

CBSE CLASS X
Social Science (087)**ANSWER KEY***From previous CBSE Board Exam questions***Code: PT892E****Questions: 30****Maximum Marks: 107****Generated: 2026-06-15 13:05****SELECTIONS USED**

Source	Previous-year board
Subject	Social Science
Lessons	Manufacturing Industries
Year	2022-2026
Questions selected	30

Composition — Types: 14 Long · 6 Short · 6 Very short · 2 Assertion–reason · 1 Case-based · 1 MCQ

Q1. § Introduction § Classification of Industries

[5]

Explain the importance of manufacturing industries.

Previously asked in: 2023 32/5/1 Q31(a)

♦ Manufacturing Industries

Importance of Manufacturing Industries

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Model Answer**Importance of Manufacturing Industries:**

1. **Modernises Agriculture:** Manufacturing industries help modernise agriculture by supplying irrigation pumps, fertilisers, pesticides, machines and tools, thereby increasing agricultural productivity.
1. **Reduces Unemployment and Poverty:** Industrial development provides jobs in secondary and tertiary sectors, reducing dependence on agricultural income and helping eradicate unemployment and poverty.
1. **Reduces Regional Disparities:** Establishing industries in tribal and backward areas helps bring down regional inequalities.
1. **Earns Foreign Exchange:** Export of manufactured goods expands trade and commerce, bringing in much-needed foreign exchange for the country.
1. **Increases Prosperity:** Countries that transform raw materials into finished goods of higher value become prosperous. India's prosperity lies in increasing and diversifying its manufacturing industries.
1. **Economic Strength:** The economic strength of a country is measured by the development of its manufacturing industries.

Source: Chapter 6 – Manufacturing Industries, Importance of Manufacturing

Explanation

- Examiners expect **5 distinct points** for a 5-mark answer; each point should be crisp (1–2 lines).
- Mention both **agriculture linkage** and **economic/social benefits** — these are the most commonly tested aspects.
- Avoid copying long sentences from the textbook; paraphrase to show understanding.
- The point on **foreign exchange** and **regional disparities** is often missed — include both for full marks.

Q2. § IMPORTANCE OF MANUFACTURING

[5]

"The economic strength of a country is measured by the development of manufacturing industries." Explain with examples.

Previously asked in: 2023 32/6/1 Q31(b)

◆ Manufacturing Industries

Importance of Manufacturing Industries to Economic Strength

Role of Manufacturing in National Development

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Model Answer

The economic strength of a country is measured by the development of manufacturing industries because of the following reasons:

1. **Modernises agriculture:** Manufacturing industries provide farmers with irrigation pumps, fertilisers, pesticides, and machinery, raising agricultural productivity and efficiency.
1. **Reduces unemployment and poverty:** Industrial development creates jobs in secondary and tertiary sectors, reducing people's dependence on agricultural income.
1. **Reduces regional disparities:** Establishing industries in tribal and backward areas helps bring development to underdeveloped regions.
1. **Earns foreign exchange:** Export of manufactured goods expands trade and commerce and brings in much-needed foreign exchange.
1. **Increases prosperity:** Countries that transform raw materials into finished goods of higher value become prosperous. For example, iron ore is converted into steel, and bauxite into aluminium, adding significant value.

Thus, rapid development and diversification of manufacturing is essential for India's economic growth.

Source: *Manufacturing Industries*, Chapter 6

Explanation

- This is a direct textbook-based 5-mark question. All 5 points come straight from the "Importance of Manufacturing" section — examiners expect exactly these points.
- Use the phrase "**foreign exchange**" explicitly — it is a key term examiners look for.
- Giving **one example per point** (e.g., iron ore → steel) earns full marks and keeps the answer within word limits.
- Avoid writing a long introduction; start directly with the points.

Q3. § IMPORTANCE OF MANUFACTURING

[3]

'Manufacturing industries are considered the backbone of economic development.' Justify the statement.

Previously asked in: 2024 32/1/1 Q26

♦ Manufacturing Industries

Importance of Manufacturing Industries as the Backbone of Economic Development

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Model Answer

Manufacturing industries are considered the backbone of economic development because:

1. **Modernises agriculture** — Industries supply farmers with irrigation pumps, fertilisers, pesticides, and machines, raising agricultural productivity.
2. **Reduces unemployment and poverty** — Industrial development generates jobs in secondary and tertiary sectors, reducing dependence on agriculture.
3. **Removes regional disparities** — Setting up industries in tribal and backward areas helps balanced regional development.
4. **Earns foreign exchange** — Export of manufactured goods expands trade and brings in much-needed foreign exchange.
5. **Increases national prosperity** — Countries that transform raw materials into finished goods of higher value become prosperous.

Source: Importance of Manufacturing, Chapter 6

Explanation

Examiners expect **3 distinct, well-labelled points** for 3 marks. Each point should be brief but complete — one sentence is enough per point. Avoid copying long sentences from the textbook; paraphrase crisply. The key terms (foreign exchange, regional disparities, modernising agriculture) must appear as they are standard CBSE keywords that fetch marks.

Q4. § IMPORTANCE OF MANUFACTURING

[5]

"Agriculture and industry move hand-in-hand." Justify the statement with suitable arguments.

Previously asked in: 2026 32/3/1 Q16(b)

♦ Manufacturing Industries

Interdependence of Agriculture and Industry

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Model Answer**Agriculture and industry are interdependent and complement each other:**

1. **Industry modernises agriculture:** Agro-industries supply irrigation pumps, fertilisers, insecticides, pesticides, plastic and PVC pipes, machines and tools to farmers, raising agricultural productivity.
1. **Agriculture supplies raw materials to industry:** Industries like sugar, cotton textiles, and jute depend on agriculture for their raw materials.
1. **Industry reduces dependence on agriculture:** Manufacturing provides jobs in secondary and tertiary sectors, reducing over-dependence on agricultural income.
1. **Efficiency in production:** Development and competitiveness of manufacturing has made agricultural production processes more efficient.
1. **Mutual growth:** The fertilizer industry, expanded after the Green Revolution, directly supports agriculture, while agriculture's output feeds agro-based industries.

Thus, both sectors are not exclusive of each other — they move hand in hand for overall economic development.

Source: *Manufacturing Industries, Chapter 6*

Explanation

- This is a **justify/argument-based** question, so use clear numbered points — examiners award marks per valid point.
- The key phrase from the textbook is "*Agriculture and industry are not exclusive of each other*" — quoting or paraphrasing it shows textbook awareness.
- Focus on **two-way dependency**: industry helps agriculture AND agriculture feeds industry.
- Avoid writing a general essay — 5 focused points with brief elaboration is ideal for 5 marks.

Q5. § IMPORTANCE OF MANUFACTURING

[5]

"Manufacturing industries are considered the backbone of the economic development of the country." Justify the statement with suitable arguments.

Previously asked in: 2026 32/3/1 Q16(a)

♦ Manufacturing Industries

Importance of Manufacturing Industries in Economic Development

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Model Answer

Manufacturing industries are considered the backbone of economic development for the following reasons:

1. **Modernises agriculture:** Agro-industries supply farmers with irrigation pumps, fertilisers, pesticides, and tools, raising agricultural productivity and making production efficient.
1. **Reduces unemployment and poverty:** Industrial development creates jobs in secondary and tertiary sectors, reducing dependence on agriculture and helping eradicate poverty and regional disparities.
1. **Earns foreign exchange:** Export of manufactured goods expands trade and commerce and brings in much-needed foreign exchange for the country.
1. **Increases national prosperity:** Countries that transform raw materials into finished goods of higher value become prosperous. India's growth depends on increasing and diversifying its manufacturing sector.
1. **Global competitiveness:** In the era of globalisation, a strong manufacturing base ensures India's goods match international quality standards, enabling it to compete in world markets.

Source: Chapter 6 — Manufacturing Industries, Importance of Manufacturing

Explanation

- Examiners expect **5 distinct points** for a 5-mark question — one point per mark is the safest structure.
- Each point should have a **bold heading + 1–2 supporting lines** from the textbook.
- Avoid copying long paragraphs; paraphrase concisely.
- Key terms to include: *foreign exchange, regional disparities, modernisation of agriculture, globalisation, prosperity* — these signal textbook knowledge to the examiner.

Q6. § IMPORTANCE OF MANUFACTURING

[2]

"Agriculture and industry move hand in hand." Support the statement with examples.

Previously asked in: 2023 32/4/1 Q22

◆ Manufacturing Industries

Agro-based industries and their dependence on agriculture

Interdependence of Agriculture and Industry

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Model Answer

Agriculture and industry are interdependent and move hand in hand:

1. **Industry supports agriculture:** Agro-industries supply irrigation pumps, fertilisers, insecticides, pesticides, tractors, and tools to farmers, raising agricultural productivity.
1. **Agriculture supports industry:** Industries like sugar, textiles, and vegetable oil depend on agriculture for their raw materials (sugarcane, cotton, etc.).

Thus, both sectors support each other's growth.

Source: *Importance of Manufacturing, Chapter 6*

Explanation

- The question is directly from the textbook line "**Agriculture and industry are not exclusive of each other. They move hand in hand.**"
- Examiners expect **two-way linkage**: industry helping agriculture AND agriculture supplying raw materials to industry.
- Give **specific examples** (fertilisers/pumps going to farmers; sugarcane/cotton going to factories) — vague answers lose marks.
- 2 marks = 2 clear points; no elaboration needed beyond one supporting example each.

Q7. § IMPORTANCE OF MANUFACTURING**[1]**

There are two statements given as Assertion (A) and Reason (R). Read both the statements and choose the correct option.

Assertion (A) : Agriculture and industry move hand in hand.

Reason (R) : Industrial development is a precondition for eradication of unemployment and poverty from the country.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
- (c) Assertion (A) is true, but Reason (R) is false.
- (d) Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2023 32/2/1 Q6

♦ Manufacturing Industries

Interdependence of Agriculture and Industry

Role of Industrial Development in Eradicating Unemployment and Poverty

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Model Answer

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

Explanation

A is true — agriculture and industry move hand in hand (agro-industries depend on agriculture for raw materials and supply inputs like fertilisers back to farmers). R is also true — industrial development is a precondition for eradicating unemployment and poverty. However, R explains the importance of industrialisation in general, not *why* agriculture and industry are interdependent. Hence R is not the correct explanation of A. Option (b) is correct.

Q8. § IMPORTANCE OF MANUFACTURING

[5]

"Agriculture and Industry move hand in hand." Justify the statement.

Previously asked in: 2024 32/5/1 Q31(b)

♦ Manufacturing Industries

Interdependence of Agriculture and Industry

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Model Answer

Agriculture and industry are not exclusive of each other — they move hand in hand:

1. **Agro-industries depend on agriculture for raw materials** — cotton, sugarcane, jute, etc. are agricultural products used by textile and sugar industries.
1. **Industries support agriculture** — they supply irrigation pumps, fertilisers, insecticides, pesticides, plastic/PVC pipes, machines and tools to farmers, raising agricultural productivity.
1. **Manufacturing increases efficiency** — development and competitiveness of manufacturing has made agricultural production processes more efficient.
1. **Employment generation** — industries reduce heavy dependence on agricultural income by providing jobs in secondary and tertiary sectors.
1. **Mutual growth** — agro-based industries like cotton textiles provide livelihoods to farmers, boll pluckers, and workers in ginning, spinning, and weaving, linking both sectors directly.

Source: *Manufacturing Industries, Ch. 6 — Importance of Manufacturing & Agro-based Industries*

Explanation

- The key phrase "**not exclusive of each other**" from the textbook should ideally appear in your answer.
- Examiners look for **bidirectional linkage**: agriculture supplying raw materials TO industry, AND industry supplying inputs BACK to agriculture.
- List specific examples (fertilisers, pumps, cotton, sugarcane) — vague answers lose marks.
- Five clear points align well with 5 marks; aim for one point per mark.

Q9. § IMPORTANCE OF MANUFACTURING

[5]

"Manufacturing sector is considered the backbone of development of the country." Justify the statement.

Previously asked in: 2024 32/5/1 Q31(a)

♦ Manufacturing Industries

Importance of Manufacturing Industries as the Backbone of Development

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Model Answer

Manufacturing sector is considered the backbone of development due to the following reasons:

1. **Modernises agriculture:** Manufacturing industries modernise agriculture and reduce people's dependence on agricultural income by providing jobs in secondary and tertiary sectors.
1. **Reduces unemployment and poverty:** Industrial development is a precondition for eradicating unemployment and poverty. Public sector and joint sector industries also help reduce regional disparities.
1. **Earns foreign exchange:** Export of manufactured goods expands trade and commerce and brings in much-needed foreign exchange.
1. **Increases prosperity:** Countries that transform raw materials into finished goods of higher value are prosperous. India's prosperity lies in increasing and diversifying its manufacturing industries.
1. **Supports agriculture:** Agro-industries supply farmers with irrigation pumps, fertilisers, pesticides, machines, etc., making agricultural production more efficient.

The economic strength of a country is measured by the development of its manufacturing industries.

Source: *Importance of Manufacturing, Chapter 6*

Explanation

- The question asks you to **justify** a statement, so frame each point as a reason/argument — use the word "because" or present it as a cause-effect.
- Examiners expect **5 distinct points** for 5 marks — one point per mark is the safest strategy.
- All points must come from the textbook passage; avoid adding outside information.
- The concluding line directly echoes the textbook — always a good way to close a "justify" answer.

Q10. § IMPORTANCE OF MANUFACTURING**[5]**

Describe the role of manufacturing industries in the economic development of a country.

Previously asked in: 2024 32/4/1 Q31(a)

♦ Manufacturing Industries

Role of Manufacturing Industries in Economic Development

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Model Answer

Manufacturing industries play a vital role in the economic development of a country:

1. **Modernises agriculture:** Agro-industries supply farmers with irrigation pumps, fertilisers, pesticides, and machines, raising agricultural productivity and making production more efficient.
1. **Reduces unemployment and poverty:** Industrial development creates jobs in secondary and tertiary sectors, reducing people's dependence on agricultural income.
1. **Reduces regional disparities:** Establishing industries in tribal and backward areas helps bring balanced regional development.
1. **Earns foreign exchange:** Export of manufactured goods expands trade and commerce and brings in much-needed foreign exchange.
1. **Increases national prosperity:** Countries that transform raw materials into higher-value finished goods become prosperous. The economic strength of a country is measured by the development of its manufacturing industries.

Source: *Manufacturing Industries, Importance of Manufacturing — Chapter 6*

Explanation

- Examiners expect **5 distinct points** for a 5-mark answer — each point earns one mark.
- Use the exact language from the textbook where possible (e.g., "foreign exchange," "regional disparities," "backbone of development") — it signals to the examiner you know the source.
- Avoid vague statements like "manufacturing is important for growth" without specifics.
- The agriculture–industry linkage point is often missed but is explicitly in the chapter — include it.

Q11. § IMPORTANCE OF MANUFACTURING

[3]

"India's prosperity lies in expanding and diversifying its manufacturing industries." Justify the statement.

Previously asked in: 2024 32/2/1 Q26

♦ Manufacturing Industries

Importance of Manufacturing Industries for India's Prosperity

Role of Manufacturing in Economic Development

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Model Answer

Manufacturing industries are essential for India's prosperity for the following reasons:

1. **Modernises agriculture** and reduces dependence on agricultural income by providing jobs in secondary and tertiary sectors.
2. **Eradicates unemployment and poverty** through industrial development and reduces regional disparities by establishing industries in backward areas.
3. **Earns foreign exchange** through export of manufactured goods, expanding trade and commerce.
4. **Increases national wealth** — countries that transform raw materials into finished goods of higher value are prosperous.

Therefore, increasing and diversifying manufacturing industries as quickly as possible is vital for India's prosperity.

Source: Chapter 6 — Manufacturing Industries, Importance of Manufacturing

Explanation

Examiners look for **3 distinct, justified points** matching the source text. Each point should clearly link manufacturing to a benefit (economic/social/national). Avoid simply listing — briefly explain the link. The concluding line ties back to the question directly, which is good exam technique. Do not write beyond 4–5 points for a 3-mark answer.

Q12. § Classification of Industries § Mineral-based Industries

[2]

Classify industries on the basis of source of raw materials.

Previously asked in: 2022 32/4/1 Q3

♦ Manufacturing Industries

Classification of Industries on the Basis of Source of Raw Materials

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Model Answer

On the basis of source of raw materials, industries are classified into two types:

1. **Agro-based industries:** Use plant and animal-based products as raw materials. Examples: cotton, woollen, jute, silk textile, rubber, sugar, tea, coffee, edible oil industries.
1. **Mineral-based industries:** Use minerals and metals as raw materials. Examples: iron and steel, cement, aluminium, petrochemicals.

Source: Classification of Industries, Chapter 6

Explanation

- This is a standard 2-mark question; examiners expect two clearly named categories with a brief definition and at least one example each.
- Simply listing examples without naming/defining the category will lose marks.
- "Agro-based" and "Mineral-based" are the exact textbook terms — use them as headings.

Q13. § Classification of Industries § Mineral-based Industries

[2]

Classify industries on the basis of raw materials.

Previously asked in: 2022 32/2/1 Q4

♦ Manufacturing Industries

Classification of Industries on the Basis of Raw Materials

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Model Answer

On the basis of raw materials, industries are classified into two types:

1. **Agro-based industries:** Use plant and animal-based products as raw materials. Examples — cotton, woollen, jute, silk textiles, sugar, tea, coffee, edible oil.
1. **Mineral-based industries:** Use minerals and metals as raw materials. Examples — iron and steel, cement, aluminium, petrochemicals.

Source: Classification of Industries, Chapter 6

Explanation

- This is a standard 2-mark classification question. Give **two types with one-line definition + one or two examples each** — that's all needed.
- Examiners award 1 mark per type (name + brief description/example).
- Do not confuse this with classification by ownership or capital investment — the question specifically asks "on the basis of raw materials."

Q14. § ACTIVITY

[5]

Study the given flow chart and answer the question that follows :

Explain the added value product in the textile industry on the bases of above flowchart.

Previously asked in: 2025 32/5/1 Q31(a)

♦ Manufacturing Industries

Value Addition in Textile Industry

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Model Answer

The flowchart shows how value is added at each stage of the textile industry:

1. **Fibre Production → Raw Fibre:** The process begins with producing raw fibre (cotton, jute, silk, wool) from agricultural sources. This is the basic input with the least value.
1. **Spinning → Yarn:** Raw fibre is spun into yarn. Value is added as yarn is more useful and commands a higher price than raw fibre.
1. **Weaving/Knitting → Fabric:** Yarn is woven or knitted into fabric, adding further value through skilled labour and machinery.
1. **Dyeing and Finishing → Finished Fabric:** Fabric is dyed and finished, enhancing its appearance and quality, thus increasing its market value significantly.
1. **Garment Manufacturing → Garments:** Finally, fabric is stitched into garments — the highest value-added product in the chain.

The textile industry is unique as it is **self-reliant and complete in the value chain**, from raw material to the highest value-added products, contributing to industrial production, employment, and foreign exchange earnings.

Source: *Agro-based Industries, Chapter 6*

Explanation

- The examiner expects you to follow the flowchart **step by step**, naming the product at each stage and explaining how value increases.
- The key phrase from the textbook — "*self-reliant and complete in the value chain*" — must appear; examiners look for it.
- For 5 marks, aim for 5 clear points (one per stage) plus a concluding statement — exactly as written above.
- Do not write a general essay on the textile industry; keep it flowchart-specific.

Q15. § Agro-based Industries

[2]

Flowchart showing textile production stages: Fibre Production → Ginning → Spinning → Weaving → Dyeing and Finishing → Garments (Textile/Garment manufacturing)

Study the given flowchart and answer the questions that follow:

(5.1) Which is the basic material required for garment manufacturing? [1]

(5.2) Give one example of value addition in the textile industry. [1]

Previously asked in: 2022 32/1/1 Q5

♦ Manufacturing Industries

Textile and Garment Industry – Production Stages and Raw Materials

Value Addition in the Textile Industry

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Model Answer

(5.1) Fibre (raw fibre/cotton fibre) is the basic material required for garment manufacturing. It is the first stage in the textile production process from which all subsequent stages begin.

(5.2) Converting raw fibre into yarn through **spinning** is an example of value addition, as it increases the economic value of the material at each stage of production.

Explanation

- (5.1) The flowchart clearly starts with **Fibre Production** — that is the basic/raw material. Simply naming "fibre" or "raw fibre" is sufficient for 1 mark.
- (5.2) Value addition means each stage adds economic worth to the product. Any one valid example from the flowchart (ginning, spinning, weaving, dyeing) with a brief explanation earns the mark. Spinning is the clearest and most commonly cited example.

Q16. § Jute Textiles**[5]**

Explain the reasons why most of the Jute industries in India are located in West Bengal.

Previously asked in: 2026 32/2/1 Q16(a)

◆ Manufacturing Industries

Factors of Location of Jute Industries in West Bengal

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Model Answer**Reasons for concentration of Jute Industries in West Bengal (along the Hugli river):**

1. **Proximity to raw material:** West Bengal is close to the major jute-producing areas of the Ganga-Brahmaputra delta.
1. **Cheap water transport:** The Hugli river provides inexpensive water transport for movement of raw jute to the mills.
1. **Good transport network:** A well-developed network of railways, roadways and waterways supports movement of raw material.
1. **Abundant water supply:** Large quantities of water needed for processing raw jute are easily available from the Hugli river.
1. **Cheap labour:** Abundant cheap labour is available from West Bengal and adjoining states of Bihar, Odisha and Uttar Pradesh.
1. **Banking, insurance and port facilities:** Kolkata, as a large urban centre, provides banking, insurance and port facilities for export of jute goods.

Source: Jute Textiles, Chapter 6

Explanation

The examiner expects **5–6 distinct locational factors**, each as a labelled point with a brief explanation. Avoid writing in essay form. Every point here maps directly to the textbook passage on the Hugli basin — do not add outside information. The first jute mill at Rishra (1855) is a useful fact for context but is not a "reason," so it is omitted from the main points to stay within word limits.

Q17. § Agro-based Industries § Jute Textiles

[2]

Explain the major concerns of Jute Textile industry.

Previously asked in: 2022 32/3/1 Q2

♦ Manufacturing Industries

Jute Textile Industry – Major Concerns and Challenges

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Model Answer

The major concerns of the Jute Textile industry are:

- After Partition (1947), three-fourths of the jute-producing area went to Bangladesh, causing a shortage of raw material.
- The industry faces stiff competition from synthetic substitutes and other countries like Bangladesh in the export market.

Source: Jute Textiles, Chapter 6

Explanation

The question asks for **major concerns**, so focus on the two key problems mentioned in the textbook: the post-Partition loss of raw jute areas to Bangladesh, and competition in export markets. Examiners expect at least two distinct points for 2 marks. Avoid writing about locational factors — those are advantages, not concerns.

Q18. § Jute Textiles

[1]

Two statements are given below. They are Assertion (A) and Reason (R). Read both the statements and choose the correct option:

Assertion (A): Most of the jute industry in India is located in a narrow belt along the banks of Hugli river.

Reason (R): India is the second largest exporter of jute.

- A Both (A) and (R) are true and (R) is the correct explanation of (A).
- B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
- C (A) is true, but (R) is false.
- D (A) is false, but (R) is true.

Previously asked in: 2025 32/3/1 Q14

♦ Manufacturing Industries

Jute Industry - Location along Hugli River and Export Status

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Model Answer

Option B — Both (A) and (R) are true, but (R) is not the correct explanation of (A). The jute mills are located along the Hugli due to proximity of raw material, water transport, cheap labour, etc. — not because of export ranking.

Explanation

- **(A) is true:** The passage clearly states most mills are in a narrow belt along the Hugli river in West Bengal.
- **(R) is true:** India stands second in jute exports after Bangladesh (as per the passage).
- **(R) does NOT explain (A):** The location of mills along the Hugli is explained by factors like proximity to jute-growing areas, water transport, cheap labour, and port facilities at Kolkata — **not** by India's export rank.
- So the answer is **B**.

Q19. § Jute Textiles

[4]

Challenges faced by the Jute industry include stiff competition in the international market from synthetic substitutes and from other competitors like Bangladesh, Brazil, Philippines, Egypt and Thailand. However, the internal demand has been on the increase due to the Government policy of mandatory use of jute packaging. To stimulate demand, the products need to be diversified. In 2005, National Jute Policy was formulated with the objective of increasing productivity, improving quality, ensuring good prices to the jute farmers and enhancing the yield per hectare. The main markets are U.S.A., Canada, Russia, United Arab Republic, U.K. and Australia. The growing global concern for environment friendly, biodegradable materials, has once again opened the opportunity for jute products.

Read the given case and answer the questions that follow :

- (12.1) Mention any two challenges faced by 'jute industry' in India. [1]
- (12.2) What was the main objective of National Jute Policy formulated in 2005 ? [1]
- (12.3) How has jute industry once again opened the new opportunities for its products ? [2]

Previously asked in: 2022 32/4/1 Q12

♦ Manufacturing Industries

Agro-based and Mineral-based Industries

Jute Industry – Challenges and Opportunities

National Jute Policy 2005

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Model Answer

(12.1) Two challenges faced by the jute industry in India:

- Stiff competition in the international market from **synthetic substitutes**.
- Competition from other countries like Bangladesh, Brazil, Philippines, Egypt and Thailand.

(12.2) The main objective of National Jute Policy (2005) was to increase productivity, improve quality, ensure good prices to jute farmers, and enhance yield per hectare.

(12.3) The growing global concern for **environment friendly and biodegradable materials** has once again opened new opportunities for jute products. Since jute is a natural, biodegradable fibre, it is preferred over synthetic materials, giving the jute industry a chance to expand its market globally.

Source: Manufacturing Industries, Jute Textiles

Explanation

- (12.1) Name any two — one from synthetic competition, one from foreign competitors. Either is acceptable.
- (12.2) List all four objectives briefly; examiners may award 1 mark for any two correct points.
- (12.3) This is 2 marks — give the reason (eco-concern) AND the outcome (opportunity for jute as biodegradable material). Two distinct points needed. Lift key phrases like "environment friendly" and "biodegradable" directly from the passage.

Q20. § Iron and Steel Industry**[1]**

Who of the following set up the first Iron and Steel industry in India ?

- A J.R.D. Tata
- B Purushotam Das
- C R.G. Saraiya
- D Thakur Das

Previously asked in: 2023 32/1/1 Q3

♦ Manufacturing Industries Iron and Steel Industry in India

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Model Answer

The correct answer is **A — J.R.D. Tata**, who set up the first Iron and Steel industry in India at Jamshedpur (TISCO, 1907).

Source: Iron and Steel Industry, Chapter 6

Explanation

The passage does not explicitly name the founder, but this is a well-established NCERT fact: **Jamshedji Nusserwanji Tata** founded TISCO (Tata Iron and Steel Company) in 1907 at Jamshedpur. J.R.D. Tata is the answer given in the options representing the Tata family connection. In board exams, simply state the correct option with a brief supporting fact — no elaboration needed for 1 mark.

Q21. § Iron and Steel Industry**[5]**

Study the given flowchart and answer the question that follows :

Explain the steel manufacturing process on the bases of the above flowchart.

Previously asked in: 2025 32/5/1 Q31(b)

♦ Manufacturing Industries

Steel Manufacturing Process

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Model Answer**Steel Manufacturing Process (based on the flowchart):**

1. **Transport of Raw Materials to Plant:** Raw materials — iron ore, coking coal, and limestone (in the ratio 4:2:1) along with some manganese — are transported to the steel plant.
1. **Blast Furnace (Melting):** The raw materials are fed into a blast furnace where they are melted at very high temperatures to produce molten metal.
1. **Pig Iron:** The molten metal obtained from the blast furnace is called pig iron. It is crude iron with high carbon content.
1. **Steel Making:** Pig iron is then processed further — impurities are removed and carbon content is controlled — to convert it into steel.
1. **Shaping Metal:** Finally, the steel is shaped into desired forms such as rods, sheets, bars, or beams for use in various industries.

Source: *Iron and Steel Industry, Chapter 6*

Explanation

- The examiner wants you to **explain each stage of the flowchart** in sequence — 5 stages = 5 marks, so give one clear point per stage.
- Use the flowchart labels as **headings/points** and add brief explanatory detail from the chapter (raw material ratio, blast furnace, pig iron, etc.).
- Do **not** skip any step shown in the flowchart; each step carries marks.
- The ratio 4:2:1 (iron ore : coking coal : limestone) is a key fact the chapter mentions — include it to score full marks.

Q22. § Chemical Industries**[2]**

How is chemical industry in India diversified ? Explain.

Previously asked in: 2022 32/2/1 Q2

♦ Manufacturing Industries

Chemical Industry in India – Diversification and Types

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Model Answer

The chemical industry in India is diversified in the following ways:

1. It comprises both **large and small scale** manufacturing units.
2. It has recorded rapid growth in both **inorganic sectors** (sulphuric acid, nitric acid, soda ash, caustic soda) and **organic sectors** (petrochemicals, synthetic rubber, plastics, drugs and pharmaceuticals).
3. It serves as its **own largest consumer**, with basic chemicals further processed for industrial, agricultural, and consumer uses.

Source: Chemical Industries, Chapter 6

Explanation

The examiner expects two clear points: (i) scale diversity (large + small units) and (ii) product diversity (inorganic + organic chemicals). Naming 1–2 examples from each sector strengthens the answer. The third point about being its own consumer is a bonus but keeps the answer within word limits for 2 marks.

Q23. § Chemical Industries**[3]**

'Petroleum refinery is the 'nodal industry' for the synthetic textile, fertiliser and numerous chemical industries.' Explain the statement with suitable arguments.

Previously asked in: 2025 32/1/1 Q27

♦ Manufacturing Industries

Petroleum Refinery as a Nodal Industry

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Model Answer

Petroleum refinery is called a 'nodal industry' because it acts as a central hub supplying raw materials to several other industries:

1. **Petrochemicals** produced by oil refineries are the key raw materials for manufacturing **synthetic fibres** (polyester, nylon) and **synthetic rubber**.
2. Petrochemicals also supply inputs for the **fertiliser industry**, supporting agricultural production.
3. They further provide raw materials for **plastics, dye-stuffs, drugs and pharmaceuticals**, making refineries central to numerous chemical industries.

Thus, without petroleum refining, these dependent industries cannot function, justifying the term 'nodal industry.'

Source: *Chemical Industries, Chapter 6*

Explanation

- The examiner expects you to name at least 3 industries linked to petroleum refining with brief justification each.
- Key phrase to use: "petrochemicals as raw materials."
- The word **nodal** means a central connecting point — make sure your answer conveys this idea of petroleum refinery being the *source* for multiple industries.
- Avoid listing too many points without explanation; 3 well-explained points score full marks here.

Q24. § Information Technology and Electronics Industry**[3]**

How has Information Technology affected Electronic Industry ? Explain.

Previously asked in: 2023 32/1/1 Q26

♦ Manufacturing Industries

Impact of Information Technology on Electronic Industry

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Model Answer

Information Technology has greatly influenced the electronics industry in India:

1. **Wide Range of Products:** The electronics industry now covers transistor sets, televisions, telephones, cellular telecom, telephone exchanges, radars, and computers.
2. **Growth of IT Hubs:** Bengaluru has emerged as the electronic capital of India. Other major centres include Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow, and Coimbatore.
3. **Employment Generation:** A major impact of the IT-electronics industry has been significant employment generation.
4. **Hardware and Software Growth:** The continuing growth in both hardware and software sectors is the key to the success of the IT industry in India.

Source: Information Technology and Electronics Industry, Chapter 6

Explanation

- Examiners expect **4 distinct points** for a 3-mark answer — aim for 3–4 crisp points.
- Always mention **Bengaluru as the electronic capital** — this is a direct textbook fact likely to fetch a mark.
- The key phrase "**employment generation**" and "**hardware and software growth**" must be included as they appear directly in the source passage.
- Avoid writing a long paragraph; use short points for clarity and easy marking.

Q25. § IMPORTANCE OF MANUFACTURING § Information Technology and Electronics Industry**[3]**

"The development process of India has experienced transformation due to the significant influence of Information Technology (I.T.) and Electronic Industry." Explain the statement with examples.

Previously asked in: 2024 32/3/1 Q26

♦ Manufacturing Industries

Information Technology and Electronic Industry in India

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Model Answer

The IT and Electronics Industry has significantly transformed India's development process:

- The electronics industry covers a wide range of products — from transistor sets, televisions, telephones, and cellular telecom equipment to computers and radars — boosting industrial growth.
- It has generated large-scale **employment** in both hardware and software sectors.
- **Bengaluru** has emerged as the electronic capital of India; other major centres include Mumbai, Delhi, Hyderabad, Pune, and Chennai.
- The continuing growth of hardware and software is the key to IT industry's success, expanding trade and bringing in foreign exchange.

Source: Information Technology and Electronics Industry, Chapter 6

Explanation

- Examiners look for: (1) examples of products, (2) employment generation, (3) at least 2–3 major centres by name, and (4) linking IT/electronics to development/transformation.
- Avoid writing a vague general answer — specific product names and city names earn marks.
- At 3 marks, 3 distinct points with brief elaboration is ideal. Don't over-write.

Q26. § Industrial Pollution and Environmental Degradation**[3]**

Explain any three factors responsible for air pollution.

Previously asked in: 2025 32/6/1 Q28(b)

♦ Manufacturing Industries

Air Pollution: Causes and Factors

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Model Answer

Three factors responsible for air pollution are:

1. **Industrial emissions:** Smoke emitted by chemical factories, brick kilns, refineries, and smelting plants releases harmful gases like sulphur dioxide and carbon monoxide into the atmosphere.
1. **Burning of fossil fuels:** Big and small factories that burn fossil fuels and ignore pollution norms release airborne particulate matter — dust, mist, and smoke — causing air pollution.
1. **Toxic gas leaks:** Accidental leakage of toxic gases from industries (e.g., Bhopal Gas Tragedy) can be extremely hazardous, causing long-term damage to human health and the environment.

Source: *Industrial Pollution and Environmental Degradation, Chapter 6*

Explanation

- This is a 3-mark question, so name and briefly explain **three distinct factors** — one point per mark.
- The examiner expects factors drawn from the textbook: industrial smoke, fossil fuel burning, and toxic gas leaks are the clearest examples given.
- Avoid listing water or noise pollution factors here — stay focused on **air** pollution only.
- Mentioning the Bhopal Gas Tragedy as an example adds accuracy and shows textbook knowledge.

Q27. § Industrial Pollution and Environmental Degradation § Control of Environmental Degradation

[5]

Explain the measures taken by 'National Thermal Power Corporation' to prevent environmental degradation.

Previously asked in: 2025 32/2/1 Q31(b)

♦ Manufacturing Industries

National Thermal Power Corporation (NTPC) – Environmental Measures

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Model Answer

Measures taken by NTPC to prevent environmental degradation:

NTPC (National Thermal Power Corporation) holds **ISO 14001 certification** for Environment Management System (EMS). It takes the following measures:

1. **Optimum utilisation of equipment** by adopting latest techniques and upgrading existing equipment to improve efficiency.
1. **Minimising waste generation** by maximising ash utilisation, thereby reducing solid waste disposal problems.
1. **Providing green belts** around power plants to nurture ecological balance and using special purpose vehicles for afforestation.
1. **Reducing environmental pollution** through ash pond management, ash water recycling system and proper liquid waste management.
1. **Ecological monitoring** through reviews and on-line database management for all its power stations to continuously track environmental impact.

Source: *Manufacturing Industries, Control of Environmental Degradation — Chapter 6*

Explanation

- This question is directly from the "**NTPC shows the way**" box in Chapter 6. Examiners expect students to list all **five points (a)–(e)** from the textbook.
- Begin with the ISO 14001 certification line — it sets context and shows you've read carefully.
- Each point should be a short, crisp sentence. Avoid merging points; the examiner checks for all five.
- The word "proactive approach" from the textbook is good to include for precision.

Q28. § Industrial Pollution and Environmental Degradation**[5]**

Explain the role of industries in increasing air pollution and suggest measures to control it. (2+3=5)

Previously asked in: 2025 32/2/1 Q31(a)

♦ Manufacturing Industries

Industrial Air Pollution and Control Measures

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Model Answer**Role of Industries in Increasing Air Pollution:**

Industries cause air pollution by releasing high proportions of undesirable gases such as sulphur dioxide and carbon monoxide. Smoke emitted by chemical and paper factories, brick kilns, refineries, and smelting plants, along with burning of fossil fuels in factories, adds airborne particulate matter — dust, mist, sprays, and smoke — to the atmosphere. Toxic gas leaks (e.g., Bhopal Gas Tragedy) can be extremely hazardous. Air pollution adversely affects human health, animals, plants, buildings, and the atmosphere as a whole.

Measures to Control Air Pollution:

1. Fitting smoke stacks with **electrostatic precipitators**, fabric filters, scrubbers, and inertial separators to reduce particulate matter.
2. Using **oil or gas instead of coal** in factories to reduce smoke.
3. Industries should strictly follow pollution norms and not burn fossil fuels carelessly.
4. Redesigning machinery to increase energy efficiency and reduce emissions.
5. Promoting sustainable development by integrating economic growth with environmental concerns.

Source: Manufacturing Industries, Chapter 6 — Industrial Pollution and Environmental Degradation; Control of Environmental Degradation

Explanation

- The question is split **2 marks (causes) + 3 marks (measures)**, so write ~2 points on causes and ~4–5 points on measures.
- Examiners look for specific gases (SO₂, CO), specific industries (brick kilns, refineries), and specific control measures (electrostatic precipitators, fuel substitution) — vague answers lose marks.
- Mention the **Bhopal Gas Tragedy** as an example; it signals you've read the chapter.
- For measures, the textbook focuses on precipitators, scrubbers, and fuel change — these exact terms score marks.

Q29. § Control of Environmental Degradation**[5]**

Explain the measures to reduce industrial pollution.

Previously asked in: 2026 32/2/1 Q16(b)

♦ Manufacturing Industries

Measures to Reduce Industrial Pollution

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Model Answer**Measures to Reduce Industrial Pollution:****1. Water Pollution Control:**

- Minimise use of water in processing by reusing and recycling it in successive stages.
- Harvest rainwater to meet water requirements.
- Treat hot water and effluents before releasing them into rivers and ponds through three stages:
- *Primary* – mechanical means (screening, grinding, flocculation, sedimentation)
- *Secondary* – biological process
- *Tertiary* – biological, chemical and physical processes including recycling of wastewater.

1. Air Pollution Control:

- Fit smoke stacks with electrostatic precipitators, fabric filters, scrubbers and inertial separators to reduce particulate matter.
- Use oil or gas instead of coal to reduce smoke.

1. Noise Pollution Control:

- Fit generators with silencers; use noise-absorbing materials and earplugs.
- Redesign machinery to reduce noise.

1. Groundwater Protection:

- Overdrawing of groundwater by industries must be legally regulated.

Source: *Control of Environmental Degradation, Chapter 6*

Explanation

- Examiners expect **categorised points** (water, air, noise, groundwater) since the question is 5 marks — roughly 5 distinct measures.
- The **three-phase treatment** (primary, secondary, tertiary) is a frequently asked detail; always name all three with a brief description.
- Avoid writing about causes of pollution — the question asks only for **measures/steps to reduce** it.
- NTPC example can be added as a case study if you have space, but the core points above are sufficient for full marks.

Q30. § Control of Environmental Degradation**[5]**

Explain any five ways to reduce industrial pollution.

Previously asked in: 2023 32/5/1 Q31(b)

♦ Manufacturing Industries

Control and Reduction of Industrial Pollution

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Model Answer**Five ways to reduce industrial pollution:**

1. **Minimise and recycle water:** Industries should reuse and recycle water in successive stages of processing to reduce freshwater wastage.
1. **Treat effluents before discharge:** Hot water and industrial effluents must be treated through primary (mechanical), secondary (biological), and tertiary (chemical/physical) processes before releasing into rivers.
1. **Harvest rainwater:** Industries should harvest rainwater to meet their water requirements, reducing ground water overdrawing.
1. **Control air pollution:** Smoke stacks should be fitted with electrostatic precipitators, fabric filters, and scrubbers. Oil or gas should be used instead of coal to reduce smoke.
1. **Reduce noise pollution:** Generators and machinery should be fitted with silencers; noise-absorbing materials should be used; workers should use earplugs.

Source: Chapter 6 — Control of Environmental Degradation

Explanation

- The question asks for **five** ways — give exactly five, each as a separate point.
- Examiners expect specific technical terms: *electrostatic precipitators, flocculation, sedimentation, tertiary treatment* etc. — these earn marks.
- Each point should have a heading + one explanatory line (matching ~20 words per mark).
- Don't just list vague ideas like "stop pollution" — link each measure to a specific type of pollution (water/air/noise).

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