

Minerals and Energy Resources

VERY SHORT ANSWER QUESTIONS (1 MARK)

- Q.1. Name the states leading in copper reserves.**
Ans. Balaghat mines in Madhya Pradesh, Singhbhum district in Jharkhand and Khetri mines in Rajasthan.
- Q.2. Give the major uses of limestone.**
Ans. Limestone is used in cement industry for smelting of iron and in chemical industries.
- Q.3. How is nuclear energy obtained ?**
Ans. Nuclear energy is obtained from Uranium and Thorium.
- Q.4. What is the ore of lead called ? Give three uses of lead.**
Ans. The ore of lead is called galena. [Foreign 2005]
 (a) Lead is a bad conductor of heat.
 (b) It is used as a constituent in alloys.
 (c) Lead oxide is used in cable covers, ammunition, paints, glass and rubber making.
- Q.5. Mention two types of good quality iron-ore. Write two major producing states of iron-ore.**
Ans. Two good quality iron-ores are magnetite which contains 72% of iron. [Foreign 2005]
 Haematite which contains 60 to 70% of iron.
 Most of the iron-ore mines are found in Chhattisgarh, Jharkhand.
- Q.6. Write four uses of manganese ore.**
Ans. Manganese ore is used for making iron and steel and preparing alloys. [Foreign 2005]
 It is also used to manufacture bleaching powder, insecticide, paints and batteries.
- Q.7. What are the two types of metallic minerals ? Give one example of each.**
Ans. The two types of metallic minerals are : [AI 2004]
 (a) Ferrous which contain iron. For example Iron ore, manganese ore, nickel, etc.
 (b) Non-ferrous minerals are gold, silver, lead, tin, etc.
- Q.8. Name the four varieties of iron-ore.**
Ans. The four varieties of iron ore are : [AI 2004]
 (a) Magnetite 72 per cent iron
 (b) Haematite 60 to 70 per cent iron
 (c) Limonite 40 to 60 per cent
 (d) Siderite 40 to 50 per cent.
- Q.9. Mention any four uses of manganese ore.**
Ans. Uses of manganese ore : [AI 2004]
 (a) Making iron and steel
 (b) Bleaching powder
 (c) Insecticides
 (d) Paints
 (e) Batteries.

- Q.10. What are the conventional sources of energy ? Give two examples.** [Foreign 2004]

Ans. Those sources of energy which have been in use for a long time are called conventional sources of energy. Conventional sources of energy are coal, petroleum, natural gas and electricity (both thermal and hydel).

- Q.11. Why is coal often called 'Black Gold' ? Give two reasons.** [Foreign 2004]

Ans. Coal is called 'Black Gold' because :
 (a) It is used as fuel in industries, thermal power plants and for domestic purpose.
 (b) It is the primary source of energy.
 (c) It is used as a raw material mainly for chemical industry. (Any two)

- Q.12. Give two points of difference between metallic and non-metallic minerals.** [Foreign 2004]

Ans. Difference between metallic and non-metallic

Metallic	Non-Metallic
(a) These minerals contain metals.	(a) These do not contain metals.
(b) These are found in igneous rocks.	(b) These are found in sedimentary rocks.

- Q.13. What are non-conventional sources of energy ? Give two examples.** [Foreign 2004]

Ans. Non-conventional sources of energy have not been in use for long. They have been recently introduced and generally inexhaustible. Non-conventional sources of energy are solar, wind, tidal, geothermal, atomic energy and biogas.

- Q.14. Why is iron-ore called the backbone of modern civilisation ? Give two reasons.** [Foreign 2004]

Ans. Iron-ore is called the backbone of modern civilisation because :
 (a) It is a metal of universal use
 (b) It is used for the manufacturing of machines, agricultural implements and items of general use.

- Q.15. What are non-ferrous metals ? Give two examples.** [Foreign 2004]

Ans. Non-ferrous metals do not contain iron content.
 Example—Gold, silver, copper, lead, bauxite, tin, etc.

- Q.16. Give two points of difference between L.P.G. and C.N.G.** [Foreign 2004]

L.P.G.	C.N.G.
(a) It is liquified petroleum gas.	(a) It is compressed natural gas.
(b) It is used in the household.	(b) It is used in vehicles.

SHORT ANSWER QUESTIONS (3 MARKS)

- Q.17. What is a mineral ?** [NCERT]

Ans. Homogeneous naturally occurring substance with a definable internal structure is what the geologists define mineral as "It is a substance that is found naturally in rocks. It may have to be extracted from a deep quarry or a mine deep below the earth or from deep below the sea bed."

- Q.18. Classify minerals.**

Ans. Minerals are classified as metallic and non-metallic minerals.

Metallic minerals are subdivided into:

Ferrous : containing iron, like iron ore, manganese, nickel, cobalt.

Non-ferrous : copper, lead, tin, bauxite.

Non-metallic minerals are mica, salt, potash, sulphur, granite.

Q.19. What are the factors that affect the economic viability of a mineral reserve?

Ans. Concentration of minerals in the ore, the ease of extraction and the closeness to market play an important role in affecting the economic viability of a reserve.

Q.20. State two uses of iron ore.

Ans. (a) It is the backbone of modern civilisation.

(b) It is a metal of universal use.

(c) It is used in the manufacture of machines, agricultural implements and items of general use.

Q.21. Why is magnetite considered the finest iron-ore?

Ans. (a) It is so because it has a very high content of iron upto 70%.

(b) It has excellent magnetic qualities.

(c) It is especially valuable in the electrical industry.

Q.22. State two uses of manganese ore.

Ans. (a) It is used in the manufacture of steel and ferro-manganese alloy.

(b) It is used in the manufacture of bleaching powder, insecticides, paints and batteries.

Q.23. Give two uses of copper.

Ans. (a) It is used in electrical cables, electronics and chemical industries.

(b) It is also used for making utensils and alloys.

Q.24. Why is mica used in electrical and electronic industry?

Ans. Due to its excellent di-electric strength, low power loss factor, insulating properties and resistance to high voltage, mica is one of the most indispensable mineral used in electrical and electronic industries.

Q.25. Where is limestone found?

Ans. Limestone is found associated with rocks composed of calcium carbonate or calcium and magnesium carbonate. It is found in sedimentary rocks of almost all geological formations.

Q.26. Why is there a need to conserve our mineral resources? [NCERT]

Ans. Minerals are finite and non-renewable. They are extremely valuable for our country. Once consumed they cannot be created or renewed. Hence we have to use the minerals

in such a way that sizeable amount is left for future generations as well. With the spread of industrialisation and advancements in mining technology the rate of exploitation of minerals has accelerated in recent years.

Q.27. State the consumption pattern of coal as an energy resource?

Ans. Coal is used for various purposes like :

(a) About 66% of coal produced in India is consumed in the generation of electric power.

(b) About 10% is used in iron and steel industry.

(c) About 4% is used in cement industry.

Q.28. What are the uses of natural gas?

Ans. Natural gas is used as a source of energy as well as an industrial raw material in the petrochemical industry. It is an environment friendly fuel. It can be used in building the fertiliser plant, hence can boost agricultural production.

Q.29. What is the significance of Hazira-Bijapur-Jagdishpur gas pipeline.

Ans. The H-B-J gas pipeline links Mumbai High and Bassein with the fertiliser, power and industrial complexes in western and northern India. This artery has provided an impetus to India's gas production.

Q.30. Differentiate between thermal and hydro-electricity.

Ans. (a) Thermal electricity is generated by using coal, petroleum and natural gas. It is a non-renewable resource whereas hydro-electricity is generated from water. It is a renewable resource. [NCERT]

(b) The total share of thermal electricity is about 70% whereas the total share of hydro-electricity is about 25% of the total electricity produced in India.

Q.31. Why do the non-conventional sources of energy score over conventional sources?

Ans. Non-conventional sources are abundant, renewable, pollution-free and eco-friendly therefore this energy has a bright future.

Q.32. Why is solar energy becoming popular in different parts of the country?

Ans. Solar energy is becoming popular because :

(a) It can be used for cooking, pumping, heating of water, refrigerator and street lighting.

(b) It is universal, abundant and inexhaustible source of energy.

(c) It is pollution free.

Q.33. Name the largest solar plant of India.

Ans. The largest solar plant of India is located at Madhapur near Bhuj where solar energy is used to sterilise milk cans.

Q.34. Name the largest wind farm.

Ans. The largest wind farm cluster is located in Tamil Nadu from Nagarcoil to Madurai. Nagarcoil and Jaisalmer are well known for effective use of wind energy in the country.

Q.35. Name two projects set up in India to harness geo-thermal energy.

Ans. The two experimental projects to harness geo-thermal energy are Parvati Valley near Manikran in Himachal Pradesh and the other is located in the Puga Valley, Ladakh.

Q.36. State measures that can be taken for energy conservation.

Ans. (a) Using more of public transport system.

(b) Switching off electricity whenever not required.

(c) Use power saving equipments regularly.

(d) Emphasis on greater use of non-conventional sources of energy.

Q.37. Distinguish between a rock and a mineral ore. [NCERT]

Ans. A rock may contain many minerals in varying proportions. A mineral ore contains a high proportion of a mineral along with certain impurities.

Q.38. Distinguish between ferrous and non-ferrous minerals. [NCERT]

Ans. The minerals having fair amount of iron contents are called ferrous minerals, e.g., iron ore, manganese ore, cobalt, nickel. The minerals that do not possess ferrous contents are non-ferrous minerals like copper, tin, zinc etc.

Q.39. What is the difference between mineral and ore?

Ans. Minerals are inorganic substances occurring naturally in the earth such as coal. A natural combination for minerals from which metals can be extracted profitably is an ore.

Q.40. Why is conservation of mineral resources essential? Explain any two steps of conserving minerals. [D]

Ans. Conservation of minerals is essential because :

(a) They are non-renewable

(b) They cannot be created or renewed

- (c) They are exhaustible
- (d) They are found in limited quantity
- (e) They need to be conserved to save them for future generations.

Steps to conserve minerals :

- (a) Export of minerals should be minimised
- (b) Wastage in the process of mining and processing have to be reduced
- (c) Use minerals in a planned way
- (d) Use of substitutes to save minerals.

Q.41. Explain any four points of importance of non-conventional sources of energy. [AI 2006]

Ans. Important points of non-conventional sources of energy are :

- (a) They are abundant in nature
- (b) Renewable
- (c) Pollution free
- (d) Eco-friendly.

Q.42. Suggest any four measures for conservation of energy resources.

Or

Distinguish between Thermal electricity and Hydro-electricity by stating four points. [Foreign 2006]

Measures to conserve energy resources :

- (a) Use more and more of public transport system
- (b) Switch off electricity whenever not required
- (c) Use power saving devices
- (d) Check the power equipments regularly
- (e) Emphasise on greater use of non-conventional sources of energy. (Any four)

Or

Thermal electricity	Hydro-electricity
(a) It is obtained by using coal, petroleum and natural gas.	(a) It is produced by water.
(b) It is produced by non-renewable resources.	(b) It is produced from renewable resources.
(c) In India the share of thermal total electricity is about 70%.	(c) Hydro electricity accounts for 25% of electricity produced in India.
(d) It creates pollution.	(d) It is pollution free.
(e) Its production cost is high.	(e) It's production cost is low. (Any four)

Q.43. Why is conservation of minerals essential? Explain any three methods of conservation of minerals. [AI 2004]

Ans. As minerals are non-renewable they need to be conserved in the following ways :

- (a) Use them in a planned way
- (b) Wastage in the process of mining and processing should be reduced
- (c) Using substitutes
- (d) Encourage recycling of metals.

LONG ANSWER QUESTIONS (4 MARKS)

Q.44. What are the main types of formations in which minerals occur?

- Ans.**
- (a) In igneous and metamorphic rocks, minerals occur in the cracks, crevices or joints. The smaller occurrences are called veins and larger iodes. Major metallic minerals like tin, copper, zinc and lead are obtained from veins and iodes.
 - (b) In sedimentary rocks, a number of minerals occur in beds or layers. They are formed as a result of deposition, accumulation and concentration in horizontal strata.
 - (c) Decomposition of surface rocks and the removal of soluble constituents, leaving a residual mass of weathered material containing ores. Bauxite is formed this way.
 - (d) Certain minerals occur as alluvial deposits. They are not corroded by water, Gold, silver, tin, platinum are among such minerals.
 - (e) Ocean waters contain vast amount of minerals like common salt, magnesium and bromine.

Q.45. Name the major iron-ore belts in India.

Ans. The major iron-ore belts in India are :

- (a) Orissa – Jharkhand Belt : Mayurbhanj, Kendujhar district of Orissa, Sighbun districts of Jharkhand.
- (b) Durg-Bastar – Chandrapur belt lies in Chhattisgarh and Maharashtra.
- (c) Bellary-Chitradurga – Chikmaglur – Tumkur belt in Karnataka – Kudremukh deposits are known to be one of the largest in the world.
- (d) Maharashtra-Goa belt.

Q.46. Suggest the steps taken to conserve minerals.

- Ans.**
- (a) Wastage in the process of mining and processing has to be reduced to the minimum
 - (b) Export of minerals should be minimised
 - (c) Use of substitute in order to save minerals should be enhanced
 - (d) Whenever necessary, we should encourage recycling of metals.

Q.47. Differentiate between conventional and non-conventional sources of energy.

- Ans.**
- (a) Conventional sources of energy have been in use for quite sometime while non-conventional sources are new.
 - (b) Conventional sources include coal, petroleum, natural gas and electricity. Non-conventional sources include solar, wind, tidal, geothermal, biogas.
 - (c) Non-conventional sources are all renewable, pollution free and residue free as gainst conventional sources.

Q.48. Differentiate between different types of coal.

Ans. Peat : It contains less than 50% carbon. It burns like wood and gives more smoke and less heat.

Lignite : It is low grade brown coal which is soft with high moisture content.

Bituminous : It is the most popular coal in commercial use containing 60-80% carbon. It has a special value for smelting iron in blast furnaces.

Anthracite : It is the highest quality hard coal containing more than 80% carbon.

Q.49. Why is petroleum considered the next major energy source in India after coal?

Ans. Petroleum is considered the next major energy source in India after coal because :

- (a) It provides fuel for heat and lighting
- (b) Lubricants for machinery
- (c) Raw material for a number of manufacturing industries
- (d) Petroleum refineries act as a nodal industry for synthetic textile, fertilisers and numerous chemical industries.

Q.50. How are minerals formed in igneous and metamorphic rocks ?

Ans. In igneous and metamorphic rocks minerals occur in the cracks, crevices, faults, The smaller occurrences are called veins and the larger ones. In most cases they are formed when minerals in liquid and gaseous forms are forced upwards through cavities towards the earth's surface. They cool and solidify and rise.

Q.51. Differentiate between renewable and non-renewable source of power.

Ans. Renewable sources are those sources which may be obtained continually year after year for the production of electricity. For example, hydro-electricity, sun, wind, tides, geo-thermal, whereas non-renewable resources are those which once mined cannot be regenerated, for example, coal, petroleum, natural gas. They are non-replenishable resources.

Q.52. How is petroleum an important source of both energy and raw material ?

Ans. (a) Petroleum is used abundantly in running an industry.
(b) Its by-product diesel is mainly used in running the pump for drawing water especially where electricity is not available.
(c) It is the mainstay of our transport system.
(d) Petroleum is an important raw material for producing diesel, kerosene oil.

Q.53. Distinguish between natural gas and biogas.

Ans. Natural gas is a gift of nature. It is found in association with or without petroleum. It is widely used as a domestic fuel.

Biogas is produced by man by utilising shrubs, farm, animal and human wastes. It is commonly used in rural areas as compared to natural gas which is used in urban areas.

Q.54. What is 'Energy Conservation Act' ? Describe five measures for efficient use of energy.

Ans. Energy Conservation Act-2001 was enacted to suggest measures for efficient use of energy and its conservation. Measures for efficient use of energy : [Delhi 2005]

- Use more and more of public transport system.
- Switch off electricity whenever not required.
- Use power saving devices.
- Check the power equipments regularly.
- Emphasise on greater use of non-conventional sources of energy.

Q.55. What are non-conventional sources of energy ? Why do the non-conventional sources of energy have a bright future ? Give four reasons.

Or

What are conventional sources of energy ? Why is water, as a source of energy, more important than coal and petroleum ? Explain four points in this regard.

[AI 2005]

Ans. Sun, wind, tide, biomass and energy from waste material are non-conventional sources of energy. Non-conventional sources of energy have a bright future because they are abundant, renewable, pollution free and eco-friendly. These sources of energy are not as expensive as conventional source, like coal and petroleum.

Or

Coal, oil, natural gas, hydro-electricity are conventional sources of energy. Water as a source of energy is more important than coal and petroleum because it is a

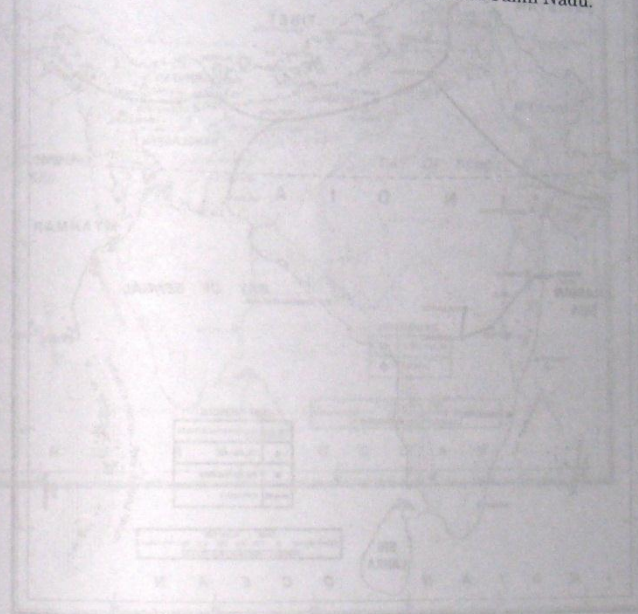
renewable resource. It is inexhaustible source of energy. Electricity produced by water is pollution free. Electricity produced by water is not so expensive as electricity produced by coal or petroleum.

Q.56. What is the importance of coal as a source of energy and as a source of raw material ? Describe in brief the distribution of coal in India. [Delhi 2004]

- Ans.**
- Coal is the main resource of power generation in India.
 - About 67 per cent of the country's requirement of power is met by coal.
 - It is the prime source of energy in the manufacturing of iron and steel.
 - It is also used as a raw material mainly for chemical industry.

Distribution of coal :

- Anthracite is found in Jammu and Kashmir.
- Bituminous is found most widely in Jharkhand, Orissa, West Bengal, Chhattisgarh and Madhya Pradesh.
- Lignite or brown coal is found in Rajasthan, Assam and Tamil Nadu.

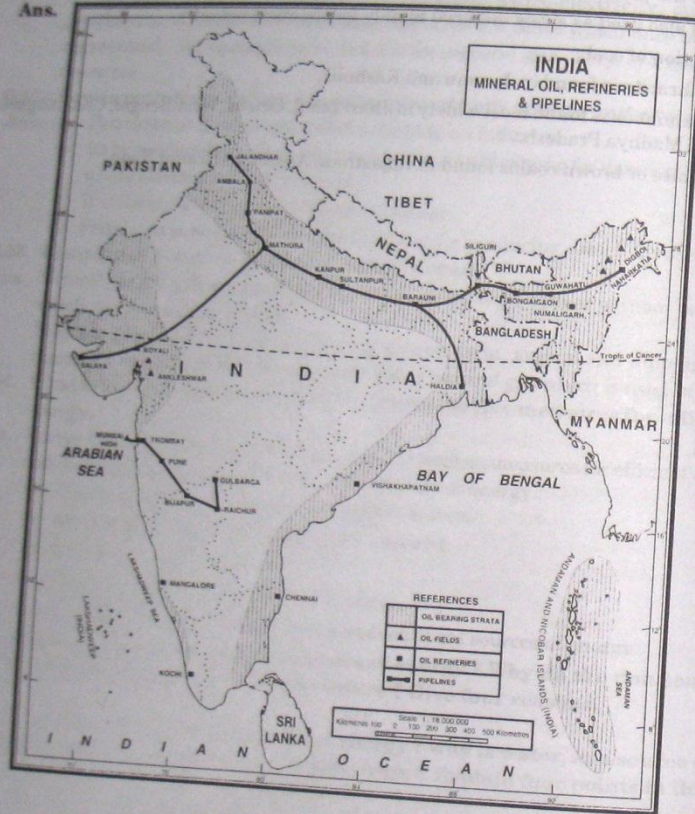


MAP WORK

Q.57. On the outline map of India mark.

- (a) Oil bearing strata.
- (b) Four oil refineries.
- (c) Ankleshwar oil field.
- (d) Digboi oil fields.
- (e) Mumbai High

Ans.

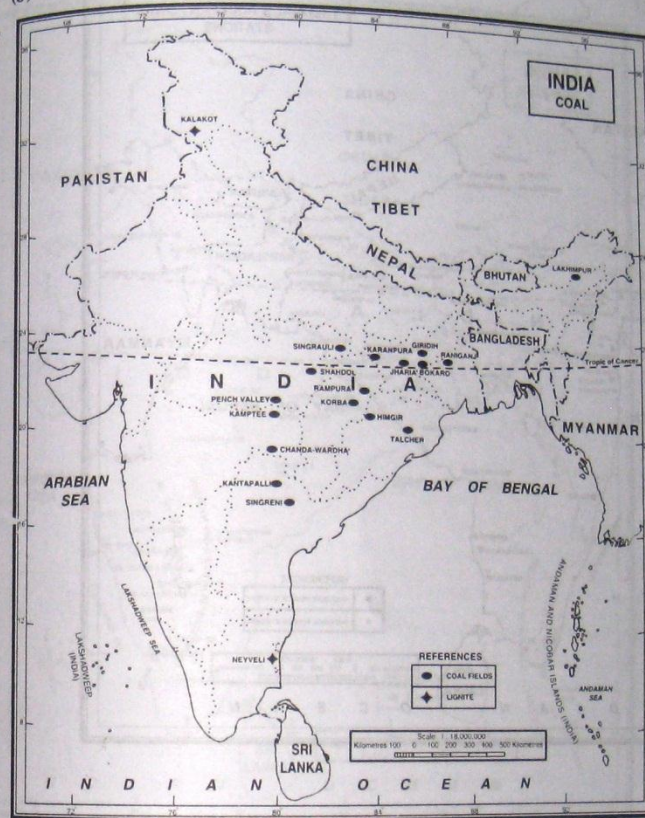


[AI 2001]
[Foreign 2001]
[Delhi 1997]

Q.58. On the outline map of India mark.

- (a) Areas where coal deposits are formed.
- (b) Singrauli coal field.

Ans.

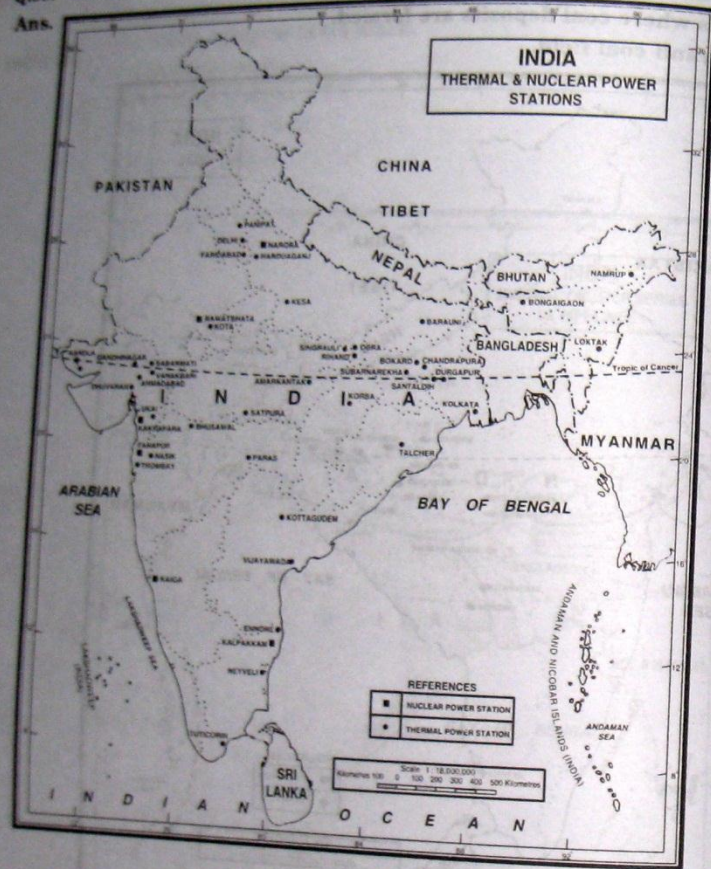


[AI 1998]

SADIQVA BEGIM-M

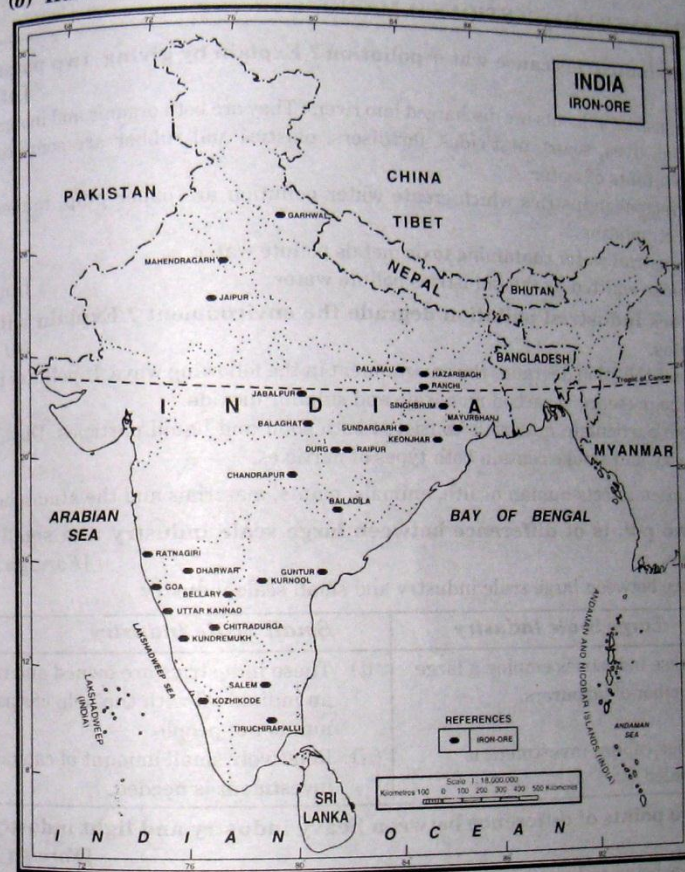
Q.59. On the outline map of India mark four Nuclear power stations.

Ans.



Q.60. On the outline map of India mark.
 (a) Areas where iron deposits are found.
 (b) Kundremukh iron ore mine

Ans.



[Delhi 1997]

Manufacturing Industries

VERY SHORT ANSWER QUESTIONS (1 MARK)

Q.1. How do industries cause water pollution? Explain by giving two points.

- Ans.** (a) Industrial effluents are discharged into rivers. They are both organic and inorganic pollutants of water. [AI 2006]
 (b) Coal, dyes, soaps, pesticides, fertilisers, plastics and rubber are some common pollutants of water.
 (c) Principal industries which create water pollution are paper pulp, tannery and electroplating.
 (d) Industrial water containing toxic metals pollute water.
 (e) Smoke emitted by the industries pollute water.

Q.2. How does industrial pollution degrade the environment? Explain with two examples. (Any two)

- Ans.** Industrial pollution degrades the environment in the following ways. It pollutes the air, due to the presence of carbon monoxide and sulphur dioxide. [AI 2004]
 Air-borne particulate materials consist of both solid and liquid particles. Dust, fume, mist, spray and smoke contain both types of particles.
 Air pollution affects human health, animals, plants, materials and the atmosphere.

Q.3. Give two points of difference between large scale industry and small scale industry.

- Ans.** Difference between large scale industry and small scale industry. [Foreign 2004]

Large Scale Industry	Small Scale Industry
(i) These industries employ a large number of labourers.	(i) These industries are owned and run by an individual with the help of small number of people.
(ii) Huge capital investment is needed	(ii) Relatively small amount of capital investment is needed.

Q.4. Give two points of difference between heavy industry and light industry.

- Ans.** Difference between heavy and light industries [Foreign 2004]

Heavy Industries	Light Industries
(i) The raw materials are heavy and bulky.	(i) The raw materials are light.
(ii) Produce heavy goods like huge machines by iron and steel industries.	(ii) Produce light goods like electric fans and sewing machines.

Q.5. Differentiate between agro based industry and mineral based industry by stating two points from each.

- Ans.** Agro based Industries — They derive the raw material from agriculture, e.g., jute. [Foreign 2004]
 Mineral based Industries — They obtain the raw material from minerals, e.g., iron.

SHORT ANSWER QUESTIONS (3 MARKS)

Q.6. What is manufacturing?

- Ans.** Production of goods in large quantities after processing from raw materials to more valuable products is called manufacturing. [NCERT]

Q.7. State the importance of industries.

- Ans.** (a) Industries help in modernising agriculture which forms the backbone of our economy.
 (b) They reduce dependence of people on agriculture.
 (c) These aim at bringing down regional disparities by establishing industries in tribal and backward areas.
 (d) Export of manufactured goods expands trade and commerce, bringing in much needed foreign exchange.

Q.8. State the factors that contribute to the location of an industry. [NCERT]

- Ans.** Location of our industry depends upon
 (a) Physical factors — availability of raw material, power resources, water, favourable climate.
 (b) Human inputs — labour, market, transport, capital, banking facilities, government policies.

Q.9. How does the textile industry contribute to the national economy?

- Ans.** Textile industry contributes significantly to industrial production (14%). It generates employment (35 million persons directly). It provides foreign exchange (about 24.6%). It contributes 4% towards GDP.

Q.10. State the factors that affect the localisation of cotton textile industry.

- Ans.** Factors that affect the localisation of cotton textile industry are :
 (a) availability of raw cotton
 (b) market
 (c) transport
 (d) labour
 (e) moist climate

Q.11. How does the cotton textile industry generate employment?

- Ans.** (a) Cotton textile industry provides a living to farmers, cotton boll pluckers and workers engaged in spinning, weaving, dyeing, designing, packaging, tailoring and sewing.
 (b) The industry supports many other industries such as chemical and dyes, mill stores, packaging materials and engineering works.

Q.12. What are the challenges faced by jute industry?

- Ans.** (a) High production cost and stiff competition in international market have reduced the overall demand for jute products.
 (b) Synthetic substitutes are all posing problems for the industry.

Q.13. Why is the sugar industry located close to sugar cane producing areas?

- Ans.** Sugar industry is located close to the sugar cane producing areas because the sugar industry is based on sugar cane, which is perishable, heavy and weight losing.

Q.14. Why is iron and steel industry called basic industry?

- Ans.** Iron and steel industry is called basic industry because all the other industries — heavy, medium and light depend on it for their machinery.

It lays the foundation of the rapid development of other industries such as heavy engineering and machine tools industry, ship building, automobile, aircraft, etc.

Q.15. Explain why iron and steel is considered a heavy industry.

- Ans.** Iron and steel is considered a heavy industry because all the raw materials as well as the finished goods are heavy and bulky entailing heavy transportation cost.

Q.16. What are the raw materials required for iron and steel industry?
Ans. The raw materials required for iron and steel industry are : iron ore, cooking coal, limestone, manganese.

Q.17. State the advantages of aluminium smelting.
Ans. Aluminium is light, resistant to corrosion, a good conductor of heat, malleable and zinc and lead in a number of industries. It becomes strong when it is mixed with other metals. It is a substitute of steel, copper, zinc and lead in a number of industries.

Q.18. What are the factors that affect the location of Aluminium industry?
Ans. Regular supply of electricity and an assured source of raw material at minimum cost are the prime factors for the location of this industry.

Q.19. What is a chemical industry?
Ans. Industry which deals with the production of various chemicals like : drugs, dye-stuff, pesticides, paints, etc., is called chemical industry.

Q.20. What is a petro-chemical industry. Give two examples.
Ans. Industries which derived upon the by-products derived from crude petroleum like : nylon, plastic, polyester are called petro-chemical industry. They are used for the manufacture of synthetic fibre, synthetic rubber, plastic, dye-stuffs, drugs and pharmaceuticals.

Q.21. What is a fertiliser industry?
Ans. Fertiliser industry deals with the production of nitrogenous fertilisers (urea), phosphate fertilisers and ammonium phosphate and complex fertilisers having a combination of nitrogen, phosphate and potash.

Q.22. What are the raw materials required for cement industry?
Ans. Cement industry requires bulky and heavy raw materials like limestone, silica, alumina, gypsum. Coal and electric power are its other requirements. [NCERT]

Q.23. State the impact of IT industry on the Indian economy?
Ans. (a) Major impact of IT industry has been on employment generation. 30% of the people employed in this sector are women.
(b) This industry is a major foreign exchange earner because of its fast growing BPO sector.

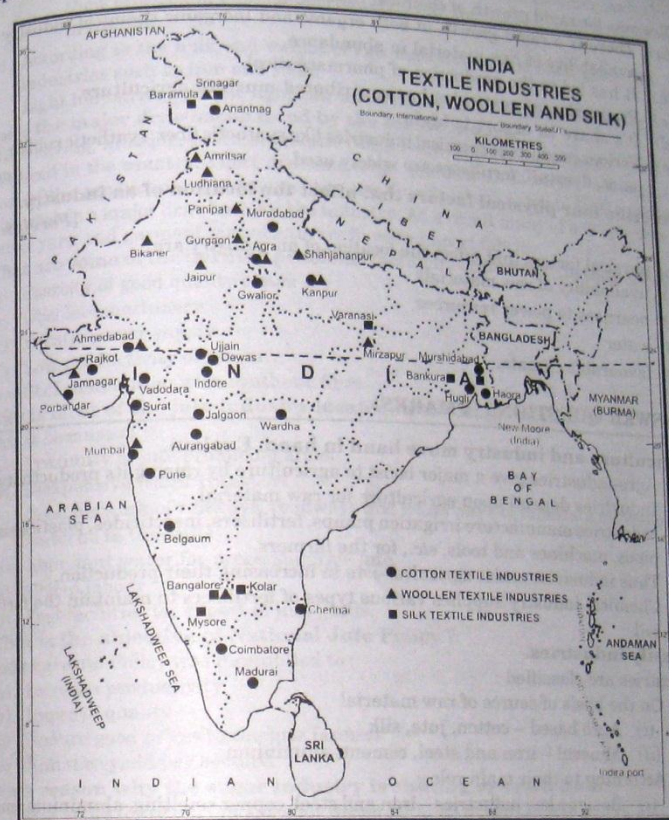
Q.24. How do the industries cause air pollution?
Ans. Smoke is emitted by chemical and paper factories, brick kilns, refineries and smelting plants and burning of fossil fuels, which produces undesirable gases such as sulphur dioxide and carbon monoxide cause air pollution.

Q.25. How do industries cause water pollution?
Ans. Industries cause water pollution. Inorganic industrial wastes and effluents are discharged into rivers. Coal, dyes, soaps, fertilisers, plastics and rubber are some common pollutants of water. Dyes, detergents, acids, salts and heavy metals like lead and mercury pesticides are discharged into the waterbodies.

Q.26. How can industrial effluents be treated?
Ans. (a) Primary treatment by mechanical means which involves screening, grinding, sedimentation.
(b) Secondary treatment by biological process.
(c) Tertiary treatment by biological, chemical and physical process which involves recycling of water.

Q.27. What are basic industries?
Ans. Basic or key industries are those which supply their products or raw materials to manufacture other goods like iron and steel, copper smelting and aluminum smelting. [NCERT]

Q.28. Study the map of India given below showing textile industries and answer the questions that follow :



- (a) Which two states have the largest number of cotton textile centres?
(b) Give two reasons for the development of cotton textile industry in these States. [Delhi 2006]

- Ans.** (a) Two states having the largest number of cotton textile centres : Maharashtra and Gujarat.
(b) Most of the mills are located here due to :
(i) availability of raw cotton
(ii) availability of market
(iii) availability of transport
(iv) availability of humid climate.

Q.29. Explain any four reasons for rapid growth of Chemical Industry in India. [Foreign 2006]

Ans. Reasons for rapid growth of chemical Industry are :

- There is a rapid growth in both organic and inorganic chemical industry due to availability of raw material in abundance.
- It has led to the production of pharmaceutical.
- Production of pesticides has contributed much to agriculture.
- Its share in export is high.
- Various products of chemical industries like synthetic fiber, synthetic rubber, plastic, paint, dyestuff, fertilisers are widely used.

Q.30. Describe four physical factors that affect the location of an industry. [Foreign 2004]

Ans. The physical factors that affect the location of an industry are :

- availability of raw materials
- nearness to power resources
- water
- favourable climate.

LONG ANSWER QUESTIONS (4 MARKS)

Q.31. Agriculture and industry move hand in hand. Explain.

- Ans.
- Agro-industries give a major boost to agriculture by raising its productivity.
 - Industries depend upon agriculture for raw material.
 - Industries manufacture irrigation pumps, fertilisers, insecticides, plastics and PVC pipes, machines and tools, etc., for the farmers.
 - Thus industries assist agricultur-ists in increasing their production.
 - Chemical industry supplies various types of fertilisers to maintain the fertility of soil.

Q.32. Classify industries.

Ans. Industries are classified :

- On the basis of source of raw material
 - Agro based – cotton, jute, silk
 - Mineral – iron and steel, cement, aluminium
- According to their main role
 - Basic or key industries – iron and steel, copper smelting, aluminium smelting.
 - Consumer goods industries – they produce consumer goods for direct use by consumers like sugar, toothpaste, paper.
- According to their capital investment
 - Small scale
 - Large scale – if investment is more than Rs. one crore on any industry than it is known as large scale industry.
- According to their ownership :
 - Public sector – owned and operated by government agencies – BHEL, SAIL
 - Private sector – owned and operated by individuals or a group of individuals – Tisco, Bajaj Auto Ltd.
 - Joint sector – jointly run by the state and individuals. OIL is jointly owned by public and private sector.

- Cooperative sector – industries owned and operated by producers and suppliers of raw materials, workers or both. They pool in the resources and share in their profits and losses proportionately like the sugar industry, coir industry in Kerala.

- According to the bulk and weight of raw material and finished goods like heavy industries such as iron and steel.
- Light industries that use light raw material such as electrical industries.

Q.33. State the major drawbacks faced by the textile industry .

Ans. Our weaving, knitting, processing units cannot use much of high quality yarn that is produced in the country. There are some large and modern factories in this sector but most of the production is in fragmented small units which cater to local market. This mismatch is a major drawback for the industry. As a result many of our spinners export cotton yarn and garment manufacturers have to import fabric.

Q.34. What are some of the burning problems facing by cotton textile industry today ?

- Ans.
- Scarcity of good quality cotton
 - Obsolete machinery
 - Erratic power supply
 - Low productivity of labour
 - Stiff competition with synthetic fibre.

Q.35. Why is most of the jute industry located in the Hugli basin ?

Ans. This is because of :

- Proximity of jute producing areas
- Inexpensive water transport
- Good network of railways, roadways and waterways to facilitate movement of raw material to the mills
- Abundant water for processing raw jute
- Cheap labour
- Post facilities for export of jute goods.

Q.36. What is the objective of National Jute Policy ?

Ans. National Jute Policy was formulated to :

- Increase productivity
- Improve quality
- Ensure good prices to the jute farmers
- Enhance yield per hectare.

Q.37. State reason why the sugar industry is shifting to south India ?

Ans. In recent years there is a tendency for the sugar mills to shift to southern states because :

- The cane produced here has a higher sucrose content
- The cooler climate also ensures a longer crushing season
- The cooperatives are more successful in these states
- South has better port facilities for export. Sugar is an export item and helps to earn foreign exchange.

Q.38. Why does the Chota Nagpur plateau have the largest concentration of iron and steel industry.

Ans. Chota Nagpur plateau has the largest concentration of iron and steel industries because of :

- Low cost of iron ore
- High grade raw materials in proximity like iron ore, coking coal and limestone
- Cheap labour
- Vast growth potential in the home market.

Q.39. State the draw backs faced by iron and steel industry.

Ans. The draw backs faced by iron and steel industry are :

- High cost and limited availability of cooking coal
- Lower productivity of labour
- Irregular supply of energy
- Poor infrastructure.

Q.40. Suggest measures to control environmental degradation.

Ans. (a) Water pollution by industries can be controlled by treatment of effluents before discharging them into rivers. [NCERT]

- Control of soil and land pollution can be done by :
 - collection of wastes from different places
 - dumping and disposing the waste by land filling
 - recycling of the wastes for further use.

(c) Air pollution can be controlled by fuel selection and utilisation. Smoke may be prevented by use of oil instead by coal in the industries.

Q.41. How are integrated steel plants different from mini steel plants ? What problems does the industry face ? What recent developments have led to a rise in the production capacity ?

Ans. An integrated steel plant is large and handles everything in one complex – from putting together raw material to steel making, rolling and shaping whereas mini steel plants are smaller, have electric furnace and use steel scrap and sponge iron. They produce mild and alloy steel of given specifications. The problems faced by this industry are : [NCERT]

- High costs and limited availability of coking coal
- Lower productivity of labour
- Irregular supply of energy
- Poor infrastructure.

There has been a rise in the production capacity due to liberalisation and foreign direct investment.

Q.42. How do industries pollute the environment ?

Ans. Industries create four types of pollution. [NCERT]

- Air pollution — Smoke emitted by the industries pollute air and water. Air pollution is caused by the presence of a higher proportion of undesirable gases such as carbon monoxide and sulphur dioxide.
- Water pollution is caused by the industrial effluents that are discharged into rivers. The principal industries which create water pollution are paper pulp, textile, chemical, petroleum, refining, tannery and electroplating.
- Industrial wastes containing toxic metals pollute land and soil. The dumping of wastes of factories on any land leads to degradation of land. Surface mining also leads to land degradation.
- Noise pollution can be caused from mechanical saws, pneumatic drills.

Q.43. Explain why cotton textile industry is largely concentrated in Gujarat and Maharashtra ? Examine the problems being faced by this industry. [Delhi 2005]

Ans. Cotton textile industry is largely concentrated in Gujarat and Maharashtra due to :

- Availability of cotton as raw material
- Market facility

- Transport
- Humid climate.

Problems faced by cotton industry are :

- Scarcity of good quality cotton
- Obsolete machinery
- Erratic power supply
- Stiff competition with synthetic fibre.

Q.44. Explain with examples any four factors responsible for centralisation of iron and steel industry in Peninsular India. [Delhi 2005]

Ans. Factors responsible for centralisation of iron and steel industry in Peninsular India :

- All the raw materials required for iron and steel industry like iron ore, coking coal, limestone are available in this area.
- Iron and steel industry is a heavy industry. It uses heavy and bulky raw materials. Location of this industry is therefore governed by its close proximity to raw materials.
- Availability of cheap labour.
- Good means of transport so that manufactured goods can be easily distributed within the country and exported to other countries.

Q.45. Explain any three physical and three human factors for the localisation of an industry in a particular area. [Delhi 2005]

Ans. Three physical factors for the localisation of an industry :

- Availability of water forms an important part for the establishment of an industry
- Power resources : electricity is very important for the establishment of an industry
- Availability of raw material is a major requisite for an industry.

Human Factors :

- Labour
- Transport facility
- Banking facility.

Q.46. What is the importance of sugar industry ? Why does sugar industry show the tendency to migrate towards the southern states of India ? Give four reasons.

Or

How has chemical industry gained an important position in the Indian economy ? Explain any six points in this regard. [Foreign 2005]

Ans. India is the largest producer of sugar cane in the world. It ranks first in the production of sugar. Sugar industry is showing a tendency of migrating southwards because :

- Sugar content in the sugar cane of southern states is higher than that of the northern states
- Sugar industry can better be run by the cooperative sector, the cooperative movement is more successful in the South than in the North
- Climatic condition are more suitable in the south
- Sugar is also an export item and helps in earning foreign exchange. South has better port facilities for export as compared to the north.

Q.47. Why are jute mills concentrated along the Hugli river ? Explain giving any six reasons. [Delhi 2004]

Ans. Jute mills are concentrated along the Hugli river because of the following reasons :

- Location of jute producing areas, close to the jute mills.
- Hugli provides inexpensive water transport.
- Availability of abundant water for processing of jute.
- Availability of Cheap labour.
- Banking and insurance facilities.
- Port facilities such as Kolkata, for export of jute products.

Q.48. Describe four human factors that affect the location of an industry.

[Foreign 2004]

Four human factors for location of industries are :

- Labour
- Market
- Transport
- Capital, banking facilities
- Government policies

Q.49. Briefly describe any four measures of controlling industrial pollution.

[Foreign 2004]

Ans. Measures for controlling industrial pollution are :

- Careful planning and setting of industries.
- Better designed equipment
- Better operation of the equipment
- Smoke can be reduced by the use of oil instead of coal.
- Internal separators, filters, precipitators, scrubbers
- Equipments to control aerosol emissions.
- Treatment of water before discharging into rivers.

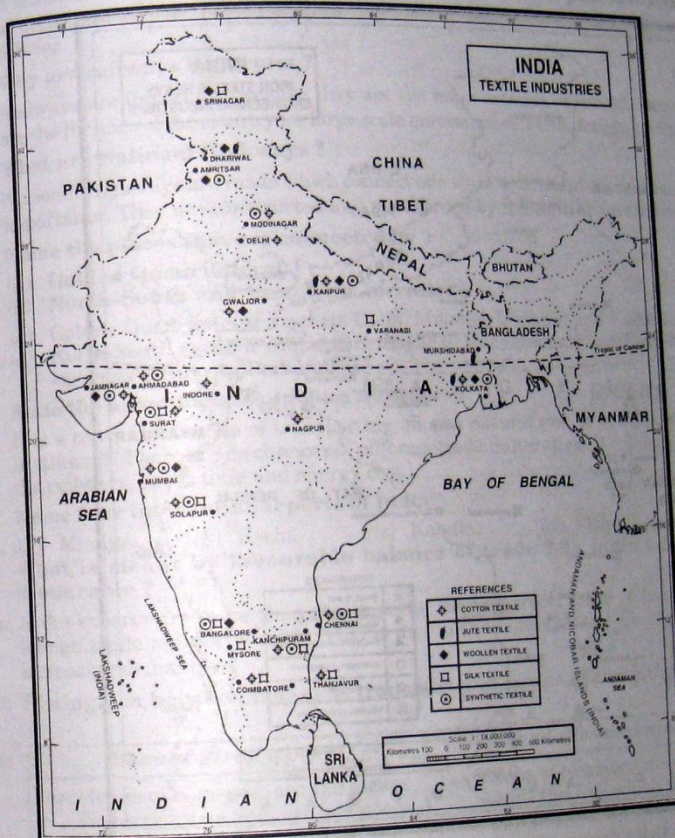
MAP WORK

Q.50. On the outline map of India locate :

- A woollen textile centre in Punjab.
- A woollen textile centre in Kanpur.
- A woollen textile centre in Amritsar.
- A woollen textile centre in Delhi.
- Two cotton textile mills in Maharashtra.
- Silk textile centres in Jammu & Kashmir.

[AI 1999]

Ans.

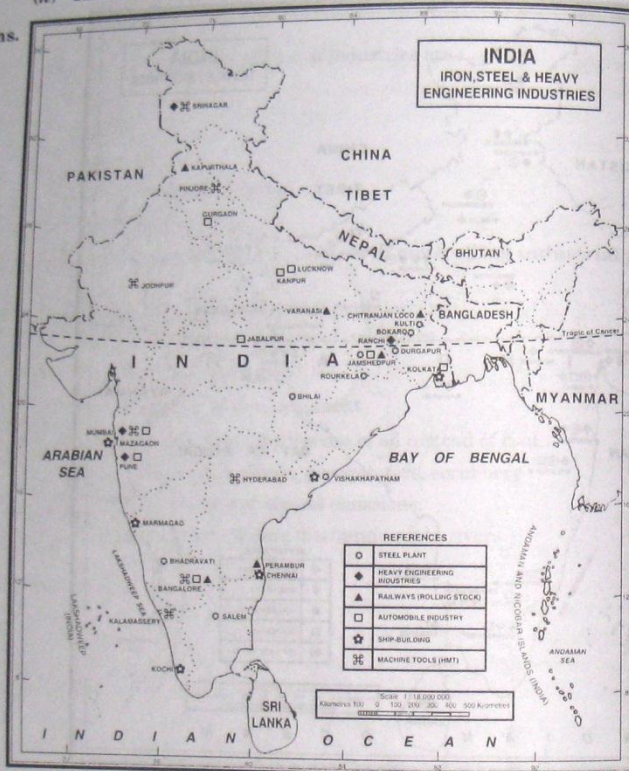


Q.51. On the outline map of India locate :

- Durgapur iron and steel industry.
- Salem steel plant.
- Rourkela steel plant.
- Jamshedpur steel plant.
- Bokaro steel plant.
- Bhilai steel plant.
- A centre for aircraft industry in Karnataka.
- Three ship building Industries.

[AI 1996]
[AI 1998]
[AI 1998, Delhi 1996]
[AI 1998, Delhi 1996]
[AI 1998, 97, 96, Delhi 1998, 96]
[Delhi 1999, 98, 96]

Ans.



Lifelines of National Economy

VERY SHORT ANSWER QUESTIONS (1 MARK)

- Q.1. Why is communication necessary ? [NCERT]
 Ans. Communication is essential to interact with each other. Man cannot live in isolation. Communication has reduced distances and has helped in bringing the world closer.
- Q.2. What is mass communication ?
 Ans. It is a means of communication with several people at a time. It plays an important role in creating awareness among the people about various national programmes and policies.
- Q.3. Why are railways important ? [NCERT]
 Ans. Railways are important because they are the main arteries of inland transport. They are the lifelines of the country for large scale movement of traffic, freight and passengers.
- Q.4. What are National Highways ?
 Ans. National Highways are roads which connect one state with the other and are of national importance. They are constructed and maintained by the central government.
- Q.5. Name the places that are connected by : [NCERT]
 (a) Golden Quadrilateral.
 (b) North-South and East-West corridors.
 Ans. (a) Golden Quadrilateral connects Delhi, Mumbai, Chennai and Kolkata.
 (b) North-South corridor connects Srinagar to Kanyakumari and East-West corridor connects Silchar to Porbandar.
- Q.6. State the advantage of pipeline transport. [NCERT, Delhi 1999]
 Ans. It is a convenient mode of transporting oil and natural gas. It is fast, safe, clean and continuous. There are no chances of pilferage and adulteration. It reduces the burden of the railways, saves time and energy cost.
- Q.7. Name four international ports of India.
 Ans. (a) Mumbai, (b) Kochi, (c) Kandla, (d) Vishakhapatnam.
- Q.8. What is meant by favourable balance of trade ? Is India's foreign trade favourable ? [NCERT]
 Ans. If the exports are more than the imports, the balance of trade is favourable. Indian foreign trade is unfavourable. This is due to the high growth rate of population and increasing demands.
- Q.9. Distinguish between means of transport and means of communication. [NCERT]

Means of transport	Means of communication
(a) Means of transport are the means for carrying passengers and goods from one place-to-another.	(a) Means of communication are the means through which messages information and news are sent from one person-to-another sitting at a distant places.
(b) Cars, buses, trains, ships and aircrafts are important modes of transport.	(b) Post and telegraph, telephone, print media, radio and T.V are major means of communication.

Q.10. Distinguish between personal communication and mass communication ? [NCERT]

Personal communication	Mass communication
(a) It is a means by which one person communicates with the other.	(a) They are means by which several people can be communicated at a time.
(b) Personal communication are handled by postcards, envelopes, telephone and computers.	(b) Important means of mass communication are radio, Television, newspaper and films.

Q.11. Distinguish between railway junction and sea port ? [NCERT]

Railway junction	Sea port
(a) Railway junction are where railway lines coming from different parts of the country meet.	(a) A port is a place where ships come to load and unload cargo.
(b) Railway lines are on land.	(b) Sea ports are on the sea coast.

Q.12. Why should inland waterways be encouraged ? Give two reasons.

- Ans. (a) Waterways are the cheapest means of transportation and are most suitable for carrying heavy and bulky material.
(b) It is a fuel efficient and environment friendly mode of transport.

Q.13. Name three categories of commodities whose exports and three categories of commodities whose imports have increased during 2001-02.

- Ans. (a) The commodities whose exports have increased over the year 2001-2002 are wheat, sugar, poultry and dairy products.
(b) Commodities whose imports have increased are nuts, marine products and iron and steel.

Q.14. Study the data given below and answer the questions that follow :

Operation of Indian Railways		
Items	Years	
	1950-51	1997-98
1. Route electrification (000 kms)	0.4	14.0
2. Total route length (000 kms)	53.6	62.5
3. Earnings from goods carried (Crore Rs.)	139.3	19595.0
4. Passenger earnings (Crore Rs.)	98.2	7573.2
5. Average rate per passenger kilometer (Paise).	1.5	19.7

(a) How many times has passenger fare per kilometer increased between 1950-51 and 1997-98 ?

(b) What was the earning of Indian railways from goods carried in 1997-98 ? [Delhi 2001]

- Ans. (a) Passenger fare per kilometer increased $19.7/1.5 = 13$ times.
(b) The earning of Indian railways from goods was 19,595 crore.

Q.15. Data same as given in question 14.

- (a) How much increase has been noticed in the total rail length between 1950-51 and 1997-98 ?
(b) What is the motive behind electrifying more and more rail routes in India ?

- Ans. (a) The total rail length increase :
(i) In 1950-51 the total route length was 5,36,000 Kms
(ii) In 1997-98 the total route length was 6,25,000 Kms

Thus, the increase was 89,000 Kms

- (b) The motive behind electrification of rail routes are :
(i) Pollution free
(ii) Greater speed
(iii) More traction power
(iv) Electricity is cheaper.

Q.16. Data same as given in question 14.

- (a) How many times have earnings from passenger fare increased between 1950-51 and 1997-98 ?

(b) State the total length of railway routes in 1997-98. [Delhi 2001]

- Ans. (a) The earnings from passenger fare have increased

$$(7573.2 \div 98.2) = 77 \text{ times}$$

(b) The total length of railway routes in 1997-98 was

6,25,000 kms

Q.17. Study the data given below and answer the questions that follow :

Progress made by Indian Railways (1950-51 to 1996-97)		
Items	Years	
	1950-51	1996-97
1. Total route length (Kms)	53,596	62,725
2. Electrified route length (Kms)	388	13,018
3. Passengers (In lakhs)	12,840	41,530
4. Number of railway engines		
(i) Steam	8,120	85
(ii) Diesel	17	4,363
(iii) Electric	72	2,519
5. Coaches	19,628	39,257
6. Wagons	2,05,596	2,72,127

(a) During the 46 years from 1950-51 to 1996-97 the total route length increased only marginally ? Give one reason ?

(b) How many times has electrified route length increased during this period ? Give one reason for this increase. [AI 2001]

- Ans. (a) During the 46 years the total route length increased only marginally because the demands of trade and commerce were met quickly and effectively by road transport.

(b) The electrified route length has increased $(13,018 \div 388)$ 33.55 times during this period.

The reason for increase in the electrified route length are :

- (i) It ensures speed
- (ii) More traction power
- (iii) Pollution free travel.

Q.18. Data same as given in question 17.

(a) During the 46 years from 1950-51 to 1996-97 the total route length of electrified rail routes has increased manifold. What is the policy of the government in this respect ?

(b) Number of coaches during the 46 years from 1950-51 to 1996-97 had doubled while the number of passengers has increased more than three times ? How has Indian railways coped with this challenge ?

Ans. (a) The policy of the government with regards to the electrification of routes is to encourage use of electric engines which ensure more speed and traction power.

(b) The railways are committed to provide more faster passenger trains with increase travel amenities in order to cope up with the growing travel demands.

Q.19. Data same as given in question 17.

(a) The number of steam engines has come down from 8,120 to 85 during the period 1950-51 to 1996-97 ? What is the policy of the government in this regard ?

(b) How many times has the number of passenger increased during this period ?

Ans. (a) The policy of the government is to encourage diesel and electric engines.

(b) The number of passengers increased are $41,530 - 12,840 = 28,690$ Passengers. The number of passenger increased by about 3.2 times in this period.

Q.20. Data same as given in question 17.

(a) How many passengers have increased during 1950-51 to 1996-97 ? What is the number of railway engines that have decreased during the same period ?

(b) In spite of the considerable increase in the number of passengers why have the number of railway engines decreased ?

Ans. (a) Number of passengers that have increased are $41,530 - 12,840 = 28,690$ passengers. Number of railways that have decreased $8209 - 6967 = 1242$ engines.

(b) The number of railway engines have decreased because of the increase in use of diesel and electric engines. These have more (a) speed (b) traction power.

Q.21. Data same as given in question 17.

The number of diesel and electric engines have increased a lot during the period 1950-51 to 1996-97. What is the policy of government in this regard ?

Ans. The government has adopted the policy to encourage them because diesel and electric engines ensure speed and traction.

Q.22. Study the data given below in the table and answer the question that follow :

Progress in Indian Railways		
Items	Period	
	1950-51	1996-97
1. Steam	8,120	85
2. Diesel	17	4,363
3. Electric	72	2,519
Total number	8,209	6,967

(a) Which item shows the highest increase during the period between 1950-51 and 1996-97 ?

(b) Explain the main effect of the tremendous increase in this item.

[Delhi 2001]

Ans. (a) The number of diesel locomotives have increased by over 256.6 times.

(b) It highlights the increased traction power in pulling more bogies. So more passengers and goods are carried.

Q.23. Data same as given in question 22.

(a) What type of locomotives have decreased in number and why ?

(b) Justify the progress in Indian railways in spite of decreasing total number of locomotives ?

[AI 2001]

Ans. (a) Steam locomotives have decreased in number. This is because their speed and traction is less.

(b) On the other hand electric and diesel locomotives have increased due to their speed, pollution free travel and traction.

Q.24. Study the table carefully and answer the following questions :

Roads	Year	
	1988-89	1997-98
1. No. of telephone exchanges.	13,725	23,406
2. No. of direct telephone exchange lines.	4,171 lakh	178.02 lakh
3. No. of villages connected by telephone.	27,316	3,10,687

(a) What is the increase in the number of villages connected by telephone between 1988-89 and 1997-98 ?

(b) Write the number of telephone exchanges in 1997-98. [Delhi 2000]

Ans. (a) In 1997-98 the villages connected by telephones were $3,10,687 - 27,316 = 2,83,371$ villages.

(b) Number of telephone exchanges in 1997-98 was 23,406.

Q.25. Study the above table carefully and answer the following questions :

(a) What was the total number of direct telephone exchange lines in 1988-89 ?

(b) Write the number of villages connected by telephones in 1997 ?

[Delhi 2000]

- Ans. (a) In 1988-89 direct telephone exchange lines were 4,171 lakhs.
 (b) In 1997-98 the number of villages connected by telephones were 3,10,687.

Q.26. Study the above table and answer the following questions :

- (a) What was the total number of direct telephone exchange lines in 1988-89?
 (b) Calculate the increase in the number of villages connected by telephones during 1988-89 to 1997-98 ?

- Ans. (a) In 1988-89 direct telephone exchange lines were 4,171 lakhs. [Delhi 2000]
 (b) The number of villages connected by telephones during the period 1988-89 was 27,316 and in 1997-98 it was 3,10,687. The increase was 3,10,687 - 27,316 = 2,83,371 villages.

Q.27. Mention two advantages of computerised reservation over traditional method of reservation.

Ans. Advantages of computerised reservation are :

- (a) Reservation has become faster
 (b) It has reduced malpractices
 (c) Confirmation can be done on phone.

Q.28. Roads and Road traffic

Roads	Year	
	1950-51 (km)	1990-91 (km)
1. Surfaced	1,57,019	10,01,000
Unsurfaced	2,42,923	10,36,000
Total length	3,99,942	20,37,000
2. Road density (per sq. kms)	0.12	

- (a) What was the total length of surfaced roads in 1950-51 ?
 (b) What was the total length of roads by 1990-91 ?
 (c) Define road density.

[Delhi 1998]

- Ans. (a) The total length of surfaced roads in 1950-51 was 1,57,019 kms.
 (b) The total length of roads by 1990-91 was 20,37,000 kms.
 (c) Road density is the length of the road per square kilometer.

Q.29. Indian railways

	1951	1986
1. Total route length (km)	53,596	61,836
Electrified route length (km)	388	5,517
2. Running track (km)	59,315	77,135
3. Number of locomotives	8,209	9,920
(i) Steam	8,120	5,571
(ii) Diesel	17	3,047
(iii) Electric	72	1,302
4. Number of wagons	2,05,596	3,59,61
5. Number of coaches	19,628	38,184
6. Goods originating (in million tonnes)	93	286

- (a) How much is the increase in the total route length between 1951-1986 ?
 (b) In which type of railway engines has there been a decline in number between 1951 and 1986 ?

- Ans. (a) Increase in the total route length between 1951 to 1986 is 8,240 kms.
 (b) The number of steam engines declined between 1951 to 1986 from 8,120 to 5,571.

Q.30. Furnish two main facts about the importance of border roads for the defence of the country.

- Ans. (a) Border roads help to maintain the supply line to the jawans on the border irrespective of physical odds and extremely harsh climate.
 (b) They cross the deserts, mountains, valleys, forests, swamps to facilitate the movement of men and equipment in both peace and war time.

Q.31. Name any three railway zones with their head quarters. [NCERT]

- Ans. Northern Zone — New Delhi
 Western Zone — Mumbai
 Southern Zone — Chennai

Q.32. What are Expressway National Highways ? [NCERT]

Ans. The Expressway National Highways have been planned to meet the requirement of fast movement of traffic in the country.

Q.33. Name any four international airports of India. [NCERT]

- Ans. (a) Delhi (b) Mumbai
 (c) Kolkata (d) Chennai.

Q.34. Name two inland waterways of India. [NCERT]

- Ans. (a) The Ganga river between Allahabad and Haldia.
 (b) The Brahmaputra river, between Sadiya and Dhubri.

Q.35. Name the major parts on the east coast of India. [NCERT]

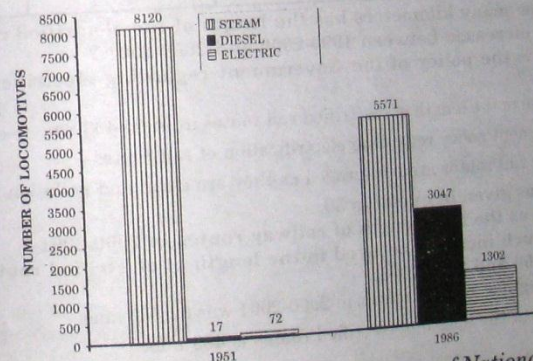
Ans. Vishakhapatnam, Paradip, Haldia, Ennore, Tuticorin, Chennai, Kolkata.

Q.36. Name three means of mass communication. [NCERT]

- Ans. (a) Radio (b) T.V. (c) Newspaper.

Q.37. Study the figure carefully and answer the following questions.

NUMBER OF LOCOMOTIVES 1951-1986



- (a) Name the type of railway engines which were mainly used in 1951.
 (b) Electric engines should be preferred over diesel engines. Mention the reason for it.
- Ans. (a) Steam engines.
 (b) Electric engines should be preferred over diesel because :
 (i) They have more traction.
 (ii) It is clean.
 (iii) It is pollution free.

Q.38. Railway Network in India (in kms)

Length of Rail Routes	Year	
	1999-2000	2000-2001
Broad gauge	44,216	44,383
Metre gauge	15,178	15,013
Total length	62,809	62,759

- (a) By how many kilometres has the length of the metre gauge railway route in India decreased during the year 1999-2000 and 2000-2001 ?
 (b) What is the Policy of the Government regarding rail gauge conversion.
- Ans. (a) Decrease in the length of the metre gauge 15,178-15,013 = 165 kms. [Delhi 2003]
 (b) The Policy of the Government is to convert metre gauge track to broad gauge track in order to have a unigauge system of railways.

Q.39. Railway Network in India

Length of Rail Routes (kms)	Year	
	1999-2000	2000-2001
Broad gauge	44,216	44,383
Metre gauge	15,178	15,013
Narrow gauge	3,415	3,363
Electrified Routes	14,579	15,062
Total length	62,809	62,759

- (a) By how many kilometers has the length of the electrified rail routes in India increased between 1999-2000 and 2000-2001 ?
 (b) What is the policy of the Government regarding electrification of rail routes ?
- Ans. (a) Increase in the length of electrified rail routes in India 483 km. [Delhi 2003]
 (b) Government policy regarding electrification of rail routes— Electric rail routes are encouraged as they are clean and pollution free travel.
- Q.40. Data same as given in question 39.
 (a) What was the total length of railway routes in 2000-2001 ?
 (b) How much increase occurred in the length of electrified routes between 1999-2000 and 2000-2001.
- Ans. (a) Total length of railway routes in 2000-2001 was 62,759 kms. [AI 2003]
 (b) Increase in the length of electrified routes is 483 kms.

Q.41. Name four means of communication.

- Ans. (a) Telephones (b) Postal Network [NCERT]
 (c) Television (d) Press

SHORT ANSWER QUESTIONS (3 MARKS)

Q.42. Why is transport essential ?

Or

[NCERT]

State the importance of transport in daily life.

- Ans. (a) It ensures movement of people and goods.
 (b) It enhances production as the processing sites are linked with the site of raw materials.
 (c) Tourism as an industry has developed extensively due to transport.
 (d) Volume of trade has increased which has resulted in the development of economy and the country as a whole.
- Q.43. The great plains have more railways than the Himalayan mountains. Why ?

[NCERT]

Ans. The great plains have more railways due to :

- (a) High density of population
 (b) Rich agriculture
 (c) Greater industrial activity
 (d) Level land.

Q.44. Enumerate the problems faced by our railways.

[NCERT]

Ans. Various problems faced by our railways are as follows :

- (a) Passengers travel without tickets due to lack of proper vigilance.
 (b) They pull chains unnecessarily resulting in the delay of trains.
 (c) Thefts and damages of railway property is common.
 (d) Railway accidents due to the negligence of authorities is a major problem of Indian railways.
 (e) The signalling and the safety systems are all outdated.

Q.45. State four steps that have been taken to modernise the Indian railways.

[Delhi 1997]

Ans. Steps taken to modernise the Indian railways are :

- (a) All the main railway stations have been computerised.
 (b) The railway is replacing steam and diesel engines by electric engines. This has ensured clean travel free from pollution.
 (c) More and more faster trains are being introduced.
 (d) Metro railway is being extended in Kolkata and Delhi.

[Delhi 1999]

Q.46. How does road transport score over railway transport ?

- Ans. (a) Road transport requires less investment than railway.
 (b) Maintenance cost is also low.
 (c) Road transport provides access to difficult terrains.
 (d) Roads facilitate the fast transportation of perishable goods and thereby stimulate their production.

Q.47. Why is air transport more useful nowadays? Write three reasons.

[AI 1997]

Ans. (a) It is the fastest means of transportation.

(b) It can cover very different terrains like high mountains, deserts and thick forests.

(c) It facilitates fast transportation of perishable goods hence, stimulates their trade.

Q.48. State three advantages of container service.

Ans. Container services provide door-to-door services for goods and commodities.

(a) They reduce transport and delivery time.

(b) Ensures greater security of goods.

(c) Ensures freedom from pilferage.

Q.49. What are the three types of railway gauges in India? What is the disadvantage of three gauge- railway system?

Ans. Three gauges are :

(a) Broad gauge : width between the rails – 1.67 m.

(b) Metre gauge : width between the rails – 1.0 m.

(c) Narrow gauge : width between the rails – 0.76 m.

Different gauges create difficulties in the smooth flow of traffic. If gauges all over become uniform, it will ensure higher speed, cheaper transport and will reduce the inconvenience of changing trains during a journey.

Q.50. How is container service beneficial to both railways and consumers?

[AI 1996, 2000]

Ans. (a) Container service provides door-to-door service.

(b) It reduces transport and delivery time.

(c) It ensures greater security of goods from pilferage.

Q.51. Explain four measures to reduce growing pressure on Indian railways.

[Delhi 2000]

Ans. The measures adopted by the Indian railways to reduce the burden on them :

(a) Electrification of tracks.

(b) Diesellisation of locomotives.

(c) Transportation of mineral oil and natural gas through pipelines.

(d) Setting up of thermal power stations near coal and lignite mines.

Q.52. (a) Explain two efforts to maintain navigability in Hoogly river.

(b) Explain two reasons why water transport is cheaper than road transport.

[AI 2000]

Ans. (a) Efforts to maintain navigability in river Hoogly.

(i) Constant dredging of river Hoogly.

(ii) To ensure its navigability, water is supplied from Farraka Barrage on the Ganga.

(b) Water transport is cheaper because :

(i) No routes have to be laid.

(ii) It requires minimal maintenance.

Q.53. Explain the importance of each of the following. Mention one point for each.

(a) Underground Metro Railways

(b) Haldia Port

(c) Mahanagar Telephone Nigam

(d) Kachcha Roads.

[Foreign 2000]

Ans. (a) Underground metro rail provides fast traffic movement in metropolis like Mumbai, Kolkata and Delhi.

(b) Haldia Port relieves the growing pressure on Kolkata Port.

(c) Mahanagar Telephone Nigam have been set up in Mumbai and Delhi to improve and accelerate telephone services.

(d) Kachcha roads are confined mainly to rural areas.

Q.54. Name the states where Marmagao, New Mangalore, Paradip, Tuticorin ports are located.

[NCERT]

Ans. Marmagao – Goa, Daman and Diu.

New Mangalore – Karnataka.

Paradip – Orissa.

Tuticorin – Tamil Nadu.

Q.55. Describe the problems of railways.

[NCERT]

Ans. (a) Many passengers travel without tickets.

(b) They pull chains unnecessarily which lead to late running of trains.

(c) People stop trains which cause heavy losses to the railways.

(d) Thefts and damage of railway property have not yet stopped completely.

Q.56. Study the given picture carefully and answer the questions that follow.



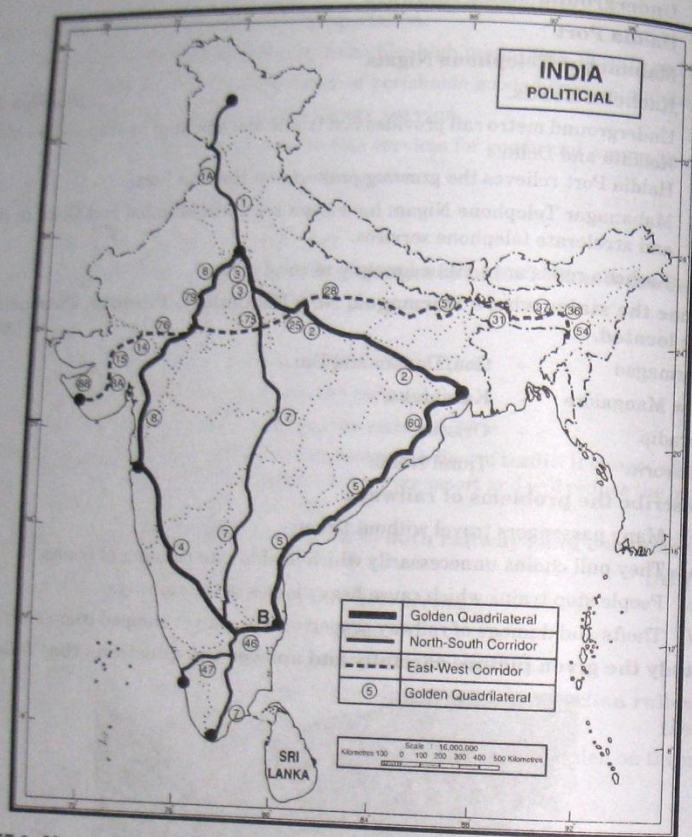
56.1. What has been the contribution of foreign tourist in terms of foreign exchange?

Ans. It contributes Rs. 21, 828 crore.

56.2. How has tourism help in the national development?

Ans. Tourism promotes national integration, provides support to local handicrafts and culture pursuits. It helps in the development of international understanding.

Q.57. Study the given map carefully and answer the questions that follow.



57.1 Name the two places connecting the East-West corridor.

Ans. Silchar and Porbandar.

57.2 Name the places connecting the North-South corridor.

Ans. Srinagar and Kanyakumari

LONG ANSWER QUESTIONS (4 MARKS)

Q.58. What are the four categories of roads in India? Write two characteristics of National Highways. [AI 1997]

Or

Classify the roads according to their importance?

Ans. The roads can be classified into the following categories:

[NCERT]

- National Highways : They are constructed and maintained by the central government. They connect the state capitals, big cities, and important ports.
- State Highways : They are constructed and maintained by the state government. They join state capitals with district head quarters and other important towns.
- District Roads : They connect the district headquarters with other places of the district.
- Village Roads : They connect the villages with the neighbouring towns and cities. They play a vital role in helping the farmers to take their product to cities and towns.
- Border Roads : They are vital road links along the frontiers of our country. The border roads organisation constructs and maintains these roads.

Q.59. Why are the means of transport and communication called the lifelines of a nation? [NCERT]

Ans. Radio, Television, Telephone, e-mail are the main means of communication. At present, it is the time of information and technology. The world is developing fast. Means of communication play an important role in the development of the world.

- They help in transferring technology from one country to the other, from one state to another.
- Means of communication helps us to know what is happening in other parts of the world.
- They have shortened the distances between various places.
- Means of transportation carry common people from one place-to-another. They carry skilled and unskilled labour from one place-to-another, they maintain the balance of demand and supply in an economy.

Q.60. Write briefly on the progress made by Indian railways covering the following points :

- Intensive utilisation of tracks and wagons
- A large government organisation
- Economy in energy consumption
- Computer reservation
- Long distance superfast trains.

[AI 1999]

- Ans. (a) Intensive utilisation of tracks and wagons. Instead of adding new routes the railways try to increase the utility of the existing tracks as it requires moderate investment. The number of coaches and wagons have not increased at such a fast pace but through better and computerised management system they are being put to their maximum use.
- A large government organisation : Railways is a large organisation providing employment to about 17 lakh people. It is the biggest organisation of India. It has its own budget presented in parliament. It is a welfare organisation.
 - Economy in energy consumption : The railways use electric engines instead of steam or diesel which are clean and pollution free travel for passengers.
 - Computer reservation : It has reduced the work load of the administrative staff. It has also benefitted the passengers as not only return ticket but reservation for any place from any station is available.

(e) Long distance super fast trains : Many superfast trains like the Rajdhani Express, Trivandrum Express and Shatabdi Express have been introduced.

Q.61. Discuss rail transport briefly under the following heads :

- (a) Modernisation of railways
- (b) Shift in the utilisation policy of locomotives
- (c) Contribution to the growth of agriculture
- (d) Electrification of routes.

Ans. (a) Modernisation of railways :

- (i) Conversion of metre to broad gauge
 - (ii) Introduction of container service
 - (iii) Introduction of A/C sleeper coaches and pantry.
- (b) Shifting in the utilisation policy of locomotives :
- (i) Steam engines are being replaced by diesel and electric engines
 - (ii) It will help to increase speed
 - (iii) Pollution free journey.

(c) Contributions to the growth of agriculture :

- (i) Railways transport fertilizers, machinery to be used in farms.

(d) Electrification of routes :

- (i) It ensures speed
- (ii) It means faster travel for passengers.

Q.62. Give a merit and a demerit for each of the following transport systems in India.

[Delhi 1998]

- (a) Road transport
- (b) Rail transport
- (c) Inland water transport
- (d) Sea transport
- (e) Air transport

Ans. (a) Road Transport

Merits

- (i) The roads link the rural areas to the urban areas.
- (ii) They can be constructed in hilly, desert and forest areas.

Demerits

- (i) They are unsuitable for long distances.
- (ii) Carriage of heavy and bulky commodities over a long distance is very costly.

(b) Rail Transport

Merits

- (i) It is suitable for long distance.
- (ii) Heavy and bulky commodities can be transported by railways.

Demerits

- (i) Unsuitable for short distance, as it is expensive.
- (ii) Unsuitable for perishable items.

(c) **Inland water Transport**

Merits

- (i) The maintenance cost is less.

Demerits

- (i) Waterways are very slow.
- (ii) As the water is being utilised for irrigation, there is less water in the rivers.

(d) **Air Transport**

Merits

- (i) It is the fastest mode of transport.
- (ii) It can go over unsuitable topography and hilly terrains.

Demerits

- (i) It is an expensive mode of transport.
- (ii) It does not connect the rural areas.

Q.63. State any three merits of roadways.

- Ans.** (a) Construction cost of roads is much lower than that of railway lines.
(b) Roads can traverse comparatively more dissected and undulating topography.
(c) Roads can negotiate higher gradients of slopes and as such can traverse mountains such as the Himalayas.

Q.64. Where and why is the rail transport the most convenient means of transportation in the northern plains ?

Ans. Rail transport is most convenient means of transportation in the northern plains due to level land, high population density rich agricultural resources and greater industrial activity.

Q.65. What is the significance of border roads ?

Ans. Border roads are vital road links along the frontiers of our country. They are of strategic importance in the southern and north eastern border areas. These roads have increased accessibility in the areas of difficult terrain and have helped in the economic development of these areas.

Q.66. What is meant by trade ? What is the differences between International and Local trade ?

Ans. The exchange of goods among people states and countries is referred to as trade. Local trade is carried out in cities, towns and villages whereas International trade is carried out between countries.

Q.67. Why are the means of transport and communication called the life line of a nation and its economy ?

Ans. Means of transport and communication are called the life line of a nation because :

- (a) Transport help us in both production and distribution of goods
- (b) Transport help in the development of communication
- (c) They have reduced distances bringing the world closer
- (d) They facilitate trade between countries, hence they are called the life line of our national economy
- (e) Transport carry skilled and unskilled labour from one part of the country to another, thus maintaining the balance of supply and demand in our economy
- (f) They help in transferring technology from one country to the other.

Q.68. Write a note on the changing nature of international trade in India.

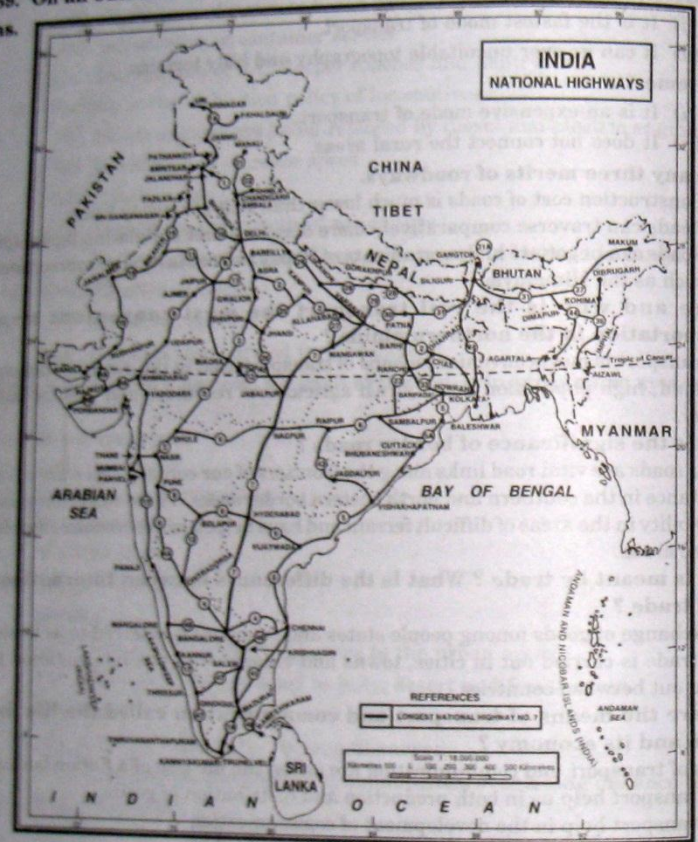
Ans. India has trade relations with all major trading blocks and all geographical regions of

the world. India's share of export has been increasing which includes agriculture and allied products, ores and minerals gems and jewellery, chemical and allied products, increasing food and petroleum products
 The commodities imported in India include petroleum, pearls precious stones, inorganic chemical, coal and coke.

MAP WORK

Q.69. On an outline map of India mark National Highway no. 1, 3 and 7.

Ans.

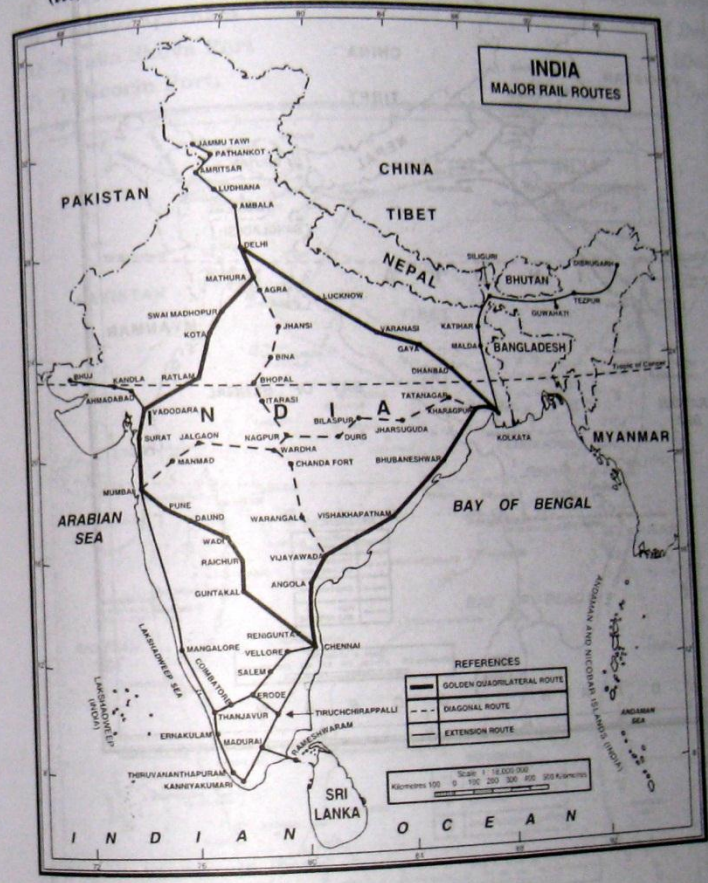


Q.70. On an outline map of India mark :

- (a) Golden Quadrilateral route
- (b) Guwahati railway station
- (c) Thiruvananthapuram railway station
- (d) Rail route from :
 - (i) Delhi to Mumbai
 - (ii) Mumbai to Thiruvananthapuram
 - (iii) Kolkata to Chennai
 - (iv) Mumbai to Kolkata

[AI 2001]
 [AI 2001]

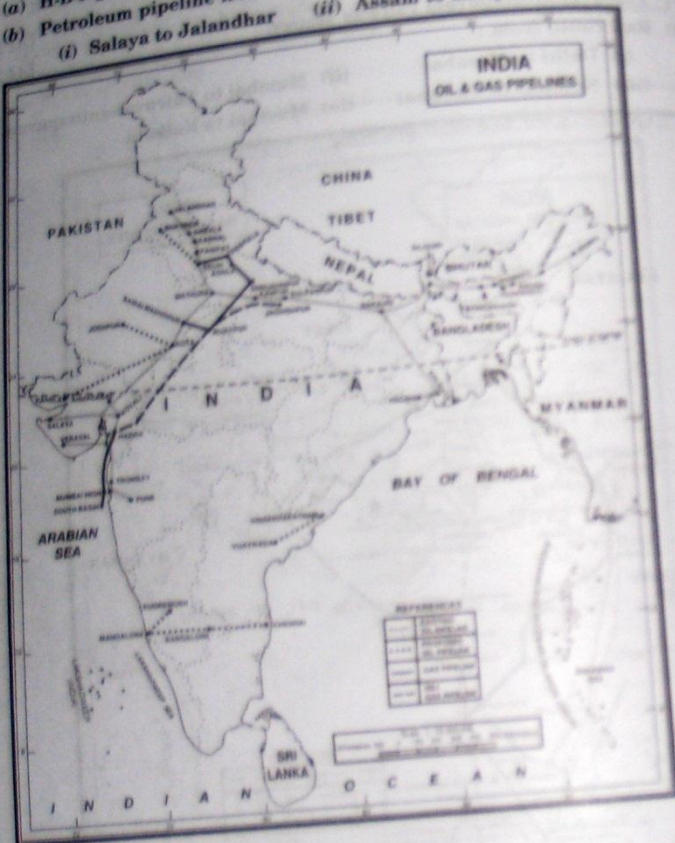
Ans.



Q.71. Mark on an outline map of India :
 (a) H-B-J gas Pipeline.
 (b) Petroleum pipeline from

- (i) Salaya to Jalandhar (ii) Assam to Kanpur

Ans.



Q.72. On an outline map of India mark the following :
 (a) A major port located in the state of Goa

- (b) Kolkata Port
 (c) Chennai Port
 (d) Mumbai Port
 (e) Kochi Port
 (f) Haldia Port
 (g) Vishakhapatnam
 (h) Nhava Sheva Port
 (i) Tuticorin Port.

[Delhi 1997, All India 1998, Foreign 1999]

- [AJ 1999]
 [Delhi 1999]
 [AJ 1998]
 [Delhi 1997, All India 1998]
 [Delhi 1998]
 [Delhi 1998]
 [Delhi 1997]



Q.73. On a map of India mark any four navigable rivers.

Ans.

