UNIQUE STUDY POINT

By Sumeet Sahu

www.uniquestudyonline.com

Unique Study Point, Amitesh Nagar, Indore, MP | Contact: 8103405051

Class: X	**Subject:** Social Science (Geography)	**Session:** 2025-26
Chapter: 06 - Manufacturing Industries	**Time:** 1½ Hours	**Max. Marks:** 40

General Instructions:

1. All questions are compulsory.
2. This question paper contains 20 questions divided into five sections A, B, C, D and E.
3. Section A contains 10 MCQs of 1 mark each.
4. Section B contains 4 questions of 2 marks each.
5. Section C contains 3 questions of 3 marks each.
6. Section D contains 1 question of 5 marks.
7. Section E contains 2 Case Study Based questions of 4 marks each.

SECTION A - Multiple Choice Questions (1 mark each)

Q1. Which industry is considered the second most important metallurgical industry in India?

(a) Iron and steel

(b) Copper smelting

(c) Aluminium smelting

(d) Zinc smelting

Q2. How many tonnes of bauxite are required to produce one tonne of aluminium?

(a) 2 to 4 tonnes

(b) 4 to 6 tonnes

(c) 6 to 8 tonnes

(d) 8 to 10 tonnes

Q3. Which of the following is NOT an inorganic chemical?

(a) Sulphuric acid

(b) Soda ash

(c) Petrochemicals

(d) Caustic soda

Q4. Which nutrient in fertilizers is entirely imported by India?

(a) Nitrogen

(b) Phosphate

(c) Potash

(d) Urea

Q5. Which state contributes towards half of India's fertilizer production along with Tamil Nadu, Uttar Pradesh, Punjab and Kerala?

(a) Maharashtra

(b) Gujarat

(c) Karnataka
(d) West Bengal

Q6. The automobile industry in India received a boost after:
(a) Independence in 1947
(b) Green Revolution
(c) Liberalisation in 1991
(d) Industrial policy of 1956

Q7. What percentage of mills are located in Uttar Pradesh and Bihar in the sugar industry?
(a) 40%
(b) 50%
(c) 60%
(d) 70%

Q8. Which type of industry is the coir industry in Kerala?
(a) Public sector
(b) Private sector
(c) Joint sector
(d) Cooperative sector

Q9. What is the maximum investment allowed for a small scale industry currently?
(a) Rs. 50 lakhs
(b) Rs. 1 crore
(c) Rs. 5 crores
(d) Rs. 10 crores

Q10. Which treatment phase involves screening, grinding, flocculation and sedimentation for industrial effluents?
(a) Primary treatment
(b) Secondary treatment
(c) Tertiary treatment
(d) Final treatment

SECTION B - Short Answer Questions (2 marks each)

Q11. What is meant by the 'value chain' in the context of the textile industry?

Q12. Why is the cement industry considered a heavy industry? State two reasons.

Q13. Name any two automobile manufacturing centres in India.

Q14. What is thermal pollution? How does it affect aquatic life?

SECTION C - Short Answer Questions (3 marks each)

Q15. "Export of manufactured goods expands trade and commerce." Explain this statement with suitable examples.

Q16. Why did our traditional textile industries suffer a setback during the colonial period? Explain any three reasons.

Q17. Suggest any three measures to reduce air pollution caused by industries.

SECTION D - Long Answer Question (5 marks)

Q18. Describe the importance of manufacturing industries in the economic development of India. Support your

answer with suitable examples.

SECTION E - Case Study Based Questions (4 marks each)

Q19. Read the following case study and answer the questions that follow:

The electronics industry covers a wide range of products from transistor sets to television, telephones, cellular telecom, telephone exchange, radars, computers and many other equipments required by the telecommunication industry. Bengaluru has emerged as the electronic capital of India. Other important centres are Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow and Coimbatore. The major industry concentration is at Bengaluru, Noida, Mumbai, Chennai, Hyderabad and Pune. A major impact of this industry has been on employment generation.

(i) Name any two products of the electronics industry. (1 mark)
(ii) Which city is known as the electronic capital of India? (1 mark)
(iii) How has the electronics industry contributed to India's economy? (2 marks)

Q20. Read the following case study and answer the questions that follow:

The fertilizer industry is centred around the production of nitrogenous fertilizers (mainly urea), phosphatic fertilizers and ammonium phosphate (DAP) and complex fertilizers which have a combination of nitrogen (N), phosphate (P), and potash (K). The third, i.e. potash is entirely imported as the country does not have any reserves of commercially usable potash or potassium compounds. After the Green Revolution, the industry expanded to several other parts of the country to meet the increasing demand for fertilizers in agriculture.

(i) Name the main nitrogenous fertilizer produced in India. (1 mark)
(ii) Why is potash entirely imported in India? (1 mark)
(iii) How did the Green Revolution affect the fertilizer industry? (2 marks)

DETAILED ANSWER KEY - PAPER 03

SECTION A - Answers to MCQs

Ans 1. (c) Aluminium smelting

Aluminium smelting is the second most important metallurgical industry in India after iron and steel. It is used for manufacturing aircraft, utensils and wires.

Ans 2. (b) 4 to 6 tonnes

4 to 6 tonnes of bauxite are required to produce 2 tonnes of alumina, which then produces 1 tonne of aluminium. Bauxite is a very bulky, dark reddish colored rock.

Ans 3. (c) Petrochemicals

Petrochemicals are organic chemicals. Inorganic chemicals include sulphuric acid, nitric acid, alkalies, soda ash, and caustic soda.

Ans 4. (c) Potash

Potash (K) is entirely imported as India does not have any reserves of commercially usable potash or potassium compounds in any form. Nitrogen and phosphate are produced domestically.

Ans 5. (b) Gujarat

Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala contribute towards half of the fertilizer production in India.

Ans 6. (c) Liberalisation in 1991

After liberalisation, the coming in of new and contemporary models stimulated the demand for vehicles in the market, which led to healthy growth of the automobile industry in India.

Ans 7. (c) 60%

Sixty per cent mills in the sugar industry are located in Uttar Pradesh and Bihar, though the industry is shifting towards southern and western states.

Ans 8. (d) Cooperative sector

The coir industry in Kerala is a cooperative sector industry where producers or suppliers of raw materials, workers or both pool resources and share profits or losses proportionately.

Ans 9. (b) Rs. 1 crore

At present, the maximum investment allowed for a small scale industry is rupees one crore on the assets of a unit. This limit has changed over time.

Ans 10. (a) Primary treatment

Primary treatment is done by mechanical means and involves screening, grinding, flocculation and sedimentation. Secondary treatment uses biological processes, and tertiary treatment uses biological, chemical and physical processes.

SECTION B - Answers to Short Answer Questions

Ans 11.

Value chain in textile industry:

The 'value chain' means the complete sequence of processes from raw material to the highest value-added finished

products. In the textile industry, this includes:

- **Raw material stage:** Fibre production (cotton, wool, silk, synthetic fibres)
- **Processing stages:** Spinning (converting fibre to yarn), Weaving/Knitting (converting yarn to fabric)
- **Value addition stages:** Dyeing and finishing, Garment manufacturing

The textile industry is unique as it is self-reliant and complete in this entire value chain, meaning it can handle all stages from growing/producing raw fibres to manufacturing finished garments ready for sale, without depending on other industries.

Ans 12.

Why cement industry is considered heavy industry:

1. **Bulky raw materials:** The industry requires bulky and heavy raw materials like limestone, silica and gypsum in large quantities. These materials are heavy to transport and need to be processed in large volumes.
2. **Heavy finished product:** The finished product (cement) is also heavy and bulky, requiring strong transportation infrastructure like railways. The weight and bulk of both raw materials and finished goods make it a heavy industry with high transportation costs.

Additional factors: Requires coal and electric power in large amounts, needs substantial capital investment.

Ans 13.

Two automobile manufacturing centres in India:

1. **Gurugram (Haryana):** Major hub for car manufacturing with several companies having production units.
2. **Chennai (Tamil Nadu):** Known as the "Detroit of India" with numerous automobile plants.

Other acceptable answers: Delhi, Mumbai, Pune, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur, Bengaluru.

Ans 14.

Thermal pollution:
Thermal pollution of water occurs when hot water from factories and thermal power plants is drained into rivers and ponds before cooling. This raises the water temperature significantly above normal levels.

Effect on aquatic life:
The increased water temperature disrupts the natural temperature balance of water bodies, which has severe effects on aquatic life:

- Reduces dissolved oxygen levels in water, making it difficult for fish and other aquatic organisms to survive
- Kills temperature-sensitive species and disrupts breeding patterns
- Alters aquatic ecosystems and food chains
- Accelerates the metabolic rates of organisms, increasing their oxygen demand while oxygen availability decreases

SECTION C - Answers to Short Answer Questions

Ans 15.

"Export of manufactured goods expands trade and commerce" - Explanation:

1. **Foreign exchange earnings:** When India exports manufactured goods like textiles, automobiles, pharmaceuticals, and engineering goods, it earns valuable foreign exchange. For example, India is a major exporter of cotton textiles, jute products, gems and jewelry, and IT services. This foreign exchange is crucial for importing essential items like petroleum, machinery, and raw materials that India needs for its development.
2. **Trade relationships and markets:** Export of manufactured goods helps India establish and strengthen trade relationships with other countries. For instance, India's pharmaceutical industry exports generic medicines worldwide, making India the "pharmacy of the world." This creates permanent trade partnerships

and opens markets for other Indian products as well.

3. **Stimulates domestic commerce:** The export industry creates a multiplier effect in the domestic economy. To meet export demands, more raw materials are needed, more workers are employed, transportation services expand, banking and insurance sectors grow, and port facilities develop. For example, the growth of textile exports has stimulated cotton cultivation, created jobs in ginning and spinning mills, expanded logistics services, and developed port infrastructure.

Therefore, manufactured goods exports not only bring foreign exchange but also expand overall trade and commerce networks both internationally and domestically.

Ans 16.

Why traditional textile industries suffered during colonial period:

1. **Competition from British mill-made cloth:** Traditional Indian textile industries could not compete with cheap, machine-made cloth imported from England. British power looms produced cloth much faster and cheaper than Indian handloom weavers. The superior production capacity of British mills using steam power and mechanical looms flooded Indian markets with inexpensive textiles.
2. **Colonial economic policies:** The British colonial government imposed policies that deliberately destroyed Indian industries to protect British manufacturing interests. High tariffs were placed on Indian textile exports to Britain, while British goods entered India duty-free or with minimal tariffs. This created an unequal playing field that favored British manufacturers.
3. **Exploitation of raw materials:** India was reduced to a supplier of raw cotton for British mills rather than a manufacturer of finished textiles. Indian cotton was exported to England, manufactured into cloth there, and then sold back to India at high prices. Indian artisans were deprived of their livelihood as the entire value chain was controlled by the British, breaking the traditional textile industry structure.

The combination of unfair competition, exploitative policies, and economic subordination led to the decline of India's once-thriving traditional textile industry during the colonial period.

Ans 17.

Three measures to reduce air pollution from industries:

1. **Install pollution control equipment:** Factories should fit smoke stacks with electrostatic precipitators, fabric filters, scrubbers and inertial separators to reduce particulate matter in the air. These devices capture dust, smoke particles, and other pollutants before they are released into the atmosphere, significantly reducing air pollution.
2. **Use cleaner fuels:** Industries should use oil or gas instead of coal in factories to reduce smoke emission. Cleaner burning fuels produce less sulphur dioxide, carbon monoxide, and particulate matter. Switching to natural gas or renewable energy sources can dramatically cut air pollution from industrial operations.
3. **Redesign machinery for efficiency:** Almost all machinery can be redesigned to increase energy efficiency and reduce emissions. Using modern, energy-efficient equipment reduces fuel consumption and consequently reduces the emission of pollutants. Regular maintenance and upgrading to latest technology also helps minimize air pollution.

Additional measures: Proper monitoring and compliance with pollution norms, using renewable energy sources, implementing green belt development around factories.

SECTION D - Answer to Long Answer Question

Ans 18.

Importance of manufacturing industries in India's economic development:

Manufacturing industries are considered the backbone of economic development and play a crucial role in India's growth:

1. MODERNISING AGRICULTURE:

- Manufacturing industries help in modernising agriculture, which forms the backbone of our economy
- **Example:** Agro-industries produce irrigation pumps, fertilisers, insecticides, pesticides, plastic and PVC pipes, tractors, harvesters, and other machinery that farmers need
- These products have significantly increased agricultural productivity. The Green Revolution's success was largely due to availability of fertilizers, pesticides, and modern equipment produced by manufacturing industries
- This interdependence makes manufacturing crucial for agricultural development

2. REDUCING DEPENDENCE ON AGRICULTURE & EMPLOYMENT GENERATION:

- Manufacturing industries reduce heavy dependence on agricultural income by providing jobs in secondary and tertiary sectors
- **Example:** The textile industry employs millions of workers in spinning, weaving, dyeing, designing, packaging, and tailoring. The automobile industry provides jobs not just in manufacturing but also in spare parts, service centers, and dealerships
- 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

3. REGIONAL DEVELOPMENT AND REDUCING DISPARITIES:

- Industries help bring down regional disparities by establishing manufacturing units in tribal and backward areas
- **Example:** Steel plants were deliberately located in regions like Chhattisgarh (Bhilai), Jharkhand (Jamshedpur, Bokaro), bringing development to previously backward tribal areas
- This distributes economic opportunities across the country rather than concentrating them in a few urban centers

4. FOREIGN EXCHANGE EARNINGS:

- Export of manufactured goods expands trade and commerce, bringing in much needed foreign exchange
- **Example:** India exports textiles, pharmaceuticals, automobiles, engineering goods, and IT products globally. The textile industry alone contributes significantly to foreign exchange earnings
- This foreign exchange is essential for importing petroleum, machinery, and other necessities

5. VALUE ADDITION AND PROSPERITY:

- Countries that transform their raw materials into a wide variety of finished goods of higher value are prosperous
- **Example:** Instead of exporting raw cotton, India processes it into yarn, fabric, and garments, multiplying its value many times. Similarly, iron ore becomes steel, bauxite becomes aluminium products
- India's prosperity lies in increasing and diversifying its manufacturing industries as quickly as possible

6. MEASURING ECONOMIC STRENGTH:

- The economic strength of a country is measured by the development of manufacturing industries
- Production and consumption of steel is often regarded as the index of a country's development
- In the present world of globalisation, Indian industry needs to be more efficient and competitive to match international standards

Conclusion: Manufacturing industries are essential for India's economic development as they modernize agriculture, generate employment, reduce regional imbalances, earn foreign exchange, add value to raw materials, and serve as indicators of economic strength. The interdependence between agriculture and industry, and between different sectors of manufacturing, creates a robust economic ecosystem that drives overall national development.

SECTION E - Answers to Case Study Based Questions

Ans 19.

(i) Name any two products of the electronics industry. (1 mark)

1. Computers
2. Telephones (cellular telecom)

Other acceptable answers: Transistor sets, television, telephone exchange, radars, telecommunication equipment.

(ii) Which city is known as the electronic capital of India? (1 mark)
Bengaluru is known as the electronic capital of India, having emerged as the major hub for electronics and IT industries.

(iii) How has the electronics industry contributed to India's economy? (2 marks)
Contributions of electronics industry:

- **Employment generation:** A major impact of this industry has been on employment generation. It has created millions of direct jobs in manufacturing, software development, and services. It also generates indirect employment in allied sectors like components manufacturing, logistics, and customer support.
- **Technology advancement and exports:** The industry has positioned India as a major player in global electronics and IT services. The continuing growth in hardware and software is the key to IT industry success in India. Bengaluru, Noida, Mumbai, Chennai, Hyderabad and Pune have become major technology hubs, attracting global companies and generating substantial export revenue through electronics products and IT services.

The industry has also contributed to skill development, innovation, and making India competitive in the global market.

Ans 20.

(i) Name the main nitrogenous fertilizer produced in India. (1 mark)
Urea is the main nitrogenous fertilizer produced in India. The fertilizer industry is centered around its production.

(ii) Why is potash entirely imported in India? (1 mark)
Potash is entirely imported because India does not have any reserves of commercially usable potash or potassium compounds in any form. Therefore, all potash requirement for fertilizers must be imported from other countries.

(iii) How did the Green Revolution affect the fertilizer industry? (2 marks)
Impact of Green Revolution on fertilizer industry:

- **Expansion of industry:** After the Green Revolution, the demand for fertilizers increased dramatically as farmers adopted high-yielding variety seeds which required more nutrients. To meet this increased demand, the fertilizer industry expanded to several other parts of the country beyond its original locations.
- **Geographic spread and production increase:** Initially, fertilizer production was limited to a few states. Post-Green Revolution, Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala became major producers, contributing towards half of the fertilizer production. Other significant producers emerged in Andhra Pradesh, Odisha, Rajasthan, Bihar, Maharashtra, Assam, West Bengal, Goa, Delhi, Madhya Pradesh and Karnataka. This expansion ensured that fertilizers were available across agricultural regions, supporting the Green Revolution's goal of increasing food production and agricultural productivity.
