

Manufacturing Resources

Previous Years' CBSE Board Questions

Importance of Manufacturing

VSA (1 mark)

1. Why has the 'National Manufacturing Competitiveness Council' been set-up? (2015)

SAI (3 marks)

2. "Manufacturing sector is considered as the backbone of economic development of a country." Support the statement with examples. (2021 C, Foreign 2017)

3. Describe the role of industries in the development of agriculture. (2019)

4. Explain with examples the interdependence of agriculture and industries (Delhi 2017)

LA (5 marks)

5. Why is economic strength of a country measured by the development of manufacturing industries? (2018, Delhi 2016)

6. 'Agriculture' and 'Industry' are complementary to each other." Explain with five examples. (Delhi 2014) Classification of Industries

MCQ

7. Which of the following industries use bauxite as a raw material? (2020 C)

- (a) Cement
- (b) Aluminium smelting
- (c) Iron and steel
- (d) Chemical

VSA (1/2 mark)

8. Why does the textile industry occupy unique position in the Indian economy. Explain. (2023)
9. Why is the iron and steel industry called as the 'basic industry'? Explain. (Term-II, 2021-22 C)
10. Explain the importance of 'cement' industry. industry is used for manufacturing (Term-II, 2021-22 C)
11. Fill in the blank: aircraft, utensils and wires. (Delhi 2020)
12. Limestone, silica, alumina and gypsum are the raw materials of industry. (2020)
13. Suggest any one measure to promote handspun khadi in India. (Delhi 2020)
14. Why is the 'least cost' known as decision making factor for ideal location of an industry? (2014)

SAI (3 marks)

15. Classify industries on the basis of source of raw materials. How are they different from each other? (AI 2016)
16. "The textile industry is the only industry in the country which is self-reliant and complete in the value chain." Justify the statement. (Delhi 2016)
17. Classify industries on the basis of their main role. How are they different from each other? (Foreign 2016)
18. Classify industries on the basis of capital investment. How are they different from one another? Explain with examples. (2016)

LA (5 marks)

19. Describe any five factors responsible for the concentration of iron and steel industry in and around Chota Nagpur Plateau region. (2019,2014)
20. Analyse the role of chemical industries in the Indian (AI 2017)
21. Explain the contribution of textile industry in the Indian economy. (Foreign 2017)

22. Why was the cotton textile industry concentrated in the cotton growing belt in the early years? Explain. economy. (2014)

23. "Many of our spinners export cotton yarn while apparel manufacturers have to import fabric." Explain this statement with appropriate reasons. (2014)

24. "Production and consumption of Steel is often regarded as the index of a country's development". Examine the statement. (2014)

Industrial Pollution and Environmental Degradation; Control of Environmental Degradation

SAI (3 marks)

25. Explain any three ways through which industrial pollution can be reduced. (2023)

26. Suggest any three steps to minimise the environmental degradation caused by the industrial development in India. (AI 2016)

SA II (4 marks)

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

NTPC shows the way

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

- (a) Optimum utilisation of equipment adopting latest techniques and upgrading existing equipment.
 - (b) Minimising waste generation by maximising ash utilisation.
 - (c) Providing green belts for nurturing ecological balance and addressing the question of special purpose vehicles for afforestation.
- (i) Which is the major power providing corporation in India?
- (ii) Name the institution which issues ISO certification for Environment Management System.

(iii) Explain the pro-active approach of NTPC for preserving the natural environment. (Term-II, 2021-22)

LA (5 marks)

28. Explain the ways through which the industrial pollution of fresh water can be reduced. (2020)

29. How are industries responsible for environmental degradation in India? Explain with examples. (Delhi 2019)

30. Explain the pro-active approach adopted by the National Thermal Power Corporation (NTPC). (2015)

CBSE Sample Questions

MCQ

Importance of Manufacturing

1. Read the text given below and answer the following questions.

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. Agriculture and industry are not exclusive of each other. They move hand in hand. For instance, the agro industries in India have given a major boost to agriculture by raising its productivity.

(i) Manufacturing industries fall in agriculture in

(a) Primary, Secondary Sector

(b) Secondary, Tertiary Sector

(c) Primary, Tertiary Sector

(d) Secondary, Primary Sector

and

(ii) Manufacturing provides job opportunities to reduce dependence on agriculture. Identify which sector the following jobs belong to –

Jobs created or promoted by manufacturing industries		Sector	
(A)	Garment production	(i)	Primary
(B)	Research and Development	(ii)	Tertiary
(C)	Banking	(iii)	Secondary
(D)	Mining	(iv)	Quaternary

(a) A-(i), B-(ii), C-(iii), D-(iv)

(b) A-(iii), B-(iv), C-(ii), D-(i)

(c) A-(ii), B-(iii), C-(i), D-(iv)

(d) A-(iv), B-(i), C-(ii), D-(iii)

(iii) Which of the following options does not help in modernising agriculture?

(a) Manufacturing farm equipment

(b) Providing unskilled labour force

(c) Supplying fertilisers and pesticides

(d) Producing tube well pumps and sprinklers

(iv) In order to attract foreign manufacturing firms, a country needs to develop - (2020-21)

(a) Agrarian facilities

(b) Cultivable lands

(c) Media facilities

(d) Infrastructure facilities

LA (5 marks)

2. Manufacturing sector is considered as the 'backbone of general and economic development: Examine the statement in the context of India. (2022-23)

LA (5 marks)

Classification of Industries

3. Examine the multi-pronged aspects of Information Technology and Electronics Industry. (2022-23)

ANSWERS

Previous Years' CBSE Board Questions

1. To improve the productivity of the industrial sector. However, this has been wound up in March 2016.

2. (i) Manufacturing sector provides the basic inputs to the agricultural sector. For example, industries providing tractors, harvesting machines, fertilisers etc., that make the basic inputs for the sector. It helps in modernisation of the agricultural activity.

(ii) An example is the establishment of industries in tribal and backward areas. The industrial sector provides employment to a large number of people and improves their economic status.

(iii) Manufacturing sector improves employment because manufacturing sector is added value to goods, the country can export products instead of raw materials For example, USA.

3. (i): Industries provide agricultural implements machine and other products to the agricultural sector such as PVC pipes, irrigation pumps, fertilisers, pesticides, insecticides etc.

(ii) Due to these products provided by the industries to the agricultural sector, the agricultural production increases. These inputs also improve the efficiency of production.

(iii) Green revolution in Punjab and Uttar Pradesh was achieved only because the industries provided products like fertilisers, tractors and irrigation pumps to the farmers.

(iv) Thus, agricultural development is possible only due to the support from the manufacturing industries.

(v) Because of the inputs from the industry the employment opportunities in the agricultural sector also increases.

4. The interdependence of agriculture and industries is based on many things like adequate rainfall and good crops. Some of the examples are when the rain fail, the crops fail, the industries suffer and we have losses in our business as the purchasing power falls. If the cotton crops fail the clothing industries suffer and the other industries also suffer. If the poultry farms does not

produce enough eggs the bakery industries which use egg as their important ingredient also suffers.

5. The economic strength of a country is measured by development of a country".

(i) Utilisation of Natural Resources: Utilisation of huge volume of natural resources has become possible with the development of industries in the country.

(ii) Balanced Sectoral Development: Growth of Industrialisation in the country can attain balanced sectoral development and it can reduce the too much dependence of the economy on the agricultural sector.

(iii) Enhanced Capital Formation: Increasing volume of investment in industries has led to enhancement in the rate of capital formation in the country.

(iv) Increase in National Income and Foreign Exchange: Industries contribute a good portion of the total national income of our country.

(v) Increase in Job Opportunities: It Increases the job opportunities for a large section of population of the country.

(vi) Development of Industries brings down regional economic and social disparities as incomes rise and people from different strata of the society work together.

6. Importance of Manufacturing:

(i) Manufacturing industries help in modernising agriculture; which helps the efficiencies of agricultural practices.

(ii) It reduces the heavy dependence of people on agricultural income. This becomes possible because of creation of new jobs in secondary and tertiary sectors.

(iii) Industrial development helps in eradication of unemployment and poverty. Industries in underdeveloped areas reduce regional disparity.

(iv) Export of high quality manufactured goods expands trade and commerce faster and brings in much needed foreign exchange. This is many times better than exporting basic raw materials as was happening during the British era.

(v) A country with high level of manufacturing activities becomes prosperous. Agriculture and industry are closely interlinked. Manufacturing gives a boost to agriculture by raising its productivity. Industrial products that are

commonly used in agriculture include irrigation pumps, tractors, fertilizers, insecticides, pesticides, plastic and PVC pipes and other machines and tools.

7. (b): Aluminium smelting

8. It 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. Textile industries create demand for other industries such as chemicals, dyes, packaging materials and engineering works. Thus, it can be concluded that the textile industry occupies a unique position in Indian economy.

9. Iron and steel Industry called as the 'basic industry' because it is needed to manufacture a variety of engineering goods, construction materials, defence, medical, telephonic, scientific equipments and a variety of consumer goods.

10. Importance of cement industry are:

- (i) It is essential for construction activity such as building houses, factories, bridges etc.
- (ii) With the increasing capital expenditure of the government, this industry plays a significant role in the development and produces a variety of cement.

11. Aluminium

12. Cement industry

13. Schemes for promoting khadi: Government should promote it by reducing cost of khadi.

14. Ideal location of the industry depends on many factors, availability of raw materials, labour, capital, power and market at a lower cost, to which combines to make the "least cost factor". This is done so that the cost of production is low and the industries can earn greater profits.

15. On the basis of sources of raw materials industries are classified as:

- (i) Agro based: Agro based industries draw their raw materials from agricultural products. For example,
- (ii) Textiles, sugar, coffee, tea and edible oil.
- (iii) Mineral based: They draw their raw materials from minerals. For example, Iron and Steel industries, cement, petrochemicals etc. While in agro based industries, value addition is done at every stage; in case of mineral based industries refining is a more important activity.

16. The textile industry is considered as self-reliant because products produced at each stage are used as raw materials for next stage of production. Value chain refers to a number of activities that industry performs right from the production of raw materials to the delivery of finished products and add substantial value to that product at each stage of processing.

17. Industries can be classified according to the role they play in the economy of the country. They are:

- (i) Basic or key industries which supply their products or raw materials to manufacture other goods e.g. iron and steel and copper smelting, aluminium smelting. These industries help in the establishment of other industries.
- (ii) Consumer industries that produce goods for direct use by consumers - sugar, toothpaste, paper, sewing machines, electric fans etc.

18. (i) Classification of the industries on the basis of capital investment:

(a) Small Scale Industry

(b) Large Scale industry

(ii) Difference:

Small scale Industries: They employ less number of people and capital. Most of the work is done by small machines and manpower. They use less raw materials and their production is also less. Example Radio, TV making, agricultural implements etc. Large scale Industries: These industries employ large number of people and capital. Work is done by large machines and manpower. They use large amount of raw materials and produce more products. Examples are textile industry, steel industry etc.

19. Chotanagpur region is the hub of many iron and steel plants because:

- (i) Iron and steel industry requires iron ore, coal, limestone and manganese which are available in close proximity.
- (ii) Good network of roads and railway facilitates the movement of raw materials to iron and steel plants.
- (iii) Rivers provide the cheapest means of inland water transport for iron and steel goods.
- (iv) Nearness to the city of Kolkata provides huge market, banking, insurance and financial services for iron and steel plants.
- (v) Availability of cheap labour from Bihar, West Bengal, Jharkhand and Chhattisgarh.

(vi) Hence due to these locational advantages iron and steel plants like Jamshedpur, Durgapur, Burnpur, Bokaro and Rourkela are confined to the Chhotanagpur region.

20. (i) The chemical industry in India is fast growing and diversifying. India is a strong global dye-supplier accounting for approximately 10% of the world production of dye stuff and dye intermediates. India ranks 9th in export and 6th in imports of chemical (excluding pharmaceutical products) globally.

(ii) Rapid growth has been recorded in both inorganic and organic sector. Organic chemicals include petrochemicals which are used for manufacturing of synthetic fibres, rubber, plastics, and dye stuffs. Inorganic chemicals include sulphuric acid, fertilisers, synthetic fibres, plastics, adhesives, paints etc.

(iii) The chemical industry is its own largest consumer with value addition.

21. (i) The textile industry occupied unique position in the Indian Economy.

(ii) It contributes significantly to industrial production employment generation and foreign earnings.

(iii) In a developing country like India, the textile industry is very important, as it has to meet the demands for clothes from within the country and also for exports.

22. The cotton textile industries were mainly concentrated in the cotton growing belt of Gujarat and Maharashtra, in the early years because-

(i) The moist climate of the area helped in the growth of cotton. So raw cotton was readily available in the area.

(ii) There were ports nearby so the manufactured goods could be easily transported.

(iii) There was enough labour force in the area. There were farmers, cotton ball pluckers and workers who did the work of spinning, weaving, dyeing, tailoring and sewing.

(iv) It was easy to access the markets for finished goods from here.

(v) Other supporting industries involved in manufacturing dyes and packaging materials were available in the area.

23. (i) The weaving, knitting and processing units cannot use much of the high quality yarn that is produced in the country.

(ii) Cotton textile industries face the problem of an erratic power supply which decreases in labour productivity.

- (iii) The output of labour is low due to poor machine and power supply.
- (iv) The machine need to be upgrade especially in the weaving and processing sectors.
- (v) Therefore, many of our spinners export cotton yarn while apparel/garment manufactures have to import fabric.

24. (i) Steel production is the backbone of any country's economy since it is the basic unit for the development of the nation.

- (ii) Almost every industry depends on iron and steel for its manufacturing and production.
- (iii) Construction material, defence, medical, telephonic and scientific equipments are the gifts of iron and steel industries.
- (iv) In today's era of globalisation, consumption of goods is increasing. Thus, it can be concluded that growth in production of steel is regarded as the index of country's development.

25. Three ways through which industrial pollution can be reduced are:

- (i) Machinery and equipment can be used and generators should be fitted with silencers.
- (ii) Waste and effluents should be recycled or treated through biological process and mechanical means.
- (iii) By fitting suitable smoke screens in factories with electrostatic precipitators, scrubbers etc.

26. Threestepstominimise the environmental degradation caused by industrial development in India are:

- (i) Minimising use of water for processing by reusing and recycling it in two or more successive stages.
- (ii) Harvesting of rain water to meet water requirements.
- (iii) Treating hot water and effluents before releasing them in rivers and ponds.
- (iv) Particulate matter in the air can be reduced by fitting smoke stacke to factories with electrostatic precipitators, fabric filters, scrubbers and inertial separators.
- (v) Smoke can be reduced by using oil or gas instead of coal in factories.
- (vi) Generators should be fitted with silencers.
- (vii) Almost all machineries can be redesigned to increase energy efficiency and reduce noise.

27. (i) NTPC is the major power providing corporation in India, which is expanded as National Thermal Power Corporation.
- (ii) An ISO certification in India can be issued by a third party certification body that is accredited by the National Accreditation Board of certification.
- (iii) (a) Optimum utilisation of equipment adopting latest techniques and upgrading existing equipment.
- (b) Minimising waste generation by maximising ash utilisation. (c) Providing green belts for nurturing ecological balance and addressing the question of special purpose vehicles for afforestation.

28. When an industry discharges one litre of polluted water without any proper treatment, it can pollute at least eight times the quantity of freshwater. To reduce the pollution of water bodies the following action should be taken -

- (i) Minimising use 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 other effluents before releasing them in water bodies.
- (iv) Overdrawing of ground water reserves by industry or even for agricultural purposes need to be regulated and a viable solution needs to be implemented.

29. Industries are responsible for environmental degradation in the following ways:

- (i) Many times pollution norms are not followed by the industries. The effluents are not treated before they discharge into air or water bodies.
- (ii) Toxic gas leaks can be very hazardous with long-term effects; as happened after the Bhopal Gas tragedy. Hence meticulous maintenance of equipment is necessary.
- (iii) Thermal pollution of water occurs when hot water from factories and thermal plants is drained into rivers and ponds before cooling; this greatly harms the aquatic plants and animals.
- (iv) They release toxic dyes, detergents, acids, salts and heavy metals like lead and mercury, various pesticides, fertilisers, synthetic chemicals, plastics and rubber etc., into the water bodies.
- (v) Mismanagement of wastes from nuclear power plants can cause cancers and birth defects.

30. The pro-active approach adopted by the National Thermal Power Corporation (NTPC) for preserving the natural environment are as follows:

- (i) Optimum utilisation of equipment adopting latest techniques and upgrading existing equipment.
- (ii) Minimising waste generation by maximising ash utilisation.
- (iii) Providing green belts for nurturing ecological balance and afforestation.
- (iv) Reducing environmental, pollution through ash pond management, ash water recycling system and liquid waste management.
- (v) Ecological monitoring, review and online database management for all its power stations.

CBSE Sample Questions

1. (i) (d): Secondary, Primary Sector
- (ii) (b): A-(iii), B-(iv), C-(ii), D-(i)
- (iii) (b): Providing unskilled labour force
- (iv) (d): Infrastructure facilities (4×1)

2. Manufacturing sector is considered as the backbone of development in general and economic development to India in the following ways:

- (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 is a precondition for eradication of unemployment and poverty from our country.
 - (iii) 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.
 - (iv) Export of manufactured goods expands trade and commerce, and brings in much needed foreign exchange to India.
 - (v) Countries that transform their raw materials into a wide variety of furnished goods of higher value are prosperous. India's prosperity lies in increasing and diversifying its manufacturing industries as quickly as possible.
- (5 x 1)

3. (i) The electronics industry produces a wide range of goods like television, telephones, radars, computers etc.

- (ii) It has contributed to a lot of foreign exchange.
- (iii) It has provided employment to more than one million people.
- (iv) Bengaluru is the electronic capital of India followed by Mumbai and Hyderabad. There are 18 software technology parks in India.
- (v) The fast growing BPO sector of IT is a major foreign exchange earner for the country. (5 x 1)