedy rise in poverty because of its unequal distribution. So, in 1970s, the phrases such as **redistribution with growth** and **growth and equity** were incorporated in the definition of development.
- In 1970s, it was realized that the concept of development can not be restricted to the economic sphere alone So it included the **well-being** and **living standard** of people, availing of the health, education and equality of opportunity and ensuring political and civil rights.
- The notion of **sustainable development** emerged in the wake of general rise in the awareness of **environmental issues** in the late 1960s in Western World people.
- The publication of '**The Population Bomb**' by **Ehrlich** in 1968 and '**The Limits to Growth**' by **Meadows** and others in 1972 further raised the level of fear among environmentalists in particular and people in general.
- This sets the scenario for the emergence of new models of development under a broad phrase 'sustainable development.'
- WCED (World Commission on Environment and Development) headed by Norwegian Prime Minister Gro Harlem Brundtland gave its report (Brundtland report) Our Common Future in 1987.
- The report defines Sustainable Development as a "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
- Sustainable development takes care of **ecological, social and economic aspects of development** during the present times and pleads for **conservation of resources** to enable the future generations to use these resources.

Case Study

Indira Gandhi Canal (Nahar) Command Area

- Indira Gandhi Canal (Rajasthan Canal) is one of the largest canal system in India. Which was launched on 31 March 1958.
- The canal originates at Harike barrage in Punjab and runs parallel to Pakistan border at an average distance of 40 km in Thar desert of Rajasthan.
- It caters to the irrigation needs of 19.63 lakh hectares. The construction work of the canal system has been carried out through two stage. 1st stage covers Ganganagar, Hnumangarh and north Bikaner.
- 2nd stage covers Bikaner, Jaisalmer, Barmer, Jodhpur and Churu districts.
- Now due to availability of soil moisture because of this canal, various afforestation and pasture development programmes under CAD have resulted the greening the land.
- This has helped in reducing wind erosion and siltation of canal systems.
- Now intensive irrigation has replaced the traditional crops as gram, bajra and jowar to Wheat, Rice, Cotton and ground nut etc.



Measures for Promotion of Sustainable Development-

- The first requirement is strict implementation of water management policy. There should be protective irrigation in stage 1 and extensive irrigation and pasture development in stage 2.
- People should be encouraged to grow plantation crops such as citrus fruits.
- To reduce the conveyance loss of water, there should be Warabandi system (equal distribution of canal water in command areas of outlet)
- The areas affected by salinity and water logging should be reclaimed.
- The eco-development through afforestation, shelterbelt plantation and pasture development is necessary.
- Poor background people should be provided adequate financial and institutional support for cultivation of land.

- Agriculture and allied activities have to develop along with other sectors of economy.

NITI Ayog (**National Institute for Transforming India**)

- On 1st January 2015, the planning commission was replaced by the NITI Aayog.
- Its objective is to involve the states in economic policy making for India for providing strategic and technical advice to the central and state governments.

MCQs

1- Which one from the following is not correct for Hill area development Programme?

a-The districts above 600 metres are covered under it

a- The tribal areas have been also included in this programme

b- The districts which have been included are from Uttarakhand, Tamil Nadu and West Bengal

c- None of above

2- In Which five year plan Drought prone area programme was implemented?

a- 3rd five year plan

b- 4th five year plan

c- 5th five year plan

d- 6th five year plan

3- How many districts have been included in Drought prone area programme?

a- 65 districts

b- 66 districts

c- 67 districts

d- 68 districts

4- Which one from the following is not correct for Bharmaur region?

a- Gaddi tribe live here

b- Bharmaur region is situated in Chamba district

c- Transhumance is not done by Gaddi

d- Bharmaur region is in Himanchal Pradesh

5- Who worte the book the Population Bomb?

a- Meadows

b- Brundtland

c- Mahatma Gandhi

d- Ehrlich

6- Which one form the following not correct for Indra Gandhi Canal?

a- The canal is also known as Punjab Canal

b- Pakistan border at an average distance of 40 km in Thar desert of Rajasthan.

c- Pakistan border at an average distance of 40 km in Thar desert of Rajasthan.

d- Pakistan border at an average distance of 40 km in Thar desert of Rajasthan.

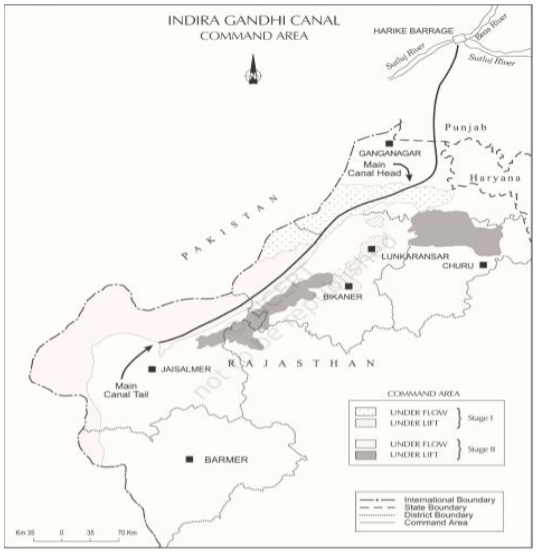
Important Questions for 3 And 5 Marks

1. What are the types of planning? Explain
2. What do you know about Target Area Planning?
3. Mention in any three points about Hill Area Development Programme in India.
4. Explain in any five points about Drought prone area programme.
5. Briefly explain about 'Integrated tribal development project in Bharmaur region'.
6. What do you know about the Sustainable Development? How this term came to Light?
7. What are various measures for Promotion of Sustainable Development of Indira Gandhi Canal?
8. Study the given map carefully and aswer the questions that follow

A- Mention the source of origin of this canal.

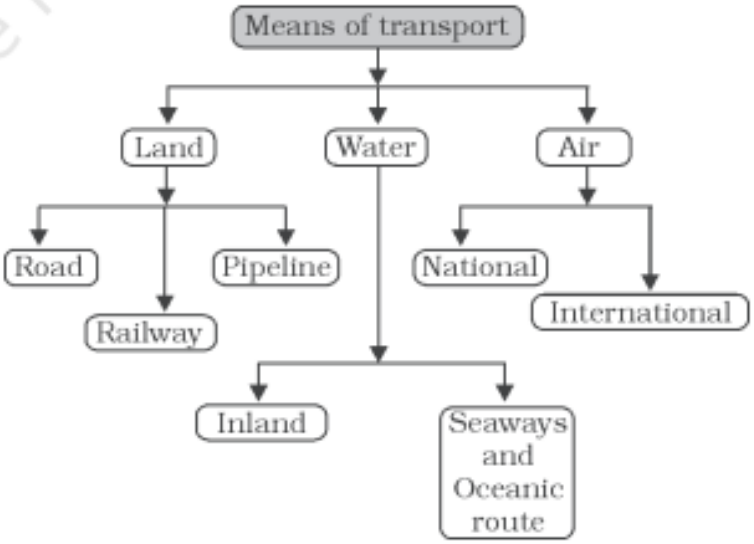
B- Why is the areas to the east of the Canal under lift irrigation?

C- Explain the economic significance of this canal for the command area.



Chapter- 10 -TRANSPORT AND COMMUNICATION

- **Transport is a service or facility for the carriage of persons and goods from one place to the other using humans, animals and different kinds of vehicles. Such movements take place over land (Roadways, Railways), water (Waterways) and air (Airways).**



Road Transport

- **India has one of the second largest road networks in the world with a total length of about 56 lakh km. About 85 per cent of passenger and 70 percent of freight traffic are carried by roads every year.**

National Highways

- **These roads are constructed and maintained by the Central Government. These roads are meant for inter-state transport and movement of defense men and material in strategic areas. These roads connect all the capitals of states.**
- **The length of the National Highways has increased from 19,700 km in 1951 to 101011 km in 2016. The National Highways constitute only about 2 per cent of the total road length but carry 40 per cent of the road traffic.**
- **National Highways Authority of India (NHAI) is entrusted with the responsibility of development, maintenance and operation of National Highways.**

Golden Quadrilateral : 5,846-km long 4/6 lane, high density traffic corridor, to connect India's four big metro cities of Delhi-Mumbai-Chennai-Kolkata.

North-South and East-West Corridors : North South corridor aims at connecting Srinagar in Jammu and Kashmir with Kanniyakumari in Tamil Nadu (4,076-km long road). The East-West Corridor has been planned to connect Silchar in Assam with the port town of Porbandar in Gujarat with 3,640-km of road length.

State Highways:

These are constructed and maintained by state governments (by PWD. These constitute 4 per cent of total road length in the country.

District Roads:

These roads are the connecting link between District Headquarters and the other important nodes in the district. They account for 14 per cent of the total road length of the country.

Rural Roads:

These roads are vital for providing links in the rural areas. About 80 per cent of the total road length in India are categorised as rural roads.

Other Roads:

Other roads include Border Roads and International Highways. The Border Road Organisation (BRO) was established in May 1960 for accelerating economic development and strengthening defence preparedness.

This organization has expertise to construct roads in strategic areas.

- **The World's longest Highway tunnel - Atal Tunnel (9.02 Km) has been built by Border Road Organisation. This tunnel connects Manali to Lahaul-Spiti valley throughout the year.**

Rail Transport:

- **Indian Railways, network is one of the longest in the world. It facilitates the movement of both freight and passengers and contributes to the growth of the economy. It was introduced in 1853 from Bombay to Thane covering 34 km.**
- **Indian Railways is the largest government undertaking in the country. It has been divided in 19 zones with more than one lakh km railway track.**
- **On the basis of width of track Indian tracks are divided into three. Broad gauge (1.676 metre), Metre gauge (1 metre), Narrow gauge (0.762 metre)**

Railway Zone	Code	Zone Headquarters
Central Railway	CR	Mumbai CSMT
Konkan Railway	KR	Navi Mumbai
Northern Railway	NR	Delhi
North Central Railway	NCR	Prayagraj
North Eastern Railway	NER	Gorakhpur
Northeast Frontier Railway	NFR	Maligaon, Guwahati
North Western Railway	NWR	Jaipur
Eastern Railway	ER	Fairlie Place, Kolkata
East Central Railway	ECR	Hajipur
East Coast Railway	ECoR	Bhubaneswar
Southern Railway	SR	Chennai Central
South Central Railway[45]	SCR	Secunderabad
South Coast Railway[45]	SCoR	Visakhapatnam
South Eastern Railway	SER	Garden Reach, Kolkata
South East Central Railway	SECR	Bilaspur
South Western Railway	SWR	Hubballi
Western Railway	WR	Mumbai (Churchgate)
West Central Railway	WCR	Jabalpur

- **Konkan Railway is 760-km long rail route connecting Roha in Maharashtra to Mangalore in Karnataka. It crosses 146 rivers, streams, nearly 2000 bridges and 91 tunnels.**

Water Transport:

- **It is the cheapest means of transport and is most suitable for carrying heavy and bulky material. It is a fuel-efficient and eco-friendly mode of transport. The water transport is of two types– (a) inland waterways, and (b) oceanic waterways.**

Inland Waterways:

- **For the development, maintenance and regulation of national waterways in the country, the Inland Waterways Authority was set up in 1986.**
  - **N W No-1 is on The Ganga river between Prayagraj to Haldia (1620 km).**
  - **N W No-2 is on the Brahmputra river between Sadiya to Dhubri (891 km).**

- N W No-3 is at western coastal canalin Kerala – Kottapuram-Kollam, Udyogmandal and Champakara canal of 205 km. The famous Nehru Trophy Boat Race (VALLAMKALI) is also held in the backwaters.
- N W No-4 is on specific stretches on Godavari and Krishna rivers of 1078 km.
- N W No-5 is on Mahanadi and Brahmani rivers and east coast canal of 588 km.

- **95% of the country's trade volume (70% in terms of value) is moved by sea.**

Oceanic Routes:

- **Oceanic routes play an important role in the transport sector of India's economy. Approximately 95 per cent of India's foreign trade by volume and 70 per cent by value moves through ocean routes.**
- **They also provide transportation between the islands and the rest of the country.**

Air Transportation:

- **Air transport is the fastest means of movement from one place to the other. It has reduced distances by minimising the travel time.**
- **1911 – Air transport in India was launched between Allahabad and Naini.**

- **In 2010, domestic movement involved 520.21 lakh passengers and about 23 lakh metric tonnes of cargo. Pawan Hans is the helicopter service operating in hilly areas and is widely used by tourists in north-eastern sector. In addition, Pawan Hans Limited mainly provides helicopter services to petroleum sector and for tourism.**

Oil and Gas Pipelines:

- **Pipelines are the most convenient and efficient mode of transporting liquids and gases over long distances**

1. **Asia's first cross country pipeline covering a distance of 1,157 km was constructed by OIL from Naharkatiya oilfield in Assam to Barauni refinery in Bihar. It was further extended up to Kanpur in 1966.**
2. **1256 km long from Salaya in Gujarat to Jalandhar in Punjab via Mathura, Delhi and Sonipat.**
3. **Gas pipeline from Hazira in Gujarat connects Jagdishpur in UP via Vijaypur in MP.**
4. **OIL is in the process of constructing of 660 km long pipeline from Numaligarh to Siliguri.**

Advantages of Roadways

- **Construction cost of roads is much lower than that of railway lines.**
- **Roads can traverse comparatively more dissected and undulating topography.**
- **Road transport is economical in transportation of few persons and relatively smaller amount of goods over short distances.**
- **It also provides door to door service.**
- **Road transport functions as the linkage between many other modes of transportation.**

Advantages of Railways

- **Important source of employment in India. Lakhs of skilled and unskilled people are employed in operating the railway.**
- **Railways encourage the tourism sector of the county.**
- **Helpful during famines by carrying foods grains from surplus to affected areas.**
- **Railways have increased the mobility of labour and capital which has contributed the rapid industrialization of the country.**
- **Heavy and bulky goods can easily be transported by railways.**
- **Railways are useful for internal security of country and carry the defense material to various locations during external threat.**

- **By connecting various areas of the country railways have made internal trade convenient.**

Sometimes railways suffer with some problem also as –

- **Railway accident create huge loss.**
- **Technology used in railways is quite outdated. It needs to be modernized.**
- **Railway engines, wagons and other equipment are quite old and require replacement.**
- **Railways do not provide door to door services.**
- **Indian railways have to bear great loss every year on account of travelling without tickets.**
- **Construction cost is high.**

Advantages of Waterways

- **Waterways are the cheapest means of transport.**
- **They are most suitable for carrying heavy and bulky goods and long distances.**
- **It is a fuel-efficient and environment friendly mode of transport.**

Airways

- **It is the fastest mode of transportation and cover longer distance.**
- **Air transport provide comfortable, prestigious, efficient and quick transport services.**
- **It does not require construction of tracks like railways.**
- **It is accessible to all the areas regardless the obstruction of land like mountains etc.**
- **That's why it is used for transportation in north eastern states of India where making road and railways are very challenging. Like Pawan hans helicopter.**
- **It plays a significant role in the national defense of the country because modern wars are conducted with the help of aero planes. Airways has a upper hand a destroying the enemy in a short period.**

Disadvantages

- **Air transport is very risky where a minor accident may create disaster.**
- **It is costliest compared to other modes of transportation.**
- **It requires huge investment.**

- **The aircrafts have small carrying capacity and therefore these are not suitable for carrying bulky and cheaper goods.**

Advantages of Pipelines

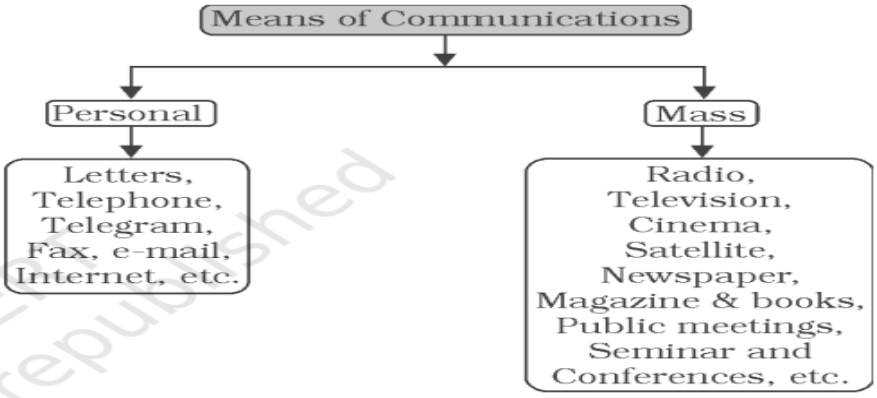
- **It can be transported continuously, is not affected by the weather, and has high reliability throughout the day.**
- **The pipeline can take shortcuts and the transportation distance is short;**
- **The transportation volume is large. A foreign coal pipe with a diameter of 720 mm can transport 20 million tons of coal a year, which is almost equivalent to the single-direction conveying capacity of a single-track railway;**
- **High environmental benefits and no harmful substances.**
- **Pipeline transportation only needs to lay pipelines and build pumping stations. The amount of earth and stone works is much smaller than that of railway construction. Moreover, most of the plain areas are buried underneath, and do not occupy farmland;**
- **The energy consumption is small, which is the lowest among various modes of transportation;**
- **Safe and reliable, no pollution, low cost**
- **Closed transportation can be realized with less loss.**

Shortcomings :

- **The speciality is strong, the transportation goods are too specialized, and the transportation items are limited to gases, liquids and fluids.**
- **The distance between the pipeline transportation volume and the maximum transportation volume is small. Therefore, in the initial stage of oilfield development, when pipeline transportation is difficult, road, road, and land and water transportation should be used as a transition.**
- **Forever one-way transportation.**
- **Fixed investment is large. Initial investment is very high**

Communication Networks:

- **People use different modes of communication to convey the messages. On the basis of scale and quality, the mode of communication can be divided into following categories :**



- **Among all the personal communication system internet is the most effective and advanced one.**

Mass Communication:

Radio:

- **Special news bulletins are also broadcast at specific occasions like session of parliament and state legislatures It was changed to All India Radio in 1936 and to Akashwani in 1957.**

Television (T.V.):

- **Television broadcasting has emerged as the most effective audio-visual medium for disseminating information and educating masses.**
- **In 1976, TV was delinked from All India Radio (AIR) and got a separate identity as Doordarshan (DD). After INSAT-IA (National Television-DD1) became operational.**

Satellite Communication:

- **Satellites are mode of communication in themselves as well as they regulate the use of other means of communication.**
- **Satellite images can be used for the weather forecast, monitoring of natural calamities, surveillance of border areas, etc.**
- **The INSAT, which was established in 1983,is a multi-purpose satellite system for telecommunication, meteorological observation and for various other data and programmes.**
- **The IRS satellite system became operational with the launching of IRS-IA in March 1988 from Vaikanour in Russia. India has also developed her own Launching Vehicle PSLV (Polar Satellite Launch Vehicle).**

Important Questions for Home work

1. **How roadways have become a very important mode of transportation? Explain in any five points.**
2. **How Railways has positive edge over roadways explain in 5 points.**

3. **Classify the roadways into six classes and explain them.**
4. **What are the various problems of railways? Write any five and explain.**
5. **"Indian railways binds the economic life of the country as well as accelerates the development of industry and agriculture". Justify the statement.**
6. **"Waterways are very important for International trade." support this statement.**
7. **"Transport and trade are complementary to each other". Justify in some points.**
8. **Give a detailed account of the development of railways in India and highlight their importance.**
9. **"Advancement of international trade of a country is an index to its prosperity." Support the statement with suitable examples.**
10. **What is pipeline transportation? Write two merits and two demerits of it.**
11. **Which mode of transportation is the fastest? Write its three merits and three demerits.**
12. **What do you know about Communication? What is differences between personal and mass communication?**

Question 1.
Which stations are joined by the North-South corridor?
(A) Srinagar – Kanyakumari
(B) Delhi – Chennai
(C) Jaipur – Salem
(D) Patna – Kochi

Answer

Answer: (A) Srinagar – Kanyakumari

Question 2
When was the first Railway run in India?
(A) 1833
(B) 1843
(C) 1853
(D) 1863

Answer

Answer: (C) 1853

Question 4.
What is the length of inland waterways in India?
(A) 14,000 km

(B) 14,200 km
(C) 14,300 km
(D) 14,500 km

Answer

Answer: (D) 14,500 km

Question 5.
Which element is not sent through communication?
(A) Views
(B) Ideas
(C) Messages
(D) Passengers

Answer

Answer: (D) Passengers

Question 6.
Which tours are joined by NH-1?
(A) Delhi – Amritsar
(B) Delhi – Kolkata
(C) Delhi – Mumbai
(D) Delhi – Chennai

Answer

Answer: (A) Delhi – Amritsar

Question 7.
What is the share of National Highways inroads of India?
(A) 1%
(B) 2%
(C) 3%
(D) 4%

Answer

Answer: (D) 4%

Question 8.
What is the length of the Golden Quadrilateral highway?
(A) 3,846 km
(B) 4,846 km
(C) 5,846 km
(D) 6,846 km

Answer

Answer: (C) 5,846 km

Question 9.
Which state has the highest road density in India?
(A) Punjab
(B) Kerala
(C) Tamil Nadu
(D) Karnataka

Answer

Answer: (B) Kerala

Question 10.
How many Rail zones are there in India?
(A) 9
(B) 12
(C) 14
(D) 17

Answer

Answer: (D) 17

Question 11.
What is the length of the broad gauge railway?
(A) 1.5 metres
(B) 1.6 metres
(C) 1.7 metres
(D) 1.8 metres

Answer

Answer: (B) 1.6 metres

Question 12.
When was the first pipeline constructed in India?
(A) 1957
(B) 1958
(C) 1959
(D) 1960

Answer

Answer: (C) 1959

Question 13.
In how many zones has the Indian Railways system been divided?
(A) 9
(B) 12

(C) 16
(D) 14

Answer

Answer: (C) 16

Question 14.
On which river and between which two places does the National Water Way No. 1 lie?
(A) The Brahmaputra, Sadiya-Dhubri
(B) The Ganga, Haldia-Allahabad
(C) West Coast Canal, Kottapuram to Kollam

Answer

Answer: (B) The Ganga, Haldia-Allahabad

Question 15.
In which of the following year, the first radio programme was broadcast?
(A) 1911
(B) 1936
(C) 1927
(D) 1923

Answer

Answer: (D) 1

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Transport and Communication Questions Short Answer Type (3 marks)

Question 1.
What are the important modes of transport in India ?
Answer:

- **Railways**
- **Roadways**
- **Airways**
- **Waterways**
- **Pipelines.**

Question 2.
What are the disadvantages of road transport?
Answer:
Disadvantages of Road Transport.

- **Road transport is costly.**

- **It results in air pollution.**
- **Heavy goods cannot be taken to long distance.**
- **Road transport is more accident prone.**

Question 3.
What is the Golden Quadrilateral ?
Or
Explain the term 'Golden Quadrilateral.
Answer:
It is a super-highway project linking Delhi, Kolkata, Chennai and Mumbai. It has six super highways. It forms the shape of a Quadrilateral.

Question 4.
Name four national highways mentioning their terminals.
Answer:
(i) Sher Shah Suri Marg. National Highway No. 1. (Delhi to Amritsar)
(ii) National Highway No. 3. Between Agra and Mumbai.
(iii) National Highway No. 7. Between Varanasi and Kanniyakumari.
(iv) National Highway No. 2. Between Delhi and Kolkata.

Question 5.
Name two national waterways.
Answer:
1. National Waterway No. 1. Pravagraj Haldia on Ganga river.
2. National Waterway No. 2. Sadiya to Dhubri or Brahmaputra.

Question 6.
Name the different types of railways in India on the basis of width. Where does India rank in world railways ?
Answer:
Rail Transport
Indian railway system is the main artery of the country's inland transport. It is the biggest in Asia and the fourth largest in the world. It has a route length of 63221 km on which 12,670 trains run every day connecting 7,500 stations. Indian railways comprise of three gauges: broad gauge (1.616 metres is the distance between both the lines); metre gauge (1.00 metre) and narrow gauge (0.762 and 0.610 metres). Its fleet of locomotives comprises of steam, diesel and electric engines.

Different parts of railways having different width have been constructed in India due to its diverse relief. Broad gauge railway lines are constructed in plains while narrow gauge railway lines are constructed in hilly region.

- **Broad gauge = 1.6 metres wide**
- **Metre gauge = 1 metre wide**

- **Narrow gauge = 0.76 metre wide.**

Gauge	Total route	Percentage
Broad	46.887 km	71.11%
Metre	13,210 km	21.27%
Narrow	3,124 km	94%
Total	63,221	100%

Question 7.
Describe the two main types of air services in India.
Answer:
The air services In India are of two types viz. international and domestic. Air India provides international air services for both passengers and cargo traffic to 35 destinations from four focal points—Delhi, Mumbai, Chennai and Kolkata. Air India carried 3.83 million passengers in 2000-01.

Major international air routes are Delhi-Rome-Frankfurt, Mumbai-London, Delhi-Moscow, Kolkata-Tokyo, Kolkata-Perth, Mumbai- London-New York. Indian Airlines, Affiance Air (subsidiary of Indian Airlines), private scheduled airlines and air taxis provide domestic air services.

Indian Airlines operations also extends to the neighbouring countries of Southeast Asia and West Asia. At present, there are two private scheduled airlines operating on the domestic network; 38 companies hold non-scheduled air taxi operators permit. Private operators presently cater to nearly 52.8 per cent of the domestic air traffic. The share of private sector airways has increased rapidly after liberalisation.

Question 8.
What are the problems of having three railway gauges ?

Answer:
The railways in India are of three gauages— Broad gauge, metre gauge and narrow gauge. The metre gauge is being converted into broad gauge. This is called unigauge project. It avoids the transhipment of goods from one gauge to another. It will increase the capacity of transportation by trains and will he cheaper also.

We have already noted that Indian Railways operate on three different gauges. This poses problems in the smooth flow of goods and passengers. The shift from one gauge line to the other involves unloading and transhipment which is time-consuming and expensive. The perishable commodities cannot withstand such a delay. Moreover, the passenger and freight traffic has been increasing day by day. The tracks are not suitable to take the heavy loads.

Question 9.
Describe the different means of communication.
Answer:
Communication network carries information from one place to another physically like postal services, through wires like telegraph and telephone, or through airwaves like radio and television. Some communication systems work in cooperation with transport system like postal services. Others, however, function independent of the transport system such as radio.

Question 10.
Where does India rank in the world in context to roadways ? Describe the major National Highways.
Or
"India has one of the largest network of roads in the world." Support the statement with examples. (Delhi 2019)
Answer:
Roads. The road network in India is one of the largest in the world. The road length has increased from 397.62 thousand kilometres in 1950-51 to around 42 lakh kilometres. Of the total kilometrage, the length of the surfaced (metalled) roads increased from 156.11 thousand kilometres in 1950-51 to 833.0 thousands kilometres while the unsurfaced (unmetalled) road length during the same period increased from 241.5 thousand kilometres to 940 thousand kilometres.

National Highways. A number of important National Highways in India run in north-south and east- west directions. They link one part with the other

- **Sher Shah Suri Marg is historically very important. It connects Kolkata with Peshawar. It is now known as National Highway 1, which links Delhi and Amritsar,**
- **National Highway 2 which links Delhi and Kolkata**
- **National Highway 3 runs between Agra and Mumbai via Gwalior, Indore and Nasik.**

- **National Highway 7 is the longest one which links Varanasi with Kanniyakumari via Jabalpur, Nagpur, Hyderabad, Bangalore and Madurai. It traverses a distance of 2,325 km.**
- **National Highways 5 and 17 run along the eastern and western coasts respectively.**
- **National Highways 15 represents the border road in Rajasthan desert and run through Kandla, Jaisalmer, Bikaner and joins the border road in Punjab.**

Question 11.
Name the different units manufacturing Railway equipments.
Answer:
Indian Railways run six units to manufacture rolling stock. These are :
(i) Chittaranjan Locomotive Works, Chittaranjan
(ii) Diesel Locomotive Works, Varanasi
(iii) Integral Coach Factory, Perambur
(iv) Rail Coach Factory, Kapurthala
(v) Wheel and Axle Plant, Bangalore, and
(vi) Diesel Component Works, Patiala.

Question 12.
Describe the national waterways of India.
Answer:
The Inland Waterways Authority of India was set up in 1986 for the development, maintenance, and regulation of National Waterways in the country. At present, there are only three National Waterways in the country. Ten other waterways are being considered for upgradation as National Waterways.

The three national Waterways are:

- **National Waterway 1 : The Allahabad-Haldia stretch of the Ganga-Bhagirathi Hooghly river system (1620 km);**
- **National Waterways 2 : The Sadiya-Dhubri stretch of the Brahmaputra river (891 km);**
- **National Waterways 3 : The West Coast Canal from Kottapuram to Kollam along with Udyogmandal and Champakar canals (205 km).**

Question 13.
Write a note on Akash Vani.
Answer:
Akash Vani : Radio is an effective means of mass communication in the country. Radio broadcasting started in India in 1927 with two private transmitters located at Mumbai and Kolkata. All India Radio (AIR) was constituted in 1936. It is also known as Akash Vani. At the time of Independence there were six radio stations. At present, the All India Radio has 208 stations and 327 transmitting centres.

These stations and transmitting centres provide services to 99 per cent of the population and 90 per cent of the area of the country. Private parties also have set up about 100 FM radio stations. All India Radio broadcasts a variety of programmes like information, education and entertainment.

Question 14.
Write a note on Door darshan in India.
Answer:
Door darshan: Door darshan, the national television of India, is one of the largest terrestrial networks in the world. It has changed socio-cultural life of the people both in villages and in towns. DD-1 operates through a network of 1,042 terrestrial transmitters that reaches to over 87 per cent of the population.

There are 65 additional transmitters giving terrestrial support to other channels. First telecast by Door darshan was made on 15 September, 1959. Television was confined to certain cities up to 1975. The first experiment with satellite technology in India known as the Satellite Instructional

Television Experiment (SITE), was conducted in 1975-76. National programme and use of colour television could be started in the country only by 1992. Afterwards, television facility expanded very rapidly.

All India Radio has introduced commercial programmes also. Vivid Bharati channels have commercial broadcasting. Besides Vividh Bharati, other channels and local stations also provide commercial services. For rtiral audiences, several programmes are regularly transmitted.

Similarly, programmes on family welfare and healthcare are broadcasted every day. Music and drama are major components of the schedule of broadcasting. All India Radio commissioned the National Channel in 1998, which is essentially a night service, airing evening to morning broadcast.

Question 15.
What do you mean by 'Open Sky Policy?
Answer:
Air transport terminals are called airports. Air transport cost is comparatively very high, and therefore, it is mainly used for passenger services. Only light and valuable cargo is dispatched by cargo aircraft. In order to help Indian exporters and make their export more competitive, the Government of India introduced the 'open sky policy5 for cargo. Under this policy any foreign airlines or association of exporters can bring freighters to the country for upliftment of cargo.

Question 16.
What do you know about Sher Shah Suri Marg ?
Answer:
Sher Shah Suri built the Shahi (Royal) road to strengthen and consolidate his empire from

the Indus Valley to the Sonar Valley in Bengal. This road was renamed the Grand Trunk (GT) road during the British period, connecting Calcutta and Peshawar. At present, it extends from Amritsar to Kolkata. It is bifurcated into 2 segments:

- **National Highway (NH)- 1 from Delhi to Amritsar, and**
- **NH-2 from Delhi to Kolkata.**

Question 17.
What are the importance of Konkan Railway? (C.B.S.E. 2017)
Or
Describe any three features of Konkan Railway. (C.B.S.E. Delhi 2017)
Answer: Konkan Railway. One of the important achievements of Indian Railways has been the construction of Konkan Railway in 1998. It is 760 km long rail route connecting Roha in Maharashtra to Mangalore in Karnataka. It is considered an engineering marvel.

It crosses 146 rivers, streams, nearly 2000 bridges and 91 tunnels. Asia's largest tunnel which is nearly 6.5 km long, also lies on this route. The states of Maharashtra, Goa and Karnataka are partners in this undertaking.

Question 18.
State any six characteristics of road transport in India. (C.B.S.E. 2009)
Answer:

- **India has one of the largest road network in the world.**
- **The total length of roads in India is 42 lakh kms.**
- **About 85% of passenger and 70 percent of freight traffic is carried by roads.**
- **Roads continue to concentrate in and around urban centres.**
- **Rural areas have the least km of roads.**
- **5846 km long Golden Quadrilateral network connects Delhi, Chennai, Kolkata and Mumbai.**

Question 19.
Which is the most effective and advanced personal communication system in India ? Explain any four characteristics of it. (C.B.S.E. 2009)
Answer:
Internet is the most effective and advanced personal communication system in India.
Characteristics.

- **It is widely used in urban areas.**
- **It connects the user through E-mail with the world.**
- **It is widely used for e-commerce and carrying out money transactions.**
- **It is a store house of detailed data.**

Question 20.
Explain with five suitable examples how the level of Economic development and nature of terrian affect the density of roads in India. (C.B.S.E. 2013)
Or
Why is the distribution of roads not uniform in India? Explain with l examples. (CBSE2016)
Answer:
The distribution of roads is not uniform in the country. The level of economic development and nature of terrian are the main determinants of density of roads.

- **Construction of roads is easy and cheaper in plain area.**
- **Quality of roads is better in plains, as compared to roads in high altitude areas.**
- **The density of road is 10.48 km in Jammu and Kashmir (including Ladakh) where as it is 387.24 km in Kerala (a plain area).**
- **The density of roads is high in northern states due to the high level of economic development.**

Question 21.
What are National Highway ? Explain any four uses of national ' highways in India ? (C.B.S.E. 2013)
Or
Describe any five characteristics of national Highway of India. (CBSE 2018)
Answer:
National Highway: The main roads which are constructed by the Central Government are known as the National Highways.

- **These are meant for inter-state transport.**
- **These help in movement of defence goods and material in strategic areas.**
- **These connect the state capitals, major cities ports, railway junctions, etc.**
- **These carry 40% of road traffic, while these ae only 2% of the total road length.**

Question 22.
The railway network in the north Indian Plain is dense. Why ?
Answer:
A dense network of railways is developed in the north Indian plains. About 50% of the total length of railways in India is found in northern India. The northern railways is the longest railway with a length of 10,977 kms. Many physical and economic factors are responsible for it.

- **Northern plain is a level plain with low altitude. It is best suited for the construction of railways.**
- **Due to dense population, big towns have developed which has led to high density of railway.**

- **The intensive development of agriculture and industries has promoted the construction of railway lines.**
- **It is essential to connect Mumbai and Kolkata with their hinterlands or northern plain.**

Question 23.
Describe the growth and development of Border Roads in India. (C.B.S.E. 2013)
Or
Which apex body develop the border roads ? Explain the importance of border roads with examples. (Outside Delhi 2019)
Answer:
Looking at the strategic importance of our border areas, the Border Roads Organisation was set up in 1960 and entrusted with the construction and maintenance of roads in the border states of the country. These border roads have helped in accelerating the economic development in these areas by increasing accessibility besides helping in strengthening of the defence preparedness.

It includes the highest road of the world from Manali to Leh, at an altitude of 4220 metres above sea level. Along Indo-Chinese border, Hindustan Tibetan Road has been constructed. The board has constructed about 22800 km of Border roads and manages above 16400 km. of roads in border area.

Question 24.
Why has Punjab the highest density of roads ? Explain five factors responsible for the same.
Answer:
Punjab has the highest density of surfaced roads. The density of roads is 74 km. per 100 sq. km. It is due to the following factors:

(1) Punjab plain is a gently sloping alluvial plain. It is easy to construct roads.

(2) Punjab is an agriculturally developed state. For the easy and quick movements of agricultural products, roads have been constructed.

(3) Punjab exports wheat, rice and other crops to other parts of India. Therefore, quick means of transportation is required.

(4) The per capita income of people and the standard of living is quite high. So the state needs a lot of manufactured goods and raw materials. Roads provide door to door service.

(5) The movement of passenger traffic is high. So, roads are required especially for the rural areas.

Question 25.
'A well-knit and co-ordinated system of transport is necessary for sustained economic growth of the country'. Discuss.
Answer:
Transport network is established to facilitate the movement of people and goods. It is the means of bringing human beings and the things they need and use together. It functions as a

lifeline of the spatial economy at all territorial levels: A transport system involves origin, destination, route and the carrier.

- **Origin. Origin is the point where the traffic originates.**
- **Destination. Destination is the point where it terminates.**
- **Route. Route is the surface on which movement takes place.**
- **Carrier. The carrier is the vehicle that moves the passenger or cargo. A well-knit and coordinated system of transport plays an important role in the sustained economic growth of the country.**

Question 26.
Account for the growing importance of roads.
Answer:
In India, the growing importance of road transport vis-a-vis rail transport is rooted in following reasons:

- **Construction cost of road is much lower than that of railway line**
- **Roads can traverse comparatively more dissected and undulating topography**
- **Road transport can economically carry few persons and relatively small amount of goods.**
- **Cost of loading and unloading is much lower in case of road transport, because it provides door-to-door service.**
- **Road transport also supplements other modes of transportation. It provides link between railway stations and airports and their hinterlands.**

Question 27.
How are Indian Railways contributing to the growth of national economy ? Explain with examples. (C.B.S.E. 2011)
Answer: Indian Railways :
(i) Indian railways network is one of the longest in the world.

(ii) It facilitates the movement of both freight and passengers. The total freight carried by railways is 557.39 million tonnes. The total number of passengers carried by railways is 5112 million.

(iii) Metro rail has revolutionised the urban transport system in Kolkata and Delhi.

(iv) Railways developed around towns, raw material producing areas, hill stations have been developed for the exploitation of resources.

(v) Railways could run to remain the main means of transport for the masses.

Question 28.
Distinguish between

(a) Personal communication and
(b) Mass communication.
Or
Classify means of communication on the basis of scale and quality into two categories. Explain any two characteristics of each category. (Outside Delhi C.B.S.E. 2017)

Answer:

Personal Communication	Mass Communication
1. Personal communication are the means of delivering messages between individuals or small groups. 2. Messages are carried between the sender and the receiver both ways. 3. These means of communication include post card, letter, telegram. fax, telephone.	1. These are the means of delivering messages from an individual or a group to a large audience. 2. Messages are delivered from a sender to a large audience usually one-way. 3. These means of communication include newspapers, magazines and other periodicals, electronic media like radio, television, films, etc.

Question 29.
Distinguish between a National and a State highway.
Answer:

National Highways	State Highways
1. These are the major roads of the whole country.	1. These are the major roads within a state.
2. These connect the different capitals of state with major industrial and commercial towns of the country.	2. These connect the state capitals with the major towns and district head-quarters within a state.

3. These are maintained by the Central Govt.	3. These are maintained by the State Govt.
4. Total length of national highways in India is 71,000 kms.	4. The total length of state highways is 1,37,712 kms.
5. These have commercial and strategic significance;	5. These have administrative significance.
6. Sher Shah Suri Marg (G.T. Road) is a national highway.	6. Amritsar-Chandigarh is a state highway.

Question 30.
What are border roads ? Give two characteristics of border roads. (C.B.S.E. 2013, Outside Delhi 2019)
Answer:
Border roads are strategically important roads along the Northern and North-eastern boundary of the country.
(i) These are roads in high altitudes and mountainous areas.
(ii) These are constructed and maintained by BRO (Border Road Organization).

Question 31.
Describe any three advantage of Satellite Communication in India. (C.B.S.E. 2014)
Answer:
Advantage of Satellite Communication
Satellite communication is vital for the country due to economic and strategic reasons:
(i) They are significant means of communication.
(ii) These can be used for the weather-forecast, monitoring of natural calamities, surveillance of border areas.
(iii) This is useful in the management of natural resources.

Question 32.
'The distribution of roads in I India is not uniform'. Examine the statement giving three reasons. (Sample Paper 2018-19) (C.B.S.E. 2014)
Answer:
(i) The density of roads varies from only 10.48 km in Jammu and Kashmir (including Ladakh) to 387.24 km in Kerala.
(ii) Nature of topography is the main basis of road density.
(iii) Construction of roads is easy and cheaper on plains, while it is expensive on hilly terrain.

Question 33.
Describe any three advantages of pipelines as a means of transport in India. (C.B.S.E. 2014)
Answer:
(i) Pipelines are used to transport liquids and gases.

(ii) It is environmental-friendly means of transport.
(iii) Pipelines can be laid through difficult terrain and also under water.

Question 34.
Define the term 'communication.' Describe the importance of telecommunication. (Outside Delhi 2019)
Answer:
Communication is an activity of conveying information through the exchange of thoughts, messages or information by speech, visual, writing or behaviour.
Importance of Telecommunication:

- **Telecommunication is an important tool for busines. This device is used to receive and send messages, access data etc.**
- **This refers to the exchange of information with electronic and electrical means over a long distance.**
- **Telecommunication also useful for students.**
- **Telecommunication is helpful for people living in areas that do not have special care facility. With this they get in touch with a healthcare provider.**
- **Telecommunication play a vital role in transport sector.**

Transport and Communication Questions Long Answer Type (5 marks)

Question 1.
Describe the distribution of railways in India.
Answer:
Distribution of Railways. A close look at the railway map of India in any atlas would reveal the following pattern of the railway network:
(1) Northern plains. A dense network of railways has been developed in the Northern Indian Plain from Amritsar to Howrah with a few focal points like Delhi- Kanpur-Mughal Sarai, Lucknow, Agra and Patna.

The whole of Northern Plain is very well connected. While connectivity is more efficient in east-west direction, it is not so efficient in the north and south direction from the trunk routes. The rail network in this plain is highly correlated to the level of agricultural and industrial development. Delhi is the focal point from where railway lines radiate in all directions. It is connected with ports through superfast trains.

Many favorable factors have led to development of a dense network of railways in Northern Plains.
Favorable factors. A dense network of railways is developed in the north Indian plains. About 50% of the total length of railways in India is found in northern India. The northern railways is the longest railway with a length of 10,977 kms. Many physical and economic factors are responsible for it.

- **Northern plain is a level plain with low altitude. It is best suited for construction of railway.**
- **Due to dense population, big towns have developed which have led to high density of railway.**
- **The intensive development of agriculture and industries has promoted the construction of railway lines.**
- **It is essential to connect Mumbai and Kolkata with their hinterlands of northern plain.**

(2) Peninsular plateau. The peninsular region, Gujarat and Tamil Nadu have a denser rail network as compared to other parts. The whole of the peninsular region has a hilly and plateau terrain. The concentration of population is moderate. Therefore, the rail network is also sparse. Trunk routes are aligned in such a way that there are efficient connections between Mumbai-Chennai, Chennai-Cochin, Chennai- Delhi and Chennai-Hyderabad.

(3) Coastal plains. There is a distinct contrast in the rail network between eastern coastal plains and western coastal plains. There exists a long trunk route all along the east coast. Such a rail track is the Konkan Railway of 837 km. long which has been built along the western coast from Mumbai to Cochin.

The outcrops of the Western Ghats being very close to the coast, restrict the extent of the coastal plain while the eastern coast is wider and the Ghats lie away from the coast.

(4) Areas with sparse Rail network. Himalayas, west Rajasthan, Brahmaputra valley, North East hilly region have sparse rail-network.

(a) Himalayan Region. The mountainous terrain of the Himalayas is such a noteworthy region. The rugged terrain, hill and valley topography, backward economy and sparse population are the factors responsible for the sparse rail network in this region.

(b) Western Rajasthan. In western Rajasthan a few metre gauge railway lines have penetrated the arid tract.

(c) Brahmaputra valley. The Brahmaputra Valley has two parallel lines but no railway line has been constructed on the Meghalaya plateau.

(d) N.E. Region. In Tripura, Mizoram, Manipur and Nagaland, no railways have been constructed. The main reasons for the absence of a railway network are the hilly terrain and forested tracts. The cost involved in providing railway tracks in these regions is too high. The sparse population is another important aspect which has not encouraged this investment.

Question 2.
Describe the major oil and gas pipelines of India.
Answer:
(1) Naharkatiya Barauni pipeline. Oil India Limited constructed the first pipeline of 1,152 km from Naharkatiya oilfield in Assam to Barauni refinery in Bihar via Noonmati (1962-68).

2. Haldia-Kanpur pipeline. To transport refined petroleum products. Barauni-Kanpur pipeline was laid down in 1966. Haldia-Maurigram-Rajbandh pipeline was constructed later.

3. Ankleshwar-Koyali pipeline. Extensive network of pipelines has been constructed in the Gujarat region. First pipeline connected the Ankleshwar oilfield to Koyali refinery (1965). Later, Kalol-Sabarmati crude pipeline, the Navagaon-Kalol-Koyali pipeline and the Mumbai High-Koyali pipeline were laid.

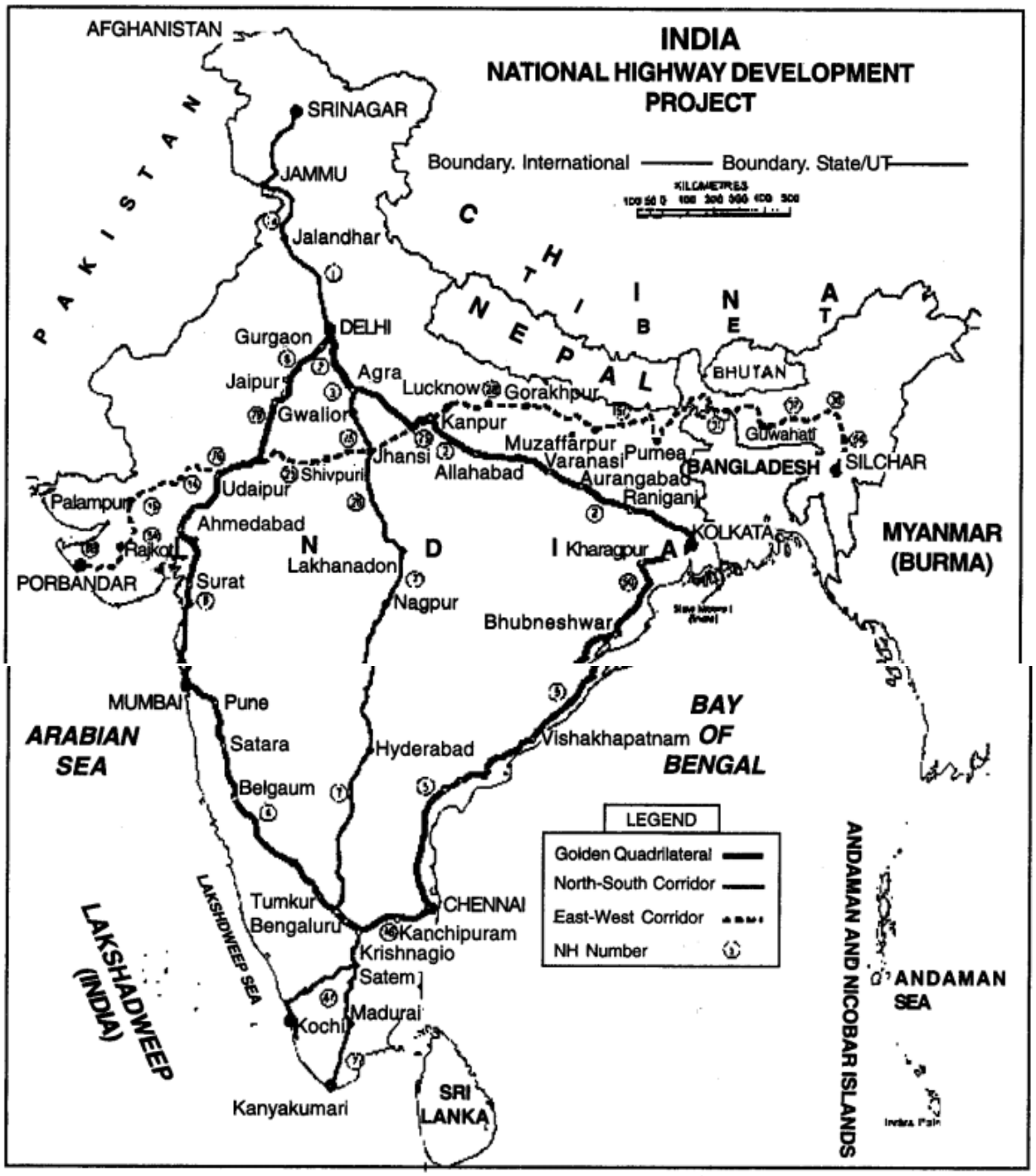
4. Ahmedabad-Koyali pipeline. Ahmedabad has been linked with Koyali by pipeline for transport of petroleum products.

5. Ankleshwar-Vadodara pipeline. Gas pipelines have also been laid down between Khambhat and Dhuvaran, Ankleshwar and Uttaran, and Ankleshwar and Vadodara. Gas Authority of India Limited (GAIL) operates over 4,200 km of pipeline in the country and supplies gas to power plants.

6. HBJ gas pipeline. Construction of a cross country 1,750 km long Hazira-Bijapur-Jagdishpur (HBJ) pipeline has already been completed. This pipeline has now been extended from Bijapur to Dadri in Uttar Pradesh.

7. Kandla-Delhi pipeline. GAIL is also implementing a 1,246 km long LPG pipeline project from Kandla/Jamnagar in Gujarat to Luni in Uttar Pradesh via Delhi.

8. Mathura-Jalandhar pipeline. The Mathura refinery gets its crude from the Mumbai High through pipeline, which extends from Salaya on the Gulf of Kachchh to Mathura, Petroleum product supply pipeline exists between Mathura and Jalandhar via Delhi and Ambala, and between Mumbai and Pune for the transport of petroleum products.



Question 3.

Describe the main features of development of roads in India.

Answer:

The history of roads construction in India is very old. Sher Shah Suri constructed Grand Trunk Road. After independence, a 10 year road development scheme known as the Nagpur Plan, was prepared. Four types of roads are found in India:

(i) National Highways (79,243 km)

(ii) State Highways (1,31,899 km)

(iii) District Roads (4,67,763 km)

(iv) Village Roads (26,50,000 km)

Main features of Roads in India:

(1) India has 13,94,000 kms of metalled roads.
(2) India has 8,73,500 kms of unmetalled roads.
(3) India has just 41 km. road length for every
100 sq. km. area. It has a road length of 251 km for every 1 lakh people.
(4) India has 79,243 kms of National highways.
(5) About 26 lakh automobiles move on roads of India.
(6) Annual income from roads is about 1500 crore rupees.
(7) Indian roads carry about 30% of total freight of the country.
(8) The important National highways are:

- **Sher Shah Suri Marg (G.T. Road) Kolkata to Jammu.**
- **Delhi-Mumbai Road**
- **Kolkata-Mumbai Road**
- **Mumbai-Chennai Road**
- **Great Deccan Road (Varanasi to Kanyakumari)**
- **Kolkata-Chennai Road.**
- **Pathankot-Srinagar Road.**
- **The Border Road Development Board was established in 1960.**

It has got constructed about 38,028 km. long metalled roads in border areas. It has constructed the world's highest road from Manali (H.P.) to Leh (Ladakh). The average height of this road is 4,270 metres.

Question 4.
Describe the main features of develop¬ment of railways in India.
Answer:
Railways in India. The first railway line was constructed between Mumbai and Thane in the year 1853. It was only 34 km. long. Railways are the chief means of transport in India.

Main Characteristics:

- **Indian Railways have a total length of 62,759 kms.**
- **It is the largest railway system in Asia and the fourth largest in the world.**
- **More than 18 lakh workers are engaged in Indian railways.**
- **Indian railways have about 12,670 trains which operate over 6,867 stations for a distance of 13 lakh kms.**
- **These railways carry 130 lakh passengers and 13 lakh tons freight daily.**
- **Railways have an investment of a capital of 8.0 crore rupees and yield an annual income of ? 21,000 crore.**

- **Indian railways have about 11,000 locomotives,38.0 coaches and 4 lakh wagons.**
- **Most of the railways are found in the level Gangetic plain.**
- **Railways have not been extensively developed in Jammu-Kashmir and Ladakh N.E. India, Western ghats, Chhotta Nagpur Plateau and Thar Desert (Rajasthan).**
- **In Southern India, construction of railways is retarded due to hilly areas and rivers.**
- **India has 4,259 diesel locomotives, 2,302 electric locomotives and 347 steam locomotives. The electric trains run over a distance of 11,772 kms.**

Indian railways run of three gauges:

- **Broad gauge—1.67 metres wide (49%)**
- **Metre gauge—1 metre wide (44%)**
- **Narrow gauge—0.76 metre wide (7%)**

During year 1996-97, seven new rail zones have been created out of existing ones. The four following zones have been started:

- **North-Central with headquarters at Allahabad.**
- **Central-Eastern with headquarters at Hajipur (Bihar).**
- **North-Western with headquarters at Jaipur.**
- **West-Southern with headquarters at Bangalore.**
- **Central with headquarters at Jabalpur.**
- **Eastern with headquarters at Bhubneshwar.**
- **S.E. Central Railway at Bilaspur.**

Question 5.
Describe the inland waterways of India.
Or
Examine the role of inland waterway, authority of India. Explain why inland water transport is an important mode of transport.(C.B.S.E. 2016)
Or
"Waterways is an important mode of transport for both passengers and cargo traffic in India." Support the statement with examples.
(Delhi 2019)
Answer :
For the development, maintenance and regulation of natural waterways in India, the inland waterways authority was set up in 1986. It has identified 13 inland waterways which could be upgraded.

Inland Waterways: Water transport is a cheaper means of transport and is suitable for carrying heavy and bulky materials. India is endowed with many navigable rivers and inland water bodies but the share of inland waterways is only one per cent in the country's transport system.

(1) A total river length of 3,700 km. of major rivers is navigable by mechanised boats but only 1,700 km. of this length is utilised.

(2) We also have a network of about 4,300 km. of canals, of which a stretch of 485 km. is navigable by mechanised crafts but only 3.5 km. is actually utilised. It shows that the inland waterways are greatly underutilised.

(3) Ganga, Brahmaputra and their tributaries are navigable. The deltaic areas of Godawari, Krishna and Mahanadi, lower reaches of Narmada and Tapti, backwaters of Kera, Mondoai and Juari rivers of Goa are some of the major inland waterways.

(4) Buckingham canal in Andhra Pradesh and Tamil Nadu and the Cumberjua Canal are also important navigable canals. The policy for the development of inland waterways is formulated by Central Inland Water Transport Board, New Delhi. The national waterways are developed, maintained and managed by the Inland Waterways Authority of India (IWAI) which was set up in 1986. The national waterways

(Prayagraj-Haldia stretch of Ganga-Bhagirathi-Hugli River system) Act, 1982 has the provision that the regulation and development of this waterway is the responsibility of the Central Government. The river navigation services are operated for carrying goods between Kolkata and Assam, Kolkata and Farakka and Kolkata and Cachar, by Central Inland Water Transport Corporation, which is a Government of India undertaking.

Question 6.
Transport plays an important role in strengthening the social, political and economic unity of India. Explain the statement by giving five examples.
Or
"The triple transport system plays an important role in strengthening the social, political economic unity of India." Explain.
Answer:
Integrating role of transport. Means of transport are the lifeline of a country. A developed and efficient system of transport is vital for maintaining the sovereignty and economic unity of the country. Under the 20 years Nagpur Plan, a balanced and integrated transport system of rail, road and waterways has been aimed at. The different means of transport have played an integrating role in the political and economic unity of India.

(i) These have connected far flung areas with one another. Leh has been connected with Kanniyakumari, while Assam has been connected with Kutch.

(ii) Means of transport distribute foodgrains, manufactured goods, raw materials and minerals to different parts of the country.

(iii) Pipelines supply petroleum and gas to different areas.

(iv) The commercialization of agriculture, manufacturing growth of towns and cities have been achieved due to means of transport.

(v) The new road, railway lines have integrated the border areas with the rest of the country. Jawahar tunnel connects Kashmir valley with India.

(vi) Railways line through gaps in the Vindhyan- Satpura hills and in Western Ghats have provided easy connection between the North and South.

(vii) Ganga as a waterway has acted as a unifying agent right from U.P. to West Bengal. Thus, each means of transport has played its own role in a unified system of transport.

Question 7.
Why is air transport important for India ? Describe the different types of Air transport in India.
Answer:
Importance of Air Transport
Air transport is the fastest but costliest mode of transport. It is an important mode for a country of the size of India where the terrain and the climatic conditions are so diverse and important commercial and industrial centers are located at great distances. It is vital for our internal transport system as well as for the links with other countries. India occupies a central location between western Europe and Africa on the one hand and South-East and East Asia, on the other.

Types of Air transport: The air transport in India has two sectors.
(i) Air India : The Air India handles the foreign traffic, both passengers and cargo from four focal points, Delhi, Mumbai, Chennai, Kolkata. It connects all the continents through its services. The Air India carried 21.33 lakh passengers in 1997-98.

(ii) Indian Airlines. The domestic traffic is handled by the Indian Airlines Corporation. It carries passengers, cargo and mail to different destinations within the country as well as to eight neighboring countries.

(iii) Vayudoot. To augment the air transport in the country the Vayudoot airlines was set up in 1981. It generally provides links with remote and inaccessible areas which are not covered by the Indian Airlines.

(iv) Pawan Hans. In 1985, the Pawan Hans Limited was established to provide helicopter services in order to link far-flung and inaccessible areas in hilly and forested regions.

Question 8.
Describe the different type of Roads.
Or
Evaluate the utility of 'Golden Quadrilateral.' (Outside Delhi 2019)
Answer :
Six types of Roads are formed in India :

(i) Golden Quadrilateral Super Highways. A major road development project linking Delhi-Kolkata- Chennai-Mumbai by six-lane super highways. North South corridor links Srinagar with Kanya Kumari and The East-West corridor links Silchar with Porbandar. It is 5,846 km. long.

(ii) National Highways. They connect capitals and main towns. These are maintained by the Central Public Works Department (CPWD), are known as the National Highways. There was a road length of National Highways 79,243km in 2010-11.

(iii) State Highways : The States and Union territories also construct and maintain roads. The state capital is linked with the district headquarters by state highways. It has a total length of 1,31,899km. and is 20% of the total length of roads.

(iv) District Roads. These connect district headquarters of a state. It has a total length of 6 lakh kms. 4,67,763 km is the total length of district road.

(v) Rural Roads. The rural areas are inter-linked by rural roads, which are generally dusty tracks. It can safely be said that the lower the level of roads in its type-hierarchy the poorer the quality of the road.26,50,000 km is the total length.

(vi) Border Roads. The border roads organisation was set up in 1960 for the development of roads of strategic importance in Northern and North-eastern borders. It has completed 30,028 kms. roads inaccessible areas of difficult terrain.

Transport and Communication Important Extra Questions HOTS

Question 1.
"Transport and communication are the necessary infrastructure for the economic development of a country5. Explain.
Or
Why is the transport a vital sector of the economy?
Answer :
A good network of roads, railways, waterways and airways are the lifeline of a country. The agricultural and economic development of a country depends upon efficient transport system. The development of means of transport is essential for the utilization of natural resources. It is the basis of industries and trade of the country. It helps to join the far-flung regions into a single national economy.

These also help in defending the independence and the national unity of a country. Just as the arteries supply blood to the different parts of human body, similarly, transport system maintains the movement of men and goods in different parts of the country.

Question 2.
Why is the Indian Railway System divided into seventeen zones ? Name the headquarters of Eastern, Western, Northern and Southern Zones. (C.B.S.E. 2009)
Answer :

Railway Zones have been made to improve the efficiency of Railways. It helps in handling freight and passenger traffic.

S.No.	Zone	Headquarters
1.	Eastern	Kolkata
2.	Western	Mumbai
3.	Northern	New Delhi
4.	Southern	Chennai.

Question 3.
Analyse the importance and declining popularity of water transport in India in recent times. (Sample Paper 2018-19)
Answer:
Importance
(1) One of the important if water transportation is that it does not require route construction.
(2) The oceans are linked with each other and are negotiable with ships of various sizes.
(3) The energy cost of water transportation is lower. In ancient times, river ways were the main
highways of transportation in the case of India. But this last importance because.

- **Competition from Railways**
- **Lack of water**
- **Poor maintenance of water bodies**

Case Based Questions

1. Read the source given below and answer the questions that follow:

Human beings have evolved different methods of communication over time. In earlier times, the messages were delivered by beating the drum or hollow tree trunks, giving indications through smoke or fire or with the help of fast runners. Horses, camels, dogs, birds and other animals were also used to send messages. Initially, the means of communication were also the means of transportation. Invention of post office, telegraph, printing press, telephone, satellite, etc has made the communication much faster and easier. Development in the field of science and technology has significantly contributed in bringing about revolution in the field of communication. People use different modes of communication to convey the messages.

(a) Among all the personal communication system which is the most effective and advanced one?

(i) Telephone

(ii) Satellite

(iii) Internet

(iv) Telegram

Ans : (iii) Internet

(b) INSAT and IRS are

(i) data processing systems

(ii) satellite launch vehicles

(iii) Television broadcasting systems

(iv) satellite systems

Ans : (iv) satellite systems

(c) Which of the following is the most effective audio-visual medium for disseminating information and educating masses?

(i) Indian Broadcasting System

(ii) Television broadcasting

(iii) National Satellite System

(iv) INSAT-IA

Ans : (ii) Television broadcasting

(d) provides facilities for acquisition of data and its processing.

(i) All India Radio

(ii) Polar Satellite Launch Vehicle

(iii) National Remote Sensing Centre

(iv) Indian National Satellite System

Ans : (iii) National Remote Sensing Centre

2. Read the source given below and answer the questions

that follow:

Air transport is the fastest means of movement from one place to the other. It has reduced distances by minimizing the travel time. It is essential for a vast country like India, where distances are large and the terrain and climatic conditions are diverse.

(a) Air transport in India made a beginning in 1911 when airmail operation commenced over a little distance of 10 km between

(i) Bombay and Calcutta.

(ii) Delhi and Allahabad

(iii) Delhi and Bombay

(iv) Allahabad and Naini

Ans : (iv) Allahabad and Naini

(b) is responsible for providing safe, efficient air traffic and aeronautical communication services in the Indian Air Space

(i) Air India

(ii) Airport Authority of India

(iii) Air Services of India

(iv) Indian Airlines

Ans : (ii) Airport Authority of India

(c) Which of the following provides International Air Services for both passengers and cargo traffic?

(i) Bharat Airways

(ii) Kalinga Airlines

(iii) Air India

(iv) Deccan Airways

Ans : (iii) Air India

(d) Pawan Hans Limited mainly provides helicopter services for passengers

(i) international

(ii) armed forces

(ii) search and rescue operations

(iv) petroleum and tourism sectors

Ans : (iv) petroleum and tourism sectors

Graph/Data Based Question

Study the given pie charts carefully and answer the following questions:

Serial No	Road Category	Length in KM
1	National Highways	101011
2	State Highways	176166
3	Major District Roads	561940
4	Rural Roads	3935377
	Total	4774454

(a) The National Highways Authority of India (NHA) operationalized in 1995 is an autonomous body under the

(i) Road and Rail Transport Department.

(ii) Department of Roads

(iii) Ministry of Surface Transport

(iv) Ministry of National Highways

Ans : (iii) Ministry of Surface Transport

(b) High density traffic corridor that connect India's four big metro cities of Delhi-Mumbai-Chennai-Kolkata is termed as

(i) North-South Corridor

(ii) East-West Corridor

(iii) Border Road

(iv) Golden Quadrilateral

Ans : (iv) Golden Quadrilateral

(c) There is regional variation in the density of rural road because these are influenced by

(i) density of population

(ii) nature of the terrain

(iii) location of industries

(iv) strategical importance

Ans: (ii) nature of the terrain

(d) Broad, gauge, metre gauge and narrow gauge are associated with

(i) Air transport

(ii) District roads

(iii) Waterways

(iv) Rail transport

Ans. (iv) Rail transport

Que 1. Read the source given below and answer the questions that follow:

Human beings have evolved different methods of communication over time. In earlier times, the messages were delivered by beating the drum or hollow tree trunks, giving indications through smoke or fire or with the help of fast runners. Horses, camels, dogs, birds and other animals were also used to send messages. Initially. the means of communication were also the means of transportation. Invention of post office, telegraph, printing press, telephone, satellite, etc has made the communication much faster and easier. Development in the field of science and technology has significantly contributed in bringing about revolution in the field of communication. People use different modes of communication to convey the messages.

(a) Among all the personal communication system which is the most effective and advanced one?

(I) Telephone

(ii) Satellite

(iii) Internet

(iv) Telegram

Ans : (iii) Internet

(b) INSAT and IRS are

(i) data processing systems

(ii) satellite launch vehicles

(ii) Television broadcasting systems

(iv) satellite systems

Ans : (iv) satellite systems

(c) Which of the following is the most effective audio visual medium for disseminating information and educating masses?

(i) Indian Broadcasting System

(ii) Television broadcasting

(iii) National Satellite System

(iv) INSAT-IA

Ans : (ii) Television broadcasting

(D)---------- provides facilities for acquisition of data and its processing.

(i) All India Radio

(ii) Polar Satellite Launch Vehicle

(iii) National Remote Sensing Centre

(iv) Indian National Satellite System

Ans : (iii) National Remote Sensing Centre

Que 2. Read the source given below and answer the questions that follow:

Air transport is the fastest means of movement from one place to the other. It has reduced distances by minimizing the travel time. It is essential for a vast country like India, where distances are large and the terrain and climatic conditions are divine

(a) Air transport in India made a beginning in 1911 when airmail operation commenced over a little distance of 10 km between

(1) Bombay and Calcutta

(ii) Delhi and Allahabad

(iii) Delhi and Bombay

(iv) Allahabad and Naini

Ans : (iv) Allahabad and Naini

(b) ----------is responsible for providing safe, efficient air traffic and aeronautical communication services in the Indian Air Space

(i) Air India

(ii) Airport Authority of India

(iii) Air Services of India

(iv) Indian Airlines

Ans : (ii) Airport Authority of India

(c) Which of the following provides International Air Services for both passengers and cargo traffic?

(i) Bharat Airways

(ii) Kalinga Airlines

(iii) Air India

(iv) Deccan Airways

Ans : (iii) Air India

(d) Pawan Hans Limited mainly provides helicopter services for

(i) international passengers

(ii) armed forces

(iii) search and rescue operations

(iv) petroleum and tourism sectors

Ans. pétroleum and tourism sectors

Que 3. Study the given pie charts carefully and answer the following questions:

Serial No.	Road Category	Length in Km
1	National Highways	101011
2	State Highways	176166
3	Major District Roads	561940
4	Rural Roads	3935377
	Total	4774454

India Road Network 2016

Source: Ministry of Road Transport and Highways Annual Report 2017-18 for latest data see website morth.nic.in

(a) The National Highways Authority of India (NHA) operationalised in 1995 is an autonomous body under the

(i) Road and Rail Transport Department.

(ii)Department of Roads

(iii) Ministry of Surface Transport

(iv) Ministry of National Highways

Ans : (iii) Ministry of Surface Transport

(b) High density traffic corridor that connect India's four big metro cities of Delhi-Mumbai-Chennai-Kolkata is termed as :

(i) North-South Corridor

(ii) East-West Corridor

(iii) Border Road

(iv) Golden Quadrilateral

Ans : (iv) Golden Quadrilateral

(c) There is regional variation in the density of rural road because these are influenced by the

(i) density of population

(ii) nature of the terrain

(iii) location of industries

(iv) strategical importance

Ans : (ii) nature of the terrain

(d) Broad gauge, metre gauge and narrow gauge are associated with

(i) Air transport

(ii) District roads

(iii) Waterways

(iv) Rail transport

Ans : (iv) Rail transport

Chapter- 11 INTERNATIONAL TRADE

INTERNATIONAL TRADE :

Trade is a tertiary economic activity. It means the voluntary exchange of goods and services between two people or parties. Trade is mutually beneficial for both the parties as one party sells and the other purchases. It is broadly divided into two levels i.e. International trade which means the exchange of goods and services among countries across national boundaries and National trade which means the exchange of goods and services among regions or states within a country.

International trade is conducted to obtain commodities that countries can not produce themselves and they can purchase them from some other countries at lower prices.

Silk Route

The discovery of Silk Route is an early example of long distance trade as well as trade of luxury items. This Silk Route had a length of 6,000 km, connecting Rome to China. This route was used to transport Chinese silk, Roman wool and precious metals and many other high value commodities from intermediate points in India, Persia and Central Asia.

Growth of European Commerce

European commerce grew after the disintegration of the Roman Empire with the development of ocean going warships during the 12th and 13th century. Trade between Europe and Asia also grew and the America was discovered.

Slave Trade

During 15th century when the European commerce was at its peak, the European colonialism emerged and along with the trade of exotic commodities, a new form of trade, known as slave trade emerged.

In slave trade, African natives were captured and forcefully transported by the Portuguese, Dutch, Spaniards and British in the newly discovered America for their labour in plantations.

For more than two hundred years, slave trade remained a lucrative business for European colonies. But it started to decline in many countries like in Denmark in 1792, Great Britain in 1807 and United States in 180

Types of International Trade International trade is broadly categorised into two

Types of international trade:

(i) Bilateral Trade It is the trade between two countries on an agreement. Both the countries are specialised in certain commodities and agree to trade their commodities with each other. For example, country may agree to trade some raw materials, with an agreement to purchase some other specified items, to country B.

(ii) Multi-lateral Trade This conducted type of trade is among many countries. The same country can trade with a number of other countries. The country may also grant the status of the Most Favoured Nation (MFN) on some of the trading partners.

Basis of International Trade

International trade is based on the following factors: Difference in National Resources

The world's national resources are found unevenly over the space. This is due to differences in their physical structure i.e. geology, relief, soil and climate. Geological Structure Different geological structures

determine the mineral resource base and topographical difference ensure diversity of crops and animals raised. Agricultural activities are more common in lowlands, while tourism flourishes in the mountainous areas.

• Mineral Resources Different regions have different types of minerals in different proportions. The availability of minerals provides the basis of Industrial development.

. Climate It has a clear impact on the varieties of flora and fauna in a particular region. Diversity in the range of various products is also ensured by climate. For example, wool production takes place in cold regions whereas bananas, rubber and cocoa grow in tropical regions. Population Factors

The sin, distribution and diversity of people her countries affect the type and volume of goods used between the countries.

Cultural Factor Different cultures are denoted by distinctive forms of art and craft which are famous all over the world. For example, Chins produces the finest porcelains and brocades. Iran is famous for carpets. North Africa is famous for leather work and Indonesia is famous for batik cloth.

Size of Population Countries having dense population are dominated by large volume of internal trade and little external trade. This is due to the fa that most of the agricultural and industrial production is consumed in the local markets.

The demand for better quality imported products determined by the standard of living of the population. For example, with low standard of living only a few people can afford to buy costly imported goods

Stage of Economic Development

The nature of commodities changes at different stag economic development of countries. In non-industrialised nations, agriculture is important sector. These countries export agro-products to the industrialised nations and import machinery and finished products from them. The industrialised nanos exports machinery and finished products and imports food grains and raw materials from developing countries.

Extent of Foreign Investment

Developing countries which lack in capital required for the development of mining, oil drilling, heavy engineering, lumbering and plantation agriculture boo their trade by foreign investment. By investing in the countries in different sectors, the industrial nations can ensure import of food stuffs, minerals and create markets for their finished products. This entire cycle increases the volume of trade between nations.

Transport

Before the development of modern means of transport the trade was restricted to local areas. For example, only high value items like gems, silk and spices were traded over long distances. With the expansion of rail, ocean and air transport, better means of refrigeration and preservation, there was expansion in trade.

Concerns Related to International Trade

• When international trade leads to regional specialisation, better standard of living, worldwide availability of goods and services, diffusion of knowledge and culture, then it is mutually beneficial to nations.

On the other hand, international trade can also prove to be dangerous to nations if it leads to dependence on other countries, uneven levels of development, exploitation and commercial rivalry leading to wars.

- **Global trade influences almost every aspect of life from the environment to health and well-being of the people.**

• As countries compete to trade more, production and use of natural resources go up and these resources are used up faster than they can be replenished. This has resulted in depletion of marine life, forests being cut down and river basins being sold to private companies.

The MNCs (Multi-National Companies) trading in oil, gas mining, pharmaceuticals and agri business keeps expanding their operations for more profits, leading to more pollution. They do not follow the norms of sustainable development.

• If companies and organisations will only work towards profit making and ignoring environmental and health concerns, it would lead to serious implications in the future.

Gateways of International Trade- Ports

Ports and harbours are known as the chief gateways of international trade. Through these ports, cargoes and travellers pass from one part of the world to another. Some of the facilities provided by the ports include docking, loading, unloading and the storage facilities for cargo.

The port authorities provide these facilities the arrangements for maintaining navigable channels, arranging tugs and barges and providing labour a managerial services. The size of cargo and the t of ships handled determine the importance of ports. The quantity of cargo handled by a port is an indicator of the level of development of its hinterland.

Types of Port Ports, generally are classified on the types of traffic

they handle. There are some other basis on which ports are classified. These are:

Types of Ports According to Cargo Handled Industrial Ports These ports are specialised in bulk cargo. For example, grain, sugar, ore, oil, chemic and similar materials.

- **Commercial Ports General cargo-packaged products and manufactured goods are handled by these ports. Passenger traffic is also handled by the ports.**

- **Comprehensive Ports Bulk and general cargo are handled by such ports in large volumes. Maximum number of world's great ports come in this category.**

Types of Ports on the Basis of Location

Inland Ports These ports are located away from the sea coast and linked to the sea through a river or a canal. Flat bottom ships or barges are used to reach these ports. For example, Manchester is linked through a canal: Memphis is located on the Mississippi river; Mannheim and Duisburg on River Rhine; and Kolkata port is located on the river Hoogli.

• Out Ports These ports are built away from the actual ports in deep water. These are built to serve the parent ports by receiving those vessels/ships which cannot reach them due to their large size. example, Athens and its out port Piraeus in Greece. Types of Port on the Basis of Specialised Functions

- **Oil Ports These ports are specialised in processing and shipping of oil. These are of two types: (i) Tanker Ports Examples of these ports are Maracaibo in Venezuela, Esskhira in Tunisia,Tripoli in Lebanon, etc. (i) Refinery Ports Example of this type of p Abadan on the Gulf of Persia.**
- **Ports of Call These are ports which originally on the main sea routes where ships used to anchor for refuelling, watering and taking food items. developed a These are known as calling points. Gradually, they developed into commercial ports. For example. Aden, Honolulu and Singapore.**
- **Packet Station These are specially developed for transportation of passengers and mail across water bodies covering short distances. These are also known as ferry ports, These ports occur in pairs so that face ach other across the water body. For example, Dover ta England and Calais in France across the English Channel.**
- **Entrepot Ports These ports act as collection centres. Here, goods a export. are brought from different countries for For example, important entrepot ports are Singapore for Asia, Rotterdam for Europe, and Copenhagen for the Baltic region.**
- **Naval Ports These ports are only meant for strategic importance. These serve only warships and have repair workshops for them. For example, Kochi and Karwar are examples of such ports in India.**

Trade Liberalization

Free trade or trade liberalization is the act of opening up economies for trading by bringing down trade barriers like tariffs. Trade liberalization encourages competition between goods and services of foreign countries with domestic products and services.

The economies of developing countries are adversely affected by both globalization and free trade. These impose unfavorable conditions on developing countries and thus, do not provide equal status to compete in the global market. Free trade should give equal access to rich as well as developing countries to enter the market. It should also allow developing countries to keep their own markets protected from foreign products.

Dumped goods also pose a threat to domestic market as these cheaper goods from foreign countries harm the domestic producers. The practice of selling a commodity in two countries at a price that differs for reasons not related to costs is called dumping.

World Trade Organisation

In 1948, General Agreement for Tariffs and Trade (GATT) came into existence to liberalise the world from high customs tariffs and other non-tariffs barriers. The GATT was transformed by the member countries into a permanent institution for looking after the promotion of free and fair trade among the nations. This was known as World Trade Organisation.

It was established on 1st January, 1995. WTO headquarters are located in Geneva, Switzerland. Around 164 Countries are the member of WTO as on December, 2016. India has been one of the founder members of WTO.

WTO is the only international organisation dealing with the global rules of trade between nations. The main functions of this organisation are to set rules for the global trading system and resolve disputes between its member nations. It also covers trade in services, c.g. telecommunication and banking and other issues including intellectual rights.

The WTO has many shortcomings due to which it has been criticised and opposed by those countries who are worried about the negative effects of free trade and economic globalisation. For example,

(i) It is seen that the WTO does not minimise the negative effects of free trade and thus, widening the gap between rich and poor by making rich countries more rich.

(ii) This situation developed because the influential nations in the WTO focus more on their own

commercial interests.

(iii) Besides these, many developed countries have not fully opened their markets to products from developing countries.

(iv) It is also seen that some important issues like health, worker's rights, child labour and environment are also ignored in WTO.

International Trade Class 12 MCQs Questions.

Question 1.
Which element of India's International trade has changed?
(A) Amount
(B) Composition
(C) Direction
(D) All the above

Answer

Answer: (D) All the above

Question 2.
What is India's share in world trade?
(A) 1%
(B) 2%
(C) 3%
(D) 4%

Answer

Answer: (A) 1%

Question 3.
What was the reason for the decline of import of foodgrains?
(A) Green revolution
(B) Decline in population
(C) Decrease in the birth rate
(D) Import duty

Answer

Answer: (A) Green revolution

Question 4.
Which country is the largest trading partner of India?
(A) Britain
(B) China
(C) the USA
(D) Pakistan

Answer

Answer: (C) the USA

Question 5.
India has _____ major ports.
(A) 6
(B) 8
(C) 10
(D) 12

Answer

Answer: (D) 12

Question 6.
What is the cargo handling capacity of Indian ports (million tonnes)?
(A) 100
(B) 300
(C) 500
(D) 700

Answer

Answer: (C) 500

Question 7.
In which state is Nhava Sheva port located?
(A) Gujarat
(B) Goa
(C) Maharashtra
(D) Karnataka

Answer

Answer: (C) Maharashtra

Question 8.
What is the major export from New Mangalore ports?
(A) Coal
(B) Iron ore
(C) Copper
(D) Mica

Answer

Answer: (B) Iron ore

Question 9.
Which port is called the 'Queen of Arabian Sea'?
(A) Mangalore
(B) Cochi
(C) Mumbai
(D) Kandla

Answer

Answer: (B) Cochi

Question 10.
When was Chennai port built?
(A) 1839
(B) 1849
(C) 1859
(D) 1869

Answer

Answer: (C) 1859

Question 11.
Trade between two countries is termed as:
(A) Internal trade
(B) External trade
(C) International trade
(D) Local trade

Answer

Answer: (C) International trade

Question 12.
Which one of the following is a landlocked harbour?
(A) Vishakhapatnam
(B) Mumbai
(C) Ennor
(D) Haldia

Answer

Answer: (D) Vishakhapatnam

Question 13.
Most of India's foreign trade is carried through:
(A) Land and sea
(B) Land and air
(C) Sea and air
(D) Sea

Answer

Answer: (C) Sea and air

International Trade Short Answer Type (3 mark)

Question 1.
Mention four important items which India imports from other countries.
Answer:

- **Petroleum and Petroleum products.**

- **Fertilizers**
- **Machinery**
- **Transport Equipment.**

Question 2.
Name four important items which India exports to other countries.
Answer:

- **Manufactured goods**
- **Readymade garments**
- **Cotton yarn**
- **Leather goods.**

Question 3.
Name five countries of Africa with which India has trade relations.
Answer:

- **South Africa**
- **Nigeria**
- **Kenya**
- **Ivory coast**
- **Tanzania.**

Question 4.
Name the ports of India located on the East coast.
Answer:
Kolkata, Haldia, Vishakhapatnam, Paradip, Chennai, Tuticorin.

Question 5.
State the major problem being faced by Kolkata Seaport. (CBSE 2018)
Answer:
Problem of silt accumulation in Hugli River which provides a link to the sea.

Question 6.
Give two reasons for the increase in difference between value of import and exports trade of India.
Answer:
In 2010-1 value of imports was ₹ 1,683,467 crore and the value of exports was ₹ 1,142,649 crore and difference was ₹ 540,818 crore. Gap between import and export values has widened, resulting a mounting adverse balance of trade.

There are two major reasons for this state of affairs: first is the hike in prices on the world level and second is the declining value of Indian rupee in the world market. Slow growth in production, increasing domestic consumption and keen competition in the world market are other reasons of slow growth in export.

Question 7.
Name the items whose share in import of India has increased.
Answer:
Fertilizers, Chemicals, Machinery, Electrical and Non-electrical goods and Machinery.

Question 8.
Name the items whose share in imports of India has declined.
Answer:
Food products, Food grain, Pulses, Milk products, Fruit, Vegetables.

Question 9.
Name the agricultural products of export from India.
Answer:
Among agricultural produces, marine products including fish and fish products are at the top accounting for 3.1 per cent of the total value of export. Next in importance are cereals, tea, oil cake, cashew nuts, spices, fruits and vegetables, coffee and tobacco. A small quantity of raw cotton is also exported.

Question 10.
'Ports are the Gateways of international trade'. Discuss. (C.B.S.E. 2014)
Answer:
The word 'Port' comes from the latin word 'Porta' which means gateway. Port is the gateway of a country as exports and imports are handled through them. Therefore, ports are called the gateways to trade.

Question 11.
'Ports function as focal points for foreign trade'. Explain.
Answer:
Sea ports function as focal points for foreign trade of India. They act as collection centers of commodities from hinterland for further shipment to foreign destinations on one hand, and as receiving points of foreign consignments coming to India for distributing them in the interior part of the country.

Question 12.
State two main characteristics of sea ports of India. Name any two states which have two major ports.
Answer:
There are 12 major ports of India. These are the gateways for imports and exports of India. These serve as collection centres for commodities to be exported and for commodities coming to India for distribution. West Bengal has two major ports of Kolkata and Haldia. Tamil Nadu has two major ports of Chennai and Tuticorin.

Question 13.
What is the role of sea ports in the foreign trade of India? Write any three points in this regard.
Answer:
Sea ports function as focal points for foreign trade of India.

- **Ports act as collection centers of commodities from hinterland for further shipment to foreign destinations.**
- **Ports act as receiving points of foreign consignment coming to India for distribution.**
- **Ports are the gateway for foreign trade as these handle exports and imports.**

Question 14.
Why is Mumbai called a Unique port ? Explain three reasons.
Answer:

- **Mumbai is the biggest port of India as regards exports and imports are handled.**
- **It is a natural port with deep waters and safe facilities for big ships.**
- **It is an important industrial and commercial center of India.**

Question 15.
Explain the increase of share of petroleum and petroleum products in India's import trade.
Answer:
Largest positive change occurred in petroleum and petroleum product group, which gained 23.8 per cent points during 1960-61 and 2000-01. In 1960-61, these items accounted for only 6.2 per cent of total import value but it reached to 19.2 per cent in 1973-74 and 26% per cent in 2004-05.

This rapid growth was more due to the increasing prices and less due to increasing quantity. During 1974, oil producing and exporting countries raised the price of crude petroleum many times. Consequently, petroleum bill jumped very high.

Question 16.
The importance of manufactured goods and raw materials in India's, import trade has reduced. Explain.
Answer:
Manufactured goods also lost their significance. Among them, jute textile, cotton textile, leather goods and iron and steel products are the major sufferers. Significant decline was registered in items of crude material group. In this group, the decline in crude rubber, wood, timber, textile fibers and ferrous minerals has been most striking. This was due to increasing domestic production of these products.

Question 17.
Describe in brief the changing nature of export items in the international trade of India.
Answer:

- **India's international trade is continuously increasing.**
- **The share of agricultural and allied products is decreasing.**
- **The import of Petroleum products is increasing.**
- **The exports of coffee, tea, spices is decreasing.**
- **The share of fresh fruits and sugar has increased in exports.**
- **The share of manufactured goods has increased in exports.**
- **The export of engineering goods has increased.**
- **Share of Gems-pearls and ornaments in exports has increased.**

Question 18.
Distinguish between a major and a minor port.
Answer:

Major Port	Minor Port
1. A port which handles traffic of ten lakh metric tons every year is known as a major port.	1. A port which handles traffic less than ten lakh metric tons every year is a minor port.
2. These ports are handled by Port Trusts and the Central Govt.	2. These port as are managed by the Stale Govt.
3. These ports have all the facilities to handle international trade of the country.	3. These ports handle the regional and coastal trade of a country.
	4. There are 145 minor working ports such Mumbai, Chennai, etc.

4. There are ten major ports of India like as Pondicherry.	

Question 19.
Distinguish between imports and exports.
Answer:
No country is self-sufficient in all the commodities. When a country produces a commodity more than its needs, this commodity is sent to the deficit countries. It is called export. When a country produces a commodity less than its needs, it has to get the commodity from other countries. This is called import. For example, India exports tea but imports petroleum.

Question 20.
Compare the east and west coast harbor in respect of their site, hinterland and pattern of foreign trade.
Answer:

West Coast Ports	East Coast Ports
Site. The major ports situated on Western coast of India are Cochin, Mangalore. Maragos. Mumbai and Kandla. These ports are river ports and artificial ports. There is the problem of silting due to many problems during cyclones.	The major ports situated on the Eastern coast of India are Kolkata. Paradip. Vishakhapatnam. Chennai and Tuticorin. There are natural ports situated along indented coast-line. These are deep, deposition by rivers and tides. Ships well-protected harbors. These provide face shelter to ships during monsoons.
2. Hinterland. These ports have densely populated rich hinter lands. Raw cotton is the main product of these areas. The western ghats are important for plant-ation crops like tea, coffee, rubber, etc. These ports export tea, coffee, iron ore and manganese.	These ports have hinterlands with rich natural resources. Minerals are the main products of these areas. Ganges plain and Damodar valley is known for sugarcane, jute, rice, coal, iron, manganese and mica. These ports export manufactured goods and minerals like iron from Vishakhapatnam and Paradip

Question 21.
Define the term 'trade.' Describe the features of rural marketing centres and urban marketing centres. (Outside Delhi 2019)
Answer:
Trade: Trade is essentially buying and selling of items produced elsewhere. The trade services are intended for profits. All this work takes in towns and cities and are called trading centres.

(a) Rural marketing centres: These centres cater to nearby settlements. These are quasi urban centres. Here personal and professional services are not well developed. These form local collecting and distributing centres. Most of these have mandis and also retailing centres. These supply goods demanded by rural folk.

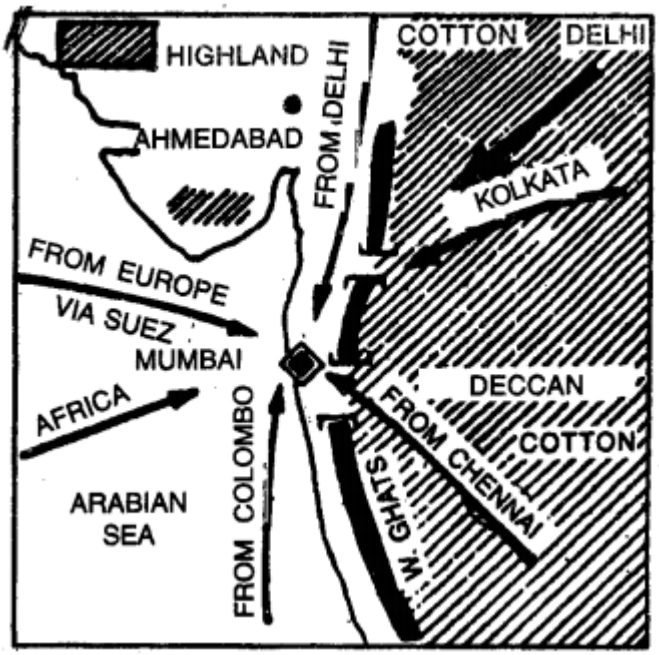
(b) Urban marketing centres: These provide urban services. These supply specialized goods and services. These sell manufactured goods. Markets for labour, housing and semi-finished goods are held. These provides services of eduction, teachers, lawyers, consultants, physicians, dentists and veterinary doctors.

International Trade Long Answer Type (5 mark)

Question 1.
Describe the location, characteristics and commercial importance of major ports of India.
Answer:
Ports are protected inlets on the coast providing shelter to ships. An ideal port should haye indented coast line, deep water, rich hinterland and good climate. India has a coastline of 7,517 km long. There are 12 major, 22 medium and 185 minor ports.

Ports on the Western Coast:

1. Kandla. It is located at the head of gulf of Kachchh. It is a tidal port and is expected to take the place of Karachi. It is a natural and safe harbor connected with a vast and rich hinterland of North West India. An offshore terminal has been built at Vadinar. It has the facilities of entrance of large ships. It is located on the Suez Canal route. Main items of imports include petroleum, chemicals, fertilizers and machinery. Its main exports are salt, sugar, cement and cotton goods.



(2) Mumbai. Mumbai occupies central position on the west coast of India. It stands on an island connected with the mainland. Mumbai has developed as a port for historical reasons. The British Colonial interests were the major forces for its development. It is the only natural deep-water harbour of India. It is a 20 km. long and 10 km. wide port. It is connected with Europe through Suez Canal.

It has rich productive hinterland of black cotton soil region. It is a spacious and safe port with natural facilities for the big ships. It has 54 docks and many warehouses. It is also known as the 'Gateway of India'. It is an important industrial and commercial town of India.

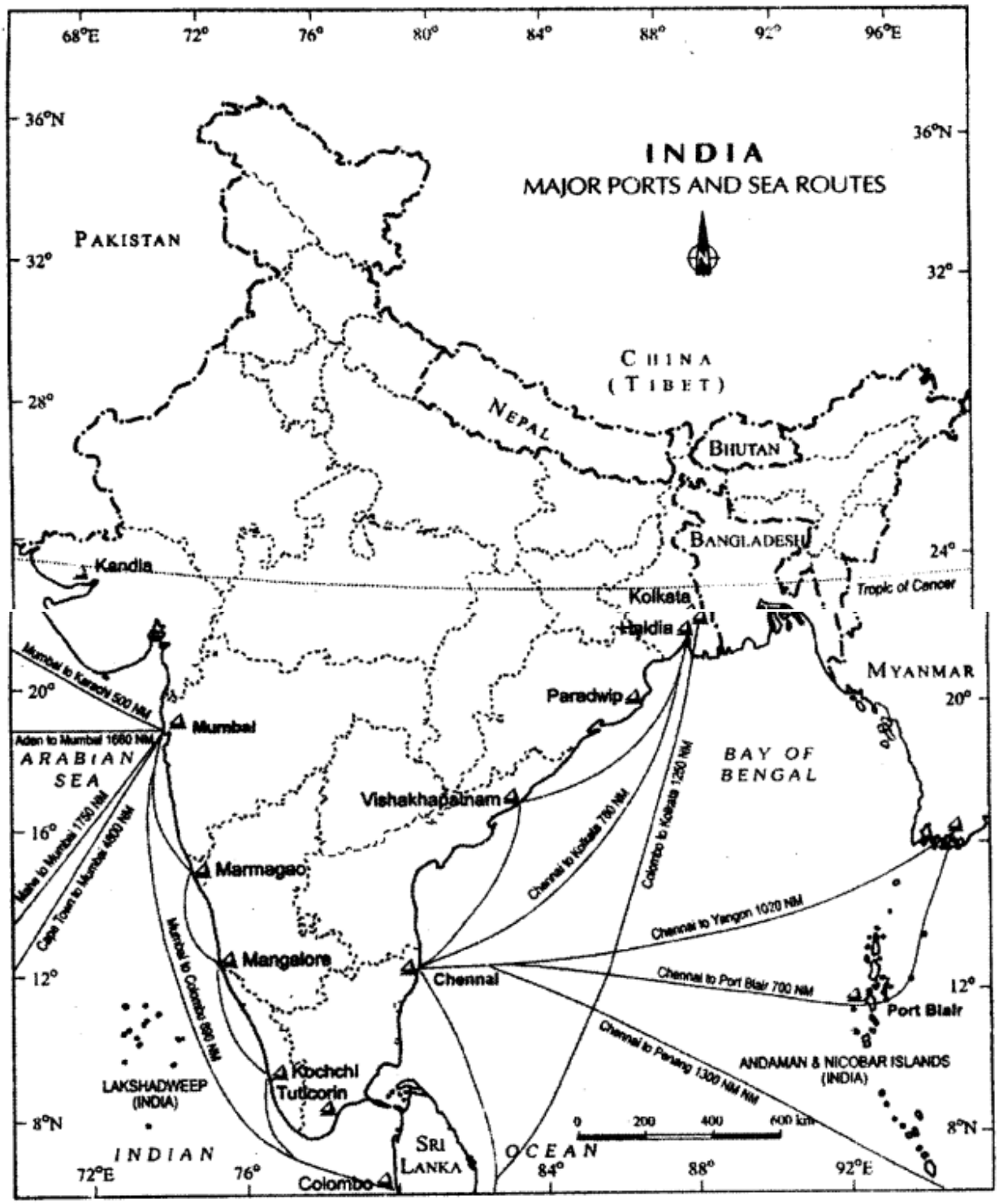
Textiles, oil seeds, hides and skins and manganese are its major exports. The imports include machinery, petroleum, raw films, fertilisers, paper and medicines. A new mechanised port is being developed at Nhava Sheva. (Jawaharlal Nehru port), it is the largest container port in India.

(3) Mormugao. This port lies on the west coast in Goa on an estuary. It is a deep natural harbour. Its hinterland includes Goa, Maharashtra and Karnataka. It exports mainly iron ore, groundnut and manganese. The imports include machinery and manufactured goods. Konkan Railway has helped its development.

(4) New Mangalore. It lies in Karnataka to export iron ore, fertilisers coffee, tea, yarn, etc.

(5) Cochin. Cochin lies on the Malabar coast in Kerala. It is called the queen of the Arabian sea. It has a large sheltered back waters formed by lagoons. It is a safe, deep and natural harbour. It is located on the route to

Australia and the far east. It is an important naval centre and a shipyard. The major exports include tea, coffee, cashew nuts, rubber, pepper, cardamoms and cotton goods. The imports include oil, fertilisers, machinery and coal.



(B) Ports on the Eastern Coast:

(6) Kolkata. It is a river port on the mouth of Hugh about 120 kms. inland. It has a rich hinterland of productive agricultural Ganges-Brahmputra delta and Chhottanagpur region rich in minerals. It is located on the route to Japan and U.S.A. Ships have to depend upon tides to enter this port.

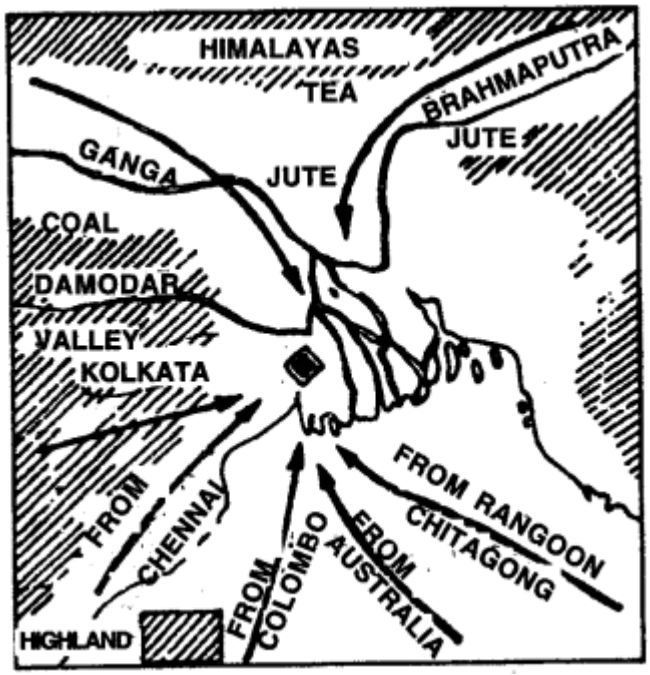
It gets silted and needs constant dredging. A new port of Haldia is being developed to share the burdens of Kolkata. It is the second biggest port of India. Its main exports are jute, tea, sugar, iron ore, mica and coal. The imports consist of machinery, chemicals, rubber, paper, etc.

(7) Vishakhapatnam. It is a new major port on the east coast of India. It lies mid-way between Kolkata and Chennai. It is a well protected natural harbour enclosed by hard rocks of Dolphin nose. It is connected with

a mining region of iron ore, coal and manganese. Its hinterland includes Andhra Pradesh, Madhya Pradesh and Odisha. It has the largest shipyard of India. It exports iron ore, manganese, oilseeds, mica and tobacco. The imports include rice, machinery and petroleum.

(8) Paradip. It is a new major port on the Odisha coast on Mahanadi Delta. It is a deep natural port. It provides facilities for the stay of big ships. It has a vast hinterland of Odisha-Chhatisgarh-Jharkand with minerals, forest products and agricultural resources. It exports iron ore to Japan and other minerals like chrome, manganese and mica. The imports include fertilisers, chemicals and rice.

(9) Chennai. It is an artificial, man-made port on the east coast. It is the third largest port of India.



Two concrete walls (Break waters) have been built to provide shelter. Its hinterland includes Tamil Nadu and Karnataka. It is a rich agricultural region. The principal exports include tea, coffee, oilseeds, hides and skins, rubber, cotton goods and tobacco. The imports include, coal, rice, paper, chemicals and machinery.
(10) Ennore. It lies 25 km. North of Chennai.

(11) Tuticorn. It is a major port and lies South of Chennai.

Question 2.
Describe the main features of India's Foreign trade.
Answer:
India's Foreign Trade.
In ancient period, India had a large foreign trade. India was called the 'Golden sparrow'. During the British Period, India became a market for the manufactured goods from Europe. The agricultural raw materials were exported to Britain. After Independence, India's foreign trade has undergone many changes. It has the following characteristics

- Coastal Trade. Above 90% trade of India is by sea.
- Low Foreign Trade. The total amount of trade is very low. It is only 1% of the international trade of the world.
- Low per-capita Trade. Due to large population, the per capita trade in India is low as compared to other countries.
- Increase in Volume and Value of Trade. India's trade is rising in volume as well as value.

Year	Imports 7 crores	Exports ₹ crores	Total
1950-51	608	608	1,214
1990-91	43,198	32,553	75.751
2000-2001	230.873	203,571	134.444
2010-2011	1,683,467	1,142.649	2,826,116

(v) Unfavorable Balance of Trade. Due to large import of machinery and petroleum, the balance of trade is becoming unfavorable.

Year	Import ₹ crores	Export ₹ crores	Balance ₹ crores
1990-91	43,193	32,553	10,645
2000-01	230.873	203,571	27.302
201.0-2011	1,683,467	1,142,649	540,818

(vi) Features of Export Trade—
(a) Traditional export. India still exports a large number of traditional goods like tea, jute-goods, cotton textile, oilseeds, minerals, hides and skins. Now, a large variety of goods are being exported.

(b) Manufactured goods and Engineering goods. India used to export mostly raw material, but now manufactured goods occupy a major share in the total exports. Their share has increased to 35%.

(c) A large number of buyers of exports. India has now trading links with a large number of countries. About 3000 items are exported every year.

(d) Change in direction of foreign trade. Great Britain was the biggest buyer of Indian goods. Our trade increased with U.S.A. and Russia during the last decade. Now, Japan is the biggest purchaser of Indian goods.

(vii) Features of import trade.
(a) Predominance of machinery. India is on the road to industrialization. Machinery and transport-equipment form the major items of import.

(b) Increase in the transport of manufactured goods. The imports of manufactured goods is increasing. Paper, silk, chemicals and petroleum are being imported.

(c) Decrease in imports of food grains. Green Revolution has led to an increase in food production. Therefore, import of cotton, wheat, jute has decreased.

(d) Change in direction of foreign trade. U.S.A. has again emerged as the largest supplier of goods to India. Import trade has increased with Bangladesh, Japan, Russia, Iran and West Germany.

International Trade Important Extra Questions HOTS

Question 1.
'India's international trade has changed in recent years in terms of volume, composition and direction.' Support the statement with examples. (C.B.S.E. 2009)
Answer:
Many changes have taken place in India's foreign trade after 1947.
1. Volume of trade. The volume of trade has increased many times. In 1951, the total trade was ₹ 1,250 crore; but due to industrial development; it has risen to ₹ 28,26,116 crores in 2010-11.

2. Change in Composition of Exports. The import-export trade has undergone many changes. India used to export tea, jute, leather, iron ore, spices, etc. But now manufactured goods are exported such as Engineering goods, ready-made garments, Handicrafts, etc.

3. Changes in the Composition of Imports. The ratio of foodgrains, cotton, jute increased in import trade. But now petroleum, fertilizer, steel, industrial raw materials, machinery, chemicals, are mostly imported.

Question 2.
'Most of India, foreign trade is carried through sea routes. Explain the statement giving three reasons.
Or
Describe the importance of sea routes in handling India is foreign trade. (Delhi 2019)
Answer:

- **India's long coastline foster the development of ports.**
- **Indian ports are all weather ports having good harbor facilities.**
- **Most of India is foreign trade is carried through the sea routes.**
- **Sea routes act as receiving points of foreign consignment coming to India for distribution.**

Que 1. Read the source given below and answer the questions that follow:

India is surrounded by sea from three sides and is bestowed with a long coastline. Water provides a smooth surface for very cheap transport provided there is no turbulence. India has a long tradition of sea faring and developed many ports with place name suffixed with patten meaning port. An interesting fact about ports in India is that its west coast has more ports than its east coast.

(a) The emergence of ports as gateways of international trade became important after

the coming of the:

(I) Indian traders

(i) African traders

(iii) European traders

(iv) Chinese traders

Ans : (iii) European traders

(b) In case of the major ports, the ---------- decides the policy and plays regulatory functions.

(i) traders

(ii) producers

(iii) state governments

(iv) central government

Ans : (iv) central government

(c) The extension of---------- by the British towards the interior facilitated the linking of markets in India.

(i) roads

(ii) railways

(iii) waterways

(iv) Industries

Ans : (iii) Karachi port

(d) Kandla in the west was developed to compensate the loss of --------- after dependence.

(i) Diamond Harbour

(ii) Chennai port

(iii) Karachi port

(iv) Mumbai port

Ans: (iii) Karachi port

Que2. Read the source given below and answer the questions that follow:

Despite this major setback, Indian ports continued to grow after the Independence. Today, Indian ports are handling large volumes of domestic, as well as, overseas trade. Most of the ports are equipped with modern infrastructure. Previously, the development and modernization was the responsibility of the government agencies, but considering the increase in function and need to bring these ports at par with the international ports, private entrepreneurs have been invited for the modernization of ports in India. The capacity of Indian ports increased from 20 million tonnes of cargo handling in 1951 to more than 837 million tonnes in 2016.

(a) Kandla Port is specially designed to receive large quantities of petroleum and petroleum products and fertilizer.

(i) iron-ore and iron-concentrates

(ii) coffee, tea, wood palp, yarn and granite stone

(iii) Iroa-ore and fertilisers

(iv) petroleum and petroleum products and fertilizer

Ans : (iv) petroleum and petroleum products and fertilizer

(b) Which of the following port has an advantageous location being close to the Suez-Colombo route?

(i) Ennore Port

(ii) Kochchi Port

(iii) Tuticorin Port

(iv) Paradwip Port

Ans : (ii) Kochchi Port

(c) The---------- port is confronted with the problem of silt accumulation in the Hugli river.

(i) Haldia

(ii) Marmagao

(iii) Kolkata

(iv) Jawaharlal Nehru

Ans : (iii) Kolkata

(d) The construction of -------- has considerably extended the hinterland of Marmagao port

(i) Suez Canal

(ii) Konkan railway

(ii) Ennore Port

(iv) Offshore terminal

Ans. (ii) Konkan railway

Chapter-12 GEOGRAPHICAL PERSPECTIVE ON SELECTED ISSUES AND PROBLEMS

Chapter- 12th Geographical Perspective on Selected Issues and Problems

Environmental pollution results from 'the release of substances and energy from waste products of human activities. It can be classified as Air pollution, Water pollution, Land Pollution and Noise pollution etc.

Water Pollution

- **When concentration of suspended particles, organic and inorganic substances increases, the water becomes polluted, and hence becomes unfit for use.**
- **Human beings pollute the water through industrial, agricultural and cultural activities.**
- **There are many sources of pollution such as Sewage disposal, Urban run off, toxic effluents from industries, nuclear power plants etc.**
- **These sources are responsible for generation of many pollutants such as Odour, suspended solid particles, ammonia, urea, fluoride, mercury, lead, arsenic and radio active substances etc.**
- **Which badly affect the aquatic eco-system. Water pollution is a source of various water-borne diseases such as diarrhea, intestinal worms, hepatitis, etc.**
- **Ganga river is being polluted in Kanpur, Prayagraj, Varanasi, Patna and Kolkata through domestic and industrial wastes.**

- **Yamuna river is being polluted by agricultural run off resulting in high levels of micro-pollutants, domestic and industrial waste of Delhi.**

Namami Gange Programme

Ganga, as a river, has national importance but the river requires cleaning by effectively controlling the pollution for its water. The Union Government has launched the '*Namami Gange Programme*' with the following objectives:

- developing sewerage treatment systems in towns,
- monitoring of industrial effluents,
- development of river front,
- afforestation along the bank of increase biodiversity,
- cleaning of the river surface,
- development of 'Ganga Grams' in Uttarakhand, UP, Bihar, Jharkhand and West Bengal, and
- creating public awareness to avoid adding pollutants in to the river even in the form of rituals.

Air pollution

- **Addition of contaminants like dust, fumes, gas, fog, odour, smoke or vapour to the air is called Air Pollution.**
- **Combustion of fossil fuels as Coal, Petrol; mining and industries are the main sources of air pollution.**
- **These sources are responsible for generation of many pollutants such as Oxides of Sulphur, Oxides of Nitrogen, Carbon Monoxide, Hydro-carbon, Ammonia, lead etc.**
- **Air pollution causes various diseases related to respiratory, nervous and circulatory systems.**
- **Smog is caused by atmospheric pollution. Air pollution can also cause of Acid rains. These all are very harmful for human, animal and properties.**

Noise Pollution

- **Noise pollution refers to the state of unbearable and uncomfortable to human beings which is caused by noise from different sources.**
- **The main sources of noise pollution are various factories, mechanised, construction and demolition works, sirens, loudspeakers, automobiles and aircrafts etc.**

- **It is expressed in terms of Decibels (dB). Noise pollution is location specific and its intensity declines with increase in distance.**
- **Noise pollution is hazardous in many metropolitan and big cities in India.**

Urban waste disposal

- **Environmental pollution by solid wastes has now got significance because of enormous growth in the quantity of wastes generated from various sources.**
- **It refers to a variety of old and used articles such as small pieces of metals, broken glassware, plastic containers, polythene bags, CDs, etc dumped at different places.**
- **These wastes cause diarrhoea, malaria, diphtheria and Cholera etc. dumping into river leads to water pollution.**
- **In big and metropolitan cities about 90% wastes are collected and disposed but in most other cities about 30-50% of the waste are left uncollected which accumulate on streets and open space.**

Urban Rural Migration

- **Population migrate to urban areas for job opportunities etc. many people directly come to mega cities for their livelihood.**

A Case Study

Ramesh did not have chance to study after 9th standard so he discontinued his study and began to work as labourer. He as a welder, works in Talcher Coal region for two years. Whatever he could earn gave to his home. All the expenditure of his home was based on that money which he sent. he then went to Ludhiana for where he was not satisfied and moved to Surat under the guidance of his friend. He began to get better money than earlier.

But for this he had to be sperate from his near and dear ones as the job is temporary and transferable.

Comments –

- **For earning some money and taking care of his family, poor people go to urban area where they earn meagre but their spouses are left behind in rural areas to look after children and elderly people.**
- **We see that Rural – urban migration stream is dominated by the males.**

Problems of Slums

- **On one side the urban area are known for better infrastructural facilities like sanitation, transportation and communication, parks, playgrounds, lawns etc. on the other hand we also find Slums, Jhuggi, Jhopari clusters and colonies of shanty structure.**

- **Poor people migrate form rural areas to urban area in search of job and other opportunities.**
- **They are not capable to bear high rent and high cost land. So they occupy environmentally incompatible and degraded areas.**
- **Slums are residential areas of the least choice, dilapidated houses, poor hygienic conditions, poor ventilation, lack of basic amenities like drinking water, light and toilet facilities etc. unregulated drainage system and overcrowded narrow street patterns are serious health and socio-environmental hazards.**
- **The poverty makes them vulnerable to drug abuse, alcoholism, crime, apathy and ultimately social exclusion.**
- **In India, Dharavi in Mumbai is the largest slum of Asia.**

Land Degradation

- **Soil erosion, waterlogging, salinisation and alkalinisation of land lead to land degradation. In this way land is degraded and productivity declines.**
- **National Remote Sensing Centre (NRSC) has classified wastelands by using remote sensing techniques.**
- **There are a few types of wastelands such as gullied /ravinous land, desertic or coastal sands, barren rocky areas, steep sloping land, and glacial areas, which are primarily caused by natural agents.**
- **There are some other types of wastelands such as degraded shifting cultivation area, degraded land under plantation crops, degraded forests, degraded pastures, and mining and industrial wastelands, are caused by human action.**

A Case Study

- **Jhabua district is located in the westernmost agro-climatic zone in Madhya Pradesh, is one of the backward districts of the country.**
- **It is mostly inhabited by Bhils (Tribe).**
- **Watershed Management Programmes acknowledge the linkage between land, water and vegetation and attempts to improve livelihoods of people through natural resource management and community participation.**
- **Watershed management is being carried out very successfully in The Petlawad block of Jhabua in the northernmost part of the district with the help of Government and NGOs.**
- **People have also revitalized large parts of common property resources. They have planted fodder grasses.**

- **There was encroachment on this land by a villager from an adjoining village. The villagers called the tehsildar to ascertain the rights of the common land.**

Important Questions

1. **Describe any five problems of slums in India.**
2. **How does air pollution and noise pollution affect human health?**
3. **"Indiscriminate use of water by increasing population and industrial expansion has led to degradation of the water quality considerably in India." Explain the values that can help in maintaining the quality of water.**
4. **"The Urban waste should be properly treated as a resource for various needs of mankind." Explain the values that can help in changing the urban waste into resources.**
5. **Why is the 'Urban Waste Disposal' a serious problem in India? Explain any three reasons.**
6. **Explain any three factors responsible for the depletion of water resources. Examine any two legislative measures for controlling water pollution in India.**

Que 1 :Read the source given below and answer the questions that follow:

.... Buses merely skirt the periphery. Autorickshaws cannot go there, Dharavi is part of central Bombay where three wheelers are banned. Only one main road traverses the slum, the miscalled "ninety-foot road', which has been reduced to less than half of that for most of its length. Some of the side alleys and lanes are so narrow that not even a bicycle can pass. The whole neighbour hood consists of temporary buildings, two or three storeyed high with rusty iron stairways to the upper part, where a single room is rented by a whole family, sometimes accommodating twelve or more people,it is a kind of tropical version of the industrial dwelling of Victorian London's East End . But Dharavi is a keeper of more sombre secrets than the revulsion it inspires in the rich, a revulsion, more over that is, in direct proportion to the role it serves in the creation of the wealth of Bombay, In this place of shadowless, treeless sunlight, uncollected garbage. stagnant pools of foul water, where the only non human creatures are the shining black crows and long grey rats, some of the most beautiful, valuable and useful articles in India are made. From Dharavi come delicate ceramics and pottery, exquisite embroidery and zari work, sophisticated leather goods, high-fashion garments, finely - wrought metalwork, delicate jewellery settings, wood carvings and furniture that would find its way into the richest houses, both in India and abroad …… Dharavi was an arm of the sea, that was filled by waste. largely produced by the people who have come to live there Scheduled Castes and poor Muslims. It comprises rumbling buildings of corrugated metal, 20 metres high in places, used for the treatment of hides and tanning. There are pleasant parts, but rotting garbage is everywhere..."

(a) Which of the following problem does Dharavi face?

(i) Proper sanitization

(ii) Having proper housing

(iii) Extended miserable and unhygienic conditions

(iv) Deplorable condition of upper-caste population

Ans : (iii) Extended miserable and unhygienic conditions

(b) Apart from all the negative aspects which of the following is the positive side of Dharavi slum?

(i) It is Asia's largest slum

(ii) Three-wheelers are banned from entry

(iii) Availability of minerals and energy resources

(iv) It has proper sanitation

Ans : (iv) It has proper sanitation

(c) The rambling buildings are used for

(i) accommodating people

(ii) treatment of hides and tanning

(iii) general purposes

(iv) wood-carving and making furniture

Ans : (ii) treatment of hides and tanning

(d) Which of the following is part of the urban renewal mission launched by the Government of India to improve the quality of life in urban slums?

(i) Clean India, Green India

(ii) Planting of trees

(iii) The Swachh Bharat Mission

(iv) Industrialization

Ans: (iii) The Swachh Bharat Mission

Que 2. Read the source given below and answer the questions that follow:

Jhabua district is located in the westernmost agro-climate zone in Madhya Pradesh. It is, in fact, one of the five most backward districts of the country, It is characterized by high concentration of tribal population (mostly Bhils). The people suffer due to poverty which has been accentuated by the high rate of resource degradation, both forest and land. The watershed management programmes funded by both the ministries of "Rural Development and "Agriculture", Government of India, have been successfully implemented in Jhabua district which has gone a long way in preventing land degradation and improving soil quality.

(a) Which of the following is an attempt to improve livelihoods of people through natural resource management and community participation?

(i) Common Property Resources

(ii) Namami Gange Programme

(iii) Equal Distribution of Village Commons

(iv) Watershed Management Programmes

Ans : (iv) Watershed Management Programmes

(b) Social fencing, with reference to common property resources refers to

(i) right to deny.

(ii) voluntary surveillance of the community lands.

(iii) fencing the individual property resources.

(iv) individual skill development and entrepreneurship.

Ans : (iv) Watershed Management Programmes

(c) Gullied /ravinous land, desertic or coastal sands, barren rocky areas, steep sloping land, and glacial areas are the types of

(i) deteriorated agricultural land.

(ii) deteriorated pastures.

(iii) wastelands.

(iv) deteriorated forests.

Ans : (iii) wastelands.

(d) Unchecked process of degraded land may lead to its conversion to

(i) waterlogging

(ii) wasteland

(iii) salinisation

(iv) alkalinisation

Ans : (ii) wasteland

MCQs Questions.

Question 1.
What is the main source of pollution?
(A) Solid waste
(B) Crops
(Q Animals
(D) Forests

Answer

Answer: (A) Solid waste

Question 2.
Which is the natural source of air pollution?
(A) Man
(B) Water
(C) Agriculture
(D) Volcanoes

Answer

Answer: (D) Volcanoes

Question 3.
What is the source of pollution along the banks of Ganga?
(A) Leather industry
(B) Paper industry
(C) Gases
(D) Waste

Answer

Answer: (A) Leather industry

Question 4.
Which town along the banks of Yamuna is polluted?
(A) Lucknow
(B) Mathura
(C) Kanpur
(D) Varanasi

Answer

Answer: (B) Mathura

Question 5.
What is the unit for measuring noise pollution?
(A) Millibar
(B) Decibal
(C) Decimetre
(D) Centimetre

Answer

Answer: (B) Decibal

Question 6.
In which Dharavi stream is located?
(A) Karnataka
(B) Gujarat
(C) Maharashtra
(D) Rajasthan

Answer

Answer: (C) Maharashtra

Question 7.
Land degradation is not the result of:
(A) Erosion
(B) Salinity
(C) Alkalinity
(D) Forests

Answer

Answer: (D) Forests

Question 8.
The wasteland in India covers:
(A) 7.5%
(B) 10.5%

(C) 15.9%
(D) 25.15%

Answer

Answer: (D) 25.15%

Question 9.
Jhabua district is located in:
(A) Karnataka
(B) Madhya Pradesh
(C) Chhattisgarh
(D) Jharkhand

Answer

Answer: (B) Madhya Pradesh

Question 10.
By 2050, how many people will live in towns?
(A) 1/4th
(B) 1/3rd
(C) 2/3rd
(D) 3/4th

Answer

Answer: (C) 2/3rd

Question 11.
Which one of the following rivers is highly polluted?
(A) the Brahmaputra
(B) the Yamuna
(C) Satluj
(D) Godavari

Answer

Answer: (C) Yamuna

Question 12.
Which one of the following diseases is caused by water pollution?
(A) Conjunctivitis
(B) Respiratory infections
(C) Diarrhoea
(D) Bronchitis

Answer

Answer: (B) Diarrhoea

Question 13.
Which one of the following is the cause of acid rain?
(A) Water pollution
(B) Noise pollution
(C) Land pollution
(D) Air pollution.

Answer

Answer: (A) Air Pollution

Question 14.
Push and pull factors are responsible for:
(A) Migration
(B) Slums
(C) Land degradation
(D) Air pollution

Answer

Answer: (A) Migration

SHORT TYPE QUESTION (3 marks)

Question 1
Give two examples of River pollution.
Answer:
Pollution of Rivers. With rapid urbanization and industrialization, huge quantities of waste water enter rivers. About 873 million liters per day (mid) of waste water drained into the Ganga before the Ganga Action Plan was initiated. The Sabarmati, a small river, alone receives 998 mid of dirty water from the city of Ahmedabad.

Question 2.
Explain any five objectives of 'Namami Gange Programme'.
Answer:
Ganga river has national importance but this river needs cleaning by effectively controlling the pollution. The water of this river is polluted 'Namami Gange Programme' has launched by union government.

Objectives of Namami Gange Programme are:

- Motive to develop sewerage treatment system in towns.
- Objective of creating awareness in public to avoid adding pollutants in to the water of the river. People because of their own rituals do so.
- Objective of development of Ganga Grams in the areas of Uttarakhand, U.P., Jharkhand, Bihar and W.B.
- Industrial pollution from towns also a serious problem for the river. So monitoring of industrial effluents is also a major objective of the programme.
- Domestic wastes from urban centres also a serious problem so cleaning of the surface of the river is also a good objective.

Question 5.
Mention any two source of land pollution in India. (C.B.S.E. 2013)
Answer:
(i) Human and animal excreta.
(ii) Use of pesticides and fertilizers.

Question 6.
Describe any three problems of slums in India. (C.B.S.E. 2014)
Answer:
(i) There is a lack of basic amenities like toilet, safe drinking water, electricity, etc., in slums.
(ii) People are prone to diseases and illness as they are malnourished.
(iii) Poverty makes people vulnerable to drug abuse, alcoholism, crime and exclusion from society.

Question 7.
Describe the effects of air pollution. (C.B.S.E. 2011)
Or

How is air pollution harmful ?
Or
Explain any three different cause's of air pollution. (Outside Delhi 2019)
Or
"Air pollution is very harmful to flora, fauna and property. Explain any three values which can help in maintaining pollution free air to some extent. (C.B.S.E. Delhi 2017)
Answer:
Effects of air pollution. The air pollution modifies weather and climate, effects human health and biotic community.
(1) Chlorofluorocarbons (CFCs) cause depletion of ozone layer which enable ultraviolet rays of the sun to reach the earth and increase atmospheric temperature.

(2) Increased concentration of carbon dioxide and other gases in the atmosphere causes greenhouse effect raising the atmosphere temperature.

(3) Smoky fog over cities called as urban smog is caused by these gases. It proves very harmful to human health.

(4) Air pollution can also cause acid rains.

(5) Rainwater analysis of urban environment has indicated that pH value of the first rain after summer is always lower than the subsequent rains. Studies conducted by NEERI show that the minimum pH of 4.5 was in Kochi, while the average pH of all rains at all the urban agglomerations ranged from 6.2 to 7.6.

Question 8.
Name the Industrial wastes causing water pollution.
Answer:
Though water pollutants are also created from natural sources (erosion, landslides, decay and decomposition of plants and animals, etc.) pollutants from anthropogenic sources are the real causes of concern. They include industrial sources, urban source, agricultural source, cultural source, etc.

Industries produce several undesirable products including industrial wastes, polluted waste water, poisonous gases, chemical residuals, numerous heavy metals, dust, smoke, etc. Most of the industrial wastes are disposed off in running water. Consequently, poisonous elements reach the reservoirs, rivers and other water bodies which destroy the biosystem of these waters. Major water polluting industries are leather, pulp and paper, textiles and chemicals.

Question 9.
How is air pollution harmful ? Explain any three different causes of air pollution.
Answer:
Air pollution is harmful. Air pollution results into the spread of diseases related to lungs, skin and throat etc. Air pollution also causes acid rain which damages human health. The ozone layer is depleted by the chlorofluorocarbon and great shrinkage in the glacier.

Causes of air pollution:
(i) Natural Resources: Such as volcanic eruption, dust, storm, fires etc.

(ii) Factories: Factories cause smoke, ash.

(iii) Automobiles: Automobiles release carbon monoxide & lead in the atmosphere. Transport and farming are the main actions that have been directly linked to emissions. Forest fires and the burning of living, or recently living organisms, represent a further major source of emission.

Question 10.
Name the diseases caused by air and water pollution. (C.B.S.E. 2014)
Answer:
Air pollution causes diseases of lungs, heart, nervous and circulatory systems. A study conducted in the ambient air of Kolkata (in 1994) concluded that three out of every ten persons in the city suffered from some kind of respiratory diseases that cough, bronchitis and allergic-rhinitis which were associated with concentrations of suspended particulate matter.

The diseases commonly caused due to contaminated water are diarrhea, trachoma, intestinal worms, hepatitis, etc. Recent World Bank and World Health Organization data shows that about one-fourth of the communicable diseases in India are water-borne.

Question 11.
Compare the water pollution in Ganga and Yamuna Rivers.
Answer:

	Ganga River	**Yamuna River**
1. Polluted stretches 2. Nature of pollution	(a) Downstream of Kanpur. (b) Downstream of Varanasi. (c) Farrakka barrage to Allahabad. 1. Industrial pollution from towns like Kanpur. 2. Domestic wastes from urban centres. 3. Dumping of carcasses in the river.	(a) Delhi to confluence with Chambal. (b) Mathura and Agra. 1. Extraction of water by Haryana and Uttar Pradesh for irrigation. 2. Agricultural run off resulting in high levels of micro-pollutants in the Yamuna. 3. Domestic and indus- trial waste of Delhi flowing into the river.

Question 12.
Write a note on Land Pollution. (C.B.S.E. 2011)
Ans.
Land Pollution. Land pollution encompasses the degradation and pollution of soil and vegetative cover. Deterioration in the quality of soil occurs because of

- soil erosion
- reduction in plant nutrients
- decline in soil micro-organisms
- lack of moisture
- concentration of various harmful elements, etc.

Erosion is caused by natural and human factors. Deforestation, overgrazing and improper use of land also accelerates soil erosion. It is estimated that 130 million hectares of land is affected by erosion problems in the country. Shifting agriculture alone has affected about 30 million hectares.

Besides erosion, salinization and flooding caused due to construction of dams, reservoirs, canals and tanks in geologically unsuitable areas, excessive use of canal irrigation and diversion of floodwater in areas of impervious rocks also reduce the potentiality of land. Because of over-irrigation, saline and alkaline areas have increased in the northern plains of the country.

Irrigation also changes the structure of the soil. Besides, use of chemical fertilizers, pesticides, insecticides and herbicides degrade the soil by destroying their natural- physical, chemical and biological properties. Chemical fertilizers destroy micro-organisms of the soil, which are agents of nitrogen conversion in the soil.

They increase sterility and reduce water-holding capacity of soil. They also leave their traces in crops, which act as slow poison for human beings. Similarly, organic phosphate compounds used to kill insects can stay for longer time in soils destroying micro-organism.

Geographical Perspective on Selected Issues and Problems Long Answer Type (5 marks)

Question 1.
Describe urbanization in India and discuss its problems.
Answer:
Urbanization. Many Geographers have defined urbanisation.

- According to Griffith Taylor: Urbanisation is a shift of people from village to city.
- According to G.T. Trewartha: The urbanisation process denotes an increase in the fraction of a population which is urban.

According to changing Political, Social and Economic conditions, the human settlements have been developing. Rural settlements were changed to urban settlements. Therefore urbanisation is a process in which rural settlement, change to urban settlements. According to E.E. Bergel, "The process of change of villages to towns is known as urbanisation. "

Nature and Trends of Urbanisation in India
In India, urbanisation has not developed on a large scale. The size of urban population is large, India has the second largest urban population in the world, but the percentage of urban population is only 31.6%.

It is small as compared to urban population of 82.6% in USA, 91.7% in Japan, 74% in Russia, 89.3% in Australia and 86.3% in New Zealand. China has 51.8% urban population. During the last 100 years, the urban population is increasing in India. It has increased from 11% to 31.16% in 2011. The total urban population was 2-6 crores in 1901. It has increased 11 times now.

Year	**Total Urban Population (million)**	**% of Total**	**Increase %**
1901	25.8	11.0	
1911	25.9	10.4	6.35
1921	28.1	11.3	8.22
1931	33.5	12.1	19.14
1941	44.1	14.1	31.97
1951	62.4	17.6	41.38
1961	79.0	18.2	26.41
1971	109.1	20.2	38.23
1981	159.7	23.3	46.02
1991	212.8	25.7	36.02
2001	285.3	27.7	31.33
2011	377.1	31.16	31.8

Problems of Slums and Urban waste : Many problems have arisen due to increasing population and urbanisation. The problems of slums and disposal of urban waste are the two main problems.

Slums: There is a shortage of space in towns. The increasing population creates housing problems. Multi-storeyed buildings are being constructed to solve it. Generally, push and pull factors force the people to migrate to towns.

These people move in search of employment. In towns, the housing facility is costlier. The people construct huts on the vacant land outside the towns. There is dense population in such slums. There is no facility for water-drainage and disposal of urban waste. People's standard of living is very low. The administration has taken many steps to provide facilities to these areas, yet these slums suffer from many diseases.

According to 2001 census, data was collected regarding slums. This population is known as the slum population. About 4 crore 3 lakh people live in slums. This covers a population of 22.6% of towns, with the result 1/4 of urban population lives in slums. The maximum number of slums are found in Maharashtra and have a population of 1,06,40,000.

The maximum slum population in towns is found in Mumbai with a population of 48.8 per cent. Patna has only 0.25 percent slum population. Meghalaya has the highest percentage (41.33%) and Kerala has the lowest percentage (1.81%) of slum population.

Disposal of urban waste : Another problem in urban areas is the domestic sewage. This urban waste leads to water pollution. The urban waste, the animal waste and the industrial waste material is deposited in heaps over land due to which the land becomes unsuitable for other uses. This waste creates many health problems. The urban waste thrown in rivers and streams cause water pollution.

The waters of river Ganga and Yamuna have been polluted in this way. The towns located along the banks of these rivers use their water as drinking water. The polluted water affects animals living in rivers and spreads many diseases like Hepatitus, Typhoid, Dysentery, etc. which affects human health.

Question 2.
Write a note on Environmental pollution in India.
Answer:
Environment: Environment is the sum total of a set of surroundings that affect the development and life of organisms. It includes natural as well as cultural environment.

Environmental Pollution : Environmental pollution has become a serious problem for mankind. It is threatening the existence of mankind. The composition of air is being altered by undesirable chemical, physical and biological elements. It is known as air pollution.

Atmospheric pollution is as old as civilisation. The use of fire caused gases, smoke, ash. With the development of Industrialisation, the natural composition of the earth atmosphere is gradually degrading. It has damaged the environment. The atmospheric pollution has endangered the existing and future generations.

Pollutants : The common pollutants found in air are as follows:

- Deposited matter like Soot, Smoke, tandust.
- Gases like sulphur, Carbon-monoxide, Nitrogen oxide, Ammonia, Fluorine, etc.
- Chemical Compounds : Like arenes, Phosgenes, detergents.
- Metals like lead, Iron, zinc, mercury.
- Sewage
- Radio-active Substances.
- Noise and heat.

Atmospheric Pollution. Atmosphere is of fundamental importance for our existence. Due to industrial revolution, the atmospheric pollution is increasing gradually. The effect of atmospheric pollution is not local but regional. The whole of atmosphere is affected. It has harmed ultra-violet shielding ozone layer. The addition of heat-trapping green house gases will cause a disaster.

Air-Pollution by Natural Agents : The volcanic eruptions, forest fires, natural decay of organic and in organic matter is causing air pollution. These cause smoke, ash, gases in atmosphere. These, reduce visibility. Smoke is injurious to health. Acid rain has changed the composition of air and water.

Human activities : The burning of fuels and chemicals is increasing the amount of carbon dioxide in atmosphere. It has increased by 25%. With the result, the average temperature of the earth is increasing. It has increased by 0.3°C to 0.7°C during the last century. Deforestation has also lead to increase in carbon dioxide. The increasing use of fuels in vehicles has increased the amount of sulphur dioxide, carbon monoxide and has created many respiratory diseases.

Atmosphere is of fundamental importance for human health. Most of the countries of the world have enacted laws to check air pollution. Only a healthy nation can utilize its natural resources.

Water pollution : Water is another indispensable source of our life. Pollution of water has caused far- reaching implications. It is a serious problem in metropolitans like Delhi, Kolkata and Mumbai. It not only affects the water of rivers, tanks and lakes; but also ocean water. The following factors affect water pollution:

- Domestic sewage
- Industrial wastes
- Agricultural activities
- Thermal pollution
- Marine pollution.

Land Pollution: Land is one of the most important components of life support system. Land is degrading due to over use from centuries. Depletion of land is caused by :

- Soil erosion
- Pollutants.

Soil erosion is active on steep slopes and areas devoid of vegetation. Torrential rainfall also washes away fertile layer of soil. Ravines or gullies are caused. Deforestation, over grazing has also led to soil erosion. The effect of soil erosion is a serious problem in agricultural countries.

The accumulation of pollutants on land makes it unsuitable for other uses. The impact of soil erosion on ecological system is visible in Siwalik hills where the harm has been done by chos.

Question 3.
Describe the major problems I associated with urban water disposal in India. (C.B.S.E. 2011)
Answer:
Urban Waste Disposal Problems. The environmental problems of cities include water, air and noise pollution and disposal of toxic and hazardous wastes.

Problems. Lack of sewers or other means to dispose off human excretes safely and the inadequacy of garbage collection services adds to water pollution because many of the uncollected wastes are washed into streams. The dumping of industrial waste into rivers is a major cause of industrial waste into rivers is a major cause of water pollution. River pollution from city-based industries and untreated sewage leads to serious health problems downstream.

Increase in urban wastes.
Solid waste generation continues to increase in both absolute and per capita terms in cities. It is estimated that per capita waste generation increased from 375 gm/day to 490 gm/day during 1971-1997 in urban areas of the country. This increase along with the population increase has tremendously swollen up the figures of total waste generation quantum. The amount of total wastes has increased from 14.9 Tonnes per day to 48. Tonnes per day.

III effects of urban waste : At the same time, the composition of solid waste changes from biodegradable organic material to plastic and other synthetic materials, which take much longer time to decompose. When this solid waste is not collected and disposed off efficiently and effectively, it attracts rodents and flies which spread diseases. It also pollutes and degrades land and water resources.

Table. India: Composition of Solid Wastes from Cities (in Percentage)

Year/Components	Paper	Plastics	Metals	Glass	Rags	Ash and fine earth	Total degradable
1971-73 (40 cities)	4,14	0.69	0.60	0.40	3.83	49.20	41.24
1995 (23 cities)	5.78	3.90	1.10	2.10	3.50	40.30	41.80

It is evident from the above Table that shares of plastics, glass and metals increased remarkably through time. Plastics recorded five-fold jump within twenty years. Most of these do not have a good recycling value and hence are disposed off by municipalities as part of the kitchen waste.

Harmful for Health.
Inability to collect solid waste is a serious problem. In metropolitan cities like Mumbai, Kolkata, Chennai, Bangalore, etc. about 90 per cent of the solid waste is collected. But in most of the cities and towns about 30 to 50 per cent of the waste generated are left uncollected which accumulate on streets, in open spaces between houses and in wasteland, contributing to serious health hazards.It is remarkable that both formal and informal sectors are involved in collection of solid waste, yet the problem of urban waste disposal remains unsolved. These wastes should be treated as Resource and utilized for generating energy and comfort.

Effect on ground water. About 90 percent of the municipal water collected by the civic authorities is dumped in low-lying areas outside the city/town limit, without any provision for treatment. As a result, heavy metals find their way to the underground water rendering it unfit for drinking. Untreated wastes ferment slowly and release noxious biogas to the atmosphere, including methane (65 to 75 per cent) which is a green house gas and which has a global warming potential 34 times more than carbon dioxide.

Question 4.
Explain soil erosion, salinization and water logging problems.
Answer:
1. Irrigation. Because of our irrigation, saline areas increased in northern planes of country. Irrigation also changes the structure of the soil.

2. Use of chemicals. Besides, use of chemical fertilisers, pesticides, insecticides and herbicides degrades the soil by destroying their natural, physical, chemical and biological properties.

3. Use of fertilisers. Chemical fertilisers destroy micro-organisms of the soil, which are agents of nitrogen conversion in the soil. They increase sterility and reduce water-holding capacity of the soil. They also leave their traces in crops, which act as slow poison for human beings.

4. Use of pesticides. Similarly, organic phosphate compounds used to kill insects can stay for longer time in soils destroying micro-organisms.

5. Industrial wastes. Improper disposal of industrial and urban wastes, and irrigation of agricultural fields with polluted urban sewage water near urban and industrial areas degrade the soil. The toxic chemical substances of industrial effluents and urban sew ‘age enter the soil mostly in their neighborhoods and pollute them.

6. Pollutants emitted by chimneys. Besides gaseous and solid pollutants emitted by the factory chimneys are transported by winds. These pollutants containing toxic substances, are deposited on soils and pollute them.

7. Acid Rain. Sulphur emitted from factories cause acid rains which increases the acidity of the soils. Pollutant from cement factories like kilns, coal mining and transport vehicles, thermal power plants, etc., also pollute the soils on a large scale.

Question 5.
Describe the air pollution caused by automobiles. Give examples for four metro- pollution.
Answer:
The vehicles which use leaded fuel, account for about 95% of air borne lead pollution. The growth of number of motor vehicles in the last three decades has been almost 32 times. In 1997-98, there were 0.53 million buses, 2.53 million trucks, 28.24 million two- wheelers, 1.34 million auto rickshaws and 5.05 million cars, jeep and taxis.

Urban air quality has generally deteriorated throughout India. The reasons are absence of pollution abatement and rising number of motor vehicles that use leaded fuels. The annual mean concentration trends for the National Environmental Engineering Research Institute (NEERI) for some cities observed various atmospheric pollutants. From figures,
(1) it is clear that nitrogen dioxide concentration trend is stabilizing for Mumbai, Kolkata and Chennai
(2) Sulphur dioxide concentrations are decreasing in Delhi but still increasing in Mumbai and Kolkata.
(3) Suspended Particulate Matter (SPM) concentrations have somewhat increased in all these cities.

City	SPM Dioxide	Sulphur nitrogen	Oxide of	Hydrocarbons monoxide	Carbon	Total
Delhi	8.58	7.47	105.38	207.98	542.51	872
Mumbai	4.66	3.36	59.02	90.17	391.6	549
Bengaluru	2.18	1.47	21.85	65.42	162.8	254
Kolkata	2.17	3.04	45.58	36.67	156.87	245

Table. India: Estimated Vehicular Emission Load in certain Metropolitan Cities
(Vehicular Pollution Load tonne per day)

Geographical Perspective on Selected Issues and Problems HOTS

Question 1.
'Land Degradation is caused by human made processes are more harmful than natural processes in India.' Analyse the statement with suitable examples. (C.B.S.E. 2009)
Answer:
Land degration caused by man-made processes amounts to 5.58% of the total rate of degradation. It is more than land degraded by natural sources (2.4%). Wastelands are formed due to shifting cultivation, planation crops, degraded forests and pastures, mining and industrial wastelands.

Question 2.
Why is the 'Urban Waste Disposal' a serious problem in India? Explain any three reasons. (Delhi 2019) (C.B.S.E. 2014)
Answer:
Urban waste disposal is a serious problem in India-

- Solid waste cause health hazard and spread diseases like Typhoid, Diphtheria, Diarrhoea, Malaria, and Cholera.
- The dumping of industrial waste into rivers leads to water pollution.
- Untreated wastes ferment slowly and release toxic gases into the atmosphere including Methane.

Question 3.
Explain the reasons for the coming up of slums in developing countries like India with suitable examples.
(Sample Paper 2018-19)
Answer:
Slums are clusters of shanty structures. These are inhabited by those people who are forced to migrate from the rural areas to these urban centres in search of livelihood but are not able to afford proper housing due to high rents. They occupy environmentally incompatible and degraded areas. Developing countries like India face this problem at a large scale. For e.g., Dharavi, Asia is largest slum in a striking example of the same.

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		Sample Paper	**SET – 1**						
Blueprint of Geography 12th, 2022-23									
FUNDAMENTAL OF HUMAN GEOGRAPHY	**Ch-**	**Name**	**MCQ (1)**	**Source based (3)**	**Case based (3)**	**SA (3)**	**LA (5)**	**Map (5)**	**Total**
	1	Human Geography nature and Scope	1						1
	2	Wold population density distribution and growth	1				5		6
	4	Human Development	1			3			4
	5	Primary Activities	1			3			4
	6	Secondary Activities	1				5		6
	7	Tertiary Activities	1						1
	8	Transport and Communication	1	3					4
	9	International Trade	1			3			4
		Map						5	5
INDIA: PEOPLE AND ECONOMY	1	Poplation Distribution density and growth	1			3			4
	4	Human Settlement	1						1
	5	Land Resource and Agriculutre	1				5		6
	6	Water Resource	1		3				4
	7	Mineral Resource	1						1
	9	Planning and Sustainable development	1						1
	10	Transport and Communication	1				5		6
	11	International Trade	1						1
	12	Geographical Perspective and Selected Issues in India	1				5		6
		Map						5	5
			17	**3**	**3**	**12**	**25**	**10**	**70**

Sample question Paper 2022-23
Set – 1
Class- 12
Subject- Geography (029)

Duration : 3 hours M. M. – 70

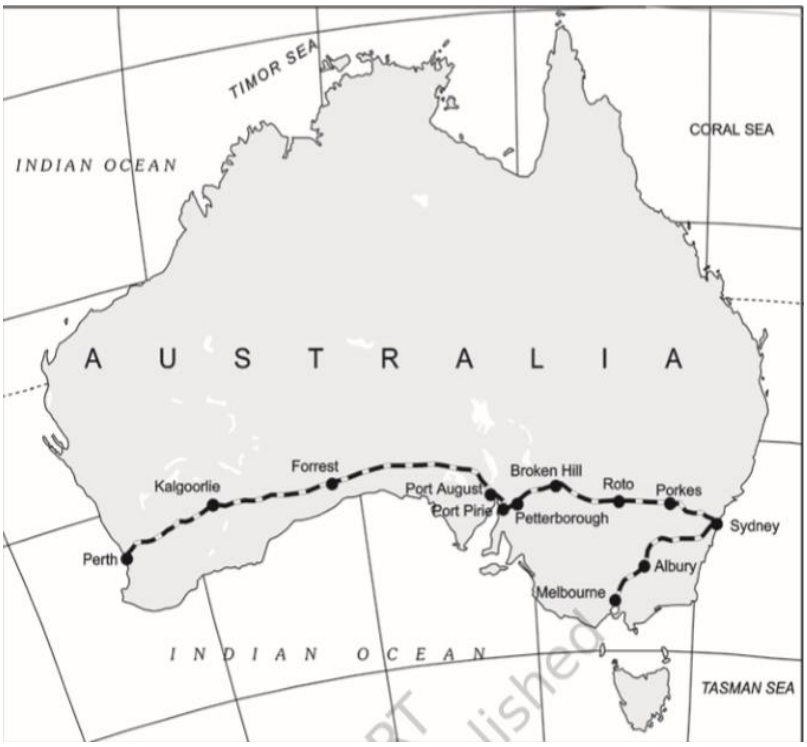
General Instructions:
I Question paper is divided into 4 sections A ,B,C&D.
ii. In section A question number 1 to 17 are MCQ type questions.
iii. In section B question number 18-23 are SA type questions(80-100 words).
Question 18 & 19 are Source based questions.
iv. In section C question number 24 to 28 are Long Answer based questions (120-150 words).
v. In section D question number29&30 are Map based questions having 5 sub parts.

Section-A [Multiple Choice Questions]

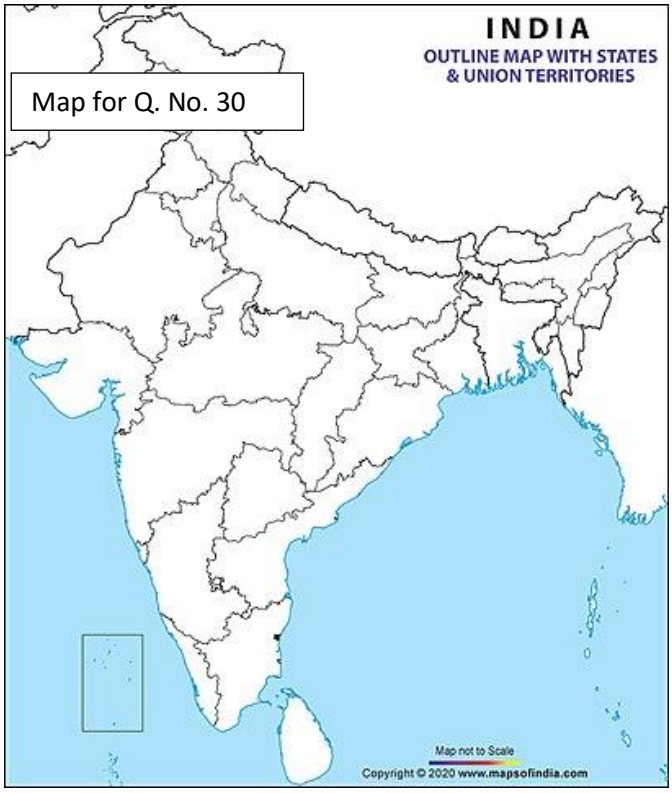
1	Which one of the following types of industries produces raw materials for other industries? (a) Cottage Industries (b) Small-scale Industries I Basic Industries (d) Footloose Industries	1
2	Which one of the following activities is related to quaternary sector? (a) Manufacturing computers (b) Paper and Raw pulp production I University teaching (d) Printing books	1
3	Singapore is an example of which one of the following seaports. (a) Oil Port (b) Port of Call I Packet Station (d) Naval Port	1
4	Which one of the following is non-renewable source of energy? (a) Hydel (b) Thermal (c) Solar (d) Wind power	1
5	Which one of the following is the headquarter of North eastern Railway Zone? (a) Kolkata (b) Patna (c) Maligaon (Guwahati) (vi) Gorakhpur	1
6	In which of the following human was afraid of the nature and worshipped it? A) Possibilism B) Environmental Determinism C) Neo Determinism	1

	D) All The Above	
7	Which is not used to measure the human development index A) Literacy rate B) Per capita income C) Life expectancy D) Social status of the people	1
8	If any industry is Capital intensive and Scientific methods adopted to grow crops means it is- A) Plantation farming B) Dairy farming C) Subsistence farming D) Intensive farming	1
9	Which one of the following is not an area of sparse population? (a) The Atacama (b) South-east Asia I Equatorial region (d) Polar region	1
10	Which one pair of the following places is linked by Channel Tunnel? (a) London – Berlin (b) Paris – London I Berlin – Paris (d) Barcelona – Berlin	1
11	Which one of the following states has the highest proportion of urban population in India according to 2011 Census? (a) Tamil Nadu (b) Maharashtra I Kerala (d) Goa	1
12	Which age group of children has fundamental right to education as per Indian constitution? a) 5- 10 years b) 6-14 years c) 8-16 years d) 10-18 years	1
13	Which Department is responsible for measuring Geographical area? a) Urban Development Authority b) The Survey of India c) Metabiological Department of India d) Geological Survey of India	1
14	What is the share of India in the world's water resources? (vi) 1% (ii) 2% (iii) 3% (iv) 4%	1
15	ITDP refers to which one of the following? (a) Integrated Tourism Development Programme (b) Integrated Travel Development Programme	1

	I Integrated Tribal Development Programme (d) Integrated Transport Development Programme	
16	Respiratory, Nervous and circulatory systems related diseases are caused due to which pollution? a) Water Pollution b) Air Pollution c) Noise Pollution d) Land Pollution	1
17	Which one of the following is a land locked harbour? (a) Vishakhapatnam (b) Mumbai I Ennor (d) Haldia	1
	Section B -SA type questions	
18	Case based question- Read the following passage and answer the questions that follow. Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become an example for watershed development throughout the country. In 1975, this village was caught in a web of poverty and illicit liquor trade. The transformation took place when a retired army personnel, settled down in the village and took up the task of watershed development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition. Voluntary labour was necessary to ensure minimum dependence on the government for financial aids. Even those who were working outside the village contributed to the development by committing a month's salary every year. Work began with the percolation tank constructed in the village. In 1975, the tank could not hold water. The embankment wall leaked. People voluntarily repaired the embankment. The seven wells below it swelled with water in summer for the first time in the living memory of the people. The people reposed their faith in him and his visions. A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and un touch ability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stallfeeding. The cultivation of water intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. "It made the community leaders complete representatives of the people." A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A Rs. 22 lakh school building was constructed using only the resources of the village. No donations were taken. Money, if needed, was borrowed and paid back. The villagers took pride in this selfreliance. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment.	3

	(vi) Which method of water conservation brought prosperity in Ralegan Siddhi? (ii) The village of Ralegan Siddhi was suffering from which social evils? (iii) Which measures were taken to increase democratic participation in the village?	
19	Observe the given map and answer the following questions:  1) Name the Railway line and name the country where it lies. 2) Name the stations marked as „A" and „B". 3) State two reasons why it is the most important route in Australia?	3
20	Why is Marmagao Port called natural port?	3
21	Differentiate between Growth and Development.	3
22	Mention any three characteristics of Extensive Commercial Grain Cultivation in the world.	3
23	Which are the major demographic attributes of human population? Explain.	3
	Section C -Long Answer based questions	
24	**What are the important factors which influence the industrial location**	5
25	**Which are the major two types of farming are in practice in India**	5

26	Define population growth. Explain the Demographic Transition Theory with the help of diagram.	5
27	Discuss advantages and disadvantages of pipeline transportation	5
28	Elaborate any five problems of slums of metropolitan cities in India –	5
	Section-D [Map Based Questions]	
29	On the given political map of the world, the following seven features are shown. Identify any five of these features and write their correct names on the lines marked near each feature. **A.** An International Airport- **B.** A major sea-port- **C.** Grasslands of Africa with extensive commercial grain farming- **D.** An important Shipping Canal- **E.** Industrial region of the US. **F.** Largest Country of South America- **G.** An International Airport-	5
30	On the given political map of India, locate and label any five of the following with appropriate symbols : a. State having highest urban population- b. Software technology park of Telangana – c. International airport located in Assam- d. Eastern terminal point of Golden Quadrilateral- e. Copper mine located in Rajasthan- f. Bauxite mines in Odisha- g. Southern terminal station of North-South corridor-	5
		5


INDIA
OUTLINE MAP WITH STATES
& UNION TERRITORIES
Map for Q. No. 30
Map not to Scale
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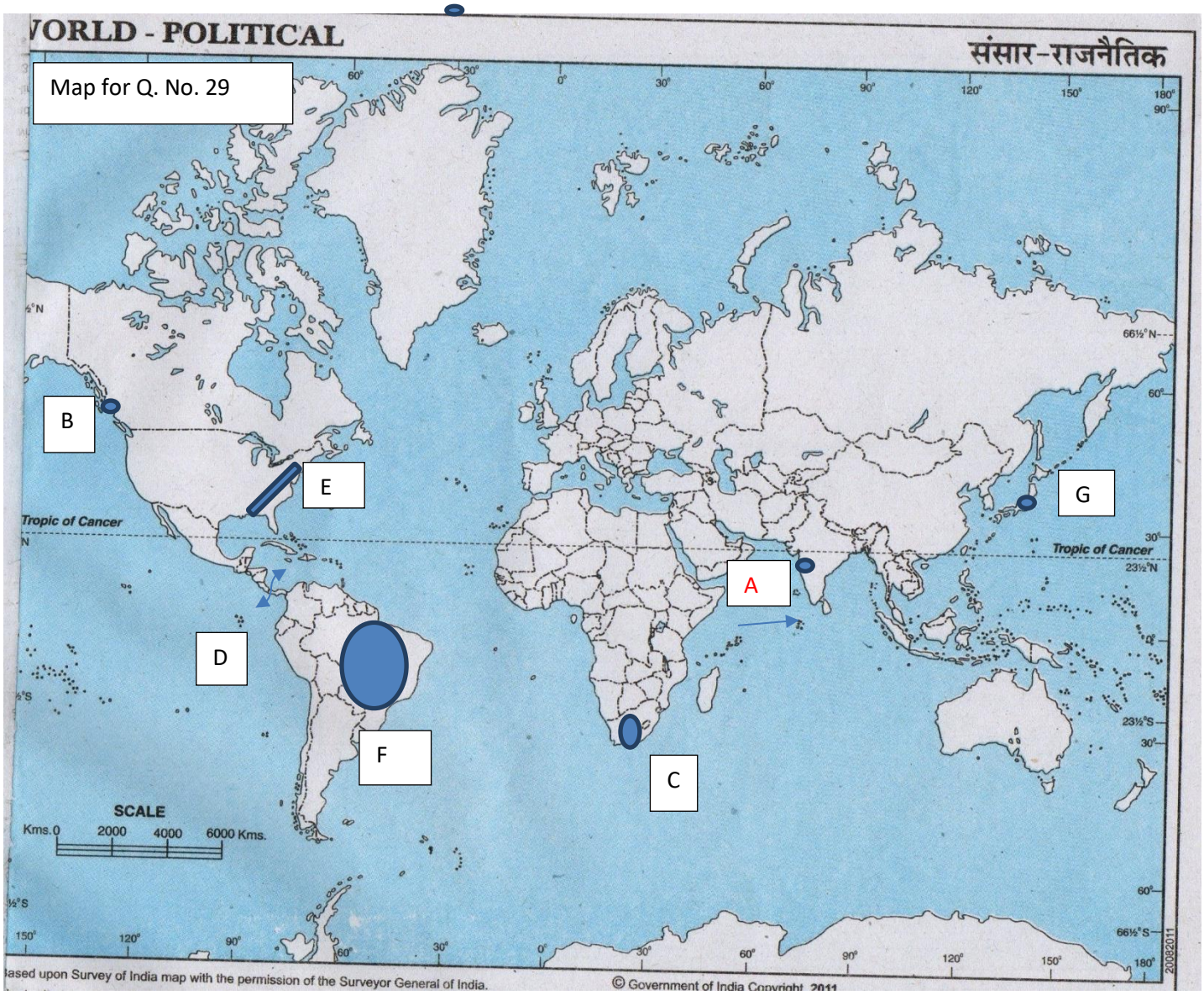
WORLD - POLITICAL
संसार-राजनैतिक
Map for Q. No. 29
B
E
G
A
D
F
C
Tropic of Cancer
Tropic of Cancer
SCALE
Kms. 0 2000 4000 6000 Kms.
Based upon Survey of India map with the permission of the Surveyor General of India.
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Marking Scheme 2022-23
Set – 1
Class- 12
Subject- Geography (029)

Duration : 3 hours M. M. – 70

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5	Which one of the following is the headquarter of North eastern Railway Zone? (d) Kolkata (e) Patna (f) Maligaon (Guwahati) (vi) Gorakhpur Ans- Maligaon (Guwahati)	1

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10	Which one pair of the following places is linked by Channel Tunnel? (a) London – Berlin (b) Paris – London I Berlin – Paris (d) Barcelona – Berlin Ans. (b) Paris – London	1
11	Which one of the following states has the highest proportion of urban population in India according to 2011 Census? (b) Tamil Nadu (b) Maharashtra I Kerala (d) Goa Ans. (d) Goa	1
12	Which age group of children has fundamental right to education as per Indian constitution? e) 5- 10 years f) 6-14 years g) 8-16 years h) 10-18 years Ans – b) 6-14years	1
13	Which Department is responsible for measuring Geographical area? e) Urban Development Authority f) The Survey of India g) Metabiological Department of India h) Geological Survey of India	1

	Ans. b) The Survey of India.	
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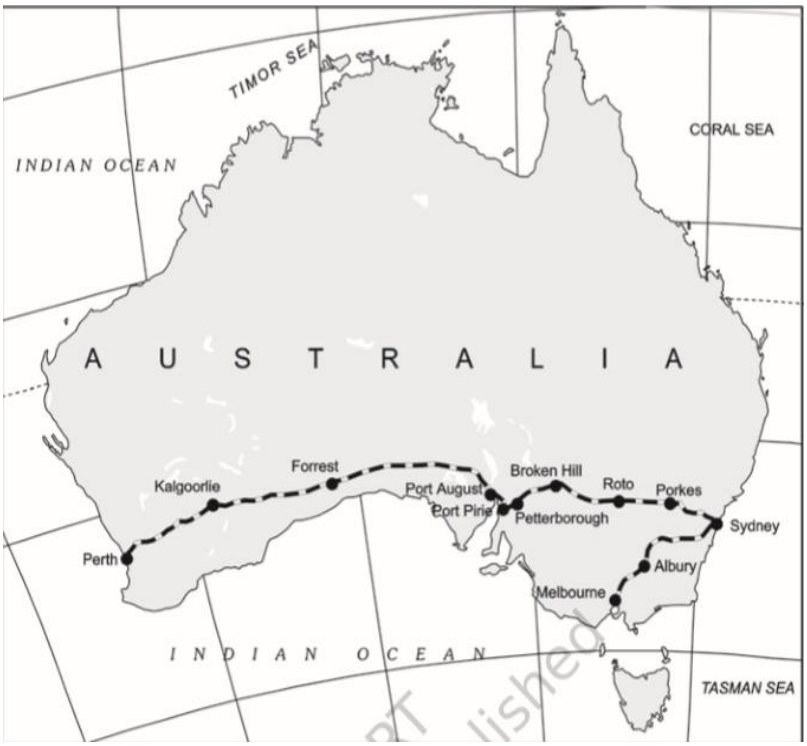
emphasis on stallfeeding. The cultivation of water intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. “It made the community leaders complete representatives of the people.” A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A Rs. 22 lakh school building was constructed using only the resources of the village. No donations were taken. Money, if needed, was borrowed and paid back. The villagers took pride in this selfreliance. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment.

(vi) Which method of water conservation brought prosperity in Ralegan Siddhi?
Answer (b) Watershed development

(ii) The village of Ralegan Siddhi was suffering from which social evils?
Ans- (a) Dowry system
(b) Illicit Liquor Trade
I Untouchability

(iii) Which measures were taken to increase democratic participation in the village?
Answer(b) Local body elections

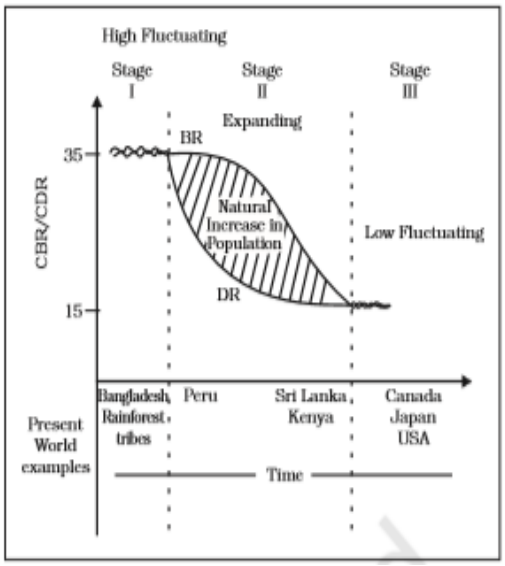
19 Observe the given map and answer the following questions: 3



	vi) Name the Railway line and name the country where it lies. Ans. Australian Trans-Continental Railway, Australia 2) Name the stations marked as „A" and „B". Ans. A) Perth B) Sydney 3) State two reasons why it is the most important route in Australia? Ans.It connects the Eastern part of the country with the Western. Industrial region with Agriculture Region.	
20	Why is Marmagao Port called natural port? Answer: 1. Marmagao Port is situated at the entrance of the Zuari estuary. Therefore, it is a natural harbour in Goa. 2. It gained significance after its remodelling in 1961 to handle iron-ore exports to Japan. 3. Construction of Konkan railway has considerably extended the hinterland of this port.	3
21	Differentiate between Growth and Development. Answer: The difference between growth and development: 1. Both the Growth and Development. Refer to changes over a period of time. 2. Growth is quantitative, whereas development is qualitative. 3. Growth is value neutral, whereas development is value positive. 4. Growth may be positive or negative, whereas development will always be positive.	3
22	Mention any three characteristics of Extensive Commercial Grain Cultivation in the world. Ans. i) It is practised in Temperate grasslands. (ii) Wheat is the main crop grown. (iii) The size of farm is very large. (iv) Mechanised agriculture is practised. (v) Yield per hectare is low. (vi) Field per person is high.	3
23	Which are the major demographic attributes of human population? Explain. Ans- **population size, density, age structure, fecundity (birth rates), mortality (death rates), and sex ratio.**	3
	Section C -Long Answer based questions	
24	**What are the important factors which influence the industrial location** **Ans.** **Factors which influence the industrial location:** Industries maximise profits by reducing costs. Therefore, industries should be located at points where the production costs are minimum. • **Access to Market-** 'Market' means people who have a demand for the goods and also have the purchasing power (ability to purchase) to be able to purchase from the sellers at a place. The densely populated regions of South and South-east Asia also provide large markets. • **Access to Raw material-** Industries based on cheap, bulky and weight-losing material (ores) are located close to the sources of raw material such as steel, sugar, and cement industries. Vice versa. • **Access to labour supply-** Some types of manufacturing still require skilled labours. • **Access to sources of energy-**	5

	Aluminium industry use more power which are close to source of Energy. At present, hydroelectricity and petroleum are important source of energy. • **Access to Transportation and Communication Facilities** Speedy and efficient transport facilities to carry raw materials to the factory and to move finished goods to the market are essential for the development of industries. Its cost plays important role in location of industries. Communication also plays vital role. • **Government policy-** • **Access to Agglomeration Economies/ Links between Industries-** Many industries benefit from nearness to a leader-industry and other industries.	
25	**Ans.** **Types of Farming** **Irrigated farming- There is difference in the nature of irrigated farming, as well as based on the objective of irrigation, i.e., protective or productive.** • **The objective of protective irrigation is to protect the crops from adverse effects of soil moisture deficiency.** • **Productive irrigation is meant to provide sufficient soil moisture in the cropping season to achieve high productivity.** **Rainfed farming-** includes Dryland farming and Wetland farming. • **Dryland farming** is largely confined to the region having annual rainfall less than 75 cm. it includes the crops like Ragi, Bajra, Moong, Gram and Guar. • **Wetland farming** happens where rainfall is in excess. It includes the crops like Rice, Jute and Sugarcane etc. Food grains are sown on the 2/3 of total cropped area in the country. The cereal occupy about 54% of total of total cropped area in India (11% of the world area).	5
26	Define population growth. Explain the Demographic Transition Theory with the help of diagram. Ans. Growth of population: Change of population in particular areas between two points of time. For example in 2001 population of India was 102.7 crores 2011 population of India was 121.02 crores Means growth of Indian population is 18.15 crores **First stage –** - Has high birth rate and high death rate - the population growth is slow - People are engaged in agriculture - Life expectancy is low - People are mostly illiterate - Have low level of technology - Bangladesh and rainforest countries are in this stage **Second stage-** - Fertility remains high in the beginning of this stage but starts declining - Improvements in sanitation and health lead to decline in mortality. - Due to the gap population began to increase rapidly - Peru, Sri Lanka and Kenya are in this stage. Third / last stage – - Both fertility and mortality decline considerably. - Population is either stable or grows slowly - Population becomes urbanised, literate and highly technical and deliberately control the family size.	5

- Japan, Canada and USA are in this stage.



27 Discuss advantages and disadvantages of pipeline transportation 5

Ans.

Advantages of Pipeline:

- They are ideally suited to transport the liquids and gases.
- Pipelines can be laid through difficult terrains as well as under water.
- It involves very low energy consumption.
- It needs very little maintenance. ADVERTISEMENTS:
- Pipelines arc safe, accident-free and environmental friendl

Disadvantages of Pipelines:

1. It is not flexible, i.e., it can be used only for a few fixed points.
2. Its capacity cannot be increased once it is laid.
3. It is difficult to make security arrangements for pipelines.
4. Underground pipelines cannot be easily repaired and detection of leakage is also difficult.

28 Elaborate any five problems of slums of metropolitan cities in India – 5

Ans : (i) Lack of proper 231ccommodation, light and sanitation facilities
(ii) Lack of safety measures from fire and earthquake
(iii) Over crowded vvith population
(iv) Lack of medical facilities
(v) Narrow streets and lack of proper ventilation
(vi) Spread of epidemics in slums.

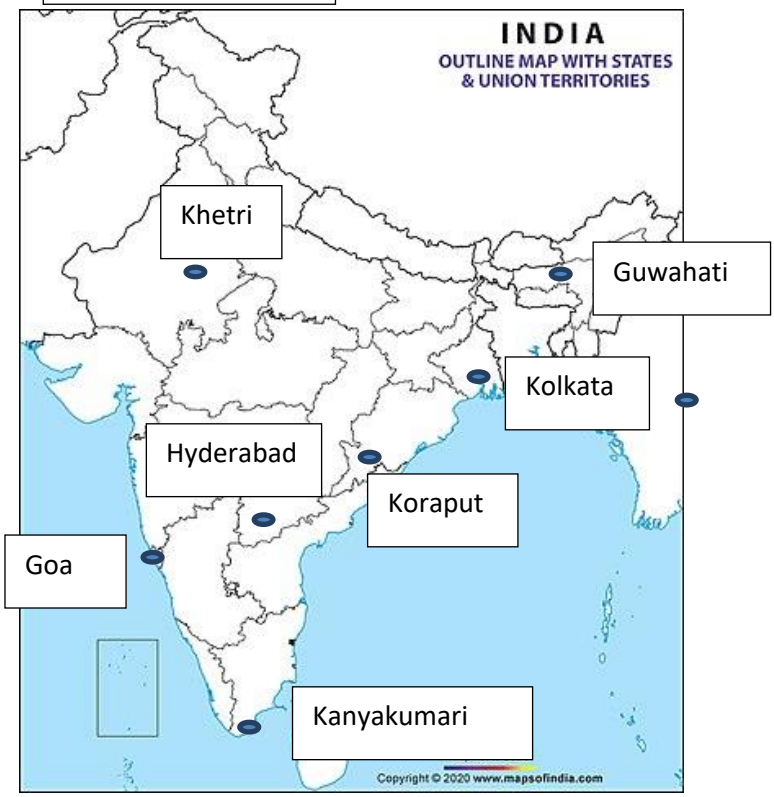
Section-D [Map Based Questions]

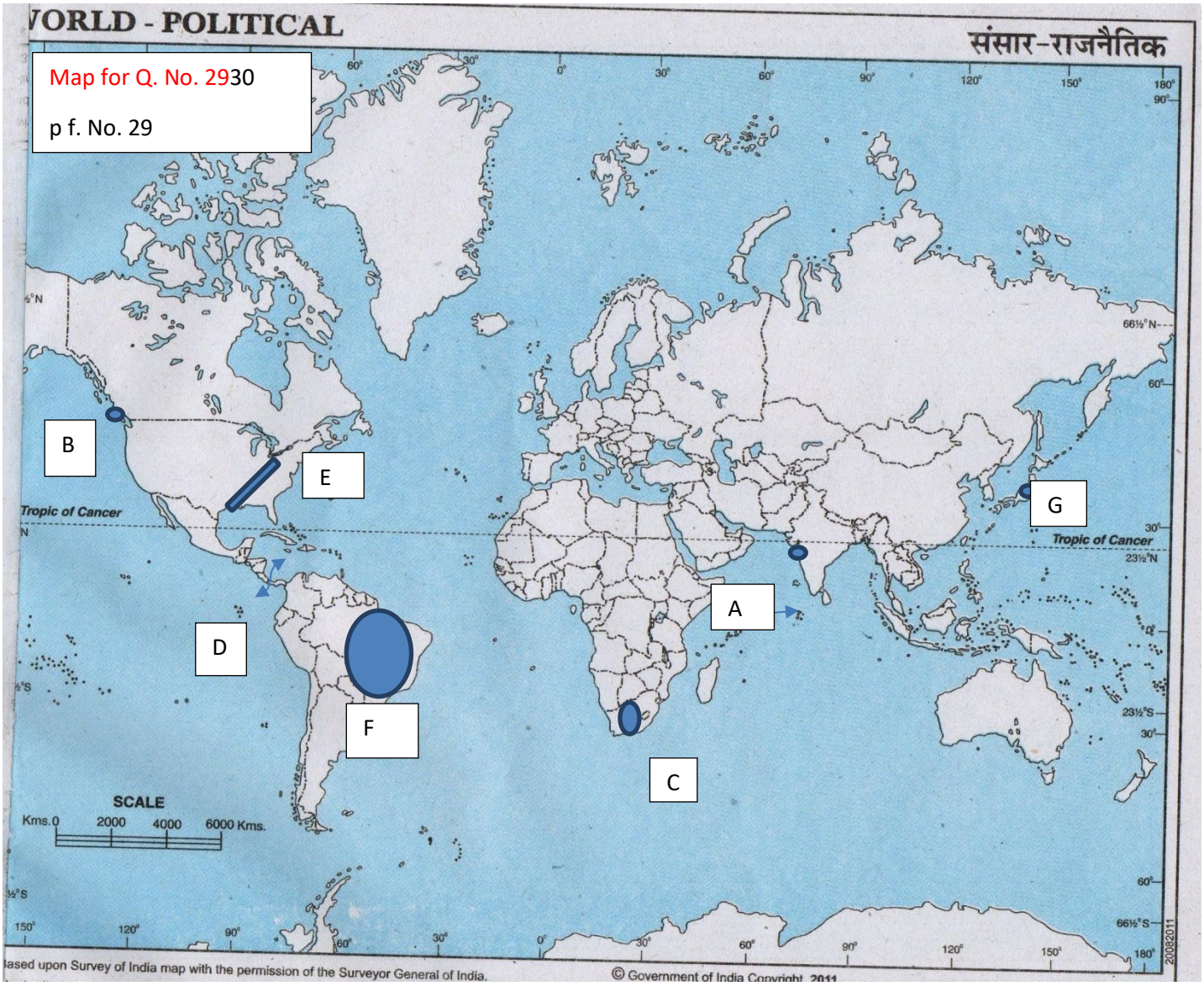
29 On the given political map of the world, the following seven features are shown. Identify any five of these features and write their correct names on the lines marked near each feature. 5

A. An International Airport- Mumbai
B. A major sea-port- Vancouver
C. Grasslands of Africa with extensive commercial grain farming- Velds
D. An important Shipping Canal- Panama
E. Industrial region of the US.- Appalachian
F. Largest Country of South America- Brazil

	G. An International Airport- Tokyo	
30	On the given political map of India, locate and label any five of the following with appropriate symbols : h. State having highest urban population- Goa i. Software technology park of Telangana – Hyderabad j. International airport located in Assam- Guwahati k. Eastern terminal point of Golden Quadrilateral- Kolkata l. Copper mine located in Rajasthan- Khetri m. Bauxite mines in Odisha- Koraput n. Southern terminal station of North-South corridor- Kanyakumari	5
		5

Map for Q. No. 30




WORLD - POLITICAL
संसार-राजनैतिक
Map for Q. No. 2930
p f. No. 29
B
E
G
A
D
F
C
Tropic of Cancer
Tropic of Cancer
SCALE
Kms.0 2000 4000 6000 Kms.
based upon Survey of India map with the permission of the Surveyor General of India.
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Blueprint of Geography 12th, 2022-23

SET - 2

	Ch-	Name	MCQ (1)	Case based (3)	Source based (3)	SA (3)	LA (5)	Map	Total
HUMAN GEOGRAPHY	1	Human Geography nature and Scope				1			3
	2	Wold population density distribution and growth	1		1				4
	4	Human Development	1			1			4
	5	Primary Activities	1				1		6
	6	Secondary Activities	1						1
	7	Tertiary Activities	1				1		6
	8	Transport and Communication					1		5
	9	International Trade	1						1
		Map of World						5	5
INDIA PEOPLE AND ECONOMY	1	Poplation Distribution density and growth	1				1		6
	4	Human Settlement	1			1			4
	5	Land Resource and Agriculutre	1						1
	6	Water Resource	1	1					4
	7	Mineral Resource	1						1
	9	Plannning and Sustainable development					1		5

	10	Transport and Communication	1						1
	11	International Trade	1			1			4
	12	Geographical Perspective and Selected Issues in India	1		1				4
		Map of India						5	5
			14	3	6	12	25	10	70

Sample Question Paper SET - 2

Kendriya Vidyalaya Sangathan (Raipur Region)

Class-12th **Subject - Geography (029)** **Session- 2022-23**

Time- 3 Hours **MM- 70**

GENERAL INSTRUCTIONSi.

Question paper is divided into 4 sections A, B, C & D

ii. In section A question number 1 to 17 are MCQ type questions.

iii. In section B question number 18-23 are SA type questions (80-100 words). Question 18

& 19 are Source based questions.

iv. In section C question number 24 to 28 are Long Answer based questions (120-150 words).

v. In section D question number29&30 are Map based questions having 5 sub parts.

Section-A [Multiple Choice Questions]

S. N. **There are 17 questions in this section. All are mandatory.** **Marks**

1 Which one from the following is correct for the second stage of demographic transition theory? **1**

a- birth rate and death rate both high

b- fertility remains high in the beginning of this stage but starts declining

c- life expectancy is low

d- population becomes urbanised, literate and highly technical

2 **Assertion** (A)- Human Poverty Index (HPI) is non-income measure **1**

Reason (R)- HPI measures availability of clean water, underweight children, adult literacy rate and probability of not surviving till the age of 40 years.

Choose the correct option

a- Only A is correct

b- Only R is correct

c- Both A and R are correct and R is correct explanation of A

d- Both A and R are correct but R is not correct explanation of A

3 Assertion (A)- Transhumance is process of seasonal migration carried out by Gaddi. **1**

Reason (R)- Gaddi tribe commercially rear their livestock

Choose the correct option

a- Only A is correct

b- Only R is correct

c- Both A and R are correct and R is correct explanation of A

d- Both A and R are correct but R is not correct explanation of A

4 Which one is not correct for Technopolis? **1**

a- High-tech industries are found in Technopolis

b- The Silicon valley near San Francisco is example of it

c- Robotics on the assembly line and computer-aided design (CAD) are used here

d- Technopolis is modern form of Metropolitan

5 Which one from the following is not correct? **1**

a- The salary of KPO employees are much higher

b- KPO employee focus on quantity

c- BPO provides the services like Customer care, technical support and telemarketing

d- The salary of BPO employee are lesser than of KPO

6 Which one from the following is not correct statement for International Trade? **1**

a- Bilateral trade is done by two countries with each other

b- Multilateral Trade is carried out among three countries

c- WTO is the only international organisation dealing with the global rules of international trade between nations.

d- Balance of trade records the volume of goods and services imported as well as exported by a country to other countries during international trade

7 Arrange the density of population of the states of India in decreasing order according to census of 2011 **1**

a- Bihar, West Bengal, Kerala, Uttar Pradesh

b- West Bengal, Kerala, Uttar Pradesh, Bihar

c- Kerala, Uttar Pradesh, Bihar, West Bengal

d- Uttar Pradesh, Bihar, West Bengal, Kerala

8 Para, Palli, Nagla and Dhani etc are found in which settlement? **1**

a- Dispersed settlement

b- Clustered Settelement

c- Hamleted settlement

d- Semi- clustered settlement

19 Which one from the following is correct for Kharif Crop? **1**

a- Kharif season is short duration summer cropping season begins after the harvesting of Rabi crops.

b- Kharif season crops includes tropical crops such as Rice, Cotton, Jute, Jowar, Bajara and Tur.

c- Kharif cropping season begins with the onset of the winter in October/November

d- Kharif crops include Wheat, Gram, Mustard and Pea etc.

10 Due to overirrigation, which one problem from the following is not correctly matched with the affected states? **1**

a- Fluoride concentration in Rajasthan and Maharashtra

b- Arsenic concentration in West Bengal and Bihar

c- Salinity in Punjab and Haryana

d- Fluoride concentration in Karnataka

11 Which one from the following is correctly matched? **1**

a- Kalpakkam in Tamil nadu

b- Kaiga in Rajasthan

c- Rawatbhata in Karnataka

d- Tarapur in Madhya Pradesh

12 Which one from the following sentences is correct? **1**

a- N W No-1 is on The Ganga river between Prayagraj to Haldia (1620 km).

b- N W No-5 is on the Brahmputra river between Sadiya to Dhubri (891 km).

c- N W No-3 is on specific stretches on Godavari and Krishna rivers of 1078 km.

d- N W No-4 is at western coastal canalin Kerala – Kottapuram-Kollam, Udyogmandal and Champakara canal of 205 km.

13 Which one from the following seaport is known as Queen of Arabian Sea? **1**

a- New Mangalore port

b- Marmagao port

c- Jawaharlal Nehru port

d- Kochchi port

14 Which one from the following is not the cause of Land Degradation? **1**

a- Salinisation and Alkalinisation

b- Gullied/ Ravinous land

c- Water logging

d- Pasture land

15 Read this case and answer the following questions-

Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become an example for watershed development throughout the country. In 1975, this village was caught in a web of poverty and illicit liquor trade. The transformation took place when a retired army personnel, settled down in the village and took up the task of watershed development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition. Voluntary labour was necessary to ensure minimum dependence on the government for financial aids. “It socialised the costs of the projects.” explained the activist. Even those who were working outside the village contributed to the development by committing a month’s salary every year. Work began with the percolation tank constructed in the village.

A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and untouchability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stall-feeding. The cultivation of water-intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. “It made the community leaders complete representatives of the people.” A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment. Today the village plans to buy land for them in adjoining villages. At present, water is adequate; agriculture is flourishing, though the use of fertilisers and pesticides is very high.

Answer the following questions-

15 I- Which one from the following was not carried out by the Tarun Mandal? **1**

a- Tarun Mandal ban the dowry system.

b- It also banned caste discrimination and untouchablity

c- Liquor distilling units were remove by the Mandal

d- Tarun Mandal also banned on pisciculture

16 II- What was/ were the main problem in Ralegan Siddhi village? **1**

a- Poverty and illicit liquor trade

b- Untouchability

c- Open grazing

d- All of above

17 III- Which one from the following sentences is wrong? **1**

a- A system of Nyay panchayat was formed. It acted as informal court

b- Under the leadership of a retired Army personnel, the transformation of Ralegan took place.

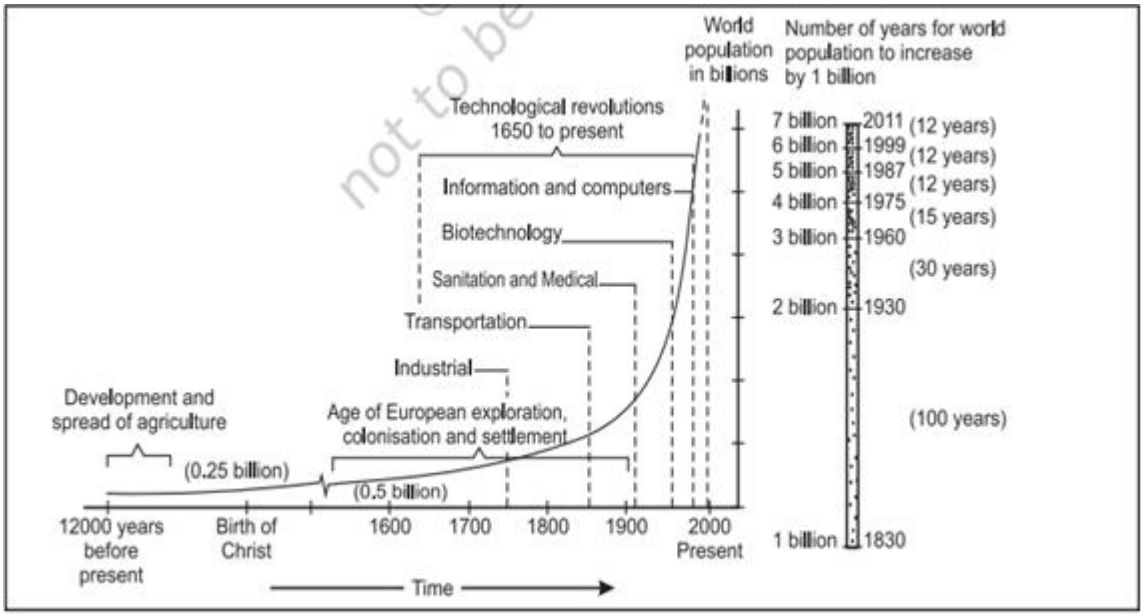
c- Labours were paid according to their work for the development of the village

d- Landless labourers also gained employment.

Section- B

Question numbers 18-23 are SA type questions. Question 18 & 19 are Source based questions.

18 Trends in population growth **3**



Answer the following questions based on this diagram.

I- How much time was taken for the population of the world to be 2 billion from 1 billion?

II- How much time was taken for doubling of population from 2 to 4 billion?

III- When Industrial revolution was started?

19 Read the source given below and answer the questions that follow: **3**

Based on the universal law "Polluter pays", a silent but strong effort to restore the ecology and safeguard the human health with people's participation has taken place in Daurala near Meerut. These efforts are now bearing fruits after a span of three years when Meerut based NGO had developed a model for ecological restoration. The recent meeting of the Daurala Industries officials, NGOs. Government officials and other stakeholders at Meerut has brought out results which usually come out mainly through the Court's decisions. The powerful logics, authentic studies and the pressure of the NGO has in a way brought a new lease of life to the twelve thousand residents of this village. It was in the year 2003, that the pitiable condition of Dauralaites drew the attention of the civil society. The groundwater of this village with a population of 12,000 persons was contaminated with heavy metals. The reason was that the untreated wastewater of Daurala industries was leaching to the groundwater table and was also being used for irrigation.

The activists of the NGO conducted a door to door survey of the health status of the residents and came out with a report. The group reported that 192 deaths in the past five years have been recorded in the village due to consumption of contaminated water. The industry came under pressure due to

activism. The organisation, the village community and people's representatives sat together to find out sustainable solutions to this problem. The industrialists showed a keen interest towards checking the deteriorating ecology. The overhead water tank's capacity in the village was enhanced and a 900m extra pipeline was laid to serve potable water to the community. The silted pond of the village has been cleaned and recharged by desilting it. Large quantity of silt was removed paving way to pure water so that it percolated deep down the aquifers. Rainwater harvesting structures have been constructed at different places which has helped in diluting the contaminants of the groundwater after the monsoons. 1000 trees

Answer any three questions

a- What problem was faced by the people of Daurala?

b. Which process led to contamination of ground water?

c. Which water conservation strategy was implemented to overcome the problem of Daurala village?

20 Which concept advocates that through the technology and knowledge man can change the environment? Explain it. **3**

21 How can you distinguish between Basic need approach and Capability approach? **3**

22 Briefly explain the evolution of towns in India **3**

23 Briefly explain the changing patterns of the composition of India's import. **3**

Section- C

Question numbers 24 to 28 are Long Answer based questions.

24 How do you find any difference between Co-operative and Collective farming? Explain in detail **5**

25 "BPO is more about size, quantity and competencies on the other hand KPO is more about quality and expertise". Justify this statement. **5**

26 What do you know about the Trans-continental Railways? Explain any four Trans-continental Railways of the world. **5**

27 Why first phase of Indian population is known as 'stagnant' and third phase 'explosive' in the last century? Explain. **5**

28 Explain various measures for promotion of Sustainable development for Indra Gandhi canal. **5**

Section- D

Question numbers 29 & 30 are Map based questions having 5 sub-parts each.

29 With the help of the following key, identify the areas marked as A, B, C, D and E on the given outline map of World. Write the correct name of the place in the blank space given on the map. **5**

A- A Mega city of the world

B- Major area of mixed forming

C- Major area of Extensive commercial grain farming

D- Area of Subsistence gathering

E- Area of Nomadic herding

30 On the given outline map of India, locate and label any five of the following: **5**

1- Famous Oil refinery in Uttar Pradesh

2- Iron Ore mine in Karnataka

3- Bauxite mine in Madhya Pradesh

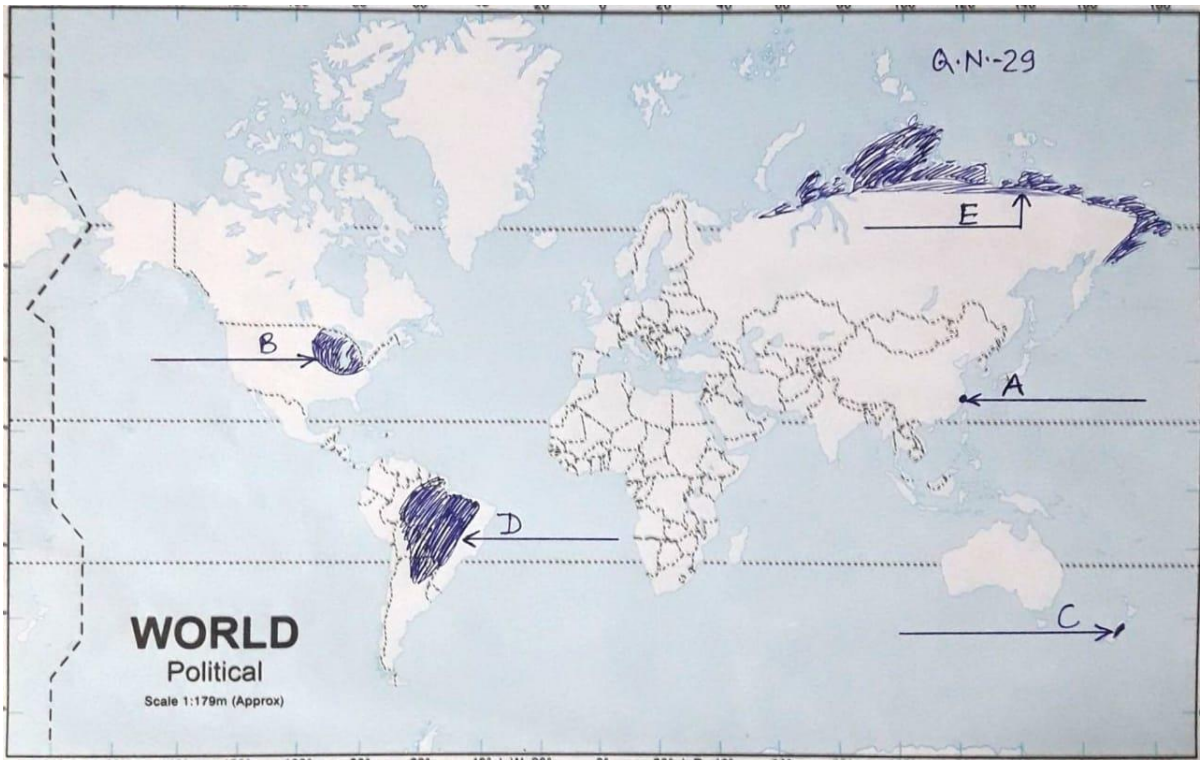
4- The state which is largest producer of Cotton

5- City of more than 10 million population of Tamil Nadu

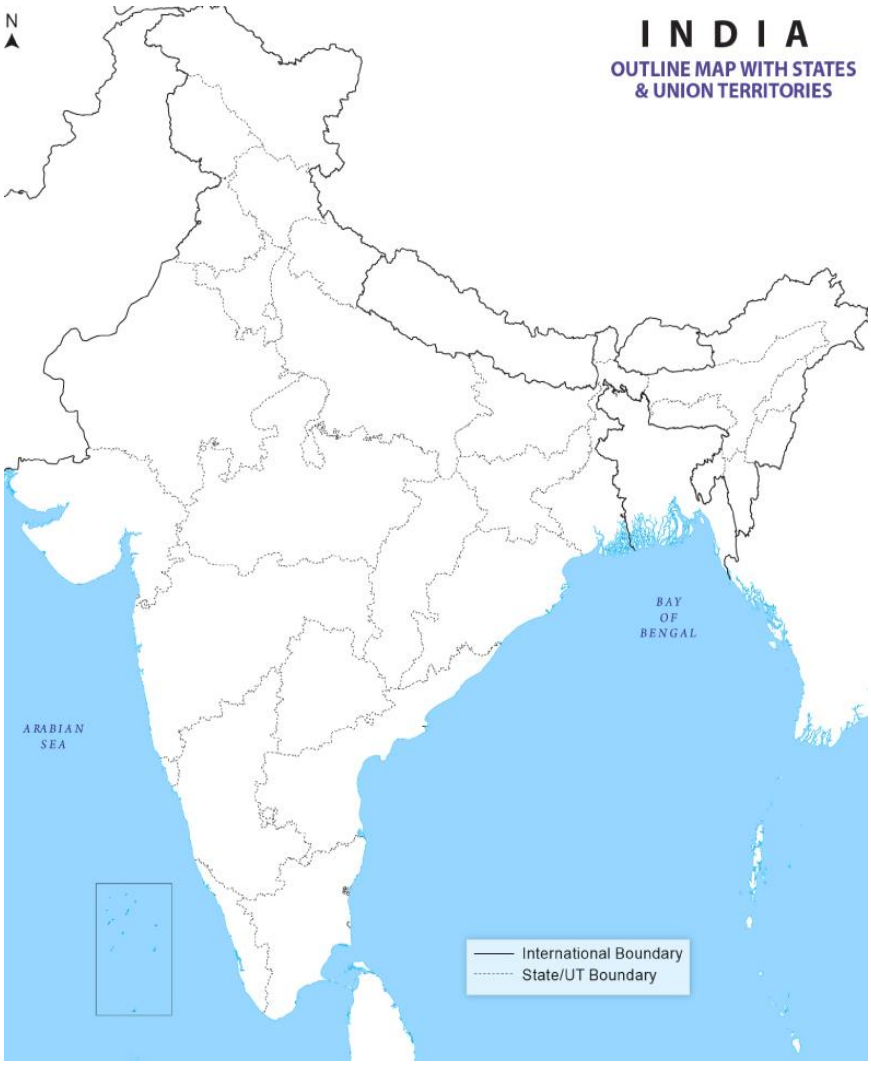
6- Copper mine of Rajasthan

7- Manganese mine in Madhya Pradesh

Map for Question No 29



Map for Question no 30



MARKING SCHEME SET- 2

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Class-12th **Subject - Geography (029)** **Session- 2022-23**

Time- 3 Hours **MM- 70**

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Section-A [Multiple Choice Questions]

S. N.	There are 17 questions in this section. All are mandatory.	Marks
1	Which one from the following is correct for the second stage of demographic transition theory? a- birth rate and death rate both high b- fertility remains high in the beginning of this stage but starts declining c- life expectancy is low d- population becomes urbanised, literate and highly technical **Answer- b- fertility remains high in the beginning of this stage but starts declining**	**1**
2	**Assertion** (A)- Human Poverty Index (HPI) is non-income measure **Reason** (R)- HPI measures availability of clean water, underweight children, adult literacy rate and probability of not surviving till the age of 40 years. Choose the correct option a- Only A is correct b- Only R is correct c- Both A and R are correct and R is correct explanation of A d- Both A and R are correct but R is not correct explanation of A **Answer- c- Both A and R are correct and R is correct explanation of A**	**1**
3	Assertion (A)- Transhumance is process of seasonal migration carried out by Gaddi. Reason (R)- Gaddi tribe commercially rear their livestock Choose the correct option a- Only A is correct b- Only R is correct c- Both A and R are correct and R is correct explanation of A d- Both A and R are correct but R is not correct explanation of A **Answer- a- Only A is correct**	**1**
4	Which one is not correct for Technopolis? a- High-tech industries are found in Technopolis b- The Silicon valley near San Francisco is example of it c- Robotics on the assembly line and computer-aided design (CAD) are used here d- Technopolis is modern form of Metropolitan **Answer- d- Technopolis is modern form of Metropolitan**	**1**
5	Which one from the following is not correct? a- The salary of KPO employees are much higher b- KPO employee focus on quantity c- BPO provides the services like Customer care, technical support and telemarketing d- The salary of BPO employee are lesser than of KPO **Answer- b- KPO employee focus on quantity**	**1**
6	Which one from the following is not correct statement for International Trade? a- Bilateral trade is done by two countries with each other	**1**

b- Multilateral Trade is carried out among three countries
c- WTO is the only international organisation dealing with the global rules of international trade between nations.
d- Balance of trade records the volume of goods and services imported as well as exported by a country to other countries during international trade
Answer- b- Multilateral Trade is carried out among three countries

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b- West Bengal, Kerala, Uttar Pradesh, Bihar
c- Kerala, Uttar Pradesh, Bihar, West Bengal
d- Uttar Pradesh, Bihar, West Bengal, Kerala
Answer- a- Bihar, West Bengal, Kerala, Uttar Pradesh

8 Para, Palli, Nagla and Dhani etc are found in which settlement? **1**
a- Dispersed settlement
b- Clustered Settelement
c- Hamleted settlement
d- Semi- clustered settlement
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d- Tarapur in Madhya Pradesh
Answer-a- Kalpakkam in Tamil nadu

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Answer- d- Kochchi port

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Answer- d- Pasture land

15 Read this case and answer the following questions-

Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become an example for watershed development throughout the country. In 1975, this village was caught in a web of poverty and illicit liquor trade. The transformation took place when a retired army personnel, settled down in the village and took up the task of watershed development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition. Voluntary labour was necessary to ensure minimum dependence on the government for financial aids. "It socialised the costs of the projects." explained the activist. Even those who were working outside the village contributed to the development by committing a month's salary every year. Work began with the percolation tank constructed in the village.

A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and untouchability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stall-feeding. The cultivation of water-intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. "It made the community leaders complete representatives of the people." A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operation. Landless labourers also gained employment. Today the village plans to buy land for them in adjoining villages. At present, water is adequate; agriculture is flourishing, though the use of fertilisers and pesticides is very high.

Answer the following questions-

15 I- Which one from the following was not carried out by the Tarun Mandal? **1**

a- Tarun Mandal ban the dowry system.

b- It also banned caste discrimination and untouchablity

c- Liquor distilling units were remove by the Mandal

d- Tarun Mandal also banned on pisciculture

Answer- Tarun Mandal also banned on pisciculture

16 II- What was/ were the main problem in Ralegan Siddhi village? **1**

a- Poverty and illicit liquor trade

b- Untouchability

c- Open grazing

d- All of above

Answer- d- All of above

17 III- Which one from the following sentences is wrong? **1**

a- A system of Nyay panchayat was formed. It acted as informal court

b- Under the leadership of a retired Army personnel, the transformation of Ralegan took place.

c- Labours were paid according to their work for the development of the village

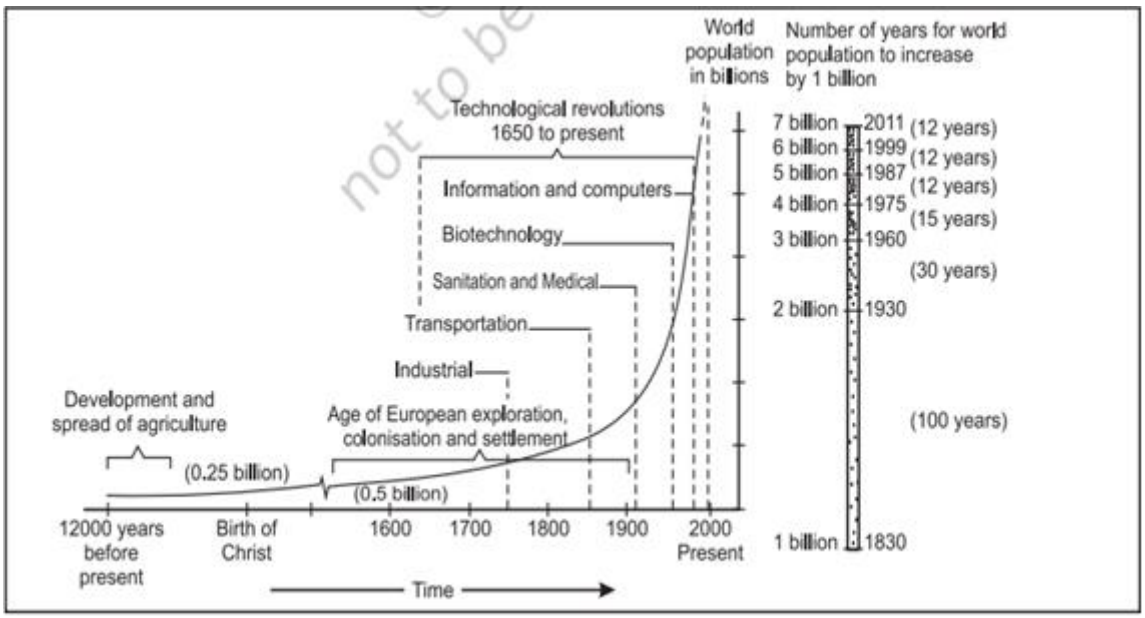
d- Landless labourers also gained employment.

Answer- c- Labours were paid according to their work for the development of the village

Section- B

Question numbers 18-23 are SA type questions. Question 18 & 19 are Source based questions.

18 Trends in population growth **3**



Answer the following questions based on this diagram.

I- How much time was taken for the population of the world to be 2 billion from 1 billion?

Answer- 100 years

II- How much time was taken for doubling of population from 2 to 4 billion?

Answer- 45 years

III- When Industrial revolution was started?

Answer- After 1750 AD

19 Read the source given below and answer the questions that follow: **3**

Based on the universal law "Polluter pays", a silent but strong effort to restore the ecology and safeguard the human health with people's participation has taken place in Daurala near Meerut. These efforts are now bearing fruits after a span of three years when Meerut based NGO had developed a model for ecological restoration. The recent meeting of the Daurala Industries officials, NGOs. Government officials and other stakeholders at Meerut has brought out results which usually come out mainly through the Court's decisions. The powerful logics, authentic studies and the pressure of the NGO has in a way brought a new lease of life to the twelve thousand residents of this village. It was in the year 2003, that the pitiable condition of Dauralaites drew the attention of the civil society. The groundwater of this village with a population of 12,000 persons was contaminated with heavy metals. The reason was that the untreated wastewater of Daurala industries was leaching to the groundwater table and was also being used for irrigation.

The activists of the NGO conducted a door to door survey of the health status of the residents and came out with a report. The group reported that 192 deaths in the past five years have been recorded in the village due to consumption of contaminated water. The industry came under pressure due to activism. The organisation, the village community and people's representatives sat together to find out sustainable solutions to this problem. The industrialists showed a keen interest towards checking the deteriorating ecology. The overhead water tank's capacity in the village was enhanced and a 900m extra pipeline was laid to serve potable water to the community. The silted pond of the village has been cleaned and recharged by desilting it. Large quantity of silt was removed paving way to pure water so that it percolated deep down the aquifers. Rainwater harvesting structures have been constructed at different places which has helped in diluting the contaminants of the groundwater after the monsoons. 1000 trees

Answer any three questions

a- What problem was faced by the people of Daurala?

Answer- Groundwater was contaminated with heavy metals.

b. Which process led to contamination of ground water?

Answer- leaching to the groundwater table and was also being used for irrigation.

c. Which water conservation strategy was implemented to overcome the problem of Daurala village?

Answer- The overhead water tank's capacity in the village was enhanced and a 900m extra pipeline was laid to serve potable water to the community. The silted pond of the village has been cleaned

and recharged by desilting it. Large quantity of silt was removed paving way to pure water so that it percolated deep down the aquifers.

20 Which concept advocates that through the technology and knowledge man can change the environment? Explain it. **3**

Answer-

Humanisation of the Nature (Possibilism)

- **Paul Vidal de la Blache**, **Fabre** etc. are main follower of this concept
- The people begin to understand their environment and forces of the nature with the passage of time. With social and cultural development, humans develop better and more efficient technology.
- Human activities create cultural landscape like health resorts, ports and coasts, oceanic routes, satellites in the space etc.
- Now nature provides opportunities and human being make use of these and slowly nature gets humanised. Scholars termed as **Possibilism**.
- Winters in town of Trondheim mean fierce winds and heavy snow. Skies are dark for months. Yet people lives, grow vegetable and temperature is controlled.
- It is technology that has allowed the people of Trondheim and others to overcome the constraints imposed by the Nature.

21 How can you distinguish between Basic need approach and Capability approach? **3**

Answer-

Basic needs approach-

It was proposed by ILO (International Labour Organisation),

There are six basic needs i.e. health, education, food, water supply, sanitation and housing. In it human choice is ignored.

Capability approach-

This approach is associated with Prof. Amartya Sen.

Building human capabilities in the areas of health, education and access to resources is key to increase human development.

22 **Briefly explain the evolution of towns in India** **3**

Answer-

On the basis of their evolution in different periods, Indian towns may be classified as: Ancient, Medieval and Modern towns

Ancient towns – There are number of towns in India having historical background spanning over 2000 years.

- Most of them developed as religious and cultural centres. Varanasi, Prayagraj, Pataliputra (Patna), Madurai are some examples of ancient towns in the country.

Medieval towns- Most of the fort towns which came up on the ruins of ancient towns. Important among them are Delhi, Hyderabad, Jaipur, Lucknow, Agra and Nagpur. There are about 100 existing medieval towns at present.

Modern towns- These towns were developed by British and other Europeans in India. They developed Surat, Daman, Goa, Pondicherry, Mumbai, Chennai, Kolkata.

- Towns based on modern industries also evolved after 1850. Jamshedpur as example.
- After independence a large number of towns have been developed as administrative headquarters e.g. Chandigarh, Bhubneswar, Gandhinagar, Dispur, Bhilai, Sindri, Barauni, etc.
- Some satellite towns developed around Metropolitan cities such as Ghaziabad, Rohatak, Gurugram around Delhi.

23 Briefly explain the changing patterns of the composition of India's import. **3**

Answer-

- India faced serious food shortage during 1950s and 1960s. The major item of import at that time was foodgrain, capital goods, machinery and equipment. The balance of payment was adverse as imports were more than export in spite of all the efforts of import substitution.
- After 1970s, foodgrain import was discontinued due to the success of Green revolution but the energy crisis of 1973 pushed the prices of petroleum, and import budget was also pushed up. Foodgrain import was replaced by fertilisers and petroleum.

- Machine and equipment, special steel, edible oil and chemicals largely make the import basket. Examine the changing pattern of imports.
- It is used not only as a fuel but also as an industrial raw material. It indicates the tempo of rising industrialisation and better standard of living.

Section- C

Question numbers 24 to 28 are Long Answer based questions.

24 How do you find any difference between Co-operative and Collective farming? Explain in detail **5**

Answer-

Co-operative farming

- A group of farmers form a co-operative society by pooling in their resources voluntarily for more efficient and profitable farming.
- Co-operative societies help farmers
- Farmers sell the products at the most favourable terms
- Products are available at cheaper rates.
- Successful in many western European countries like Denmark, Netherland, Belgium, Sweden and Italy etc.
- In Denmark, practically every farmer is a member of a co-operative.

Collective farming

- Farming is based on social ownership of the means of production and collective labour.
- **Kolkhoz** was introduced in erstwhile Soviet Union to boost agricultural production for self-sufficiency.
- The farmers used to pool in all their resources like land, livestock and labour.
- They are allowed to retain very small plots to grow crops in order to meet their daily requirements.
- Government fixes target to the crop and purchase it on pre defined price.

25 "BPO is more about size, quantity and competencies on the other hand KPO is more about quality and expertise". Justify this statement. **5**

Answer-

BPO (Business Process Outsourcing)

- It is more about size, quantity and competencies.
- It insists for labour and Less skilled employees.
- The salary of BPO employees are lesser.
- BPO provides services like customer care, technical support through vice process and telemarketing and sales etc.

KPO (Knowledge Process Outsourcing)

- It requires highly **skilled** business experts.
- Highly **knowledgeable** employees that are outsourced.
- The **salary** of KPO employees are much higher.
- KPO employees are highly **qualified** such as engineer, doctor, CA, Lawyers etc provide in depth knowledge and expertise.

26 What do you know about the Trans-continental Railways? Explain any four Trans-continental Railways of the world. **5**

Answer-

Trans–continental railways run across the continent and link its two ends.

Trans–Siberian Railway

- It connects St. Petersburg in the west and Vladivostok at eastern coast. It is largest (9332 km) Transcontinental railway in the world.
- It is double tracked and electrified trans-continental railway in the world.
- It runs across the Ural Mountains Ob and Yenisei rivers Chita is an important agrocentre and Irkutsk, a fur centre.

Trans-Canadian Railways

- This 7,050 km long rail-line in Canada runs from Halifax in the east to Vancouver on the Pacific Coast passing through Montreal, Ottawa, Winnipeg and Calgary.
- This line is the economic artery of Canada. Wheat and meat are the important exports on this route.

- It connected the Quebec-Montreal Industrial Region with the wheat belt of the Prairie Region and the Coniferous Forest region in the north.

The Australian Trans-Continental Railway

- This rail-line runs west-east across the southern part of the continent from Perth on the west coast, to Sydney on the east coast.
- It passes through Kalgoorlie, Broken Hill and Port Augusta.

The Orient Express

- This line runs from Paris to Istanbul passing through Strasbourg, Munich, Vienna, Budapest and Belgrade.
- The journey time has been reduced 96 hours from 10 days by sea route.
- There is a proposal to build a Trans–Asiatic Railway linking Istanbul with Bangkok via Iran, Pakistan, India, Bangladesh and Myanmar.

27 Why first phase of Indian population is known as 'stagnant' and third phase 'explosive' in the last century? Explain. **5**

Answer-

There are four distinct phases of growth identified in the last century.

Phase-1: The period from 1901 -1921

- **Stagnant** or stationary phase of growth of India's population.
- Growth rate was very low even recorded negative
- Both birth rate and death rate were high.
- Found poor health, medical services, illiteracy, inefficient distribution system of food.

Phase – 3 The period from 1951- 1981

- It is called the period of population explosion in India.
- It was due to rapid fall of mortality rate and high birth rate.
- Average annual growth rate was as high as 2.2 %.
- After independence centralised planning process and economy started showing up ensuring the improvement of living condition of people at large.
- Many immigrants also came from Tibet, Bangladesh, Nepal and even form Pakistan contributed high growth rate.

28 Explain various measures for promotion of Sustainable development for Indra Gandhi canal. **5**

Answer-

Measures for Promotion of Sustainable Development for Indra Gandhi Canal

- The first requirement is strict implementation of water management policy. There should be protective irrigation in stage 1 and extensive irrigation and pasture development in stage 2.
- People should be encouraged to grow plantation crops such as citrus fruits.
- To reduce the conveyance loss of water, there should be Warabandi system (equal distribution of canal water in command areas of outlet)
- The areas affected by salinity and water logging should be reclaimed.
- The eco-development through afforestation, shelterbelt plantation and pasture development is necessary.
- Poor background people should be provided adequate financial and institutional support for cultivation of land.
- Agriculture and allied activities have to develop along with other sectors of economy.

Section- D

Question numbers 29 & 30 are Map based questions having 5 sub-parts each.

29 On the given outline map of India, locate and label any five of the following: **5**

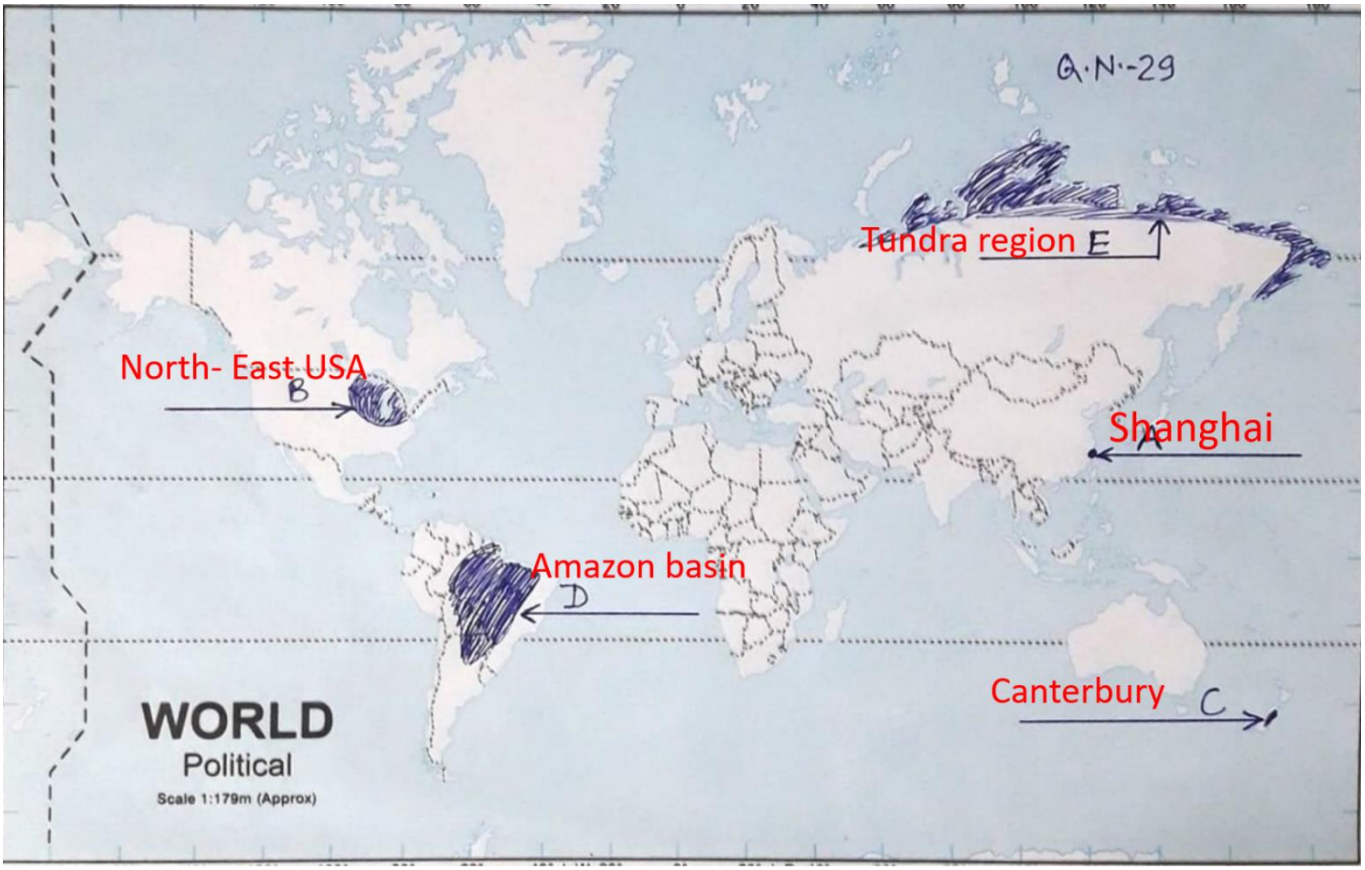
1- Mathura Oil Refinery
2- Bellari Iron ore mine
3- Katni Bauxite mine
4- Gujarat largest producer of cotton
5- Chennai
6- Khetri
7- Balaghat

30 With the help of the following key, identify the areas marked as A, B, C, D and E on the given outline map of World. Write the correct name of the place in the blank space given on the map. **5**

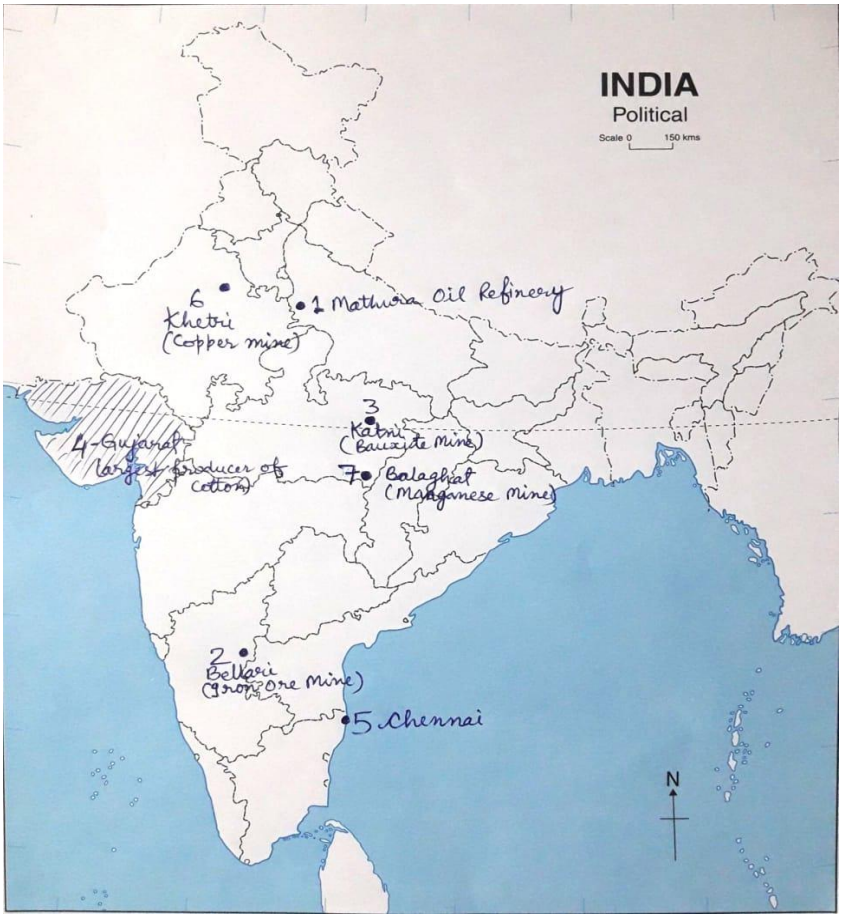
A- Shanghai

B- North- East USA
C- Canterbury
D- Amazon basin
E- Tundra region

Map for Question No 29



Map for Question no 30



SET-3

Blueprint of Geography 12th, 2022-23 (Marks ; 70)									
HUMAN GEOGRAPHY	**Ch-**	**Name**	**MCQ (1)**	**Source based (3)**	**Case based (3)**	**SA (3)**	**LA (5)**	**Map (5)**	**Total**
	1	**Human Geography nature and Scope**				**1**			**3**
	2	**Wold population density distribution and growth**	**1**						**1**
	4	**Human Development**					**1**		**5**
	5	**Primary Activities**	**2**				**1**		**7**
	6	**Secondary Activities**							
	7	**Tertiary Activities**				**1**	**1**		**8**
	8	**Transport and Communication**	**1**	**1**					**4**
	9	**International Trade**	**2**						**2**
		Map						**5**	**5**
INDIA PEOPLE AND ECONOMY	**1**	**Poplation Distribution density and growth**	**1**			**1**			**4**
	4	**Human Settlement**	**3**						**3**

	5	**Land Resource and Agriculutre**		**1**			**1**		**8**
	6	**Water Resource**		**1**					**3**
	7	**Mineral Resource**	**2**						**2**
	9	**Plannning and Sustainable development**			**1**				**3**
	10	**Transport and Communicatio n**	**1**						**1**
	11	**International Trade**	**1**						**1**
	12	**Geographical Perspective and Selected Issues in India**					**1**		**5**
		Map						**5**	**5**
									70

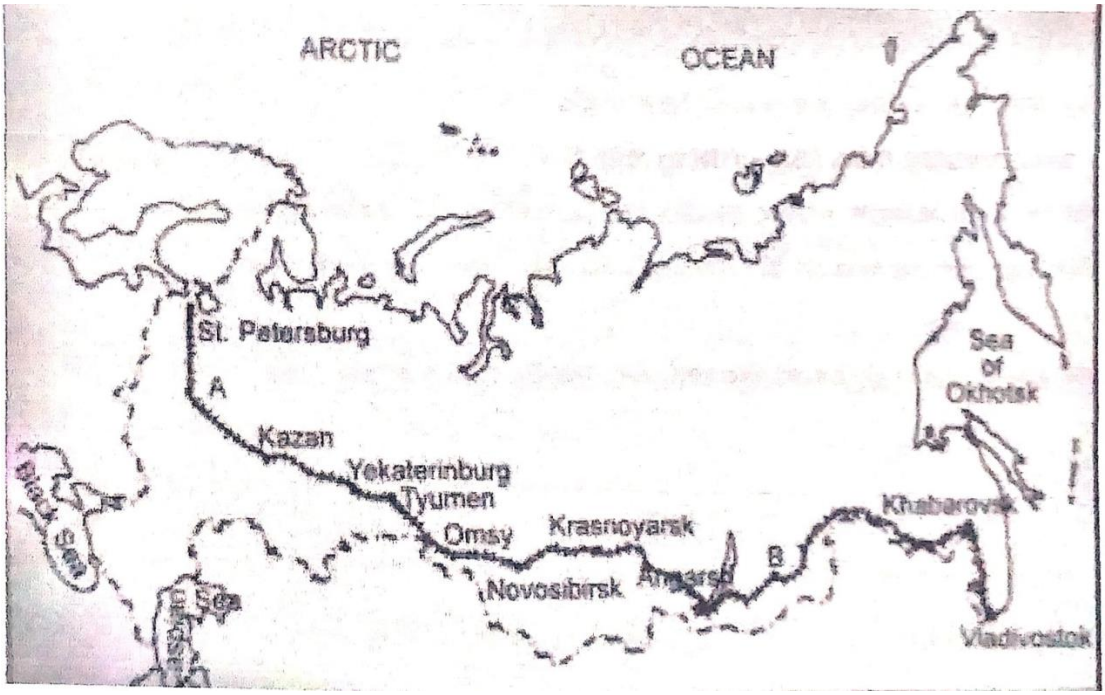
Que.	SECTION A	MARKS
No.	**There are 17 questions in this section. All are mandatory.**	
1.	The Big Inch pipeline transports (a) Milk (b) Liquid Petroleum Gas (LPG) (c) Water (d) Petroleum	1
2.	The ratio between the number of people to the size of land is known as (a) population distribution (b) population density (c) population growth (d) crude birth rate	1
3.	Which one of the following Union Territories has the highest density of population? (a) NCT Delhi (b) Andaman and Nicobar Island (c) Chandigarh (d) Puducherry	1
4.	Which of the following pairs is matched correctly? NAME OF THE COUNTRY — OIL PORT a. Tunisia — Tripoli b. Lebanon — Esskhira c. Venezuela — Maracaibo d. Oman — Aden	1
5.	In which one of the following states are the major oil fields located? (a) Assam (b) Bihar (c) Rajasthan (d) Tamil Nadu	1
6.	In which of the following year, the first radio programme was broadcast? (a) 1911 (b) 1936 (c) 1927 (d) 1923	1
7.	The North-Eastern plateau region consists of mainly which of the following minerals? 1. Iron-ore	1

	2. Coal 3. Zinc 4. Granite Codes (a) 1 and 2 (b) 2 and 3 (c) 3 and 4 (d) 1 and 3	
8.	Which of the following oil refineries are correctly arranged from North to South? (a) Visakhapatnam, Chennai, Nagapattinam, Haldia (b) Haldia, Chennai, Nagapattinam, Visakhapatnam (c) Haldia, Visakhapatnam, Chennai, Nagapattinam (d) Visakhapatnam, Haldia, Chennai, Nagapattinam	1
9.	Match column I with column II and choose the correct option. Column I — Column II A. Educational town — 1. Jodhpur B. Tourist town — 2. Aligarh C. Commercial town — 3. Kurukshetra D. Religions and Cultural town — 4. Saharanpur Codes : A B C D (a) 2 1 4 3 (b) 1 2 3 4 (c) 3 4 2 1 (d) 4 3 2 1	1
10.	Which of the following types of town is 'Babina'? (a) Garrison b) Commercial (c) Transport ((d) Industrial	1
11.	In the questions given below are two statements labelled as Assertion (A) and other labelled as Reason (R). In the context of two statements which one of the following is Correct?	1

	Codes: (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true, but R is not the correct explanation of A. (c) A is true, but R is false (d) A is false, but R is true Assertion: Settlements can be of various types. Reason: Various physical factors affect the growth of settlements. Options: a. Only assertion is correct b. Only reason is correct c. Both statements are correct. Statement II correctly explains statement I. d. Both are correct but not related to each other	
12.	In the questions given below are two statements labelled as Assertion (A) and other labelled as Reason (R). In the context of two statements which one of the following is Correct? Codes: (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true, but R is not the correct explanation of A. (c) A is true, but R is false (d) A is false, but R is true Assertion (A) There is an urgent need to conserve mineral resources in India. Reason (R) For sustainable development economic growth must be integrated with environmental concerns.	1
13.	Assertion; Mediterranean regions have been inhabited from early periods in history. Reason; Plain areas are favorable for the production of crops and to build roads and industries. a. Only assertion is correct b. Only reason is correct c. Both assertion and reason are correct and reason is the correct explanation for assertion d. Both assertion and reason are correct but reason is not the correct explanation for assertion	1
14.	Which one pair of the following places is linked by Channel Tunnel? (a) London – Berlin (b) Paris – London (c) Berlin – Paris (d) Barcelona – Berlin	1

	Read the following case study and answer question no 15 to 17. Ralegan Siddhi is a small village in the district of Ahmadnagar, Maharashtra. It has become an example for watershed development throughout the country. In 1975, this village was caught in a web of poverty and illicit liquor trade. The transformation took place when a retired army personnel settled down in the village and took up the task of watershed development. He convinced villagers about the importance of family planning and voluntary labour; preventing open grazing, felling trees, and liquor prohibition. Voluntary labour was necessary to ensure minimum dependence on the government for financial aid. Even those who were working outside the village contributed to the development by committing a month's salary every year. Work began with the percolation tank constructed in the village. In 1975, the tank could not hold water. The embankment wall leaked. People voluntarily repaired the embankment. The seven wells below it swelled with water in summer for the first time in the living memory of the people. The people reposed their faith in him and his visions. A youth group called Tarun Mandal was formed. The group worked to ban the dowry system, caste discrimination and un touch ability. Liquor distilling units were removed and prohibition imposed. Open grazing was completely banned with a new emphasis on stallfeeding. The cultivation of water intensive crops like sugarcane was banned. Crops such as pulses, oilseeds and certain cash crops with low water requirements were encouraged. All elections to local bodies began to be held on the basis of consensus. "It made the community leaders complete representatives of the people." A system of Nyay Panchayats (informal courts) were also set up. Since then, no case has been referred to the police. A Rs. 22 lakh school building was constructed using only the resources of the village. No donations were taken. Money, if needed, was borrowed and paid back. The villagers took pride in this selfreliance. A new system of sharing labour grew out of this infusion of pride and voluntary spirit. People volunteered to help each other in agricultural operations. Landless labourers also gained employment.	
15	Which of the following methods of water conservation broughtprosperity in Ralegan Siddhi? (a) Rainwater harvesting (b) Watershed development (c) Groundwater recharge (d) Construction of dams.	1
16.	Which of the following measures were taken to increase democratic participation in the village? (a) Construction of school (b) Local body elections (c) Liquor prohibition (d) All of the above	1
17.	Which of the following made Ralegan Siddhi independent of government's financial aid? (a) Prohibition of liquor (b) Voluntary labour (c) Local body election (d) Agriculture	1
SECTION B **Question numbers 18-23 are SA type questions. Question 18 & 19 are Source based questions**.		
18.	Read the source given below and answer the questions that follow:	3

	"Indira Gandhi Canal, previously known as the Rajasthan Canal, is one of the largest canal systems in India. Conceived by Kanwar Sain in 1948, the canal project was launched on 31 March, 1958. The canal originates at Harike barrage in Punjab and runs parallel to Pakistan border at an average distance of 40 km in Thar Desert (Marusthali) of Rajasthan. The total planned length of the system is 9,060 km catering to the irrigation needs of a total culturable command area of 19.63 lakh hectares. Out of the total command area, about 70 per cent was envisaged to be irrigated by flow system and the rest by lift system. The construction work of the canal system has been carried out through two stages. The command area of Stage-I lies in Ganganagar, Hanumangarh and northern part of Bikaner districts. It has a gently undulating topography and its culturable command area is 5.53 lakh hectares. The command area of Stage-II is spread over Bikaner, Jaisalmer, Barmer, Jodhpur, Nagaur and Churu districts covering culturable command area of 14.10 lakh ha. It comprises desert land dotted with shifting sand dunes and temperature soaring to 50°C in summers. In the lift canal, the water is lifted up to make it to flow against the slope of the land." (a) Spread of canal irrigation has led to increase in cultivated area and (i) multiple cropping (ii) sustainable agriculture (iii) intensity of cropping (iv) both (ii) and (iii) (b) The traditional crops sown in the area, gram, bajra and jowar have been replaced by (i) ragi, moong and gaur. (ii) coffee, tea and pulses. (iii) pulses, sugarcane and tea. (iv) wheat, cotton, groundnut and rice. (c) The command area of Stage-I of Indira Gandhi Canal lies in (i) Harike barrage in Punjab and Pakistan (ii) Bikaner, Jaisalmer, Barmer, Jodhpur, Nagaur and Churu districts (iii) Ganganagar, Hanumangarh and northern part of Bikaner districts (iv) Bharmaur and Holi tehsils of Chamba district.	
19.	What is meant by the density of population? Explain with examples the physical and economic factors which affect population distribution. OR With the help of a neat and labeled diagram, explain the three stages of the Demographic Transition Theory	3

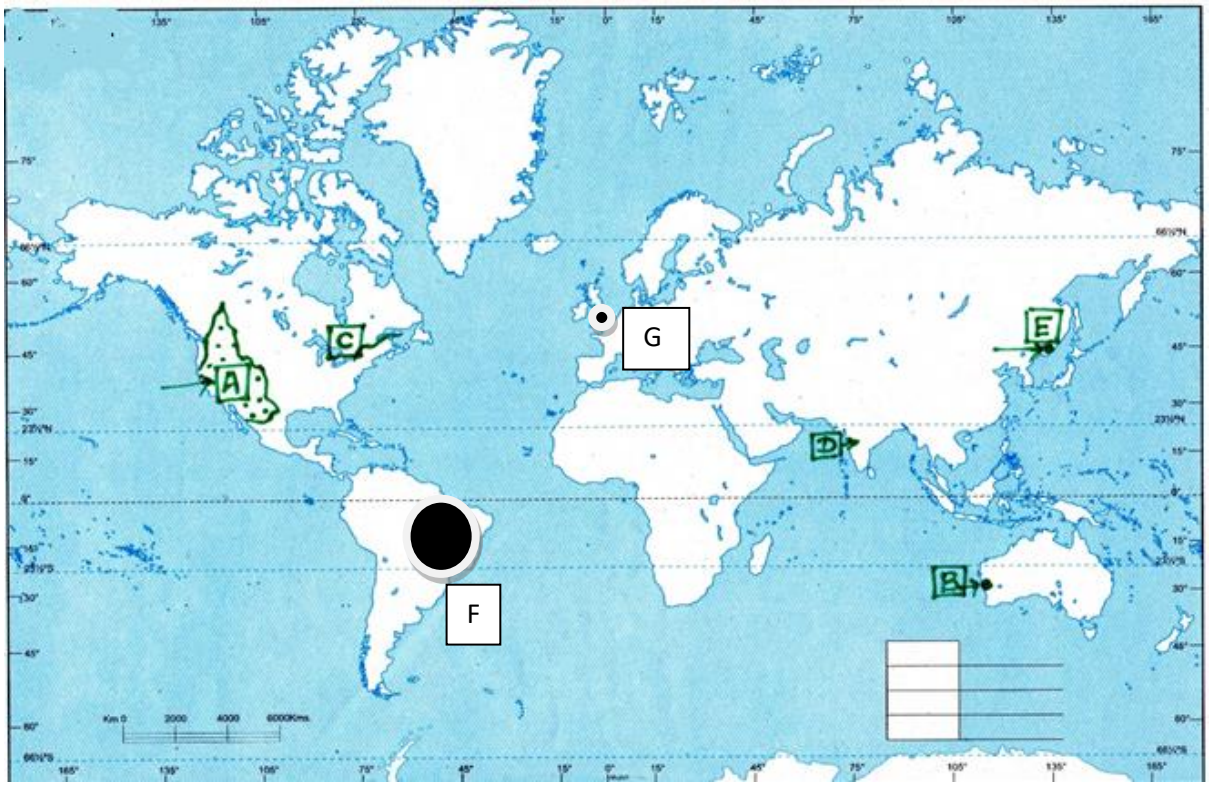
20.	Observe the given map and answer the following questions:  1) Name the Railway line and name the country where it lies. 2) Name the stations marked as „A" and „B". 3) State two reasons why it is the most important route in Asia?	3
21.	Examine the features of large scale-based Industries.	3
22.	Describe the concept of possibilism with suitable examples. Or Explain the concept of 'Possibilism' with three suitable examples.	3
23.	**Describe any three advantages of satellite communication in India.**	3
SECTION C **Question numbers 24 to 28 are Long Answer based questions (5 Marks)**		
24.	"Dairy farming is the most advanced, efficient and capital-intensive type of farming in the world." Support the statement(s).	5
25.	How can we control noise pollution? Suggest some measures.	5
26.	What is human development? Analyze the four pillars of human development. **OR** Discuss the four approaches of human development.	5
27.	"Outsourcing has resulted in opening up a large number of job opportunities in several countries." Analyze the statement with four suitable examples.	5

28.	"Gathering and hunting are the primitive economic activities meant for the subsistence of tribal societies, but in modern times gathering is market oriented and has become commercial." Examine the statement.	

SECTION D

Question numbers 29 & 30 are Map based questions having 5 sub-parts each

29. On the given political map of the world, the following seven features are shown. Identify any five of these features and write their correct names on the lines marked near each feature — 5



(a) A major area of commercial livestock rearing.

(b) A major sea-port

(c) Inland waterway

(d) Major Air Port in India.

(e) Terminal station of Trans-Siberian railway

(f) Largest Country of South America

(g) An International Airport-

30.	On the political outline map of India, locate and label any five of the following with appropriate symbols: (a) Metropolitan city of Karnataka (b) An oil refinery in Uttar Pradesh (c) An international airport in North-East India. (d) Bauxite Mines in Odisha (e) Metropolitan city of Tamil Nadu (f) Cotton Producing State. (g) Haldia Sea Port.	5

SET-3

SAMPLE QUESTIONPAPER (2022-23)

GEOGRAPHY (029)

CLASS XII

Time: 3Hrs. Max. Marks 70

GENERAL INSTRUCTIONS

i. Question paper is divided into 4 sections A, B, C&D

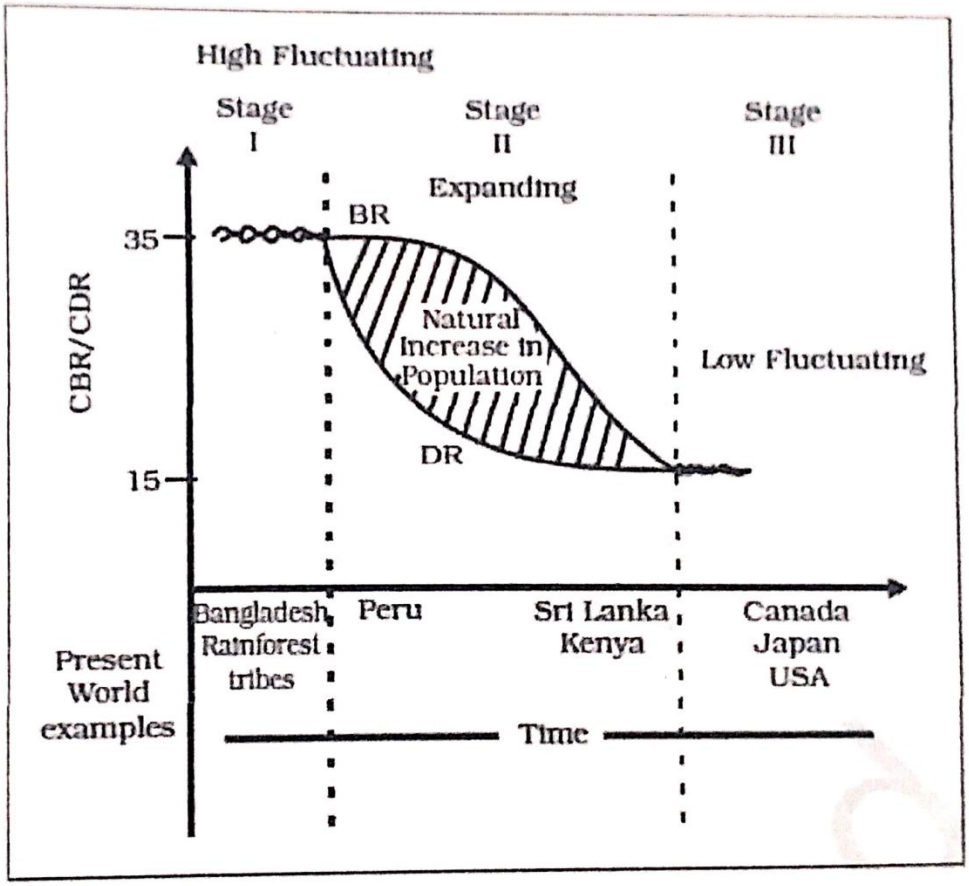
ii. In section A question number 1 to 17 are MCQ type questions.

iii. In section B question number 18-23 are SA type questions (80-100 words). Question 18 & 19 are Source based questions.

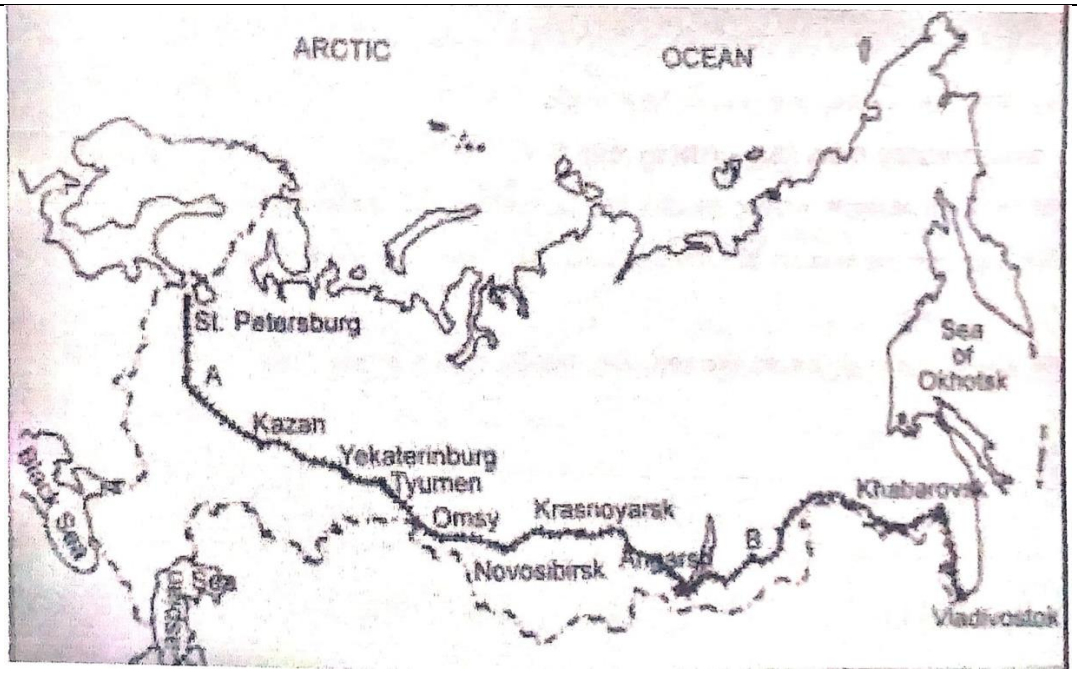
iv. In section C question number 24 to 28 are Long Answer based questions (120-150 words).

v. In section D question number29&30 are Map based questions having 5 sub parts

	SECTION A	
	There are 17 questions in this section. All are mandatory.	
1	(d) Petroleum	1
2	(b) population density	1
3	(a) NCT Delhi	1
4	c. Venezuela - Maracaibo	1
5	(a) Assam	1
6	(d) 1923	1
7	(a) 1 and 2	1
8	(c) Haldia, Visakhapatnam, Chennai, Nagapattinam	1
9	(a) 2 1 4 3	1
10	(a) Garrison	1
11	c. Both statements are correct. Statement II correctly explains statement I.	1
12	(a) Both A and R are true and R is the correct explanation of A	1
13	d. Both assertion and reason are correct but reason is not the correct explanation for assertion	1
14	Ans. (b) Paris – London	1
15	(b) Watershed development.	1
16	(b) Local body elections.	1
17	(b) Voluntary labour.	1
18	(a) (iii) (b) (iv) (c) (iii)	3
19	1. The density of population is a measure of human and land relationship. It is expressed as the number of persons per unit area. It helps in getting a better understanding of spatial distribution of population in relation to land. 2. The physical factors like climate, terrain and availability of water affects population distribution. For example, the north 3 India plains, deltas and coastal plains have a higher proportion of population than other regions of the country. 3. Economic factors like industrialization, urbanization and development of transport networks cause high concentration of population in urban regions of Delhi, Mumbai, Kolkata, Bangalore, Pune etc. OR The three stages of the Demographic Transition Theory with diagram:	3



The above diagram explains the three-staged model of Demographic Transition Theory: ● The first stage has high fertility and high mortality because people reproduce more to compensate for the deaths due to epidemics and variable food supply. The population growth is slow and most of the people are engaged in agriculture where large families are an asset. Life expectancy is low, people are mostly illiterate and have low levels of technology. Two hundred years ago all the countries of the world were in this stage. ● Fertility remains high in the beginning of the second stage but it declines with time. This is accompanied by a reduced mortality rate. Improvements in sanitation and health conditions lead to decline in mortality. Because of this gap the net addition to population is high. ● In the last stage, both fertility and mortality decline considerably. The population is either stable or grows slowly. The population becomes urbanized, literate and has high technical knowhow and deliberately controls the family size. This shows that human beings are extremely flexible and are able to adjust their fertility.

20	 1) Name the Railway line and name the country where it lies. ANS: Railway Line- Trans-Siberian Railway Line. It Lies in Asiatic Russia 2) Name the stations marked as „A" and „B". Station A is Moscow. Station B is Chita. 3) State two reasons why it is the most important route in Asia? ● It has helped in opening up its Asian region to west European markets. ● Chita is an important agro-centre and Irkutsk, a fur center connecting them to Odessa in the South.	3
21	Large-Scale Industries. These are huge in size, high capital investment and give employment to large number of people. Quality and quantity of goods produced in the industry are taken care of Raw materials are obtained from distant places and goods are sold to distant markets. Iron and steel, petro-chemical industries are examples of large scale industries.	3
22	The concept of possibilism states that there are no necessities, but possibilities everywhere and man is referred to as a master of these possibilities. He/She is not influenced by the constraints imposed by natural environment. Man can adopt, adjust. and modify the forces of his physical environment with his strength and innovation. His imprints could be seen everywhere. For instance: • Health resorts on highlands • Huge urban sprawls Agricultural Fields • Orchards and pastures in plains and rolling hills • Ports on the coast's Oceanic routes on the oceanic surface	3

	• Satellites in the space	
23	three advantages of satellite communication in India. are as follows: (1) Satellites provide a continuous and overall view of larger area which is very vital for the country due to the economic and strategic reasons. (ii) Telecommunication, meteorological observation and other data and programmes for India can be obtained through satellite system. Indian National Satellite System (INSAT) is a multipurpose satellite system used for this purpose. (iii) The Indian Remote Sensing Satellite System (IRS) is very useful in the management of natural resources, monitoring of natural calamities, surveillance of border, etc in India.	3
24	Dairy farming is most efficient and modernized type of rearing of milch animals. The milch animals such as cows and buffaloes are used to extract milk and produce dairy products: It is because of the following reasons: (i) It is capital intensive and it requires large investments, (ii) Animal sheds, storage facilities for fodder, feeding and mulching machines are required in this type of farming. So, it is very efficient form of agriculture. (iii) Cattle breeding, healthcare and veterinary services are given more attention in this type of farming. (iv) It is highly labour intensive too as it requires extensive care in feeding and mulching. (v) Dairy products are stored by the processes of refrigeration, pasteurization and other preservation processes. These processes are highly advanced and efficient. Reasons for its Concentration Near urban areas Dairy farming is mainly practiced near urban and industrial centers because of following reasons: These regions provide ready markets for fresh milk and dairy products. High income groups reside in the urban areas which creates high demand for these products. Milk and dairy products are perishable goods and need to be transported soon. So, to reduce the time of transportation, the farms are located near urban centers.	5
25	Noise pollution can be effectively controlled by taking the following measures: (i) Suppression of Noise at Source This is possible if working methods are improved by: • Designing and fabricating quieter machines to replace the noisy ones. • Proper lubrication and better maintenance of machines. Installing noisy machines in sound proof chambers. • Covering noise producing machine parts with sound absorbing materials to check noise pollution. • Using silencers to control noise from automobiles, ducts, exhausts etc.	5

	(ii) Planting of Trees Planting green trees and shrubs along roads, hospitals, educational institutions, etc help in noise reduction to a considerable extent. (iii) Legislative Measures Strict legislative measures need to be enforced to control the noise pollution such as: • Minimum use of loudspeakers and amplifiers especially near silent zones. • • Banning pressure horns in automobiles. Framing a separate Noise Pollution Act. (iv) Strict Enforcement • The government agencies should strictly enforce the low to curb noise pollution and impose penalties for violation. • Apart from these measures, ear plugs, ear muffs etc. can be provided to reduce exposure to noble pollution.	
26	Human Development is defined as the process of enlarging people's freedoms and opportunities and improving their well-being. This concept was developed by the economist Mahbub-ul-Haq. Human development have four concepts such as equity, sustainability, productivity and empowerment. These concepts are based on human development and are called as pillars of human development. These four pillars are: (i) Equity It refers to equal access to opportunity for all. There should not be any discrimination on the basis of gender, race, income, caste, creed etc. for example it will be interesting to note that dropouts from the schools are of which community or what are the reasons they dropped out of schools. (ii) Sustainability It refers to the continuity in availability of opportunities. To achieve not sustainability, equal opportunities should be given to all the generations. There should be any misuse of natural resources and environment. All resources must be used keeping in mind the future generations. (iii) Productivity It means the productivity of Human labour or productivity in terms of human work. Productivity has to be improved by building capabilities of people by increasing their knowledge and providing them better facilities. (iv) Empowerment It means having power that enables people to make choices they want. Increasing freedom and capabilities gives such power. There should be good governance and policies so that all the people, including the socially and economically disadvantaged groups are empowered. OR	5

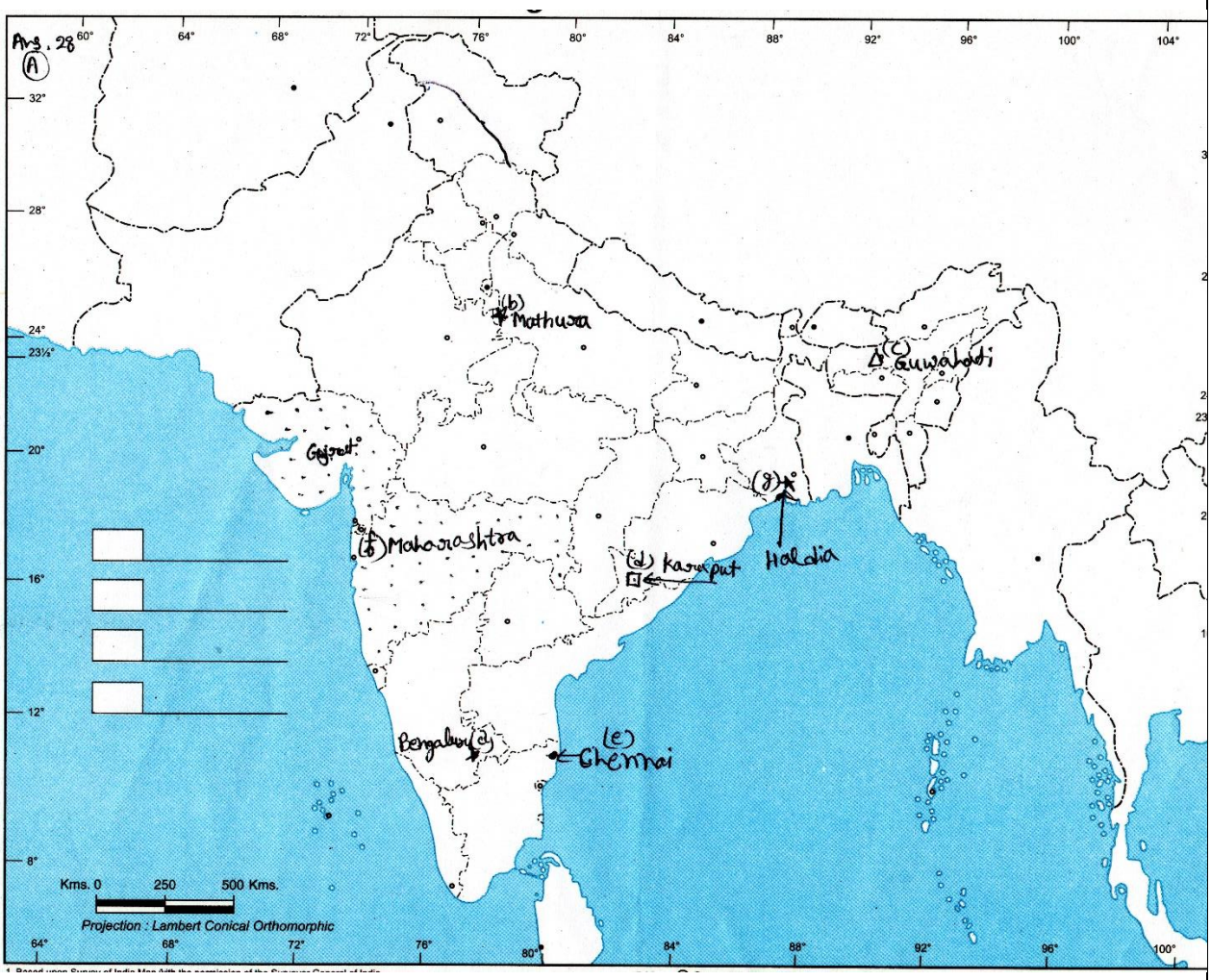
	There are a number of ways to look at the issues of Human development. There are four approaches to Human Development. These are (i) Welfare Approach This approach puts human beings at a central position where he/she is the beneficiary of all the developmental activities. Here people do not participate in the process of development but they are only passive recipient. The government is responsible for providing health, education and social services. (ii) Income Approach: In this approach, human development is linked to income. The level of income decides the level of freedom an individual enjoys. It is believed that if a nation has higher level of income, it leads to higher level of human development. (iii) Minimum Needs Approach: It was proposed by the International Labour Organization. It considers six basic needs as most important for development of human beings-health, education, food, water supply, sanitation and housing. (v) Capabilities approach: This approach emphasizes upon building human capabilities in areas of health, education and access to resources for their human development.	
27	Outsourcing has resulted in the opening up of a large number of call centres in India, China, Eastern Europe, Israel, Philippines and Costa Rica. It has created new jobs in these countries. Outsourcing is coming to those countries where cheap and skilled workers are available. These are also out-migrating countries. This can be explained through these examples: • The Knowledge Processing Outsourcing (KPO) industry involves highly skilled workers that are available in the developing countries at lower wages. • In developing countries, skilled IT staff is available with good communication skills at lower wages as compared to developed countries. • Data processing is another IT related service that employs large number of people in Asian countries.	5
28	Gathering and hunting is considered as the most primitive or ancient activity. Most of the ancient societies depend on it heavily. In very cold and extremely hot climates, people survived by hunting animals. In spite of modernization in fishing due to technological progress, still people living in the coastal areas are engaged in catching fishes. Gathering is the collection of plants and animals for food, shelter and clothing. It is mainly practiced by primitive societies who live in harsh climatic regions. The main features of gathering activity are: • • Low capital/skills investment. • Low yield per person • No surplus production Gathering is practiced in the following areas: • High Latitude Zones It includes Northern Canada, Northern Eurasia and Southern Chile.	5

- Low Latitude Zones It includes the Amazon Basin, Tropical Africa, Northern Fringe of Australia and the interior parts of South-East Asia.

In modern times, gathering is market-oriented because gatherers collect plants and other items on a large scale for selling in the market. Gatherers sell products made from valuable plants.

They use various parts of the plant, for example, the bark is used for quinine, tannin extract and cork-leaves supply materials for beverages, drugs, cosmetics, fibers and fabrics; nuts for food and oils and tree trunk give rubber, balata, gums and resins. Gathering has become a major way of earning income so it has become commercial.

29 5



(a) Metropolitan city of Karnataka

(b) An oil refinery in Uttar Pradesh

(c) An international airport in North-East India

(d) Bauxite Mines in Odisha

(e) Metropolitan city of Tamil Nadu

(f) Cotton Producing State

	(g)Haldia Sea Port	
30	In the given political outline map of the world, the following five features are shown, identify these features and write their correct names on the lines marked near each feature: (a) A major area of commercial livestock rearing. - Western Part of USA (b) A major sea-port - Perth (c) Inland waterway - St. Lawrence (d) Major Airport in India - Mumbai (e) Terminal station of Trans-Siberian railway -Vladivostok (f) Largest Country of South America- Brazil (g) An International Airport- London	5