



GEOGRAPHY

**MANUFACTURING
INDUSTRIES**

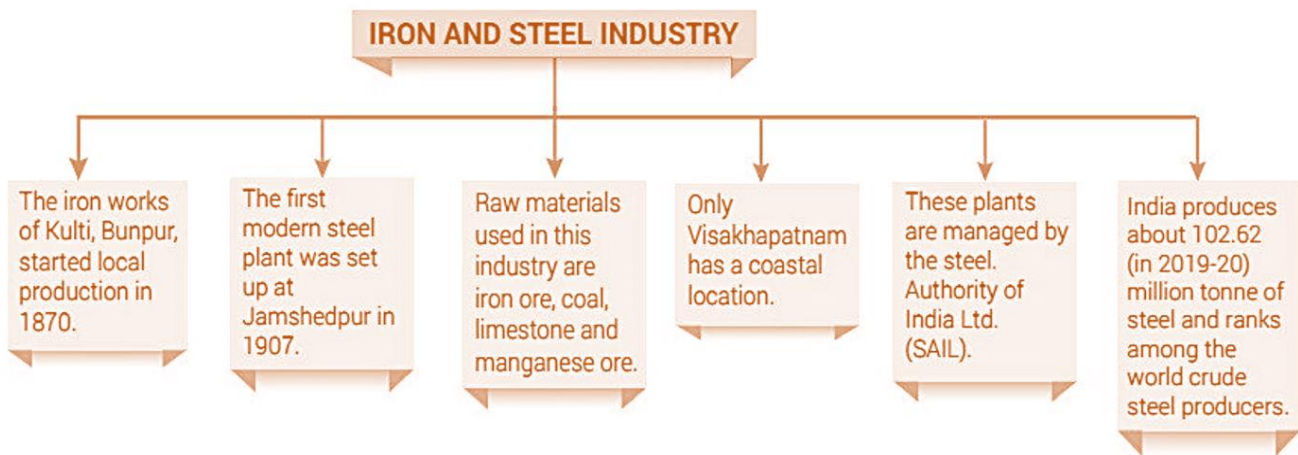
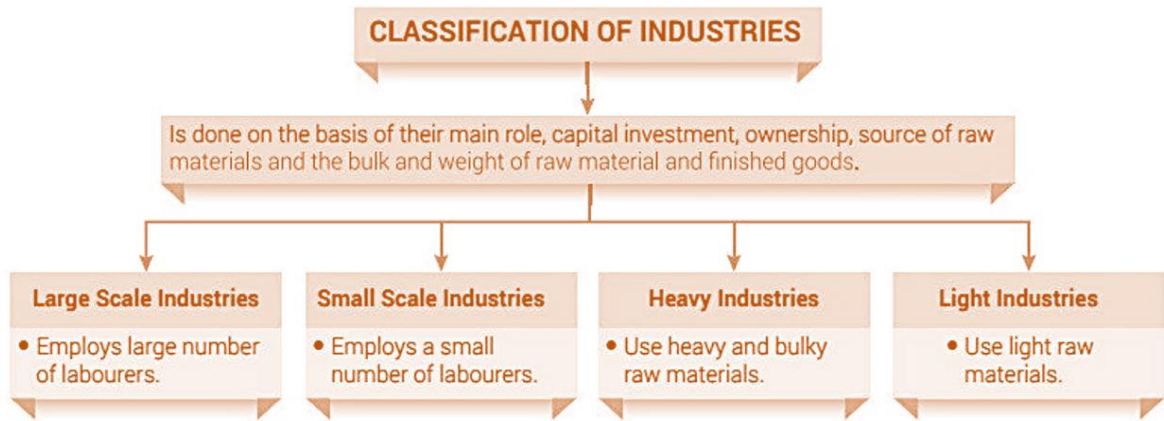
**STUDY
MODULE**

Embark on an insightful exploration of Manufacturing Industries with our specialized study module designed for CBSE Class X- Geography. This resource is meticulously crafted to provide a comprehensive understanding of key concepts, processes, and significance of manufacturing industries.



MANUFACTURING INDUSTRIES

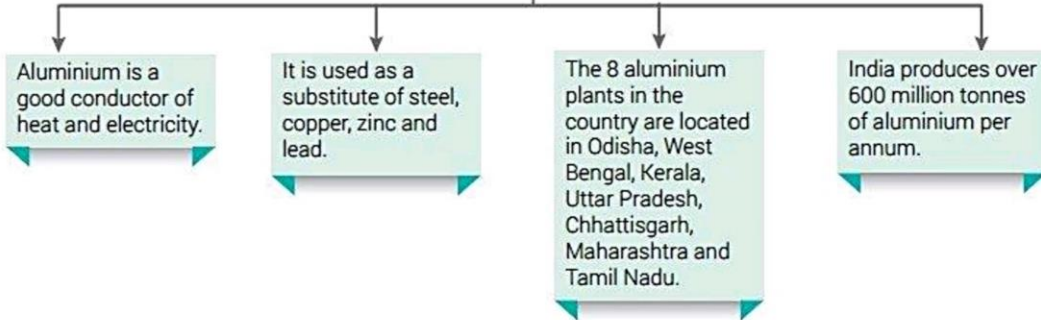
BASIC CONCEPTS – A FLOW CHART



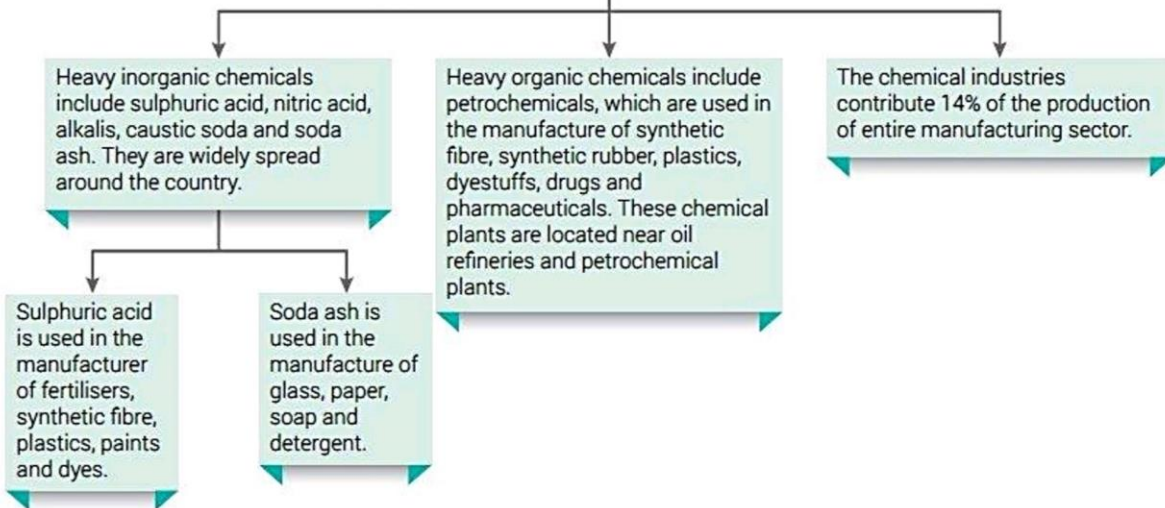
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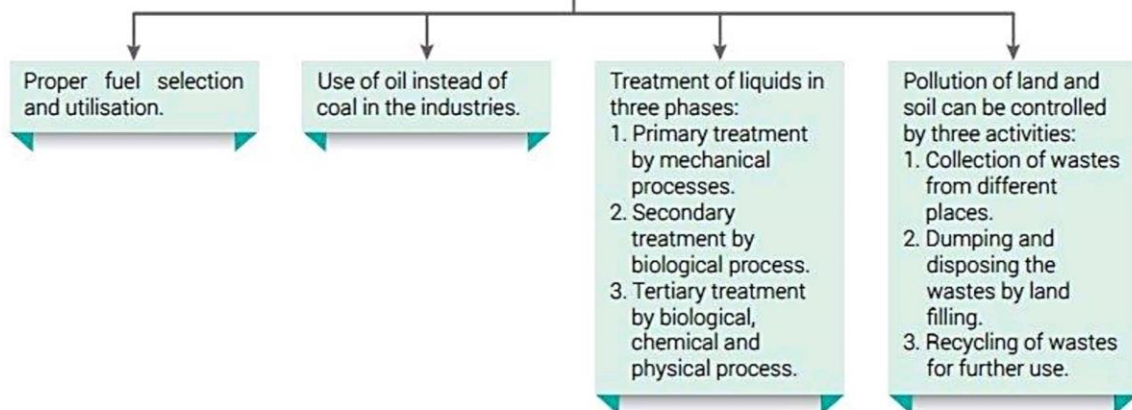
ALUMINIUM SMELTING



CHEMICAL INDUSTRY



MEASURES TO CONTROL ENVIRONMENTAL DEGRADATION



IMPORTANT TERMS

1. **Agro-industry:** Agriculture developed along industrial lines.
2. **Agglomeration:** A mass or collection of things; an assemblage.
3. **GDP:** Gross Domestic Product – the monetary total value of finished goods produced and services provided in a country during one year.
4. **Urbanisation** refers to the population shift from rural to urban areas, 'the gradual increase in the proportion of people living in urban areas', and the ways in which each society adapts to the change.
5. **Industrialisation:** The development of industries in a country or region on a wide scale.
6. **Public Sector Industries** is the part of the economy concerned with providing various governmental services. The composition of the public sector varies country wise, but in most countries, the public sector includes such services as the military, police, infrastructure (public roads, bridges, tunnels, water supply, sewers, electrical grids, telecommunications, etc.), public transport, public education, along with health care and those working for the government itself, such as elected officials.
7. **Private Sector Industries** is the part of the economy, sometimes referred to as the citizen sector, which is run by private individuals or groups, usually as a means of enterprise for profit, and is not controlled by the State (areas of the economy, controlled by the state being referred to as the public sector).
8. **Mineral based Industries:** Industries that use minerals as raw material are called mineral-based industries. The iron and steel industry is the basic industry on which all other industries depend. The production and per capita consumption of steel is a measure of a country's economic development.
9. **Natural Product:** A natural product is a chemical compound or substance produced by a living organism—that is, found in nature. In the broadest sense, natural products include any substance produced by life.
10. **Aluminium Smelting** is the process of extracting aluminium from its oxide, alumina, generally by the Hall-Héroult process. Alumina is extracted from the ore 'bauxite' by means of the Bayer process at an alumina refinery. Aluminium smelting is the second most important metallurgical industry in India.
11. **Fertiliser Industry** or **fertiliser** is any material of natural or synthetic origin (other than liming materials) that is applied to soils or to plant tissues (usually leaves) to supply one or more plant nutrients essential to the growth of plants.
12. **Environmental Degradation** is the deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems; habitat destruction; the extinction of wildlife; and pollution.

NCERT Textbook Questions

Q. 1. Multiple choice questions.

(i) Which one of the following industries uses limestone as a raw material?

- (a) Aluminium (b) Cement
 (c) Plastic (d) Automobile

Ans. (b) Cement

(ii) Which one of the following industries manufactures telephones, computers etc.?

- (a) Steel (b) Electronic
 (c) Aluminium Smelting (d) Information Technology

Ans. (b) Electronic

Q. 2. Answer the following briefly in not more than 30 words.

(i) What is manufacturing?

Ans. Manufacturing is considered the production of a desired product after processing raw materials through the use of machines and mechanical labour.

(ii) What are basic industries? Give an example.

Ans. Basic industries supply the basic raw or primary material to secondary industries which manufacture other goods. Iron manufacturing industries, coal production industries, etc. are examples of basic industries.

Q. 3. Write the answers of the following questions in 120 words.

(i) How do industries pollute the environment?

Ans. Industries pollute the environment through air, water, land and noise.

(a) **Air pollution** is caused by the release of oxides of carbon and nitrogen into the air by paper factories, brick kilns, etc. through burning of fossil fuels such as coal.

(b) **Water pollution** is caused by the discharge of organic and inorganic industrial wastes into water bodies such as rivers by chemical industries, textile industries, etc.

(c) **Thermal pollution** of water occurs when hot water from factories and thermal plants is drained into rivers and ponds before cooling. Wastes from nuclear power plants, nuclear and weapon production facilities causes cancer, birth defects and miscarriages.

Soil and water pollution are closely related. Dumping of wastes especially glass, harmful chemicals, industrial effluents, packaging salts and garbage renders the soil useless. Rainwater percolates to the soil carrying the pollutants to the ground and the groundwater also gets contaminated.

(d) **Noise pollution** results from industrial and construction activities, whose high decibel level affects the nearby areas. It can also cause hearing impairment, increased high heart rate and blood pressure.

(ii) Discuss the steps to be taken to minimise environmental degradation by industry.

Ans. The steps needed to be taken to minimise environmental degradation are:

(a) Industrial wastes such as plastic, metal, etc. need to be recycled and reused, thereby avoiding the need to dump in water bodies and landfills.

(b) Industrial discharge needs to be treated on all three prior to flowing into sewage lines.

(c) Rainwater harvesting needs to be implemented to meet water requirements, and ground water usage should be regulated by law.

(d) Smoke chimneys can be fitted with electrostatic precipitators, fabric filters, scrubbers and inertial separators to reduce the discharge of air pollutants.

(e) Noise pollution can be reduced by the use of silencers. Silent generators and redesigning of machinery can be done to reduce noise.

Multiple Choice Questions

Choose and write the correct option.

- Most of the integrated steel plants in India are located in:
(a) Malwa Plateau (b) Bundelkhand Plateau
(c) Meghalaya Plateau (d) Chotanagpur Plateau
- Tools, implements, fertilisers, tractors, etc. are supplied by:
(a) government (b) industry
(c) people (d) none of these
- Which are the two prime factors for the location of aluminium industry?
(a) Market and cheap labour
(b) Transport network and unlimited water supply
(c) Regular supply of electricity and an assured source of raw material
(d) None of the above
- _____ pollution of water occurs when hot water from factories and thermal plants is drained into rivers and ponds before cooling.
(a) Thermal (b) Industrial
(c) Noise (d) Air
- Which out of the following is a mineral based industry?
(a) Sugar (b) Tea
(c) Coffee (d) Petrochemicals
- India is the largest producer of raw jute and jute goods at second place as an exporter after _____.
(a) Bangladesh (b) Pakistan
(c) China (d) Sri Lanka
- Which of the following public sector steel plants of India is located near port?
(a) Durgapur (b) Vijaynagar (c) Bhadravati (d) Visakhapatnam
- Which one of the following organisations is responsible for the marketing of steel of the Public Sector Undertaking?
(a) TISCO (b) IISCO (c) BHEL (d) SAIL
- Which one of the following is manufactured at Salem?
(a) Steel (b) Cotton (c) Aluminium (d) Copper
- Which one of the following iron and steel plants is located in Odisha?
(a) Durgapur (b) Bokaro (c) Rourkela (d) Jamshedpur
- On the basis of raw materials used industries are classified as _____.
(a) Public sector and private sector
(b) Basic industries and consumer industries
(c) Agro-based and mineral-based industries
(d) None of these

12. _____ is the only industry in the country, which is self-reliant and complete in the value chain i.e. from raw material to the highest value added products.
(a) Agriculture industry (b) Textile industry
(c) Light industry (d) Heavy industry
13. In the early years, the cotton textile industry was concentrated in the cotton growing belt of _____ and _____.
(a) Karnataka and Andhra Pradesh (b) Maharashtra and Karnataka
(c) Maharashtra and Gujarat (d) Gujarat and Rajasthan
14. Industrial locations are influenced by availability of _____.
(a) Market (b) Labour
(c) Raw material (d) All of these
15. TISCO stands for:
(a) Tata Iron and Steel Company
(b) Tata Country Iron and Steel Company
(c) Technology Innovation Service Company
(d) Technology Industrial Sector Company
16. What are basic or key industries?
(a) Which supply their product as raw materials to manufacture other goods.
(b) Produce goods for direct use of consumers
(c) Small scale industry is defined with reference to the maximum investment
(d) That uses light raw materials and produces light goods.
17. Wastes from nuclear plants, nuclear and weapon production facilities cause _____.
(a) Cancers, birth defects (b) Skin diseases
(c) Viral diseases (d) Bacterial diseases
18. By which gas air pollution causes?
(a) Sulphur dioxide (b) Carbon dioxide
(c) Nitrogen oxide (d) Nitrogen dioxide
19. Organic chemicals are used to produce _____.
(a) Adhesives (b) Paints
(c) Glass (d) Synthetic rubber
20. Which material is used in the manufacture of Aircrafts?
(a) Steel (b) Iron
(c) Aluminium smelting (d) Nickel

ANSWERS

- | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (d) | 2. (b) | 3. (c) | 4. (a) | 5. (d) | 6. (a) | 7. (d) | 8. (d) |
| 9. (a) | 10. (c) | 11. (c) | 12. (b) | 13. (c) | 14. (d) | 15. (a) | 16. (a) |
| 17. (a) | 18. (a) | 19. (d) | 20. (c) | | | | |

Correct and Rewrite

Correct the following statements and rewrite them.

1. Countries that transform their raw materials into a wide variety of finished goods of lower value are prosperous.
2. Agriculture and industry are exclusive to each other.
3. People employed in the tertiary activities manufacture the primary materials into finished goods.
4. In ancient India, silk textiles were produced with hand spinning and handloom weaving techniques.

ANSWERS

1. Countries that transform their raw materials into a wide variety of finished goods of higher value are prosperous.
2. Agriculture and industry are not exclusive to each other.
3. People employed in the secondary activities manufacture the primary materials into finished goods.
4. In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques.

Assertion-Reason Questions

The following questions consist of two statements — Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (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 correct but R is wrong.
 - (d) A is wrong but R is correct.
1. **Assertion(A)** : India stands second as a world producer of sugar but occupies the first place in the production of gur and khandsari.
Reason (R) : India is the largest producer of raw jute and jute goods and stands at second place as an exporter after Bangladesh.
 2. **Assertion(A)** : Chota Nagpur plateau region has the maximum concentration of iron and steel industries.
Reason (R) : It is largely, because of the relative advantages this region has for the development of this industry.
 3. **Assertion(A)** : Iron smelting is the second most important metallurgical industry in India.
Reason (R) : Rapid growth has been recorded in both inorganic and organic sectors.
 4. **Assertion(A)** : Automobiles provide vehicles for quick transport of good services and passengers.
Reason (R) : Noise and water pollution are closely related.
 5. **Assertion(A)** : Air pollution is caused by the presence of a high proportion of undesirable gases, such as sulphur dioxide and carbon monoxide.
Reason (R) : Noise pollution not only results in irritation and anger, it can also cause hearing impairment, increased heart rate and blood pressure among other physiological effects.

ANSWERS

1. (b) 2. (a) 3. (d) 4. (c) 5. (b)

EXPLANATIONS OF SELECTED ASSERTION-REASON QUESTIONS

- (b) The raw material used in this industry is bulky, and in haulage its sucrose content reduces.
- (d) The chemical industry in India is fast growing and diversifying.
- (c) Trucks, buses, cars, motor cycles, scooters, three-wheelers and multi-utility vehicles are manufactured in India at various centres.
- (b) Air-borne particle materials contain both solid and liquid particles like dust, spray mist and smoke.

Source-based/Case-based Questions

Read the passages given below and answer the questions that follow:

PASSAGE-1

NTPC is a major power providing corporation in India. It has ISO certification for EMS (Environment Management System) 14001. The corporation has a proactive approach for preserving the natural environment and resources like water, oil and gas and fuels in places where it is setting up power plants. This has been possible through.

- Optimum utilisation of equipment adopting latest techniques and upgrading existing equipment.
 - Minimising waste generation by maximising ash utilisation.
 - Providing green belts for nurturing ecological balance and addressing the question of special purpose vehicles for afforestation.
 - Reducing environmental pollution through ash pond management, ash water recycling system and liquid waste management.
 - Ecological monitoring, reviews and online database management for all its power stations.
- (i) Why NTPC is a major power providing corporation
(ii) How it became possible for NTPC to setting up the power plants?
(iii) NTPC stands for:

PASSAGE-2

Manufacturing sector is considered the backbone of development in general and economic development in particular mainly because—Manufacturing industries not only help in modernising agriculture, which forms the backbone of our economy, they also reduce the heavy dependence of people on agricultural income by providing them jobs in secondary and tertiary sectors. Industrial development is a precondition for eradication of unemployment and poverty from our country. This was the main philosophy behind public sector industries and joint sector ventures in India. It was also aimed at bringing down regional disparities by establishing industries in tribal and backward areas. Export of manufactured goods expands trade and commerce, and brings in much needed foreign exchange. Countries that transform their raw materials into a wide variety of finished goods of higher value are prosperous. India's prosperity lies in increasing and diversifying its manufacturing industries as quickly as possible.

- (i) What is the main philosophy behind public sector industries and joint ventures in India?
- (ii) What is the backbone of our economy?
- (iii) What brings in much needed foreign exchange?

ANSWERS

1. (i) Because the corporation takes a proactive approach to protect the environment and natural resources like water, oil, gas and fuels where it is constructing power plants.
(ii) By adopting latest technology and upgrading existing equipments.
(iii) National Thermal Power Corporation.
2. (i) In India industrial development is a precondition for poverty and precondition for eradication.
(ii) Manufacturing is the process of creating goods in large quantities after turning raw materials into more valuable finished goods. Because it not only aids in modernizing agriculture but also serves as the foundation of our economy, it is regarded as the backbone of development.
(iii) Export of manufactured goods expands trade and commerce.

Very Short Answer Questions

Each of the following questions is of 2 marks.

- Q. 1.** (i) How does manufacturing help in earning foreign exchange?
(ii) What are agglomeration economies?

- Ans.** (i) Export of manufactured goods expands trade and commerce and brings in much needed foreign exchange.
(ii) Many industries tend to come together to make use of the advantages offered by the urban centres known as agglomeration economies.

- Q. 2.** What are consumer industries?

- Ans.** Consumer industries are the industries that produce goods for direct use by consumers, e.g., sugar, toothpaste, paper, sewing machines, etc.

- Q. 3.** Classify industries on the basis of ownership.

- Ans.** (i) Public Sector (ii) Private Sector
(iii) Joint Sector (iv) Cooperative Sector

- Q. 4.** Give one difference between public and private sectors.

- Ans.** Public sector is owned and operated by government agencies, e.g., BHEL and the industries of the Private Sector are owned and operated by individuals or a group of individuals, e.g., TISCO.

- Q. 5.** Which twin states of India are known for cotton production?

- Ans.** Maharashtra and Gujarat.

- Q. 6.** What are the main problems faced by cotton textile industries?

- Ans.** Power supply is erratic; machinery needs to be upgraded, low output of labour and stiff competition with the synthetic fibre industry.

- Q. 7.** (i) Where was the first jute mill set up?

- (ii) Suggest any one way to increase the income of Indian industrial workers.

[CBSE 2020, 32/4/1]

- Ans.** (i) The first jute mill was set up in 1858 at Rishra near Kolkata.

- (ii) Better employment benefits – Paid leave, PF, Medical etc. [CBSE Marking Scheme 2020]

- Q. 8.** (i) What was the objective of National Jute Policy formulated in 2005?
(ii) What are the main uses of aluminium?
- Ans.** (i) Increased productivity, improving quality, ensuring good prices to the jute farmers and enhancing the yield per hectare.
(ii) Aluminium is used to manufacture aircraft, utensils and wires.
- Q. 9.** What are the two prime factors for the location of aluminium industries?
- Ans.** (i) Regular supply of electricity.
(ii) An assured source of raw material at minimum cost.
- Q. 10.** (i) When and where the first cement plant was setup in India?
(ii) What is the contribution of FDI in automobile industries?
- Ans.** (i) The first cement plant was set up in Chennai in 1904.
(ii) Foreign Direct Investment brought in new technology and aligned the industry with global development.
- Q. 11.** (i) What does 'Thermal Pollution' mean?
(ii) How is iron-ore transported from Kudremukh mines to a port near Mangaluru?
- Ans.** (i) Thermal Pollution of water occurs when hot water from factories and thermal plants is drained into rivers and ponds before cooling. [CBSE (F) 2016]
(ii) Iron-ore is transported as slurry through pipelines.
- Q. 12.** Classify industries on the basis of source of raw materials. [CBSE Sample Paper 2016]
- Ans.** (i) Agro based industries
(ii) Mineral based industries.
- Q. 13.** (i) How did the 'Bailadila' Iron ore field get its name? [CBSE (F) 2016]
(ii) Name the mineral which is used to harden steel during manufacturing. [CBSE Sample Paper 2017]
- Ans.** (i) The Bailadila hills look like the hump of an ox, hence the 'Bailadila' name given to the iron-ore field.
(ii) Manganese
- Q. 14.** How can agriculture and industry go hand in hand?
- Ans.** (i) The agro industries in India have given a major boost to agriculture by raising its production. It produces equipment like tractors, harvesters, threshers, etc.
(ii) On the other hand, industries are run on agricultural products like cotton, sugarcane, jute, edible oils, etc.

Short Answer Questions

Each of the following questions is of 3 marks.

- Q. 1.** Describe the role of industries in the development of agriculture. [CBSE 2019 (32/3/1)]
- Ans.** Role of Industries in the development of agriculture:
- (i) Provides Agricultural tools & machines
 - (ii) Increase agricultural & industrial production
 - (iii) Mechanisation of agriculture
 - (iv) Eradication of unemployment
 - (v) Self Sufficiency is occurred
- Any other relevant point*

Q. 2. "Industrialisation and urbanisation go hand in hand." Validate the statement.

[CBSE Sample Paper 2016]

Ans. After an industrial activity starts in a town, urbanisation follows. Industry provides employment to the people of the area. Population migrates from rural hinterlands to seek jobs, Housing and transport facilities are developed to accommodate these people. Other infrastructural developments take place leading to growth and development of the town into a city.

Sometimes, industries are located in or near the cities. Cities provide markets and services such as banking, insurance, transport, labour, consultants and financial advice, etc. to the industry.

Thus, industrialisation and urbanisation go hand in hand.

Q. 3. Highlight any three challenges faced by jute industry.

Ans. (i) Stiff competition with Bangladesh, Brazil, Philippines, Egypt and Thailand in the international market.

(ii) There is competition with synthetic fibre that is cheaper.

(iii) There is also a concern about increasing productivity and improving the quality of jute products.

Q. 4. Why do you feel that there are plans to shift sugar mills to South India?

Ans. Reasons to shift sugar mills:

(i) Sugarcane produced in these states have higher sugar content.

(ii) The cooler climate also ensures a longer crushing season.

(iii) The cooperatives are more successful in these states.

(iv) If sugarcane is transported from South to North India, due to delays in trains, sugarcane loses its sugar content as it is a perishable good.

Q. 5. What are the challenges faced by the sugar industry?

Ans. Challenges:

(i) The industry is seasonal, so getting labour becomes difficult.

(ii) India is still using old and inefficient methods of production, thereby, affecting its production.

(iii) There are transport delays in transporting sugarcane to factories, with the result that it loses its sugar content.

(iv) There is a need to maximise the use of baggase to face the problem of power break up.

Q. 6. Explain with examples the interdependence of agriculture and industries. [CBSE Delhi 2017]

Ans. Interdependence of agriculture and industry:

(i) The agro-industries in India have given a major boost to agriculture by raising its productivity.

(ii) They depend on the latter for raw materials.

(iii) They sell their products such as irrigation pumps, fertilisers, insecticides, pesticides and PVC pipe, machines and tools etc. to the farmers.

(iv) Development and competitiveness of manufacturing industries has not only assisted agriculturists in increasing their productions, but also made the production processes very efficient.

Q. 7. How can the industrial pollution of fresh water be reduced? Explain various ways.

[CBSE 2019, (32/2/3)]

OR

How are industries responsible for polluting freshwater? Suggest any three measures to reduce the water pollution.

[CBSE (F) 2017]

Ans. Control of industrial pollution of fresh water :

(i) Minimising the use of water for processing by reusing.

(ii) Harvesting of rainwater to meet water requirements.

(iii) Treating hot water and effluents before releasing them in rivers and ponds.

- (iv) Regulation of use of ground water by industries.
- (v) Installing water treatment plants at the industrial sites for recycling.

Q. 8. How has the ever increasing number of industries in India made worse position by exerting pressure on existing fresh water resources? Explain.

[CBSE 2018 (32/1/1)]

Ans.

Introduction : Industrialisation exerted a pressure on existing freshwater resources by sufficiently exploiting them.

(a) Nearly 22% of existing freshwater resources are used by industries in various stages of production without ever been recycled or reused. Aquifers and river water exploited.

(b) The used water is released onto various streams without properly treating. Chemical, radioactive materials, lead, and mercury, etc pollute river water. Nearly one litre of wastewater pollutes 8 times fresh water.

(c) The hot water from various thermal power plants and industries are released without cooling, thus affecting aquatic life, depriving it off oxygen. This depletes the amount of freshwater that can be used.

Conclusion : Thus, industries need to adopt sustainable water resource management in order to save them. [Topper's Answer 2018 (32/1/1)]

Q. 9. Classify industries on the basis of bulk and weight of raw materials and finished goods.

Ans. Industries are classified on the basis of the weight of raw materials and finished goods in the following manner:

- (i) **Heavy Industries:** These industries use heavy raw materials and also produce heavy goods, e.g., iron and steel, cement, ship-building, automobiles, etc.
- (ii) **Light Industries:** These industries use light raw materials and produce light goods such as electrical industries, e.g., watches, electric bulbs, paint brushes, etc.

Q. 10. "Though India is an important iron and steel producing country in the world, yet we are not able to perform to our full potential." Why? [CBSE (AI) 2017]

Ans. (i) Iron and steel industry is the basic industry. All other industries heavy, medium and light depend on it for their machinery.

(ii) But its high cost and limited availability of coking coal is one of the reasons for not performing to our full potential.

(iii) Irregular supply of energy is also responsible for low productivity.

Q. 11. What efforts should be made to improve steel production?

Ans. (i) Liberalisation and Foreign Direct Investment have given a boost to the industry with the efforts of private entrepreneurs.

(ii) There is a need to allocate resources for research and development to produce steel more competitively.

(iii) We need to regularise the supply of energy and improve the infrastructure for better production.

Q. 12. Name the aluminium smelting plants of India.

Ans. There are eight aluminium smelting plants in the country:

(i) Nalco & Balco in Odisha

(ii) West Bengal

(iii) Kerala

(iv) Uttar Pradesh

(v) Chhattisgarh

(vi) Maharashtra

(vii) Tamil Nadu

Q. 13. What does the electronic industry cover? Name the regions where electronic industries are located.

Ans. The electronic industry covers a wide range of products from transistor sets to television, telephones, cellular telecom, telephone exchanges, radars, computers and many other equipments required by the telecommunication industry.

Bengaluru has emerged as the 'electronic capital' of India. Other important centres for electronic goods are Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow, Coimbatore.

Q. 14. Classify industries on the basis of source of raw material. How are they different from each other? [CBSE (AI) 2016]

OR

Classify industries on the basis of source of raw materials used.

Ans. On the basis of sources of raw material industries are classified as:

(i) **Agro based:** Agro based industries draw their raw materials from agricultural products.

For example, Textiles, Sugar, Coffee, Tea and Edible Oil, etc.

(ii) **Mineral based:** Minerals based industries draw their raw material from minerals.

For example, Iron and Steel industries, cement, machine tools, petrochemicals, etc.

Q. 15. Give any two main factors responsible for the location of Jute industries in the Hooghly Basin.

Ans. (i) Proximity of the jute producing areas.

(ii) Inexpensive water transport.

(iii) supported by a good network of railways, roadways and waterways to facilitate movement of raw material to the mills.

Q. 16. How did the liberalisation policy of the government help in the progress of automobile industry?

Ans. After the liberalisation, the coming in of new and contemporary models stimulated the demand for vehicles in the market, which led to the healthy growth of the industry including passenger cars, two and three wheelers.

Q. 17. Why have the demands of Jute products increased internally as well as globally?

Ans. The demand for jute products increased internally as well as globally due to following reasons:

(i) Jute is a biodegradable product and due to invasion of plastics, Jute is needed for being environment friendly.

Long Answer Questions

Each of the following questions is of 5 marks.

Q. 1. 'The challenge of sustainable development requires control over industrial pollution.'
Substantiate the statement with examples. [CBSE Sample Paper 2020]

- Ans.**
- (i) On one hand, industries lead to extensive industrial growth and expansion, on the other hand, these are also the cause of environmental degradation which prompt to the different types of air and water pollution.
 - (ii) There is an increasing requirement to use a further sustainable model.
 - (iii) Industries must produce eco-friendly products and dump waste responsibly.
 - (iv) Use of latest technology can help industries to control pollution and lead towards sustainable mode of operation.
 - (v) Industries must use Reuse-Recycle-Reduce approach for sustainable development.
 - (vi) If necessary, dump waste in specified places, away from the land and water resources.

Q. 2. Describe any three factors affecting location of industry in a region. [CBSE 2020 (32/2/1)]

Ans. Factors required to set up an industry:

- (i) **Availability of raw materials:** Raw materials should be easily available from nearby areas only.
- (ii) **Labour:** Labour should be skilled and easily available from the neighbouring areas only.
- (iii) **Power supply:** Without power supply, an industry cannot run, so it should also be available as per the requirements.
- (iv) **Market:** If it is a heavy material and a perishable good, market for the sale of the goods should also be available in a nearby area only.

Q. 3. What are the major drawbacks for the cotton textile industry?

Ans. Major drawbacks:

- (i) India has a large share in the world trade of cotton yarn. India's spinning mills are competitive at the global level and capable of using all the fibres produced.
- (ii) But the weaving, knitting and processing units cannot use much of the high quality yarn that is produced in the country.
- (iii) There are some large and modern factories in these segments, but most of the productions are in fragmented small units, which cater to the local market.

This mismatch is a major drawback for the industry. As a result, many Indian spinners export cotton yarn while garment manufacturers have to import fabric.

Q. 4. Why are jute mills concentrated along the Hooghly river? Explain giving reasons.

OR

"Jute industry is concentrated in the Hooghly basin." Validate the statement with three suitable reasons. [CBSE Sample Paper 2017]

Ans. Reasons for concentration of jute mills along the Hooghly river:

- (i) West Bengal is the storehouse of jute. It produces the highest quantity of jute.
- (ii) The industry requires a lot of water which is easily available from the Hooghly river.
- (iii) Cheap labour is easily available because of migrating labour from neighbouring states of Bihar and Odisha.
- (iv) Inexpensive water transport in the river Hooghly is available.
- (v) A large urban sector in Kolkata provides banking, insurance and loan facilities.
- (vi) Kolkata is a good harbour which can provide facilities for the export of jute products in various parts of the world.

Q. 5. Describe the importance of manufacturing industries as a backbone of economic development of the country. [CBSE 2019 (32/3/1)]

Ans. Importance of Manufacturing Industries

- (i) Help in modernising agriculture
 - (ii) Eradication of unemployment and poverty
 - (iii) Expands trade and commerce
 - (iv) Brings foreign exchange
 - (v) Transform their raw materials into a wide variety of finished goods.
 - (vi) Increase standard of living and Per Capita Income
 - (vii) Self Sufficiency
- Any other relevant point*

Q. 6. Explain the reasons for concentration of iron and steel industries in and around Chotanagpur region. [CBSE 2019 (32/4/2)]

Ans.

20	<p>The reasons for the concentration of iron and steel industries in and around the Chotanagpur plateau are-</p>
	<p>(i) <u>Availability of iron ore</u> The region is close to the iron mines, thus the raw material can be easily transported to the industries.</p>
	<p>(ii) <u>Proximity of other raw material</u> limestone and coking coal is also readily and easily available for production.</p>
	<p>(iii) <u>Good transport system.</u> The region is well connected through railways as well as roadways facilitating easy transportation of the raw material as well as the distribution of finished products.</p>
	<p>(iv) <u>Availability of labour</u> Cheap and skilled labour is easily available for the states of Uttar Pradesh, Bihar and Jharkhand.</p>
	<p>(v) <u>Port facilities</u> Kolkata port nearby facilitates the export of the finished goods.</p>
	<p>(vi) <u>The industry has immense scope for development in the home market.</u></p>
	[Topper's Answer 2019 (32/4/2)]

Q. 7. Explain the ways through which the industrial pollution of fresh water can be reduced.

[CBSE 2020 (32/3/1)]

OR

How can the industrial pollution of fresh water be reduced? Explain various ways.

[CBSE 2019 (32/2/1)]

Ans. The Industrial pollution:

- (i) Minimising use of water for processing by reusing and recycling it in two or more successive stages.
- (ii) Harvesting of rainwater to meet water requirements.
- (iii) Treating hot water and effluents before releasing them in rivers and ponds.
- (iv) Treatment of industrial effluents can be done in three phases.
 - (a) Primary treatment by mechanical means, screening, grinding, flocculation and sedimentation.
 - (b) Secondary treatment by biological process
 - (c) Tertiary treatment by biological, chemical and physical processes, recycling of waste water.
- (v) Overdrawing of groundwater needs to be regulated legally.

Q. 8. Why are sugar mills concentrated in sugarcane producing areas? Explain any three problems faced by sugar industry in India.

OR

Give reasons as to why the ideal location of sugar mills is near sugarcane producing areas. Support the statement with reasons.

Ans. Sugar industries are concentrated in the sugarcane producing areas:

- (i) Sugarcane is a perishable good, it loses its sucrose content if delays in transportation occurs, so it needs to be in the nearby place.
- (ii) Sugarcane is bulky and perishable, so transportation cost reduces.
- (iii) Near it is to the production area, its production automatically increases.
- (iv) The raw material used in the sugar mills, that sugarcane is bulky.
- (v) In haulage, its sucrose content reduces.

Challenges:

- (i) Seasonal nature of the industry.
- (ii) Old and inefficient methods of production.
- (iii) Transport delays in reaching cane to the mills.
- (iv) Need to maximise the use of bagasse.

Q. 9. Suggest any five measures to control industrial pollution in India.

[CBSE (F) 2017]

Ans. Measures To Control Industrial Pollution

- (i) Minimising the use of water for processing by reusing and recycling it in two or more successive stages.
- (ii) Harvesting of rainwater to meet water requirements.
- (iii) Treating hot water and effluents before releasing them into rivers and ponds.
- (iv) Treatment of industrial effluents can be done in three phases.
- (v) Primary treatment by mechanical means involves screening, grinding, flocculation and sedimentation, Secondary treatment by biological process and Tertiary treatment by biological, chemical and physical processes. This involves recycling of waste water.

- (vi) Overdrawing of groundwater needs to be regulated legally.
- (vii) Particulate matter in the air can be reduced by fitting smoke stacks to factories with electrostatic precipitators, fabric filters, scrubbers and inertial separators.
- (viii) Smoke can be reduced by using oil or gas instead of coal in factories.
- (ix) Machinery and equipment can be used and generators should be fitted with silencers.
- (x) Almost all machinery can be redesigned to increase energy efficiency and reduce noise.
- (xi) Noise absorbing material may be used apart from personal use of earplugs and earphones.

Q. 10. How are industries responsible for environmental degradation in India? Explain with examples. [CBSE 2019 (32/1/1)]

Ans. Industries responsible for environmental degradation in India:

- (i) Pollution of land, water and air from industries caused environmental degradation.
- (ii) Burning of fossil fuels in big and small factories emits smoke in the air.
- (iii) Organic and inorganic industrial wastes and effluents are discharged into rivers.
- (iv) Dumping of wastes from industries renders the soil useless.
- (v) Rainwater carrying pollutants from wastes dumped by industries percolates and contaminates the groundwater.

Any other relevant point.

Q. 11. Analyse the role of chemical industries in the Indian economy. [CBSE 2017 (32/1/2)]

Ans.

28.	<p>Chemical Industries plays a very important role in our economy:-</p> <ul style="list-style-type: none"> * They contribute to 3% of our GDP. * They are India stands 3rd in producing chemicals in Asia and 12th in the world. * Indian chemical industries produce both organic and inorganic chemicals. * It produces inorganic chemicals like hydrochloric acid, sulphuric acid, soda ash, nitric acid, etc. * These help in the formation of synthetic fibers, paper glass, soaps and detergents, etc. * Organic chemicals are actually made from petrochemicals and are used for making synthetic fibers, glass, etc. * These are situated near the petrochemical refineries. * Chemical industries are its biggest consumer. Chemical industries consume other chemicals to make synthetic clothes, soaps ^{detergents} detergents, etc.
	[Topper's Answer 2017 (32/1/2)]

Q. 12. "The textile industry occupies a unique position in the Indian economy." Explain.

[CBSE 2019 (32/5/1)]

OR

Explain the contribution of textile industry in the Indian economy. [CBSE (F) 2017]

Ans. The textile industry is the only industry in the country which is self-reliant and complete in the value chain *i.e.*, from raw materials to the highest value added products.

The statement can be justified as follow:

- (i) Textile industry is dependent on agriculture and provides jobs to farmers, cotton ball pluckers and workers engaged in ginning, spinning, weaving, dying, packaging, tailoring and sewing.
- (ii) It contributes significantly to industrial production. India has world class production in spinning and capable of using all the fibres that are produced.
- (iii) Textile industry has been a major foreign exchange earner with increase in foreign trade across the world.
- (iv) It contributes significantly to the National GDP.

Q. 13. "The economic strength of a country is measured by the development of manufacturing industries." Support the statement with arguments.

OR

Analyse the role of the manufacturing sector in the economic development of India.

[CBSE 2019 (AI) 2017]

Ans. Manufacturing sector is considered as the backbone of economic development of our country due to following reasons:

- (i) Manufacturing Industries not only help in modernising agriculture, which forms the backbone of our economy, they also reduce the heavy dependence of people on agricultural income by providing them jobs in secondary and tertiary sectors.
- (ii) Industrial development eradicates unemployment and poverty from our country. This was the main philosophy behind public sector industries and joint sector ventures in India. It was also aimed at bringing down regional disparities by establishing industries in tribal and backward areas.
- (iii) Export of manufactured goods expands trade and commerce, and brings in much needed foreign exchange.
- (iv) Countries that transform their raw materials into a wide variety of finished goods of high value are prosperous. India's prosperity lies in increasing and diversifying its manufacturing industries as quickly as possible.

14. Suggest any three steps to minimise the environmental degradation caused by the industrial development in India. [CBSE (Comp) 2017, CBSE (AI) 2016]

Ans. Three steps to minimise the environmental degradation caused by Industrial development in India are:

(a) **Water Pollution**

Energy lite of waste water discharged by one industry pollutes eight times the quantity of fresh water.

- (i) Minimising use of water for procuring by reusing and recycling it in two or more successive stages.
- (ii) Harvesting of rainwater can be done to meet water requirements.
- (iii) Treating hot water and effluents before releasing them in rivers and ponds.

(b) Air Pollution

- (i) Particulate matter in the air can be reduced by fitting smoke stacks to factories with electrostatic precipitators, fabric filters, scrubbers and inertial separators.
- (ii) Smoke can be reduced by using oil or natural gas instead of coal in the factories.

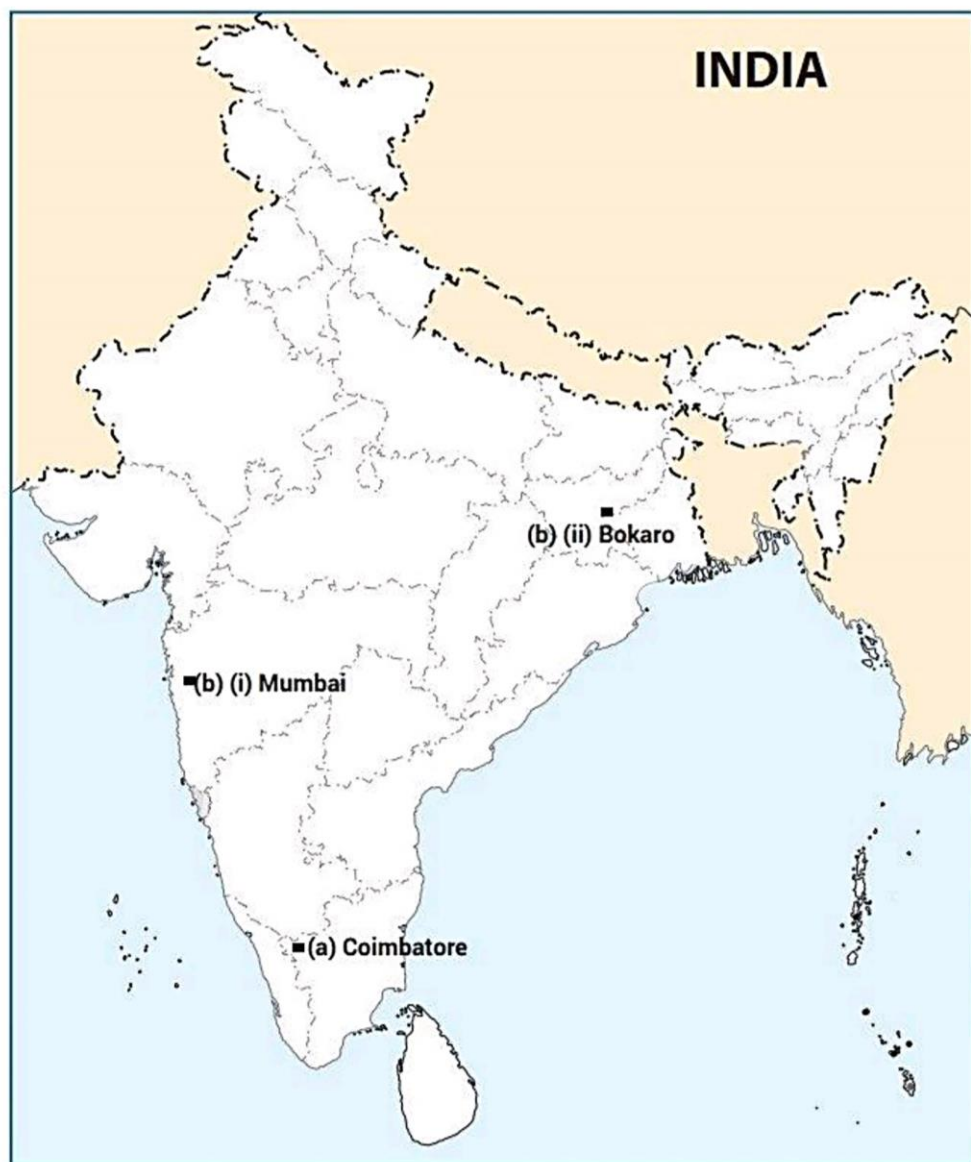
(c) Noise Pollution

- (i) Machinery and equipment can be used and generators should be fitted with silencers.
- (ii) Almost all machineries can be redesigned to increase energy efficiency and reduce noise.
- (iii) Noise absorbing material may be used apart from personal use of earplugs and earphones.

MAP Questions

1. (a) Locate and label the following features on the political map of India.
Cotton textile industries.
- (b) Identify the features marked as (i) and (ii) on the same given map of India political:
 - (i) Software Technology Park in Maharashtra
 - (ii) Iron and Steel Plant in Jharkhand.

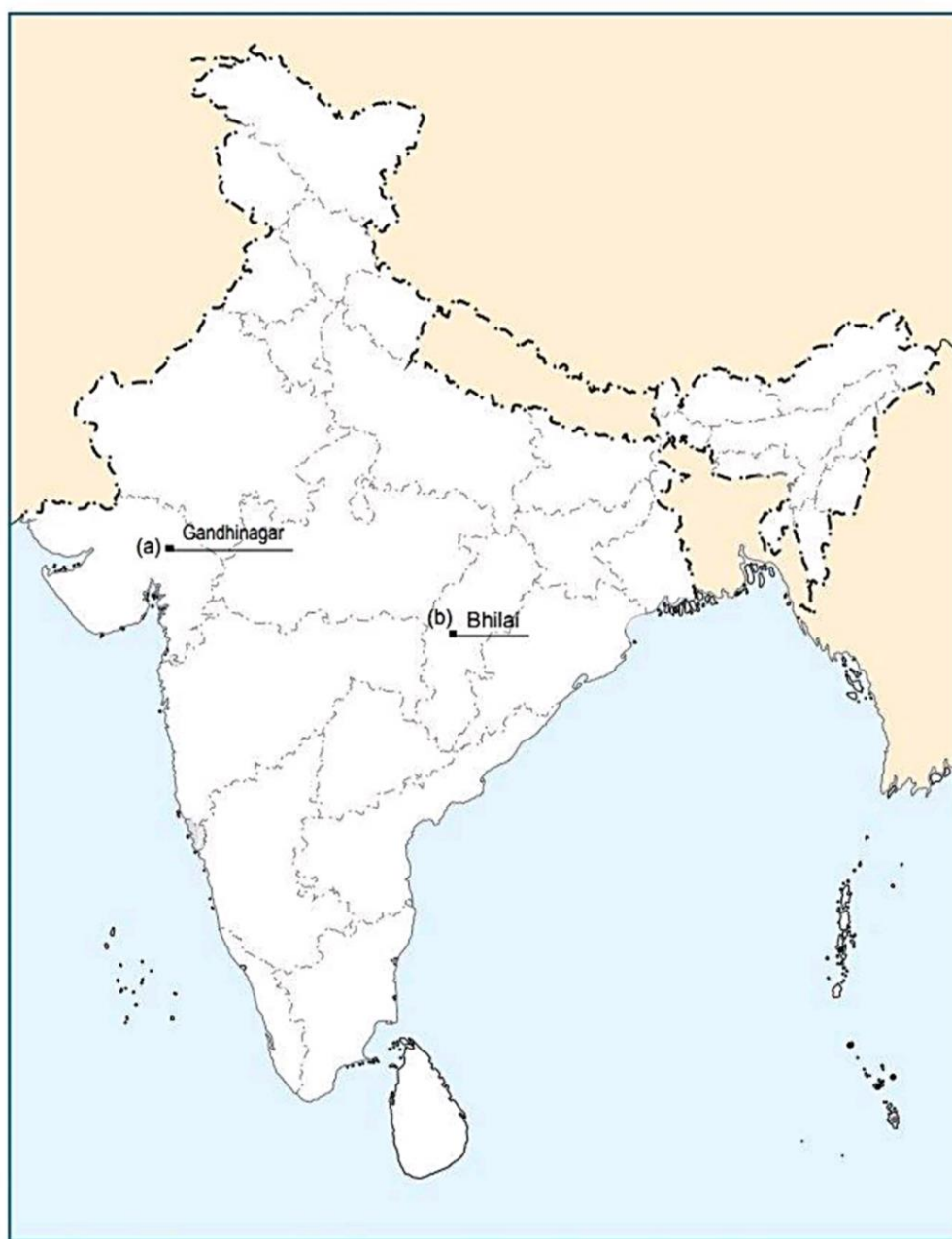
Ans.



- (a) Coimbatore
(b) (i) Mumbai
(ii) Bokaro
2. Two features (a) and (b) are marked on the given political map of India. Identify these features with the help of following information and write their names on the lines marked in the map:
- (a) Gandhinagar Software Technology Park
(b) Bhilai – Iron and Steel Plant

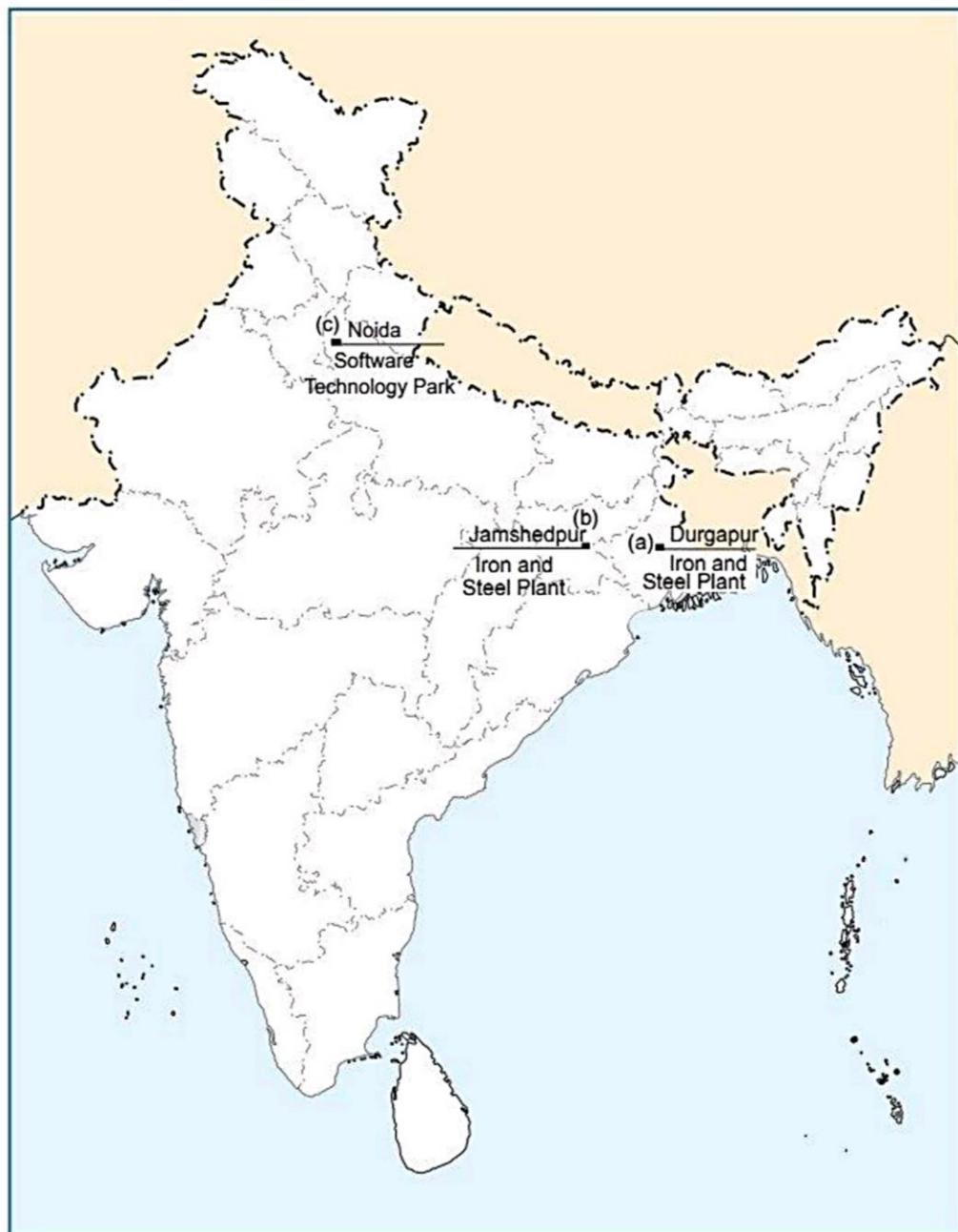
[CBSE (F) 2017 (32/2/2)]

Ans.



3. On the given Political outline map of India, locate and label the following with appropriate symbols :
- (a) Durgapur—Iron and Steel Plant
 - (b) Jamshedpur—Iron and Steel Plant
 - (c) Noida—Software Technology Park

Ans.



Self-Assessment

Time allowed: 1 hour

Max. marks: 40

General Instructions:

- (i) The test is divided into two sections: A and B.
- (ii) All questions are compulsory.
- (iii) Section-A contains Multiple Choice Questions.
- (iv) Section-B contains Subjective Type Questions (2/3/5 marks each).

SECTION-A

1. Choose and write the correct answer for each of the following.

(1 × 8 = 8)

- (i) The hand spun khadi provides:
 - (a) Self-reliance
 - (b) Fine fabric
 - (c) Large-scale employment
 - (d) None of these
- (ii) India is the largest producer of:
 - (a) Raw jute
 - (b) Cotton
 - (c) Sugar
 - (d) All of the above
- (iii) All types of industries depend highly on the following:
 - (a) Iron and steel
 - (b) Jute
 - (c) Electricity
 - (d) All of the above
- (iv) The maximum concentration of iron and steel plants in India.
 - (a) Chhattisgarh
 - (b) Chota Nagpur plateau
 - (c) Malwa plateau
 - (d) Deccan Plateau
- (v) The substance used in fertiliser industry and also imported entirely:
 - (a) Nitrogen
 - (b) Phosphate
 - (c) Potash
 - (d) None of these
- (vi) What was the aim of establishing industries in tribal and backward areas?
 - (a) Bringing about modern goods
 - (b) Bringing down regional disparities
 - (c) Eradication of unemployment
 - (d) Quality production

(vii) What are the factors responsible for the location of jute mills in the Hooghly basin?

- (a) Abundant water for processing raw jute
- (b) Good power supply
- (c) High market
- (d) High end machinery

(viii) In the question given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option:

Assertion (A) : Thermal pollution occurs when heated water from factories and thermal plants is drained into rivers.

Reason (R) : Water pollution is caused by organic and inorganic industrial wastes and effluents discharged into rivers.

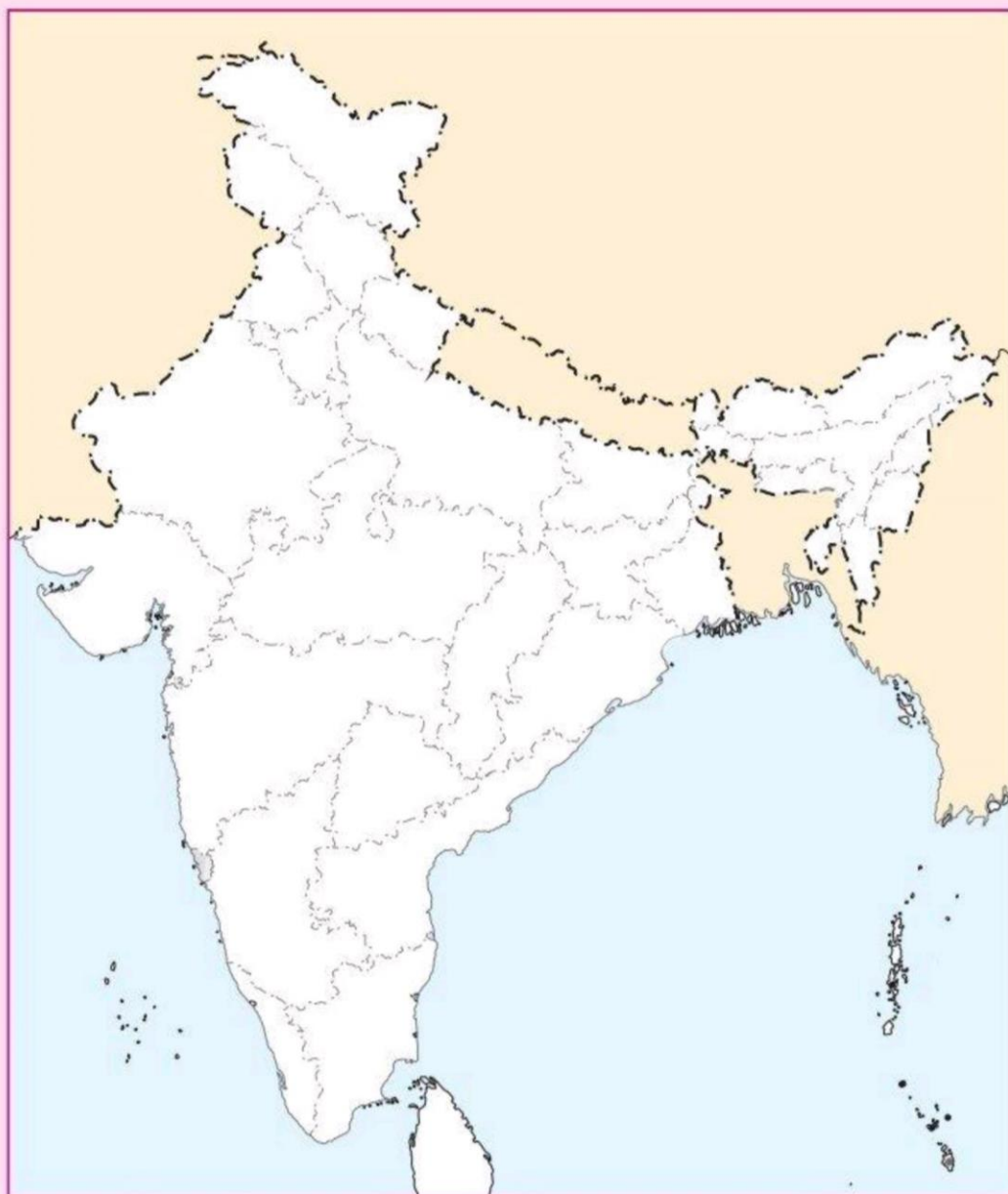
Options:

- (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 correct but R is wrong.
- (d) A is wrong but R is correct.

SECTION-B

Answer the following questions.

- | | |
|---|---|
| 2. What do you mean by aluminium smelting? | 2 |
| 3. Examine the impact of liberalisation on the automobile industry in India. | 3 |
| 4. NTPC has set an example of a pollution-free industry. How is it possible? Explain. | 3 |
| 5. Name the software technology parks of India. | 3 |
| 6. What are the major drawbacks for the cotton textile industry? | 3 |
| 7. Mark the following on the given outline political map of India: | 3 |
| (a) One each Iron and steel, cotton textile plant. | |
| (b) One software technology park in Madhya Pradesh. | |



8. How are industries responsible for polluting freshwater? Suggest any three measures to reduce the water pollution. 5
9. What is the current position of automobile industry in India? 5
10. Why is aluminium smelting industry close to power sector? Describe other important factors for location of aluminium smelting. Why is this industry gaining importance? Give reasons. 5