CBSE CLASS X

Social Science (087)

QUESTION PAPER

AI-generated question paper

Code: UCFFS4 **Questions: 42** **Maximum Marks: 114** **Generated: 2026-06-26 09:56**

SELECTIONS USED

Subject	Social Science
Lessons	1 Resources and Development
Level of understanding	Thorough understanding
Question selection	Curated chapter coverage (~5 questions per section + 8 synthesis)
Model	claude-sonnet-4-6

Composition — Difficulty: 1 straightforward · 25 medium · 16 deep | Types: 31 Short · 5 MCQ · 4 Long · 2 Very short

Q1. medium · thorough-understanding · § Introduction **[3]**

A country discovers vast oil reserves but lacks the technology to extract them and has no institutions to manage their use. Can these oil reserves be called 'resources'? Justify your answer.

◆ **Resources and Development**

Q2. deep · thorough-understanding · § Introduction **[3]**

Resources can be classified on the basis of origin (biotic/abiotic) as well as on the basis of exhaustibility (renewable/non-renewable). Give one example each of: (a) a biotic non-renewable resource, and (b) an abiotic renewable resource. What does the existence of these combinations tell us about these two methods of classifying resources?

◆ **Resources and Development**

Q3. medium · thorough-understanding · § DEVELOPMENT OF RESOURCES **[3]**

Indiscriminate exploitation of resources by a few individuals and countries has led to a society divided into 'haves' and 'have nots.' Why does this unequal accumulation of resources threaten global peace, and what solution does the chapter propose to address this?

◆ **Resources and Development**

Q4. medium · thorough-understanding · § DEVELOPMENT OF RESOURCES **[2]**

Sustainable development requires action at multiple levels of governance. Why is local-level action considered indispensable for achieving global sustainable development goals, and how does it complement efforts made at the national and international levels?

◆ **Resources and Development**

Q5. medium | thorough-understanding | § DEVELOPMENT OF RESOURCES **[1]**

Which of the following best explains why resources are considered 'a function of human activities' rather than mere 'free gifts of nature'?

(A) Resources exist in nature independently of human needs or knowledge

(B) Their value and utility are determined by technology, institutions, and human perception

(C) All natural substances automatically qualify as resources

(D) Resources are created entirely by industrial processes without any natural base

A Resources exist only in countries that have advanced economies.

B A material becomes a resource only when human beings apply technology and institutional frameworks to make it accessible and usable.

C Natural materials are unlimited and therefore do not need human effort to be useful.

D Resources are created by governments through planning policies alone.

◆ **Resources and Development**

Q6. medium | thorough-understanding | § RESOURCE PLANNING **[1]**

Which of the following best explains why a region rich in natural resources may still remain economically backward?

A The region lacks any form of land suitable for agriculture

B Resources alone cannot drive development without matching technological advancement and institutional support

C Resource-rich regions are always targeted by foreign investors, slowing local growth

D Planning is only required for regions that are resource-poor

◆ **Resources and Development**

Q7. medium | thorough-understanding | § RESOURCE PLANNING **[3]**

Rajasthan is rich in solar and wind energy yet faces an acute water shortage, while states like Goa have abundant water but limited energy resources. How does this regional imbalance justify the need for resource planning at the national level?

◆ **Resources and Development**

Q8. deep | thorough-understanding | § RESOURCE PLANNING **[3]**

Arunachal Pradesh has abundant water resources but lags in development, while some states with a poor resource base are economically advanced. What does this contrast reveal about the true drivers of regional economic development?

◆ **Resources and Development**

Q9. medium | thorough-understanding | § RESOURCE PLANNING **[2]**

Resource planning involves more than just identifying and making an inventory of resources. Explain what additional steps are essential and why, for resource planning to translate into actual development.

◆ **Resources and Development**

Q10. medium | thorough-understanding | § RESOURCE PLANNING **[3]**

Why is resource planning considered especially critical for a country like India, given its vast internal regional diversity in resource distribution?

◆ **Resources and Development**

Q11. deep | thorough-understanding | § RESOURCE PLANNING **[5]**

Explain why resource planning is described as a 'complex process'. In your answer, discuss how the three stages of resource planning are interconnected and why all three must work together for development to succeed.

◆ **Resources and Development**

Q12. medium | thorough-understanding | § LAND RESOURCES **[3]**

Mountains cover about 30% of India's total surface area and are generally unsuitable for agriculture, yet they are regarded as invaluable to India's development. Justify this by explaining the economic and ecological significance of mountainous regions for the country.

◆ **Resources and Development**

Q13. deep | thorough-understanding | § LAND RESOURCES **[3]**

India's forest cover remains far below the 33% of total geographical area recommended in the National Forest Policy (1952), yet the net sown area has also not increased significantly since 1960–61. If forests haven't grown and farmland hasn't grown much either, what does this suggest about where land has actually been shifting, and what are the likely consequences of this trend?

◆ **Resources and Development**

Q14. medium | thorough-understanding | § LAND UTILISATION **[3]**

The net sown area (NSA) in Punjab and Haryana exceeds 80% of their total area, while in Arunachal Pradesh it is less than 10%. Using your understanding of the physical and human factors that determine land use, explain why such a stark contrast exists between these regions.

◆ **Resources and Development**

Q15. deep | thorough-understanding | § LAND UTILISATION **[3]**

India's forest cover has consistently remained well below the 33% target set by the National Forest Policy, 1952, while land under non-agricultural uses such as settlements, roads, and industries has steadily increased over the same period. Analyse these two trends together and discuss what they reveal about India's approach to land use. What are the long-term consequences of this pattern for ecological balance and sustainable development?

◆ **Resources and Development**

Q16. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

The net sown area (NSA) in Punjab and Haryana exceeds 80% of their total area, while in states like Arunachal Pradesh and Manipur it is below 10%. What combination of physical and human factors best explains this sharp contrast?

◆ **Resources and Development**

Q17. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[1]**

[short_answer] India's actual forest cover remains far below one-third of its total geographical area — a long-standing national goal. Suggest two major reasons why India has struggled to achieve this target despite decades of conservation planning.

A The National Forest Policy was never formally adopted by the Indian government.
B Competing demands for land — such as settlements, roads, industries and agriculture — have continuously encroached on forest land.
C Forest soils are infertile and do not support any economically useful vegetation.
D India lacks the technology required to carry out afforestation on a large scale.

◆ **Resources and Development**

Q18. deep | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

Land put to non-agricultural uses has been steadily rising in India. Explain why this trend, if unchecked, poses a threat to the country's food security.

◆ **Resources and Development**

Q19. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[2]**

[short_answer] India's net sown area figures do not include culturable waste land. Using this fact, assess whether India is utilising its full agricultural potential and suggest one reason why culturable waste land remains uncultivated.

◆ Resources and Development

Q20. deep | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

The shrinking of permanent pasture and grazing land in India has continued even as the cattle population remains large. Analyse the consequences of this mismatch for both land quality and livelihoods.

◆ Resources and Development

Q21. deep | thorough-understanding | § LAND DEGRADATION AND CONSERVATION MEASURES **[3]**

In Punjab and Haryana, over-irrigation leads to land degradation through waterlogging, while in Jharkhand and Odisha, mining is the chief culprit. Although the human activities differ, explain the common underlying reason why both situations result in land that is difficult or impossible to cultivate.

◆ Resources and Development

Q22. medium | thorough-understanding | § LAND DEGRADATION AND CONSERVATION MEASURES **[3]**

Arid and semi-arid regions of India are particularly vulnerable to a specific form of land degradation driven by wind. (a) Name this process. (b) Describe any three measures recommended to check this process, explaining briefly how each one works.

◆ Resources and Development

Q23. deep | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Soil is described as a 'living system' that takes millions of years to form even a few centimetres of depth. What does calling it a 'living system' imply about how we should treat soil as a resource?

◆ Resources and Development

Q24. medium | thorough-understanding | § SOIL AS A RESOURCE **[1]**

[mcq] Black soil develops deep cracks in summer due to its high clay content. Which of the following correctly explains why this property is considered agriculturally beneficial?
(A) The cracks allow rainwater to percolate quickly, preventing waterlogging
(B) The cracks aerate the soil and allow the soil to self-plough, mixing the lower and upper layers
(C) The cracks reduce salinity by allowing salts to escape through the surface
(D) The cracks increase the humus content by exposing the lower layers to sunlight

A The cracks form because the soil lacks clay; they help drain excess water quickly.
B The cracks form because the fine clayey soil shrinks on drying; they allow air to circulate and aerate the soil.
C The cracks form because the soil is sandy; they help roots penetrate deeper.
D The cracks form due to high phosphoric content; they increase the alkalinity of the soil.

◆ Resources and Development

Q25. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Alluvial soils are further classified as Bangar and Khadar on the basis of their age. Distinguish between the two, and explain which of the two is considered more fertile and why.

◆ Resources and Development

Q26. medium | thorough-understanding | § SOIL AS A RESOURCE **[1]**

Laterite soil is formed under tropical conditions with alternate wet and dry seasons. What specific process during the wet season is primarily responsible for making this soil generally poor in plant nutrients?

◆ **Resources and Development**

Q27. deep | thorough-understanding | § SOIL AS A RESOURCE **[2]**

Despite being generally acidic and deficient in nutrients, laterite soils in Karnataka, Kerala and Tamil Nadu are successfully used for tea and coffee cultivation. What does this tell us about the relationship between soil quality and agricultural productivity?

◆ **Resources and Development**

Q28. straightforward | thorough-understanding | § SOIL AS A RESOURCE **[1]**

[very_short_answer] In the Chambal basin, running water cuts through clayey soils and forms deep channels, rendering large stretches of land unfit for cultivation. What is this type of eroded, uncultivable land commonly referred to as, and what is the process of erosion responsible for it called?

◆ **Resources and Development**

Q29. deep | thorough-understanding | § SOIL AS A RESOURCE **[3]**

A farmer in western Rajasthan notices that water does not seep into the lower layers of the arid soil easily, even after irrigation. Using your understanding of arid soil formation, explain the reason for this and suggest what has been done to overcome the resulting limitation.

◆ **Resources and Development**

Q30. medium | thorough-understanding | § SOIL AS A RESOURCE **[5]**

Soil erosion and soil formation are described as simultaneous processes that are normally in balance. Identify any THREE human activities that disturb this balance and accelerate erosion, and for each, briefly explain the mechanism by which it causes erosion.

◆ **Resources and Development**

Q31. medium | thorough-understanding | § SOIL AS A RESOURCE **[2]**

[very_short_answer] Red soils appear red in colour but turn yellow when found in hydrated form. Name the mineral responsible for this colour difference and identify the type of rock on which red soils typically develop.

◆ **Resources and Development**

Q32. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Contour ploughing, terrace cultivation, strip cropping and shelter belts are all methods of soil conservation. Explain how ANY TWO of these methods work, making clear the physical process each one interrupts or slows down.

◆ **Resources and Development**

Q33. deep | thorough-understanding | § SOIL AS A RESOURCE **[2]**

Black soil is described as sticky when wet and difficult to work on. Farmers are advised to till it immediately after the first shower or during the pre-monsoon period. Using the properties of black soil, justify this farming practice.

◆ **Resources and Development**

Q34. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

[short_answer] Forest soils are found across varied mountain environments. Compare the characteristics — in terms of texture, humus content and fertility — of forest soils found on the upper slopes of mountains with those found on valley sides and river terraces, and account for the differences.

◆ Resources and Development

Q35. deep | thorough-understanding | § SOIL AS A RESOURCE **[5]**

Alluvial soils cover the entire northern plains and parts of the eastern coastal deltas and are intensively cultivated. Using the properties of alluvial soil and the chapter's broader argument about resources, explain why high resource availability alone does not guarantee economic development across all alluvial regions.

◆ Resources and Development

Q36. deep | thorough-understanding | § (whole-chapter synthesis) **[3]**

Rajasthan is rich in solar and wind energy but lacks water resources, yet it remains economically underdeveloped. Arunachal Pradesh has abundant water resources but also lags behind economically. What common factor — beyond resource availability — does this pattern highlight as essential for development, and how does India's resource planning process attempt to address it?

◆ Resources and Development

Q37. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

[short_answer] Gandhiji said, 'There is enough for everybody's need and not for anybody's greed.' Using this idea as a lens, explain how unchecked human greed drives both resource depletion at the national level and specific causes of land degradation in India.

◆ Resources and Development

Q38. deep | thorough-understanding | § (whole-chapter synthesis) **[3]**

Both arid soils and laterite soils are affected by climatic extremes, yet the nature of their degradation and the reason they lack humus are different. Compare these two soils on the basis of: (i) the climatic condition responsible for humus deficiency, (ii) the specific process that degrades or limits each soil's fertility, and (iii) one crop for which each can be made productive.

◆ Resources and Development

Q39. medium | thorough-understanding | § (whole-chapter synthesis) **[1]**

[mcq] Jharkhand and Chhattisgarh are rich in minerals and coal, yet they record some of the highest rates of land degradation in India. Which one of the following best explains this paradox?
(A) These states receive very low rainfall, causing arid soil conditions.
(B) Mining activities leave behind abandoned pits, debris, and toxic effluents that permanently damage land.
(C) Over-irrigation in these states leads to waterlogging and soil salinity.
(D) Intensive shifting cultivation strips the topsoil of all nutrients.

A Mining activities leave deep scars, cause deforestation and generate dust that retards water infiltration into the soil.
B These regions receive very high rainfall that causes intense leaching of the topsoil.
C Over-irrigation in these states leads to waterlogging and increase in soil salinity.
D The soils in these regions are laterite, which are inherently prone to erosion.

◆ Resources and Development

Q40. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

The chapter argues that 'resources are not free gifts of nature' and that human beings are essential components of resources. Using the example of any ONE soil type and ONE method of soil conservation, explain how human intervention can both degrade a resource and restore its utility.

◆ **Resources and Development**

Q41. deep | thorough-understanding | § (whole-chapter synthesis) **[5]**

Sustainable development requires that present development does not compromise the needs of future generations. Analyse how THREE of the following — over-irrigation, mining without reclamation, deforestation, and ploughing up-and-down slopes — each violate this principle by creating a specific, lasting form of land or soil damage.

◆ **Resources and Development**

Q42. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

Sheet erosion and gully erosion both result from running water, yet they damage agricultural land in fundamentally different ways. Explain the mechanism of each, identify the type of land they produce, and state one farming practice that can reduce water-induced soil erosion in general.

◆ **Resources and Development**

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CBSE CLASS X

Social Science (087)

ANSWER KEY

AI-generated question paper

Code: UCFFS4	Questions: 42	Maximum Marks: 114	Generated: 2026-06-26 09:56

Q1. medium · thorough-understanding · § Introduction **[3]**

A country discovers vast oil reserves but lacks the technology to extract them and has no institutions to manage their use. Can these oil reserves be called 'resources'? Justify your answer.

◆ Resources and Development

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Model Answer

No, the oil reserves **cannot** be called 'resources' yet.

According to the textbook, "everything available in our environment which can be used to satisfy our needs, **provided it is technologically accessible, economically feasible and culturally acceptable** can be termed as a Resource."

In this case, the country lacks **technology** to extract the oil and has no **institutions** to manage its use. Both conditions are absent. Such reserves fall under the category of **potential resources** — present in a region but not yet in use. Mere availability does not make something a resource; appropriate technology and institutional support are equally essential.

Source: Chapter 1 — Resources and Development, Introduction

Explanation

- Examiners expect you to **quote or closely paraphrase the textbook definition** of a resource (technological accessibility + economic feasibility + cultural acceptability).
- Then **apply** the definition: technology and institutions are missing → not a resource.
- Bonus marks come from using the correct term **"potential resource"** for discovered but unused reserves.
- Do NOT write a long essay — three focused points (definition, application, conclusion/category) are enough for 3 marks.

Q2. deep | thorough-understanding | § Introduction **[3]**

Resources can be classified on the basis of origin (biotic/abiotic) as well as on the basis of exhaustibility (renewable/non-renewable). Give one example each of: (a) a biotic non-renewable resource, and (b) an abiotic renewable resource. What does the existence of these combinations tell us about these two methods of classifying resources?

◆ Resources and Development

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Model Answer

(a) Biotic non-renewable resource: Coal (formed from ancient plant and animal matter over millions of years, hence biotic in origin, but cannot be replenished in a human timescale, making it non-renewable).

(b) Abiotic non-renewable resource — correction: An **abiotic renewable** resource is **solar energy** or **wind energy** (non-living/abiotic in origin, yet inexhaustible/renewable).

The existence of these combinations shows that the two classification systems — origin and exhaustibility — are **independent** of each other. Being biotic does not automatically make a resource renewable, nor does being abiotic make it non-renewable. A resource must be evaluated separately on both criteria for complete understanding.

Source: Chapter 1 – Resources and Development, Classification of Resources

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Explanation

- Examiners expect one correct example for each part with a brief justification — don't just name the resource.
- The key insight for the third part: the two classification bases are **mutually independent**, meaning all four combinations (biotic-renewable, biotic-non-renewable, abiotic-renewable, abiotic-non-renewable) are possible. This is the conceptual point that earns the third mark.
- Common mistake: students assume abiotic = non-renewable (e.g., minerals), forgetting that air, water, and solar energy are also abiotic but renewable.

Q3. medium | thorough-understanding | § DEVELOPMENT OF RESOURCES **[3]**

Indiscriminate exploitation of resources by a few individuals and countries has led to a society divided into 'haves' and 'have nots.' Why does this unequal accumulation of resources threaten global peace, and what solution does the chapter propose to address this?

◆ Resources and Development

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Model Answer

Indiscriminate exploitation of resources by a few individuals and countries leads to **accumulation of resources in few hands**, dividing society into 'haves' and 'have nots.' This unequal distribution threatens global peace because it creates extreme inequality, poverty, and conflict over limited resources. If this trend continues, the future of our planet is in danger.

The chapter proposes **equitable distribution of resources** and advocates **Sustainable Development** — development that meets present needs without compromising the needs of future generations — as the solution. Resource planning is essential to ensure sustainable existence for all forms of life.

Source: Resources and Development, Chapter 1 — Development of Resources / Conservation of Resources

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Explanation

- The examiner wants three clear points: (1) how exploitation creates haves/have-nots, (2) why this threatens peace (inequality/conflict), and (3) the solution (equitable distribution + sustainable development).
- Quote Gandhiji's line if space allows: *"There is enough for everybody's need and not for anybody's greed"* — it adds value.
- Key terms to use: *indiscriminate exploitation, equitable distribution, sustainable development, resource planning*. These fetch marks directly.
- Don't just define sustainable development — link it explicitly as the **proposed solution**.

Q4. medium | thorough-understanding | § DEVELOPMENT OF RESOURCES **[2]**

Sustainable development requires action at multiple levels of governance. Why is local-level action considered indispensable for achieving global sustainable development goals, and how does it complement efforts made at the national and international levels?

◆ **Resources and Development**

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Model Answer

Local-level action is indispensable because Agenda 21 specifically states that **every local government should draw its own local Agenda 21**. While international efforts (like the Rio Earth Summit) set global goals and national plans allocate resources, local action ensures ground-level implementation — addressing community-specific environmental and developmental needs — making global goals practically achievable.

Source: Resources and Development, Chapter 1 (Agenda 21)

Explanation

- The key phrase examiners expect is **"every local government should draw its own local Agenda 21"** — quote or closely paraphrase this.
- Connect the three levels: international (sets agenda) → national (plans) → local (implements). This shows complementarity.
- Avoid padding; 2 marks = 2 clear points roughly.

Q5. medium | thorough-understanding | § DEVELOPMENT OF RESOURCES **[1]**

Which of the following best explains why resources are considered 'a function of human activities' rather than mere 'free gifts of nature'?

(A) Resources exist in nature independently of human needs or knowledge

(B) Their value and utility are determined by technology, institutions, and human perception

(C) All natural substances automatically qualify as resources

(D) Resources are created entirely by industrial processes without any natural base

A Resources exist only in countries that have advanced economies.

B A material becomes a resource only when human beings apply technology and institutional frameworks to make it accessible and usable.

C Natural materials are unlimited and therefore do not need human effort to be useful.

D Resources are created by governments through planning policies alone.

◆ Resources and Development

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Model Answer

Answer: B

A material becomes a resource only when human beings apply technology and institutional frameworks to make it accessible and usable.

Source: Resources and Development, Chapter 1 — Introduction

Explanation

The textbook explicitly states: "Resources are a function of human activities" and that transformation of materials involves an "interactive relationship between nature, technology and institutions." Option B directly reflects this. Options A, C, and D are factually incorrect — resources are not unlimited, not created by governments alone, and nature provides the base material. The key CBSE concept here is the **three conditions**: technologically accessible, economically feasible, and culturally acceptable.

Q6. medium | thorough-understanding | § RESOURCE PLANNING **[1]**

Which of the following best explains why a region rich in natural resources may still remain economically backward?

A The region lacks any form of land suitable for agriculture
B Resources alone cannot drive development without matching technological advancement and institutional support
C Resource-rich regions are always targeted by foreign investors, slowing local growth
D Planning is only required for regions that are resource-poor

◆ Resources and Development

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Model Answer

Answer: B

Resources alone cannot drive development; without matching technological advancement and institutional support, even resource-rich regions may remain economically backward.

Source: Resources and Development, Resource Planning in India

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Explanation

The textbook explicitly states: *"mere availability of resources in the absence of corresponding changes in technology and institutions may hinder development"* and gives examples like Jharkhand (mineral-rich but backward) and Arunachal Pradesh (water-rich but lacking infrastructure). Option B directly reflects this. Options A, C, and D are either factually incorrect or not supported by the chapter.

Q7. medium | thorough-understanding | § RESOURCE PLANNING **[3]**

Rajasthan is rich in solar and wind energy yet faces an acute water shortage, while states like Goa have abundant water but limited energy resources. How does this regional imbalance justify the need for resource planning at the national level?

◆ **Resources and Development**

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Model Answer

India's diverse geography creates regional imbalances in resource availability, making national-level resource planning essential. Rajasthan is well endowed with solar and wind energy but faces acute water shortage, while states like Goa have abundant water but lack sufficient energy resources. Such imbalance means no region can be fully self-sufficient.

National-level planning helps in:

- **Identification and inventory** of resources across all regions
- **Equitable distribution** to balance surplus and deficit areas
- **Matching resource development plans** with overall national development plans

Without national planning, resource-rich regions may remain underdeveloped while resource-deficient regions stagnate. Hence, balanced planning at national, state, regional and local levels is necessary for judicious and equitable resource use.

Source: Resources and Development, Chapter 1 — Resource Planning in India

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Explanation

- The examiner expects you to **link the example directly** (Rajasthan's solar/wind energy vs. water shortage) to the concept of regional imbalance.
- Mention the **three steps of resource planning** briefly — they often fetch marks individually.
- Use the phrase **"balanced resource planning at national, state, regional and local levels"** — it is directly from the textbook and signals you know the source material.
- Avoid writing a long essay; 3 marks = ~3 clear points with one supporting example.

Q8. deep thorough-understanding § RESOURCE PLANNING **[3]**

Arunachal Pradesh has abundant water resources but lags in development, while some states with a poor resource base are economically advanced. What does this contrast reveal about the true drivers of regional economic development?

◆ Resources and Development

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Model Answer

This contrast reveals that **mere availability of resources is not enough** for economic development. Arunachal Pradesh has abundant water resources but lacks infrastructure, while resource-poor regions may be economically advanced due to better technology and institutions.

As stated in the textbook, "the availability of resources is a necessary condition for development, but mere availability in the absence of corresponding changes in technology and institutions may hinder development." True drivers of regional development include:

- **Technological development**
- **Quality of human resources**
- **Institutional framework**
- **Infrastructure**
- **Historical experiences of the people**

Therefore, resources alone cannot ensure development; they must be accompanied by appropriate technology and planned resource utilisation.

Source: Resources and Development, Resource Planning in India

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Explanation

- The examiner expects you to go **beyond just naming Arunachal Pradesh** — you must explain *why* rich resources don't always mean development.
- The key phrase from the textbook to quote or paraphrase: *"availability of resources... in the absence of corresponding changes in technology and institutions may hinder development."*
- Listing the true drivers (technology, human resources, institutions, infrastructure) earns full marks.
- Do not write a lengthy essay — 4–5 crisp points with a concluding line is ideal for 3 marks.

Q9. medium | thorough-understanding | § RESOURCE PLANNING **[2]**

Resource planning involves more than just identifying and making an inventory of resources. Explain what additional steps are essential and why, for resource planning to translate into actual development.

♦ Resources and Development

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Model Answer

Beyond identifying and making an inventory of resources, two additional steps are essential:

1. **Evolving a planning structure** with appropriate technology, skills, and institutional setup to implement resource development plans.
2. **Matching resource development plans** with overall national development plans.

These steps are necessary because mere availability of resources without corresponding technological development and institutional changes can hinder development rather than promote it.

Source: Resources and Development, Resource Planning in India

Explanation

The question asks specifically about steps *beyond* inventory — examiners expect you to name the other two steps from the three-part process given in the textbook, then link them to the key idea that resources alone don't guarantee development. Mentioning technology and institutions scores the second mark. Don't just restate the inventory step.

Q10. medium | thorough-understanding | § RESOURCE PLANNING **[3]**

Why is resource planning considered especially critical for a country like India, given its vast internal regional diversity in resource distribution?

♦ Resources and Development

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Model Answer

Resource planning is critical for India because of the enormous regional diversity in resource availability. Some states like Jharkhand and Chhattisgarh are rich in minerals, while Arunachal Pradesh has abundant water resources but lacks infrastructure. Rajasthan has solar and wind energy but is deficient in water. Ladakh has rich cultural heritage but lacks water and vital minerals. Since resources are unevenly distributed, balanced planning at national, state, regional and local levels is essential to ensure judicious use and equitable development.

Source: Resources and Development, Resource Planning in India

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Explanation

- The examiner expects **specific examples** of regional imbalance (at least 2–3 states with their resource surplus/deficit). This earns the most marks.
- Conclude with the need for **balanced planning at multiple levels** — this is the direct textbook line.
- Avoid vague statements like "India is a large country." Be precise and example-based.
- Keep to ~75–80 words — padding loses marks and time.

Q11. deep thorough-understanding § RESOURCE PLANNING **[5]**

Explain why resource planning is described as a 'complex process'. In your answer, discuss how the three stages of resource planning are interconnected and why all three must work together for development to succeed.

◆ Resources and Development

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Model Answer

Resource planning is described as a **complex process** because of India's extreme regional imbalance in resource availability — some states like Jharkhand are mineral-rich but lack other resources, while Rajasthan has solar and wind energy but lacks water. Managing such diversity requires careful, multi-level planning.

The three stages are:

1. **Identification and inventory** — surveying, mapping, and qualitative/quantitative estimation of resources across regions.
2. **Evolving a planning structure** — developing appropriate technology, skills, and institutional setup to implement resource development plans.
3. **Matching with national development plans** — aligning resource development with overall national goals.

These stages are deeply interconnected. Identifying resources alone is meaningless without the technology and institutions (Stage 2) to develop them. Similarly, resource development plans must align with national priorities (Stage 3), or efforts remain fragmented. History shows that resource-rich regions can remain economically backward when technology and institutions are absent. Development succeeds only when all three stages work in coordination.

Source: Resources and Development, Chapter 1 — Resource Planning in India

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Explanation

- The examiner expects you to **define why it is complex** (regional imbalance) and then **name and explain all three stages**, not just list them.
- The key insight examiners reward: **resources alone ≠ development** — technology, institutions, and national planning alignment are equally essential. Use the example of resource-rich but economically backward regions.
- Avoid writing a general essay on resources; stay focused on the **three stages and their interconnection**.
- Mentioning India's Five Year Plans as a concrete effort earns a bonus impression.

Q12. medium | thorough-understanding | § LAND RESOURCES **[3]**

Mountains cover about 30% of India's total surface area and are generally unsuitable for agriculture, yet they are regarded as invaluable to India's development. Justify this by explaining the economic and ecological significance of mountainous regions for the country.

◆ Resources and Development

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Model Answer

Mountains cover 30% of India's surface area and are invaluable despite being unsuitable for agriculture due to the following reasons:

Economic significance:

- They ensure **perennial flow of rivers**, which supports agriculture in plains, drinking water supply, and hydroelectric power generation.
- They provide excellent **facilities for tourism**, generating employment and income.

Ecological significance:

- Mountains support rich **biodiversity**, including forests, wildlife, and varied vegetation.
- They maintain **ecological balance** by regulating climate, preventing soil erosion, and acting as water catchment areas.

Thus, mountains are crucial to India's economic and ecological well-being.

Source: Resources and Development, Land Resources

Explanation

The textbook directly states that mountains "ensure perennial flow of some rivers, provide facilities for tourism and ecological aspects." Expand these three points slightly for a 3-mark answer. Examiners expect you to cover **both** dimensions asked — economic (rivers/tourism) and ecological (biodiversity/climate regulation). Don't just list; briefly explain each point. Avoid copying unrelated facts about plateaus or plains.

Q13. deep thorough-understanding § LAND RESOURCES **[3]**

India's forest cover remains far below the 33% of total geographical area recommended in the National Forest Policy (1952), yet the net sown area has also not increased significantly since 1960–61. If forests haven't grown and farmland hasn't grown much either, what does this suggest about where land has actually been shifting, and what are the likely consequences of this trend?

◆ **Resources and Development**

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Model Answer

Since forest cover has remained below the desired 33% and net sown area has also stagnated since 1960–61, land has been increasingly shifting towards **non-agricultural uses** — settlements, roads, railways, and industries — and to **wasteland** (rocky, arid, degraded areas).

This trend has serious consequences: it leads to **land degradation** due to continuous, unmanaged use; reduces permanent pastures, threatening livestock; threatens the livelihoods of communities dependent on forests; and disturbs ecological balance, harming biodiversity and the environment.

Source: Resources and Development, Chapter 1 — Land Use Pattern in India

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Explanation

- The examiner expects you to identify the "missing" land category: non-agricultural uses (urban expansion, infrastructure) and wasteland/degraded land — not forests, not farmland.
- Then link this directly to consequences mentioned in the passage: land degradation, ecological imbalance, loss of forest-dependent livelihoods, and decline of pastures.
- Avoid vague statements; name specific consequences from the text.
- The 3-mark structure works best as: **1 mark** for identifying where land shifted → **2 marks** for consequences (name at least 2–3).

Q14. medium | thorough-understanding | § LAND UTILISATION **[3]**

The net sown area (NSA) in Punjab and Haryana exceeds 80% of their total area, while in Arunachal Pradesh it is less than 10%. Using your understanding of the physical and human factors that determine land use, explain why such a stark contrast exists between these regions.

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Model Answer

Physical Factors:
Punjab and Haryana lie on the flat Indo-Gangetic plains with fertile alluvial soil and favourable climate, making almost the entire area suitable for cultivation. Arunachal Pradesh is mountainous and heavily forested, with rugged terrain that prevents large-scale farming.

Human Factors:
Punjab and Haryana have high population density, advanced technology, irrigation infrastructure, and strong agricultural traditions. Arunachal Pradesh lacks infrastructural development, has low population density, and its tribal communities rely more on forests than farming.

Thus, physical and human factors together explain the stark contrast in NSA.

Source: Resources and Development, Land Use Pattern in India

Explanation

- The question directly links to the textbook line: *"use of land is determined both by physical factors such as topography, climate, soil types as well as human factors such as population density, technological capability and culture and traditions."*
- Examiners expect you to apply **both** physical AND human factors — missing either costs marks.
- Mention specific physical features (plains vs. mountains) and specific human factors (technology, infrastructure, tradition) for full credit.
- Keep it balanced: roughly one point per factor type per region.

Q15. deep thorough-understanding § LAND UTILISATION **[3]**

India's forest cover has consistently remained well below the 33% target set by the National Forest Policy, 1952, while land under non-agricultural uses such as settlements, roads, and industries has steadily increased over the same period. Analyse these two trends together and discuss what they reveal about India's approach to land use. What are the long-term consequences of this pattern for ecological balance and sustainable development?

◆ **Resources and Development**

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Model Answer

India's forest cover remains far below the 33% target set by the National Forest Policy, 1952, which was considered essential for maintaining ecological balance. Meanwhile, land under non-agricultural uses — settlements, roads, railways, and industries — has steadily grown, reflecting rapid urbanisation and industrialisation.

Together, these trends reveal that India has prioritised economic and infrastructural growth over ecological conservation. Land is being diverted from forests to developmental uses without adequate compensatory measures.

Long-term consequences: Reduced forest cover leads to land degradation, soil erosion, loss of biodiversity, and disrupted ecological balance. Millions living on forest fringes lose livelihoods. Continuous land use without conservation measures causes further degradation, threatening sustainable development.

Source: Resources and Development, Chapter 1 — Land Use Pattern in India; Land Degradation and Conservation Measures

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Explanation

- Examiners expect you to **link both trends** (declining/stagnant forest cover + rising non-agricultural land use) and draw a conclusion about India's priorities.
- The phrase **"far lower than the desired 33%"** and the reason (ecological balance, livelihoods) come directly from the textbook — use them.
- For "long-term consequences," the textbook explicitly mentions land degradation, social and environmental repercussions — stick to these; don't invent points.
- At 3 marks, keep it to 3 tight points: trend analysis → what it reveals → consequences.

Q16. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

The net sown area (NSA) in Punjab and Haryana exceeds 80% of their total area, while in states like Arunachal Pradesh and Manipur it is below 10%. What combination of physical and human factors best explains this sharp contrast?

◆ Resources and Development

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Model Answer

Physical Factors: Punjab and Haryana lie on flat, fertile alluvial plains with favourable climate and rich soils, making large-scale cultivation easy. In contrast, Arunachal Pradesh and Manipur have rugged mountainous topography, dense forests, and steep slopes that severely limit cultivable land.

Human Factors: Punjab and Haryana have high population density, advanced technology, irrigation facilities, and a strong agricultural tradition. Arunachal Pradesh and Manipur have low population density, limited technological capability, poor infrastructure, and depend more on forests for their livelihood.

Thus, land use is determined by the combined effect of topography, soil, climate, and human factors like technology and culture.

Source: Resources and Development, Land Use Pattern in India

Explanation

- The textbook directly states: *"The use of land is determined both by physical factors such as topography, climate, soil types as well as human factors such as population density, technological capability and culture and traditions."* — quote or paraphrase this for full marks.
- Always contrast **both** regions and **both** types of factors (physical + human) to score all 3 marks.
- Mention specific examples: flat plains vs. mountains, irrigation/technology vs. poor infrastructure.
- Avoid vague answers — examiners look for linked reasoning, not just listing factors.

Q17. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[1]**

[short_answer] India's actual forest cover remains far below one-third of its total geographical area — a long-standing national goal. Suggest two major reasons why India has struggled to achieve this target despite decades of conservation planning.

A The National Forest Policy was never formally adopted by the Indian government.
B Competing demands for land — such as settlements, roads, industries and agriculture — have continuously encroached on forest land.
C Forest soils are infertile and do not support any economically useful vegetation.
D India lacks the technology required to carry out afforestation on a large scale.

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Model Answer

The correct option is **B**.

India has struggled to meet the 33% forest cover target (National Forest Policy, 1952) mainly because competing demands for land — including settlements, roads, railways, and industries — have continuously encroached upon forest land, leaving it far below the desired level.

Source: Resources and Development, Land Use Pattern in India

Explanation

- The passage explicitly states that "land put to other non-agricultural uses includes settlements, roads, railways, industry etc." — directly supporting option B.
- Option A is factually wrong; the National Forest Policy *was* formally adopted in 1952.
- Options C and D are not supported by the textbook; forest soils *do* support vegetation, and technology is not cited as the barrier.
- For a 1-mark MCQ, identify the correct option and give a brief one-line justification drawn from the passage.

Q18. deep | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

Land put to non-agricultural uses has been steadily rising in India. Explain why this trend, if unchecked, poses a threat to the country's food security.

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Model Answer

Land is a finite resource, and 95% of our basic needs for food, shelter and clothing come from it. When land is diverted to non-agricultural uses — settlements, roads, railways, industries — the **net sown area decreases**, directly reducing agricultural output. Since India's population continues to grow, less cultivable land means less food production per person, threatening food security. Moreover, continuous and careless land use leads to **land degradation**, making even remaining farmland less productive. With forest cover already below the desired 33%, any further diversion leaves little scope for restoration, making food shortages a serious long-term risk.

Source: Resources and Development, Chapter 1 — Land Use Pattern in India; Land Degradation and Conservation Measures

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Explanation

- Examiners expect you to link **non-agricultural use → reduced net sown area → lower food production → food insecurity**. This logical chain earns full marks.
- Mention the key fact: *95% of basic needs come from land* — it's directly from the textbook and impresses examiners.
- Don't just list uses; explain the *consequence* — that's what the question asks.
- At 3 marks, aim for 3 distinct connected points: shrinking farmland + land degradation + growing population pressure.

Q19. medium | thorough-understanding | § LAND USE PATTERN IN INDIA **[2]**

[short_answer] India's net sown area figures do not include culturable waste land. Using this fact, assess whether India is utilising its full agricultural potential and suggest one reason why culturable waste land remains uncultivated.

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Model Answer

No, India is not fully utilising its agricultural potential. Net sown area covers about 46% of reporting area, but if culturable waste land (left uncultivated for more than 5 years) is included, it rises to about 54%. This unused land represents untapped potential.

Reason: The cost of cultivation of most culturable waste land is very high, making it economically unviable for farmers to bring it under cultivation.

Source: Land Utilisation / Land Use Pattern in India, Chapter 1 – Resources and Development

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Explanation

- The key fact from the passage is that culturable waste land is "left uncultivated for more than 5 agricultural years" and that including it raises NSA to ~54%.
- The passage directly states "the cost of cultivation of such land is very high" — examiners expect this exact reason.
- Don't confuse culturable waste land with barren/waste land; the former *can* be cultivated, the latter cannot. This distinction may fetch a mark.

Q20. deep | thorough-understanding | § LAND USE PATTERN IN INDIA **[3]**

The shrinking of permanent pasture and grazing land in India has continued even as the cattle population remains large. Analyse the consequences of this mismatch for both land quality and livelihoods.

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Model Answer

The decrease in permanent pastures and grazing land forces cattle to graze on other fallow or cultivated lands, leading to **overgrazing**. This is a major cause of **land degradation** in states like Gujarat, Rajasthan, Madhya Pradesh, and Maharashtra. Degraded land loses fertility and productivity, reducing its agricultural value. For livelihoods, pastoralists and farmers who depend on cattle for dairy, farming, and income face hardship as poor grazing leads to weaker, less productive livestock, threatening their economic survival.

Source: Resources and Development, Chapter 1 — Land Use Pattern in India; Land Degradation and Conservation Measures

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Explanation

- The textbook directly links shrinking pastures to overgrazing and names specific states — use these for full marks.
- Two dimensions are required: **land quality** (degradation/loss of fertility) and **livelihoods** (impact on pastoralists/farmers) — address both for complete 3-mark answer.
- Avoid writing a general essay; keep it focused and point-driven as above.

Q21. deep | thorough-understanding | § LAND DEGRADATION AND CONSERVATION MEASURES **[3]**

In Punjab and Haryana, over-irrigation leads to land degradation through waterlogging, while in Jharkhand and Odisha, mining is the chief culprit. Although the human activities differ, explain the common underlying reason why both situations result in land that is difficult or impossible to cultivate.

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Model Answer

In Punjab and Haryana, over-irrigation raises the water table, leading to **waterlogging**, which increases **salinity and alkalinity** in the soil. In Jharkhand and Odisha, mining causes deforestation and leaves deep scars and overburdened land.

The **common underlying reason** is that both activities permanently alter the soil's physical and chemical properties. Waterlogged, saline soil loses fertility, while excavated, scarred land loses its topsoil and structure. In both cases, the land becomes infertile and unfit for cultivation, demonstrating that different human activities can cause the same outcome — irreversible land degradation.

Source: Resources and Development, Land Degradation and Conservation Measures

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Explanation

- The examiner wants you to **identify the common thread**: both human activities destroy the soil's ability to support crops, just through different mechanisms.
- Key terms to use: **waterlogging, salinity, alkalinity** (Punjab/Haryana) and **deep scars, overburdening, deforestation** (Jharkhand/Odisha).
- The "common reason" answer earns the decisive mark — don't just describe the two situations separately; explicitly link them to the shared outcome of **loss of soil fertility/structure making cultivation impossible**.

Q22. medium | thorough-understanding | § LAND DEGRADATION AND CONSERVATION MEASURES **[3]**

Arid and semi-arid regions of India are particularly vulnerable to a specific form of land degradation driven by wind. (a) Name this process. (b) Describe any three measures recommended to check this process, explaining briefly how each one works.

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Model Answer

(a) The process is **wind erosion / deflation** (desertification driven by wind action).

(b) Three measures to check wind erosion in arid areas:

1. **Planting shelter belts** – Rows of trees act as windbreaks, reducing wind speed and preventing soil from being blown away.
2. **Stabilisation of sand dunes by growing thorny bushes** – Plant roots bind the sand, preventing dunes from shifting and spreading.
3. **Control on overgrazing** – Limiting livestock prevents removal of vegetation cover, so plant roots hold the topsoil in place against wind action.

Source: Resources and Development, Land Degradation and Conservation Measures

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Explanation

- The question is specifically about **wind-driven** land degradation in arid/semi-arid regions — the textbook lists three measures directly: shelter belts, stabilising sand dunes, and controlling overgrazing. Use these exact terms.
- Part (a) is 1 mark — one term suffices. Parts (b) needs three distinct measures with a brief explanation of *how* each works — that's the key examiner expectation.
- Do **not** write about water-logging, salinity, or industrial effluents — those relate to other regions/causes.

Q23. deep | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Soil is described as a 'living system' that takes millions of years to form even a few centimetres of depth. What does calling it a 'living system' imply about how we should treat soil as a resource?

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Model Answer

Calling soil a 'living system' means it contains living organisms and supports life processes — it is not merely dead matter. This implies we must treat soil as a precious, non-renewable resource in practical terms, because the formation of even a few centimetres takes millions of years.

We should:

- **Prevent soil erosion** caused by deforestation, overgrazing, and faulty farming practices.
- **Avoid soil degradation** through over-irrigation, mining, and industrial effluents.
- **Adopt conservation measures** like contour ploughing, terrace farming, and strip cropping to preserve soil health.

Damaging soil means losing something irreplaceable within a human timescale.

Source: Resources and Development, Chapter 1 — Soil as a Resource; Soil Erosion and Soil Conservation

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Explanation

The examiner expects you to link the phrase 'living system' to the idea of **irreversibility** (millions of years to form) and then draw **practical implications** for responsible use. Three well-labelled conservation points earn full marks. Avoid writing a general essay — be specific and concise. Key terms to include: erosion, degradation, conservation measures.

Q24. medium | thorough-understanding | § SOIL AS A RESOURCE **[1]**

[mcq] Black soil develops deep cracks in summer due to its high clay content. Which of the following correctly explains why this property is considered agriculturally beneficial?

(A) The cracks allow rainwater to percolate quickly, preventing waterlogging

(B) The cracks aerate the soil and allow the soil to self-plough, mixing the lower and upper layers

(C) The cracks reduce salinity by allowing salts to escape through the surface

(D) The cracks increase the humus content by exposing the lower layers to sunlight

A The cracks form because the soil lacks clay; they help drain excess water quickly.

B The cracks form because the fine clayey soil shrinks on drying; they allow air to circulate and aerate the soil.

C The cracks form because the soil is sandy; they help roots penetrate deeper.

D The cracks form due to high phosphoric content; they increase the alkalinity of the soil.

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Model Answer

Option B is correct. Black soil is made of extremely fine clayey material that shrinks on drying, developing deep cracks. These cracks allow proper aeration of the soil, making it agriculturally beneficial.

Source: Resources and Development, Classification of Soils – Black Soil

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Explanation

The textbook explicitly states: *"They develop deep cracks during hot weather, which helps in the proper aeration of the soil."* The key phrase is **aeration**, not drainage or salinity reduction. Option B in the MCQ choices also correctly identifies the *cause* (fine clayey soil shrinks on drying) alongside the *benefit* (aeration). Examiners expect students to link both the cause and the agricultural benefit accurately, ruling out options about sandy soil, phosphoric content, or salinity — none of which are mentioned in the context of black soil's cracking.

Q25. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Alluvial soils are further classified as Bangar and Khadar on the basis of their age. Distinguish between the two, and explain which of the two is considered more fertile and why.

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Model Answer

Bangar (Old Alluvial): It is older alluvial soil found on higher river terraces/doabs. It has a higher concentration of **kanker** (calcium carbonate nodules) and coarser particles, making it less fertile.

Khadar (New Alluvial): It is newer alluvial soil deposited by rivers in flood plains. It has finer particles and fewer kanker nodules.

More Fertile: Khadar is more fertile than Bangar because it has more fine particles, receives fresh deposits of silt regularly, and contains a greater proportion of nutrients suitable for crops like wheat, paddy, and sugarcane.

Source: Resources and Development, Classification of Soils — Alluvial Soils

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Explanation

- Examiners expect a clear **point-by-point distinction** between Bangar and Khadar (at least 2 points of difference).
- The key reason Khadar is more fertile — **finer particles + fewer kanker nodules** — must be explicitly stated; just saying "newer" is insufficient for full marks.
- The textbook directly states: *"It (Khadar) has more fine particles and is more fertile than the Bangar"* — use this language.
- Mentioning a crop or two shows application and can earn you the third mark.

Q26. medium | thorough-understanding | § SOIL AS A RESOURCE **[1]**

Laterite soil is formed under tropical conditions with alternate wet and dry seasons. What specific process during the wet season is primarily responsible for making this soil generally poor in plant nutrients?

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Model Answer

During the wet season, **intense leaching** (heavy rain washing away nutrients through the soil) is primarily responsible for making laterite soil generally poor in plant nutrients.

Source: Resources and Development, Laterite Soil section

Explanation

The textbook directly states: "This soil is the result of intense leaching due to heavy rain." Leaching means soluble nutrients are washed downward and lost from the topsoil by rainwater. Examiners expect the term **"leaching"** to appear in the answer — that single word is the key to scoring the mark.

Q27. deep | thorough-understanding | § SOIL AS A RESOURCE **[2]**

Despite being generally acidic and deficient in nutrients, laterite soils in Karnataka, Kerala and Tamil Nadu are successfully used for tea and coffee cultivation. What does this tell us about the relationship between soil quality and agricultural productivity?

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Model Answer

Laterite soils are generally acidic (pH < 6.0) and deficient in plant nutrients, making them unsuitable for many crops. However, with appropriate soil conservation techniques, they can be used productively. This shows that **soil quality alone does not determine agricultural productivity** — human intervention, crop selection suited to local soil conditions, and conservation methods can overcome natural soil deficiencies.

Source: Resources and Development, Laterite Soil section

Explanation

- The question tests whether you can draw a conclusion from the given example, not just describe laterite soil.
- Key point from the passage: "After adopting appropriate soil conservation techniques... this soil is very useful for growing tea and coffee." Quote or paraphrase this.
- Examiners want: (1) acknowledgment of the soil's limitations, and (2) the inference that human effort/crop suitability bridges the gap between poor soil and productive agriculture.
- Avoid writing a general essay on soils — two tight points are enough for 2 marks.

Q28. straightforward | thorough-understanding | § SOIL AS A RESOURCE **[1]**

[very_short_answer] In the Chambal basin, running water cuts through clayey soils and forms deep channels, rendering large stretches of land unfit for cultivation. What is this type of eroded, uncultivable land commonly referred to as, and what is the process of erosion responsible for it called?

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Model Answer

Such eroded, uncultivable land is called **bad land** (locally known as **ravines** in the Chambal basin). The process responsible is **gully erosion**, where running water cuts deep channels through clayey soil.

Source: Resources and Development, Soil Erosion and Soil Conservation

Explanation

The textbook explicitly states both terms together: "The land becomes unfit for cultivation and is known as bad land. In the Chambal basin such lands are called ravines." The process is gully erosion. For a 1-mark question, naming the land type (bad land/ravines) and the process (gully erosion) is sufficient — both terms together secure full marks.

Q29. deep thorough-understanding § SOIL AS A RESOURCE **[3]**

A farmer in western Rajasthan notices that water does not seep into the lower layers of the arid soil easily, even after irrigation. Using your understanding of arid soil formation, explain the reason for this and suggest what has been done to overcome the resulting limitation.

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Model Answer

In arid soils of western Rajasthan, the lower horizons contain a **Kankar layer** — formed due to increasing calcium content downwards. This hard Kankar layer restricts the infiltration (seeping) of water into the lower soil layers. The dry climate and high temperature also cause rapid evaporation, leaving the soil sandy, saline, and low in moisture.

To overcome this limitation, **proper irrigation** has been introduced in these areas. After adequate irrigation, arid soils become cultivable, as has been done successfully in western Rajasthan.

Source: Resources and Development, Arid Soils

Explanation

- The key term examiners look for is **Kankar layer** and the phrase **restricts infiltration** — both are directly from the textbook.
- The second part must link to "After proper irrigation these soils become cultivable" — this is the exact solution the textbook mentions.
- Do not drift into general soil conservation; the question is specifically about arid soil + water infiltration problem + its solution.

Q30. medium | thorough-understanding | § SOIL AS A RESOURCE **[5]**

Soil erosion and soil formation are described as simultaneous processes that are normally in balance. Identify any THREE human activities that disturb this balance and accelerate erosion, and for each, briefly explain the mechanism by which it causes erosion.

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Model Answer

The textbook states that soil formation and erosion are simultaneous processes normally in balance, but certain human activities disturb this balance and accelerate erosion:

1. **Deforestation**: Removal of trees exposes the soil surface. Without root systems to bind the soil and canopy cover to break rainfall impact, running water and wind easily wash or blow the topsoil away.
1. **Overgrazing**: Excessive grazing by cattle strips the vegetation cover from land. With no plant roots to hold soil particles together, the bare surface becomes highly vulnerable to wind and water erosion.
1. **Defective/Wrong methods of farming (Ploughing up and down the slope)**: When fields are ploughed up and down a slope, furrows act as channels that direct rainwater to flow rapidly downhill, cutting through the soil and carrying the topsoil away quickly.
1. **Construction and Mining**: Mining leaves deep scars and overburden on land. Dust from mineral processing settles on soil and reduces infiltration, while construction strips vegetation, leaving soil exposed to erosive forces.

(Any three of the above are sufficient for full marks.)

Source: Resources and Development, Soil Erosion and Soil Conservation

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Explanation

- The question asks for **three** activities with **mechanisms** — so each point must name the activity AND explain *how* it causes erosion. Marks are split: likely 1 mark per activity + mechanism (3 × 1) + 2 marks for overall accuracy/structure.
- The passage explicitly lists: deforestation, overgrazing, construction, mining, and defective farming — stick to these.
- Avoid vague statements like "it harms the soil." Say *how*: loss of root binding, channelling of water, loss of vegetation cover, etc.
- Writing four and telling the examiner to pick three is safe strategy — but in board exams, write exactly three clearly to save time.

Q31. medium | thorough-understanding | § SOIL AS A RESOURCE **[2]**

[very_short_answer] Red soils appear red in colour but turn yellow when found in hydrated form. Name the mineral responsible for this colour difference and identify the type of rock on which red soils typically develop.

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Model Answer

The mineral responsible for the colour of red soil is **iron**. The diffusion of iron in the parent rock gives red soil its characteristic reddish colour. When this iron occurs in a **hydrated form**, the soil appears yellow.

Red soils typically develop on **crystalline igneous rocks** (and metamorphic rocks) in areas of low rainfall.

Source: Contemporary India – II, Chapter 1 – Red and Yellow Soils

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Explanation

- The question has two parts: (1) name the mineral, explain colour change; (2) identify the rock type. Both must be answered for full 2 marks.
- The key term is **iron** (not "iron oxide" specifically, though that is accurate — the textbook just says "iron").
- The rock type must be **crystalline igneous rocks** (metamorphic is also acceptable as the textbook mentions both, but igneous is primary).
- Avoid writing long paragraphs — two crisp points are enough for 2 marks.

Q32. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

Contour ploughing, terrace cultivation, strip cropping and shelter belts are all methods of soil conservation. Explain how ANY TWO of these methods work, making clear the physical process each one interrupts or slows down.

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Model Answer

Contour Ploughing: Ploughing is done along the contour lines of a slope instead of up and down. This decelerates the flow of water down the slope, reducing the cutting action that forms gullies and preventing sheet erosion.

Strip Cropping: Large fields are divided into strips, with strips of grass left between crops. The grass breaks up the force of the wind, interrupting wind erosion that would otherwise blow loose topsoil off flat or sloping land.

Source: Resources and Development, Soil Erosion and Soil Conservation

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Explanation

- The question asks you to name the physical process each method **interrupts or slows**—examiners specifically want this link. For contour ploughing = water flow/sheet erosion; for terraces = water runoff; for strip cropping = wind force; for shelter belts = wind.
- Quote the textbook wording closely ("decelerates the flow," "breaks up the force of the wind") — it shows you know the source.
- Any two methods are acceptable; pick the two you can explain most precisely.

Q33. deep | thorough-understanding | § SOIL AS A RESOURCE **[2]**

Black soil is described as sticky when wet and difficult to work on. Farmers are advised to till it immediately after the first shower or during the pre-monsoon period. Using the properties of black soil, justify this farming practice.

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Model Answer

Black soil is made up of extremely fine clayey material with a high capacity to hold moisture. When wet, it becomes very sticky and hard to plough. However, before the monsoon or right after the first shower, the soil has just enough moisture — it is neither bone dry (which causes cracking) nor waterlogged. Tilling at this stage breaks the soil easily, allows proper aeration, and prepares a good seedbed before it becomes too sticky to work.

Source: Resources and Development, Classification of Soils — Black Soil

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Explanation

- The question asks you to **link two properties** of black soil to the farming practice: (1) high moisture retention → sticky when wet, and (2) develops deep cracks when dry → difficult to till then too.
- Mentioning the **narrow window** (first shower / pre-monsoon) and **why it works** (optimal moisture, easier tillage) earns full marks.
- Avoid writing a general paragraph on black soil — stay focused on *justifying the practice*.

Q34. medium | thorough-understanding | § SOIL AS A RESOURCE **[3]**

[short_answer] Forest soils are found across varied mountain environments. Compare the characteristics — in terms of texture, humus content and fertility — of forest soils found on the upper slopes of mountains with those found on valley sides and river terraces, and account for the differences.

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Model Answer

Upper slopes of mountains have **coarse-grained** (gravelly) texture, are **acidic with low humus content**, and are **less fertile** due to denudation in snow-covered areas.

Valley sides have **loamy and silty** texture with moderate humus, while soils on **river terraces and alluvial fans** (lower valley parts) are **fertile**.

Reason for differences: On upper slopes, heavy denudation and cold temperatures slow decomposition, reducing humus. Lower valley soils receive sediment deposition and better organic matter accumulation, making them more fertile.

Source: Resources and Development, Forest Soils section

Explanation

The passage directly states: "loamy and silty in valley sides and coarse grained in the upper slopes" and "soils in snow-covered areas are acidic with low humus content" and "soils found in the lower parts of the valleys particularly on the river terraces and alluvial fans are fertile." Examiners expect you to quote these three zones clearly with all three parameters (texture, humus, fertility) and briefly explain *why* differences exist. Don't over-explain — link it to denudation/deposition and decomposition rates.

Q35. deep | thorough-understanding | § SOIL AS A RESOURCE **[5]**

Alluvial soils cover the entire northern plains and parts of the eastern coastal deltas and are intensively cultivated. Using the properties of alluvial soil and the chapter's broader argument about resources, explain why high resource availability alone does not guarantee economic development across all alluvial regions.

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Model Answer

Alluvial soils are highly fertile, rich in humus, minerals and moisture, and support intensive cultivation of wheat, rice and sugarcane. They cover the entire northern plains and eastern coastal deltas, making them some of India's most resource-rich regions.

However, the chapter clearly states: *"The availability of resources is a necessary condition for development, but mere availability in the absence of corresponding changes in technology and institutions may hinder development."* Many resource-rich regions remain economically backward because:

1. **Technology gap** – Without advanced agricultural or industrial technology, fertile soil cannot be fully exploited.
2. **Weak institutions** – Poor infrastructure, credit systems and governance limit resource utilisation.
3. **Historical factors** – Colonial exploitation drained regions of wealth despite rich resources (e.g., fertile plains).
4. **Uneven planning** – Development requires matching resource plans with national plans; absence of this leads to regional disparities.

Thus, technology, quality human resources and institutional support must accompany resource availability for actual economic development.

Source: Resources and Development, Resource Planning in India

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Explanation

Examiners expect students to link the specific properties of alluvial soil to the broader theoretical argument in the chapter — not just describe the soil. The key textbook line is the one about "necessary condition but not sufficient condition." Use it explicitly. Three-four crisp reasons (technology, institutions, planning, history) earn full marks. Avoid padding with unrelated soil types.

Q36. deep | thorough-understanding | § (whole-chapter synthesis) **[3]**

Rajasthan is rich in solar and wind energy but lacks water resources, yet it remains economically underdeveloped. Arunachal Pradesh has abundant water resources but also lags behind economically. What common factor — beyond resource availability — does this pattern highlight as essential for development, and how does India's resource planning process attempt to address it?

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Model Answer

The common factor highlighted is the **lack of infrastructure and appropriate technology**. Both Rajasthan and Arunachal Pradesh possess natural resources but remain underdeveloped due to insufficient technological and institutional support.

As the textbook states, "mere availability of resources in the absence of corresponding changes in technology and institutions may hinder development."

India's resource planning addresses this through a three-step process: (i) identification and inventory of resources, (ii) developing appropriate technology, skills and institutional setup for implementation, and (iii) matching resource development plans with overall national development plans.

Source: Resources and Development, Resource Planning in India

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Explanation

- The examiner wants you to identify **technology and institutions** (not just infrastructure) as the missing factor — this exact phrase comes from the textbook.
- Quote or closely paraphrase the textbook line about "mere availability... may hinder development" — it signals you've read the source.
- The three steps of resource planning are a standard list question; write them concisely as numbered points.
- Avoid padding with unrelated points like conservation or colonialism — stay focused on what the question asks.

Q37. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

[short_answer] Gandhiji said, 'There is enough for everybody's need and not for anybody's greed.' Using this idea as a lens, explain how unchecked human greed drives both resource depletion at the national level and specific causes of land degradation in India.

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Model Answer

Gandhiji identified **greed** as the root cause of resource depletion. Irrational consumption and over-utilisation of resources by greedy individuals and exploitative modern technology lead to socio-economic and environmental problems at the national level.

This greed directly causes land degradation in India through:

- **Overgrazing** in Gujarat, Rajasthan, Madhya Pradesh and Maharashtra, stripping land of vegetation.
- **Mining and quarrying** in Jharkhand, Chhattisgarh and Odisha, leaving deep scars and causing deforestation.
- **Over-irrigation** in Punjab, Haryana and western UP, causing waterlogging, salinity and alkalinity.

Thus, unchecked human greed accelerates land degradation, making resource conservation essential.

Source: Resources and Development, Conservation of Resources & Land Degradation and Conservation Measures

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Explanation

- The question links Gandhiji's quote directly to **resource depletion (national level)** and **land degradation causes** — answer both parts.
- Examiner expects the quote to be connected to greed → over-exploitation, then 2–3 specific causes of land degradation with state examples (these earn marks).
- Don't just define land degradation; name the human activities and states as given in the textbook.
- At 3 marks: one line on the quote's meaning + 3 brief points on causes is the ideal structure.

Q38. deep | thorough-understanding | § (whole-chapter synthesis) **[3]**

Both arid soils and laterite soils are affected by climatic extremes, yet the nature of their degradation and the reason they lack humus are different. Compare these two soils on the basis of: (i) the climatic condition responsible for humus deficiency, (ii) the specific process that degrades or limits each soil's fertility, and (iii) one crop for which each can be made productive.

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Model Answer

Basis	Arid Soil	Laterite Soil
(i) Climatic reason for humus deficiency	Dry climate and high temperature cause rapid evaporation; moisture is absent, so organic matter cannot accumulate.	Under sparse vegetation and semi-arid conditions, humus is poor; heavy rainfall leaches away nutrients and organic matter.
(ii) Process degrading fertility	Kankar layer forms in lower horizons due to rising calcium content, restricting water infiltration and limiting root penetration.	Intense leaching due to heavy rain removes plant nutrients; soils become acidic (pH < 6.0) and prone to erosion.
(iii) Productive crop	After proper irrigation, crops can be grown — western Rajasthan is an example.	Tea and coffee (Karnataka, Kerala, Tamil Nadu); cashew nut on red laterite soils.

Source: Resources and Development, Classification of Soils — Arid Soils and Laterite Soil sections

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Explanation

- The textbook gives **two distinct reasons** for humus deficiency: arid soils lack humus because of *high temperature + evaporation + dry climate*; laterite soils lack humus because of *heavy leaching + sparse vegetation*.
- For degradation: arid soils → **Kankar layer** blocks infiltration; laterite soils → **leaching** causes acidity and nutrient loss.
- Always name the specific crops the textbook mentions — examiners deduct marks for vague answers like "many crops."
- A table format is neat and saves time for comparison questions; it also makes each point clearly visible to the examiner.

Q39. medium | thorough-understanding | § (whole-chapter synthesis) **[1]**

[mcq] Jharkhand and Chhattisgarh are rich in minerals and coal, yet they record some of the highest rates of land degradation in India. Which one of the following best explains this paradox?

(A) These states receive very low rainfall, causing arid soil conditions.

(B) Mining activities leave behind abandoned pits, debris, and toxic effluents that permanently damage land.

(C) Over-irrigation in these states leads to waterlogging and soil salinity.

(D) Intensive shifting cultivation strips the topsoil of all nutrients.

A Mining activities leave deep scars, cause deforestation and generate dust that retards water infiltration into the soil.

B These regions receive very high rainfall that causes intense leaching of the topsoil.

C Over-irrigation in these states leads to waterlogging and increase in soil salinity.

D The soils in these regions are laterite, which are inherently prone to erosion.

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Model Answer

(A)

Mining activities leave deep scars, cause deforestation, and generate dust from mineral processing that retards water infiltration into the soil, causing severe land degradation in Jharkhand and Chhattisgarh.

Source: Land Degradation and Conservation Measures, Chapter 1

Explanation

The question asks you to match the given options (A–D) to the correct one. The passage directly states: *"Mining sites are abandoned after excavation work is complete leaving deep scars... In states like Jharkhand, Chhattisgarh... deforestation due to mining have caused severe land degradation"* and that mineral processing dust *"retards the process of infiltration of water into the soil."* Option A best matches this. Over-irrigation causing salinity applies to Punjab/Haryana, not Jharkhand/Chhattisgarh — a common trap in such questions.

Q40. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

The chapter argues that 'resources are not free gifts of nature' and that human beings are essential components of resources. Using the example of any ONE soil type and ONE method of soil conservation, explain how human intervention can both degrade a resource and restore its utility.

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Model Answer

Soil type — Laterite Soil:
Laterite soil is naturally prone to erosion and degradation. Human activities like deforestation (cutting trees for farming or timber) remove the protective vegetation cover, causing intense leaching by heavy rain. This strips the soil of humus and plant nutrients, making it infertile and unfit for cultivation.

Soil conservation method — Contour Ploughing:
When humans plough along the contour lines instead of up and down the slope, it decelerates the flow of water down the slope, reducing erosion. This restores the utility of laterite soil — as seen in Karnataka, Kerala and Tamil Nadu, where such conservation has made it suitable for growing tea and coffee.

Source: Resources and Development, Soil Erosion and Soil Conservation / Classification of Soils

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Explanation

- The question has two linked parts: degradation AND restoration — address both explicitly.
- Examiners expect: (1) named soil type with how humans degrade it, (2) named conservation method with how it restores utility. Each part carries ~1 mark; the link to the chapter argument carries ~1 mark.
- Laterite + contour ploughing is the clearest example from the textbook. You could also use alluvial soil + terrace farming, but laterite is more direct as the text explicitly mentions both its degradation by deforestation and its restoration by conservation techniques.
- Avoid vague answers — always name the specific soil and method.

Q41. deep | thorough-understanding | § (whole-chapter synthesis) **[5]**

Sustainable development requires that present development does not compromise the needs of future generations. Analyse how THREE of the following — over-irrigation, mining without reclamation, deforestation, and ploughing up-and-down slopes — each violate this principle by creating a specific, lasting form of land or soil damage.

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Model Answer

Sustainable development demands that current actions do not permanently damage resources needed by future generations. Three activities that violate this principle are:

1. **Over-irrigation:** Excess irrigation in states like Punjab, Haryana, and western U.P. causes waterlogging, which increases soil salinity and alkalinity. This permanently reduces soil fertility, making land unfit for cultivation for future generations.
1. **Mining without reclamation:** After excavation, mining sites are abandoned leaving deep scars and overburdening. In states like Jharkhand and Chhattisgarh, this causes severe, long-lasting land degradation that cannot be easily reversed.
1. **Deforestation:** Removal of forests exposes soil to erosion. Without vegetation cover, running water and wind remove the topsoil permanently, as soil formation takes millions of years to rebuild even a few centimetres.
1. **Ploughing up-and-down slopes:** This creates channels for quick water flow, accelerating gully and sheet erosion, stripping away fertile topsoil irreversibly and rendering land unfit for farming.

(Any THREE of the above four points are sufficient for full marks.)

Source: Resources and Development, Chapter 1 — Land Degradation and Soil Erosion sections

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Explanation

- The examiner expects you to **name the activity → state the specific damage → explain why it is lasting/irreversible**. Three such chains earn full marks.
- Always use textbook terms: *waterlogging, salinity, alkalinity, gully erosion, sheet erosion, overburdening*.
- Mention specific states where the textbook does — it shows you have read the source carefully and earns extra credit.
- Do not just list activities; each point must clearly link back to the sustainable development principle (permanent loss for future generations).

Q42. medium | thorough-understanding | § (whole-chapter synthesis) **[3]**

Sheet erosion and gully erosion both result from running water, yet they damage agricultural land in fundamentally different ways. Explain the mechanism of each, identify the type of land they produce, and state one farming practice that can reduce water-induced soil erosion in general.

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Model Answer

Gully erosion: Running water cuts through clayey soil, forming deep channels called gullies. The land becomes unfit for cultivation and is known as **bad land** (e.g., ravines in the Chambal basin).

Sheet erosion: Water flows as a sheet over large areas down a slope, washing away the fertile **top soil** uniformly across the surface.

Farming practice to reduce water-induced erosion: Contour ploughing — ploughing along contour lines decelerates the flow of water down slopes, reducing erosion.

Source: Resources and Development, Soil Erosion and Soil Conservation

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Explanation

- Examiners expect the **mechanism** of each type (how water acts), the **resulting land type** (bad land / loss of topsoil), and **one named practice** with a brief reason.
- Key terms to use: *gullies, bad land/ravines* for gully erosion; *sheet erosion, top soil* for sheet erosion; *contour ploughing* as the conservation measure.
- Terrace cultivation or strip cropping are also acceptable as the farming practice — any one is sufficient for 1 mark.

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