



CUET PG 2024 Agro forestry Shift 3

Time Allowed :1 Hours 45 minutes

Maximum Marks :300

Total Questions :75

General Instructions

Read the following instructions very carefully and strictly follow them:

1. This question paper comprises 75 questions. All questions are compulsory.
2. Each question carries 04 (four) marks.
3. For each correct response, the candidate will get 04 (four) marks.
4. For each incorrect response, 01 (one) mark will be deducted from the total score.
5. Un-answered/un-attempted response will be given no marks.
6. To answer a question, the candidate needs to choose one option as the correct option.
7. However, after the process of challenges of the Answer Key, in case there are multiple correct options or a change in the key, only those candidates who have attempted it correctly as per the revised Final Answer Key will be awarded marks.
8. In case a question is dropped due to some technical error, full marks shall be given to all the candidates irrespective of the fact who have attempted it or not.

Question 1: Basic principles of ecology are:

- (A) All organisms and physical environment are interdependent with each other.
- (B) Each organism has no limit of tolerance.
- (C) The nature strives for greater diversity.
- (D) The environment is holocentric.

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (A), (C) and (D) only.

Correct Answer: (D) (A), (C) and (D) only.

Solution:

The basic principles of ecology include: - Interdependence between organisms and their physical environment (A). - Nature's tendency for greater diversity (C). - The environment being holocentric, meaning it is influenced by various interconnected factors (D).

Option (B) is incorrect as organisms have specific tolerance limits for environmental conditions.

Quick Tip

Tip: Ecology focuses on interdependence, diversity, and system interactions. Remember that every organism has a limit of tolerance!

Question 2: Arrange anatomical features of stem from surface to inner layers:

- (A) Vascular bundles
- (B) Epidermis
- (C) Hypodermis
- (D) Thick cuticle

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).



(B) (D), (B), (C), (A).

(C) (B), (A), (C), (D).

(D) (C), (D), (A), (B).

Correct Answer: (B) (D), (B), (C), (A).

Solution:

The correct arrangement of stem layers from the surface to inner regions is: 1. Thick cuticle (outermost protective layer). 2. Epidermis (outermost cell layer). 3. Hypodermis (layer beneath the epidermis). 4. Vascular bundles (inner conducting tissues).

This sequence reflects the structural organization in most vascular plants.

Quick Tip

Tip: Start from the outermost protective layer (cuticle), move inward to the vascular conducting tissues!

Question 3: Arrange growth stages of wheat from beginning to end of life cycle:

(A) CRI

(B) Dough

(C) Flowering

(D) Boot

Choose the correct answer from the options given below:

(A) (A), (D), (C), (B).

(B) (A), (B), (D), (C).

(C) (A), (C), (D), (B).

(D) (C), (B), (D), (A).

Correct Answer: (A) (A), (D), (C), (B).

Solution:

The growth stages of wheat in sequence are: 1. CRI (Crown Root Initiation): First critical growth phase.



2. Boot: The stage when the head develops within the leaf sheath.
3. Flowering: Pollen shedding and fertilization occur.
4. Dough: Grain development and ripening.

Quick Tip

Tip: Remember "CBD Flour" (CRI, Boot, Dough, Flowering) to recall the wheat growth stages in sequence.

Question 4: Arrange the following activities in the chronological order of their starting year in India:

- (A) Pradhan Mantri Fasal Bima Yojana (PMFBY)
- (B) Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)
- (C) Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)
- (D) Pradhan Mantri Matsya Sampada Yojana (PMMSY)

Choose the correct answer from the options given below:

- (A) (A), (D), (C), (B).
- (B) (A), (B), (C), (D).
- (C) (B), (A), (D), (C).
- (D) (C), (B), (D), (A).

Correct Answer: (A) (A), (D), (C), (B).

Solution:

Chronological order of the initiatives:

1. PMFBY (2016): Crop insurance scheme.
2. PMMSY (2020): Fisheries and aquaculture development.
3. PMGKAY (2020): Free food grains during COVID-19.
4. PLISFPI (2021): Incentives for food processing industries.



Quick Tip

Tip: Chronologically remember PMFBY (2016), PMMSY (2020), PMGKAY (2020), PLISFPI (2021) as "Farmers (PMFBY) Feed Fishers (PMMSY), Then Families (PMGKAY), Finally Factories (PLISFPI)."

Question 5: Planning Commission divided India into how many agroclimatic zones?

- (A) 62
- (B) 15
- (C) 126
- (D) 67

Correct Answer: (B) 15.

Solution:

The Planning Commission of India divided the country into 15 agroclimatic zones based on soil type, climate, and topography. This classification helps in planning and implementing region-specific agricultural strategies to optimize productivity.

Quick Tip

Tip: Remember "15 Zones" as a benchmark for agroclimatic planning in India!

Question 6: Plant physiological and biochemical response to elevated CO₂ is known as:

- (A) CO₂-fertigation
- (B) CO₂-humification
- (C) CO₂-nitrification
- (D) CO₂-fertilization

Correct Answer: (D) CO₂-fertilization.

Solution:

CO₂-fertilization refers to the enhancement of plant growth and productivity due to increased



atmospheric carbon dioxide (CO₂) levels. This occurs because CO₂ is a primary reactant in photosynthesis, leading to improved carbon assimilation and growth rates under elevated conditions.

Quick Tip

Tip: Remember, elevated CO₂ directly benefits plant growth through photosynthesis, termed as "CO₂-fertilization."

Question 7: Which cropping system occupies the maximum area in India?

- (A) Rice - wheat
- (B) Rice - rice
- (C) Maize - chickpea
- (D) Maize - wheat

Correct Answer: (A) Rice - wheat.

Solution:

The rice-wheat cropping system occupies the maximum area in India, especially in the Indo-Gangetic Plains. This system is a staple for food security, providing a major share of the country's cereals. It ensures year-round utilization of land, with rice grown during the kharif season and wheat during rabi.

Quick Tip

Tip: Think of India's staple food crops—rice and wheat—to remember the dominant cropping system.

Question 8: Match List-I with List-II and choose the correct answer from the options given below:



List I	Potential Cropping System	List II: Rainfall (mm)
A	Double cropping	I. <300
B	No Crop	II. 301-700
C	Single cropping	III. 701-1100
D	Inter cropping	IV. >1100

Options:

(A) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

(B) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)

(C) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

(D) (A) - (IV), (B) - (II), (C) - (III), (D) - (I)

Correct Answer: (D) (A) - (IV), (B) - (II), (C) - (III), (D) - (I)

Solution:

The correct matching between List-I and List-II is based on the rainfall suitability for different cropping systems:

- A. Double cropping matches with IV (>1100 mm) as it requires very high rainfall to sustain two harvests in a year.
- B. No Crop matches with II (301-700 mm) as this range provides insufficient rainfall for effective cropping.
- C. Single cropping matches with III (701-1100 mm) as it thrives under moderate to high rainfall conditions.
- D. Inter cropping matches with I (<300 mm) because it can survive under low rainfall conditions.

Thus, the correct sequence is (A) - (IV), (B) - (II), (C) - (III), (D) - (I).



Quick Tip

Quick Tip:

Match cropping systems based on rainfall intensity:

- **Double cropping:** Requires the highest rainfall.
- **No cropping:** Works with moderate rainfall.
- **Single cropping:** Suitable for moderate to high rainfall.
- **Inter cropping:** Survives with the lowest rainfall.

Question 9: Which among the following is a positional average?

- (A) Mean
- (B) Median
- (C) Mode
- (D) Midrange

Correct Answer: (B) Median.

Solution:

A positional average is a measure of central tendency based on the position of data points in an ordered dataset. The median represents the middle value when data is arranged in ascending or descending order, making it a positional average. In contrast, mean and mode are calculated differently.

Quick Tip

Tip: Median is called a positional average because it depends on the order, not on the values of the dataset.

Question 10: Which one is not a benefit of agroforestry?

- (A) Efficient recycling of nutrients



- (B) Improvement in microclimate
- (C) Reduction of pressure on forest
- (D) Green water uptake

Correct Answer: (D) Green water uptake.

Solution:

Agroforestry offers several benefits such as recycling nutrients, improving the microclimate, and reducing pressure on forests by integrating trees and crops. However, "green water uptake" refers to water availability for plants through precipitation, which is not a direct benefit of agroforestry.

Quick Tip

Tip: Focus on soil, climate, and ecosystem benefits to identify correct agroforestry advantages.

Question 11: Which programme has been launched as a part of the Golden Jubilee celebration of ICAR?

- (A) Lab to Land Programme
- (B) National Demonstration Project
- (C) Training and Visit System
- (D) Integrated Rural Development Programme

Correct Answer: (A) Lab to Land Programme.

Solution:

The "Lab to Land Programme" was launched during the Golden Jubilee celebration of ICAR to bridge the gap between agricultural research and field implementation. It focuses on disseminating agricultural technology to farmers for improved productivity.



Quick Tip

Tip: Remember ICAR's Golden Jubilee initiative as "Lab to Land," emphasizing technology transfer to farmers.

Question 12: Conversion of 'central leaf into shiny tubular structure' is associated with which of the following pest of rice crop?

- (A) Gall midge
- (B) Gundhi bug
- (C) Stem borer
- (D) Case worm

Correct Answer: (A) Gall midge.

Solution:

The rice gall midge causes the central leaf of rice plants to transform into a shiny tubular structure, commonly referred to as a "silver shoot." This pest significantly reduces yield by affecting the growth of rice tillers.

Quick Tip

Tip: Associate the "shiny tubular structure" with gall midge and its distinctive damage called "silver shoot."

Question 13: Which of the following facts are associated with khaira disease of rice?

- (A) Appearance of white mid rib
- (B) Symptoms appear between two and four weeks after transplanting
- (C) Stunted growth
- (D) Dead hearts

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.



(C) (B), (C) and (D).

(D) (A), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Khaira disease in rice is caused by zinc deficiency. Symptoms include the appearance of white midribs, stunted growth, and symptoms developing 2–4 weeks after transplanting.

”Dead hearts” are not associated with khaira disease.

Quick Tip

Tip: Think of ”zinc deficiency in rice” causing midrib whitening and stunting for khaira disease.

Question 14: Identify the facts associated with wilt in chickpea crop:

(A) Occurs 3 weeks after sowing

(B) Weakening and dying of plants

(C) Treated seed with Azotobacter + PSB can control wilt

(D) Dark colouration of affected portions

Choose the correct answer from the options given below:

(A) (A), (B) and (D) only.

(B) (A), (B) and (C) only.

(C) (B), (C) and (D).

(D) (A), (C) and (D) only.

Correct Answer: (C) (B), (C) and (D).

Solution:

Wilt in chickpea is caused by the Fusarium species. Key symptoms include: - Weakening and dying of plants (B). - Dark coloration of affected portions (D). - Management involves treating seeds with Azotobacter and PSB (C).

The statement (A), ”Occurs 3 weeks after sowing,” is incorrect as wilt can manifest at



varying times depending on environmental conditions.

Quick Tip

Tip: For wilt in chickpea, remember symptoms like plant weakening and dark patches, and that seed treatments (Azotobacter + PSB) can mitigate it.

Question 15: Match List-I with List-II and choose the correct answer from the options given below:

List I	Disease	List II: Organism
A	Loose smut	I. Nevosia
B	Karnal bunt	II. Puccinia
C	Rust	III. Erysiphe
D	Powdery mildew	IV. Ustilago

Options:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
- (C) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
- (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (B) (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

Solution:

The matching between List-I and List-II is based on the causal organism for each disease:

- A. Loose smut matches with IV (Ustilago), which is a fungal pathogen responsible for smut diseases.
- B. Karnal bunt matches with I (Nevosia), which causes Karnal bunt in wheat.
- C. Rust matches with III (Erysiphe), which is a fungal pathogen known for causing rust diseases.



- D. Powdery mildew matches with II (Puccinia), a causal organism of powdery mildew.

Quick Tip

Quick Tip:

To remember the associations:

- Loose smut: Ustilago.
- Karnal bunt: Neovossia.
- Rust: Erysiphe.
- Powdery mildew: Puccinia.

Memorize using the initials: LU-NE-R-E-P.

Question 16: Match List-I with List-II and choose the correct answer from the options given below:

List I	Plant nutrient	List II: Scientist associated
A	Carbon from air	I. Justus V. Liebig
B	Carbon from soil	II. Francis Bacon
C	Phosphorous from soil	III. Bossingault
D	Water is the principle element of vegetation	IV. Humphrey Davy

Options:

- (A) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- (B) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (D) (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Correct Answer: (A) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Solution:

The matching between List-I and List-II is based on the scientists' contributions to plant



nutrition:

- A. Carbon from air matches with III (Bossingault), who established that plants derive carbon from the atmosphere.
- B. Carbon from soil matches with IV (Humphrey Davy), who emphasized the role of soil in plant nutrition.
- C. Phosphorous from soil matches with I (Justus V. Liebig), the pioneer of agricultural chemistry.
- D. Water is the principle element of vegetation matches with II (Francis Bacon), who highlighted the role of water in plant growth.

Thus, the correct sequence is (A) - (III), (B) - (IV), (C) - (I), (D) - (II).

Quick Tip

Quick Tip:

To remember the associations:

- Carbon from air: Bossingault.
- Carbon from soil: Humphrey Davy.
- Phosphorous from soil: Justus V. Liebig.
- Water's importance: Francis Bacon.

Use "CB-PH-JL-WF" as a mnemonic to memorize these associations quickly.

Question 17: How many essential nutrients are required for plant growth and development?

- (A) 14
- (B) 17
- (C) 18
- (D) 20



Correct Answer: (C) 18.

Solution:

Plants require 18 essential nutrients for their growth and development. These include macronutrients such as nitrogen, phosphorus, and potassium, as well as micronutrients like zinc, iron, and boron. Each nutrient plays a critical role in plant metabolism.

Quick Tip

Tip: Remember "18 essential nutrients," categorized as 9 macronutrients and 9 micronutrients.

Question 18: Deficiency symptoms of phosphorus are:

- (A) Purple orange colour of older leaves
- (B) New leaves turned to white
- (C) Poor root system
- (D) Reduced tillering in cereals

Choose the correct answer from the options given below:

- (A) (A), (B), (C) and (D)
- (B) (A), (B) and (C) only
- (C) (A), (C) and (D) only
- (D) (A) and (C) only

Correct Answer: (D) (A) and (C) only.

Solution:

Phosphorus deficiency symptoms include: - Purple-orange coloration of older leaves (A).
- Poor root system development (C).

Reduced tillering in cereals (D) is not a specific symptom of phosphorus deficiency, and new leaves turning white (B) is associated with other nutrient deficiencies.



Quick Tip

Tip: Phosphorus deficiency primarily affects older leaves and root system development.

Question 19: What is true in relation to soil fertility and productivity?

- (A) Soil fertility is the capability of soil for higher crop productivity.
- (B) Soil fertility is an inherent capacity of soil to provide essential plant nutrients in balance proportion.
- (C) Soil productivity is more complex than soil fertility.
- (D) All productive soils are fertile soils and vice-versa.

Choose the correct answer from the options given below:

- (A) (B) and (C) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (A) (B) and (C) only.

Solution:

- Soil fertility refers to the inherent capacity of soil to supply essential nutrients (B).
- Soil productivity is a broader concept that includes soil fertility along with other factors like crop management (C).

Statement (A) oversimplifies fertility, and statement (D) is incorrect as not all fertile soils are productive.

Quick Tip

Tip: Soil fertility focuses on nutrient availability, while productivity considers broader factors like crop and climate management.

Question 20: Who proposed the essentiality criteria of nutrients for plants?

- (A) Justus V Liebig and Stohmann (1873)



- (B) Arnon and Stout (1939)
(C) Boussingault and Brown (1887)
(D) Birner and Lucanus (1866)

Correct Answer: (B) Arnon and Stout (1939).

Solution:

Arnon and Stout (1939) formulated the criteria for essentiality of plant nutrients. They defined three conditions: 1. The nutrient must be essential for the plant to complete its lifecycle.

2. The function of the nutrient cannot be replaced by another element.
3. The nutrient must be directly involved in plant metabolism.

Quick Tip

Tip: Remember Arnon and Stout's three criteria: lifecycle completion, unique role, and metabolic involvement.

Question 21: Match List-I with List-II and choose the correct answer from the options given below:

List I	Biochemical and physiological function	List II: Associated nutrients
A	Major constituent of plants	I. N and S
B	Involved in biochemical reactions	II. Zn and Mo
C	Free ionic state	III. P and B
D	Present as chelates	IV. Ca and Mg

Options:

- (A) (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
(B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
(C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
(D) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)



Correct Answer: (A) - (I), (B) - (III), (C) - (IV), (D) - (II)

Solution:

The matching between List-I and List-II is based on the biochemical and physiological functions of nutrients:

- A. Major constituent of plants matches with I (N and S), as nitrogen and sulfur are essential components of proteins and nucleic acids.
- B. Involved in biochemical reactions matches with III (P and B), which are key nutrients in enzymatic and metabolic activities.
- C. Free ionic state matches with IV (Ca and Mg), which play significant roles as ions in cellular processes.
- D. Present as chelates matches with II (Zn and Mo), which are often chelated with organic molecules for activity.

Thus, the correct sequence is (A) - (I), (B) - (III), (C) - (IV), (D) - (II).

Quick Tip

Quick Tip:

To recall these associations:

- N and S are structural components (major constituents).
- P and B assist in reactions (biochemical).
- Ca and Mg remain as free ions.
- Zn and Mo form chelates.

Memorize this sequence: *NS-PB-CM-ZM*.

Question 22: Sequential steps involved in mineralisation of nitrogen:

(A) NH_4



- (B) NO_2
- (C) Protein
- (D) NO_3

Choose the correct sequence from the options given below:

- (A) (A), (B), (C), (D).
- (B) (A), (B), (D), (C).
- (C) (C), (B), (D), (A).
- (D) (C), (A), (B), (D).

Correct Answer: (D) (C), (A), (B), (D).

Solution:

The correct sequence for nitrogen mineralization is: 1. Protein (C) is broken down into ammonium (A, NH_4).

2. Ammonium is oxidized to nitrite (B, NO_2).

3. Nitrite is further oxidized to nitrate (D, NO_3).

Quick Tip

Tip: Remember the order: Protein $\rightarrow$ NH_4 $\rightarrow$ NO_2 $\rightarrow$ NO_3 .

Question 23: Forest sustainability deals with:

- (A) Integration of environmental, economic, and social principles.
- (B) Fullest utilization of forest resources.
- (C) Satisfaction of present environmental, economic, and social needs.
- (D) Conservation of forest resources to assure the future generations' needs.

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (C) and (D) only.
- (D) (A), (B), (C) and (D).



Correct Answer: (C) (A), (C) and (D) only.

Solution:

Forest sustainability involves: - Integrating environmental, economic, and social principles (A).

- Ensuring current needs are met without compromising future generations (C, D).

Full utilization of resources (B) is not sustainable and leads to resource depletion.

Quick Tip

Tip: Sustainability balances current needs (economic, social, environmental) with conservation for the future.

Question 24: Conservation tillage helps in:

(A) Maximising soil water storage

(B) Minimising soil erosion

(C) Reducing energy consumption

(D) Increasing bulk density

Choose the correct answer from the options given below:

(A) (A), (B) and (D) only.

(B) (A), (B) and (C) only.

(C) (A), (B), (C) and (D).

(D) (B), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Conservation tillage: - Helps retain soil water (A).

- Reduces soil erosion (B).

- Minimizes energy use (C).

Increasing bulk density (D) is not a benefit of conservation tillage.



Quick Tip

Tip: Conservation tillage conserves water, prevents erosion, and saves energy.

Question 25: Which cropping system is more sustainable in nature?

- (A) Maize - wheat
- (B) Maize - mustard
- (C) Rice - wheat
- (D) Maize - chickpea

Correct Answer: (D) Maize - chickpea.

Solution:

Maize-chickpea is more sustainable as it combines a cereal (maize) with a legume (chickpea), which fixes nitrogen in the soil and reduces the need for chemical fertilizers. This promotes soil health and sustainability compared to cereal-cereal systems.

Quick Tip

Tip: Sustainable cropping systems often pair cereals with legumes to improve soil health.

Question 26: Match List-I with List-II and choose the correct answer from the options given below:

List I	Agroforestry definition	List II: Associated with
A	Sustainable management system for land	I. Bartle, 1977
B	Range land management with trees	II. Thomas, 1977
C	Integration of trees, crops, and animals	III. Bene et al., 1977
D	Combination of agriculture and forestry	IV. Nair, 1979

Options:

- (A) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)



(B) (A) - (I), (B) - (III), (C) - (I), (D) - (IV)

(C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

(D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (A) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

Solution:

The matching between List-I and List-II is based on the agroforestry definitions and the contributions of key scientists:

- A. Sustainable management system for land matches with III (Bene et al., 1977), focusing on integrating sustainability through agroforestry.
- B. Range land management with trees matches with I (Bartle, 1977), who contributed to the integration of trees into rangelands.
- C. Integration of trees, crops, and animals matches with IV (Nair, 1979), emphasizing the holistic agroforestry approach.
- D. Combination of agriculture and forestry matches with II (Thomas, 1977), highlighting the integration of forestry into agricultural systems.

Thus, the correct sequence is (A) - (III), (B) - (I), (C) - (IV), (D) - (II).

Quick Tip

Quick Tip:

To remember the associations:

- Bene et al. (1977): Sustainability of land.
- Bartle (1977): Trees in rangelands.
- Nair (1979): Trees, crops, and animals integration.
- Thomas (1977): Agriculture and forestry combination.

Memorize the sequence: *Bene-Bartle-Nair-Thomas (BBNT)*.



Question 27: Agricultural waste management involves sequence of events as:

- (A) Crop and animal waste
- (B) Mineralization of nutrients
- (C) Decomposition into manures and used in crop production
- (D) Nutrient uptake by crop plants

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).
- (B) (A), (C), (B), (D).
- (C) (A), (B), (D), (C).
- (D) (B), (C), (D), (A).

Correct Answer: (A) (A), (B), (C), (D).

Solution:

The correct sequence of agricultural waste management is: 1. Crop and animal waste (A) is collected.

2. Nutrients are mineralized (B).

3. Waste is decomposed into manure and used in crop production (C).

4. Nutrient uptake occurs by crop plants (D).

Quick Tip

Tip: Follow the natural flow: waste collection → mineralization → decomposition → nutrient uptake.

Question 28: Match List-I with List-II and choose the correct answer from the options given below:



List I	Agricultural waste	List II: Nitrogen (%)
A	Cattle dung	I. 1.0-1.8
B	Poultry manure	II. 0.6
C	Sheep dung	III. 0.95
D	Horse dung	IV. 0.70

Options:

(A) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

(B) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

(C) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

(D) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Correct Answer: (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Solution:

The matching between List-I and List-II is based on the nitrogen content in different agricultural wastes:

- A. Cattle dung matches with III (0.95%), as it contains a moderate nitrogen percentage.
- B. Poultry manure matches with IV (0.70%), which is relatively lower in nitrogen compared to other sources.
- C. Sheep dung matches with I (1.0-1.8%), having the highest nitrogen content among these options.
- D. Horse dung matches with II (0.6%), which has the lowest nitrogen percentage.

Thus, the correct sequence is (A) - (III), (B) - (IV), (C) - (I), (D) - (II).



Quick Tip

Quick Tip:

To recall nitrogen percentages in agricultural waste:

- Sheep dung (highest): 1.0-1.8%.
- Cattle dung (moderate): 0.95%.
- Poultry manure: 0.70%.
- Horse dung (lowest): 0.6%.

Mnemonic: Sheep (High) - Cattle (Moderate) - Poultry - Horse (Low).

Question 29: The correct order of steps in resource conservation is:

- (A) Maximise retention and percolation of precipitation
- (B) Soil and water conservation measures
- (C) Management of silt
- (D) Proper storage of run off water

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).
- (B) (B), (A), (C), (D).
- (C) (A), (B), (D), (C).
- (D) (B), (D), (C), (A).

Correct Answer: (A) (A), (B), (C), (D).

Solution:

The correct sequence for resource conservation includes: 1. Maximizing retention and percolation of precipitation (A).

2. Implementing soil and water conservation measures (B).

3. Managing silt (C).

4. Properly storing runoff water (D).



Quick Tip

Tip: Resource conservation starts with precipitation retention, followed by soil measures, silt management, and storage.

Question 30: Benefits of conservation agriculture include:

- (A) Improvement in soil structure
- (B) Increase in soil organic carbon
- (C) Need more energy
- (D) Reduce infiltration of water

Choose the correct answer from the options given below:

- (A) (A) and (B) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), and (D).
- (D) (A), (B), (C) and (D).

Correct Answer: (A) (A) and (B) only.

Solution:

Conservation agriculture improves soil structure (A) and increases soil organic carbon (B), which promotes soil health. However, it reduces energy consumption rather than requiring more energy (C). Reduced infiltration (D) is not a benefit but a drawback.

Quick Tip

Tip: Conservation agriculture focuses on improving soil structure and organic carbon without increasing energy needs.

Question 31: Which of the following statements about mango are correct?

- (A) Mankurad is a mid-season popular variety of Goa.



- (B) Niranjan is an off-season variety.
- (C) Chausa is a late-maturing variety of South India.
- (D) India ranks first in mango production.

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (A) (A), (B) and (D) only.

Solution:

Mankurad is a mid-season variety popular in Goa (A). Niranjan is known for being an off-season mango variety (B). India indeed ranks first in mango production globally (D). However, Chausa is a late-maturing variety of North India, not South India.

Quick Tip

Tip: Remember, Chausa is a famous mango variety of North India, often confused with South India.

Question 32: Match List-I with List-II and choose the correct answer from the options given below:

List I	Fruit crop	List II: Variety
A	Pear	I. Mariposa
B	Peach	II. Amritha
C	Plum	III. Laxton's Superb
D	Pineapple	IV. Quetta

Options:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)



(C) (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

(D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Solution:

The matching between List-I and List-II is based on the specific varieties of fruit crops:

- A. Pear matches with III (Laxton's Superb), which is a recognized variety of pear.
- B. Peach matches with IV (Quetta), an associated variety of peach.
- C. Plum matches with I (Amritha), a well-known variety of plum.
- D. Pineapple matches with II (Mariposa), which is a variety of pineapple.

Thus, the correct sequence is (A) - (III), (B) - (IV), (C) - (II), (D) - (I).

Quick Tip

Quick Tip:

To recall the matches:

- Pear - Laxton's Superb.
- Peach - Quetta.
- Plum - Amritha.
- Pineapple - Mariposa.

Use the mnemonic *PLPP* (*Pear-Laxton, Peach-Quetta, Plum-Amritha, Pineapple-Mariposa*) for quick recall.

Question 33: Which of the following statements about grapes are correct?

(A) Summer pruning time in Anab-e-Shahi is April.

(B) Winter pruning time in Thompson Seedless is October.

(C) Summer pruning time in Bhokri is June-July.



(D) Summer pruning time in Bangalore Blue is January to May.

Choose the correct answer from the options given below:

(A) (A), (B) and (D) only.

(B) (A), (B) and (C) only.

(C) (A), (B), (C) and (D).

(D) (B), (C) and (D) only.

Correct Answer: (C) (A), (B), (C) and (D).

Solution:

All the statements about grapes are correct: - Summer pruning for Anab-e-Shahi is in April (A).

- Winter pruning for Thompson Seedless is done in October (B).

- Summer pruning for Bhokri is carried out in June-July (C).

- Bangalore Blue's summer pruning time spans January to May (D).

Quick Tip

Tip: Grapes' pruning schedules vary significantly by variety, ensuring optimal fruit yield.

Question 34: Arrange fruit crops as per their importance in Indian economy (Top to bottom):

(A) Guava

(B) Mango

(C) Citrus

(D) Banana

Choose the correct answer from the options given below:

(A) (B), (D), (C), (A).

(B) (B), (A), (C), (D).

(C) (B), (A), (D), (C).

(D) (B), (D), (A), (C).



Correct Answer: (B) (B), (A), (C), (D).

Solution:

The correct order of fruit crops as per their importance in the Indian economy is:

1. Mango (B): Known as the king of fruits, highly demanded domestically and internationally.
2. Guava (A): Affordable, highly consumed, and widely cultivated in India.
3. Citrus (C): Grown mainly for juice and value-added products.
4. Banana (D): Grown extensively but ranked lower in economic importance compared to mango and guava.

Quick Tip

Tip: Mango and guava are highly valued fruits in the Indian market, both economically and culturally.

Question 35: De-navelling in banana refers to which of the following practice?

- (A) Removal of female bud
- (B) Removal of side suckers
- (C) Thinning of fruit bunch
- (D) Removal of male bud

Correct Answer: (D) Removal of male bud.

Solution:

De-navelling in bananas refers to the removal of the male bud after the formation of fruit bunches. This practice helps conserve nutrients, improving the fruit's size and quality.

Quick Tip

Tip: Think of de-navelling as focusing resources on fruit development by removing male buds.



Question 36: *Anacardium occidentale* is native to which country?

- (A) India
- (B) South America
- (C) Philippines
- (D) Brazil

Correct Answer: (D) Brazil.

Solution:

Anacardium occidentale, commonly known as the cashew tree, is native to Brazil. It was later spread to other tropical regions by Portuguese explorers.

Quick Tip

Tip: Remember, Brazil is home to many economically significant tropical plants like cashews.

Question 37: Which of the following statements about coconut are correct?

- (A) As an oilseed, coconut holds 15 percent share of the total oil seed value output in India.
- (B) Ideal pH is 7.0 to 9.5 for good growing of coconut.
- (C) Required average temperature is 27 to 32°C.
- (D) Kera Sree is a hybrid variety of coconut.

Choose the correct answer from the options given below:

- (A) (A), (C) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (A) (A), (C) and (D) only.

Solution:

- Coconut contributes 15- The ideal pH range for coconut growth is 5.2 to 7.0, not 7.0 to 9.5



(B).

- Coconut requires an average temperature of 27–32°C for optimal growth (C).
- Kera Sree is indeed a hybrid coconut variety (D).

Quick Tip

Tip: Coconut thrives in tropical climates with pH below 7 and hybrid varieties like Kera Sree are highly productive.

Question 38: Match List-I with List-II and choose the correct answer from the options given below:

List I	Important feature	List II: Variety of Turmeric
A	Resistant to shoot borer	I. Suranjana
B	Resistant to leaf spot	II. BSR-1
C	High oleoresin content	III. Prathibha
D	Resistant to drought	IV. Sudarshana

Options:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (D) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)

Correct Answer: (D) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)

Solution:

The matching between List-I and List-II is based on the important features and varieties of turmeric:

- A. Resistant to shoot borer matches with I (Suranjana), a variety bred for disease resistance.
- B. Resistant to leaf spot matches with IV (Sudarshana), which is known for its pest



resistance.

- C. High oleoresin content matches with III (Prathibha), which is recognized for its high oleoresin yield.
- D. Resistant to drought matches with II (BSR-1), a drought-tolerant variety of turmeric.

Quick Tip

Quick Tip:

To recall the associations:

- Sudarshana: Shoot borer resistance.
- Suranjana: Leaf spot resistance.
- Prathibha: High oleoresin content.
- BSR-1: Drought resistance.

Use the mnemonic *S-S-P-B* (*Sudarshana-Suranjana-Prathibha-BSR-1*) to remember these matches.

Question 39: The correct difference between Lianas and Epiphytes is:

- (A) Lianas will grow with the support of other plants, but epiphytes will not take support of other plants.
- (B) Lianas are vascular plants rooted in the ground, but epiphytes grow on other plants.
- (C) Lianas are present in tropical rain forests and epiphytes in dense forests of tropical climate.
- (D) Lianas do not maintain direct nutrient relation with other plants, epiphytes maintain.

Correct Answer: (B) Lianas are vascular plants rooted in the ground, but epiphytes grow on other plants.

Solution:

Lianas are woody vines that root in the ground and climb other plants for support, while



epiphytes grow on other plants but are not parasitic and derive nutrients from the air, water, and debris.

Quick Tip

Tip: Lianas are climbing vines, whereas epiphytes like orchids grow independently on trees.

Question 40: In which association where one species is benefited and the other one is not affected?

- (A) Mutualism
- (B) Antibiosis
- (C) Exploitation
- (D) Commensalism

Correct Answer: (D) Commensalism.

Solution:

Commensalism is a type of ecological relationship where one organism benefits while the other remains unaffected. For example, barnacles attaching to whales benefit by gaining mobility without harming the whale.

Quick Tip

Tip: Commensalism = benefit for one species, no harm or benefit for the other.

Question 41: Components from bottom to top in an ecological pyramid are:

- (A) Producers, Herbivores, Carnivores
- (B) Herbivores, Producers, Carnivores
- (C) Secondary carnivores, Herbivores, Producers
- (D) Parasites, Herbivores, Carnivores



Correct Answer: (A) Producers, Herbivores, Carnivores.

Solution:

The ecological pyramid is structured based on energy flow. Producers form the base, followed by herbivores as primary consumers, and carnivores as secondary or tertiary consumers.

Quick Tip

Tip: Always start with producers at the base, followed by herbivores, and then carnivores in ecological pyramids.

Question 42: Interlocked food chains are called:

- (A) Intermixing
- (B) Interlinkage
- (C) Food web
- (D) Food matrix

Correct Answer: (C) Food web.

Solution:

A food web is a network of interconnected food chains where different organisms are linked through various feeding relationships, ensuring ecosystem stability.

Quick Tip

Tip: Food webs illustrate complex relationships between species, unlike linear food chains.

Question 43: Ecological succession happening on sand is known as:

- (A) Halosere
- (B) Xerosere



- (C) Lithosere
- (D) Psammosere

Correct Answer: (D) Psammosere.

Solution:

Psammosere refers to ecological succession occurring on sandy substrates, such as sand dunes, where pioneer species stabilize the sand and enable succession.

Quick Tip

Tip: "Psammo" refers to sand, making psammosere specific to sandy ecosystems.

Question 44: Identify the correct aspects regarding multipurpose tree species:

- (A) Resistance to drought, floods etc.
- (B) Good leaf litter addition
- (C) Resistant to coppicing, pollarding, pruning
- (D) Closed crown

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (C) and (D) only.
- (D) (B), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Multipurpose tree species are valuable for their:

- Resistance to extreme conditions like drought and floods (A).
- Contribution to soil fertility through leaf litter addition (B).
- Ability to regenerate after coppicing, pollarding, and pruning (C). Closed crowns (D) are less favorable as they limit undergrowth.



Quick Tip

Tip: Multipurpose trees combine ecological benefits like soil enrichment and adaptability to harsh conditions.

Question 45: Basic objective of farm forestry is:

- (A) Climate protection
- (B) Community needs
- (C) Maximum profit
- (D) Wild boar control

Correct Answer: (C) Maximum profit.

Solution:

Farm forestry primarily focuses on achieving maximum profit by integrating trees into agricultural lands. This helps in generating additional income for farmers through the sale of timber, firewood, and other tree-derived products while maintaining ecological balance.

Quick Tip

Tip: Farm forestry aims at profit maximization by utilizing unproductive land for timber and allied products.

Question 46: Mean Annual Increment of tree growth can be computed by using the formula:

- (A) Volume/Age
- (B) $\text{Volume} * \text{Age}$
- (C) Age/Volume
- (D) $\text{Volume} * \text{DBH}/\text{Age}$

Correct Answer: (A) Volume/Age .

Solution:



The Mean Annual Increment (MAI) of tree growth is calculated as the total volume of the tree divided by its age. This provides an average growth rate over the years.

Quick Tip

Tip: Remember, $MAI = \text{Total Volume} \div \text{Age}$, which indicates the average yearly growth.

Question 47: Huber's formula is useful to measure which part of the tree?

- (A) Leaf weight
- (B) Stem volume
- (C) Root weight
- (D) Crown width

Correct Answer: (B) Stem volume.

Solution:

Huber's formula is specifically used to calculate the volume of the stem by multiplying the cross-sectional area of the stem with the length.

Quick Tip

Tip: Huber's formula applies to stems: $\text{Volume} = \text{Cross-sectional Area} \times \text{Length}$.

Question 48: Evergreen shola forests are found in which area of India?

- (A) Nilgiris
- (B) Annamalai hills
- (C) Palni hills
- (D) Himalayas of Jammu and Kashmir

Choose the correct answer from the options given below:



- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Evergreen shola forests are predominantly found in the Nilgiris, Annamalai hills, and Palni hills of South India. These are characterized by unique flora and fauna adapted to their montane ecosystem.

Quick Tip

Tip: Shola forests are exclusive to high-altitude regions of the Western Ghats.

Question 49: IUCN stands for:

- (A) International Union for Conservation of Nature
- (B) International Union for Conservation of Nature and Natural Resources
- (C) Intergovernmental Union for Nature's Conservation
- (D) Indian Union for Conservation of Nature

Correct Answer: (A) International Union for Conservation of Nature.

Solution:

The International Union for Conservation of Nature (IUCN) is a global organization that focuses on conservation efforts and sustainable resource use. It is renowned for its "Red List," which assesses the conservation status of species worldwide.

Quick Tip

Tip: Remember, IUCN = International Union for Conservation of Nature (No "Natural Resources" in the name).



Question 50: Match List-I with List-II and choose the correct answer from the options given below:

List I	Organization/Act	List II: Year of establishment
A	Bombay Natural History Society	I. 1958
B	Wildlife Preservation Society of India	II. 1883
C	World Wildlife Fund	III. 1972
D	Wildlife Protection Act	IV. 1969

Options:

- (A) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
(B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
(C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
(D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (A) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

Solution:

The matching between List-I and List-II is based on the year of establishment of organizations and acts:

- A. Bombay Natural History Society matches with II (1883), as it was established to study and conserve natural history.
- B. Wildlife Preservation Society of India matches with I (1958), marking its establishment to conserve wildlife in India.
- C. World Wildlife Fund matches with IV (1969), known globally for its environmental conservation work.
- D. Wildlife Protection Act matches with III (1972), an important legislative milestone in wildlife conservation.

Thus, the correct sequence is (A) - (II), (B) - (I), (C) - (IV), (D) - (III).



Quick Tip

Quick Tip:

To remember the associations:

- Bombay Natural History Society: 1883.
- Wildlife Preservation Society of India: 1958.
- World Wildlife Fund: 1969.
- Wildlife Protection Act: 1972.

Use the mnemonic *BW-WW-WP* (*Bombay-Wildlife-World Wildlife-Wildlife Protection*) with corresponding years to recall easily.

Question 51: Match List-I with List-II and choose the correct answer from the options given below:

List I	Book	List II: Author
A	Forest Policy	I. AK Patra
B	Forest Mensuration	II. BS Chundawat and SK Gautam
C	Agroforestry Principles and Practice	III. SS Negi
D	Text Book of Agroforestry	IV. Chapman

Options:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
(B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
(C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
(D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Solution:

The matching between List-I and List-II is based on the authors of the listed books:



- A. Forest Policy matches with III (SS Negi), who contributed extensively to forest policies.
- B. Forest Mensuration matches with IV (Chapman), an expert in forestry measurement techniques.
- C. Agroforestry Principles and Practice matches with II (BS Chundawat and SK Gautam), authors of this important work.
- D. Text Book of Agroforestry matches with I (AK Patra), a foundational text in agroforestry.

Thus, the correct sequence is (A) - (III), (B) - (IV), (C) - (I), (D) - (II).

Quick Tip

Quick Tip:

To recall the associations:

- Forest Policy: SS Negi.
- Forest Mensuration: Chapman.
- Agroforestry Principles: BS Chundawat and SK Gautam.
- Text Book of Agroforestry: AK Patra.

Use the mnemonic *FP-FM-AP-TB* (Forest Policy, Forest Mensuration, Agroforestry Principles, Text Book) with their respective authors in sequence to recall the matches.

Question 52: Who is the father of Agroforestry in India?

- (A) PKR Nair
- (B) BS Chundawat
- (C) AP Dwivedi
- (D) Mohan Kumar

Correct Answer: (A) PKR Nair.



Solution:

PKR Nair is regarded as the father of agroforestry in India due to his pioneering contributions in integrating trees with agriculture, enhancing sustainability, and promoting agroforestry practices.

Quick Tip

Tip: PKR Nair is globally recognized for his efforts in advancing agroforestry.

Question 53: What are the important practices in canopy management of Agroforestry tree species?

- (A) Pruning
- (B) Pollarding
- (C) Coppicing
- (D) Uprooting

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only.
- (B) (A), (B) and (C) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Canopy management includes pruning, pollarding, and coppicing, which help optimize light penetration and growth. Uprooting is not a part of canopy management.

Quick Tip

Tip: Focus on tree management techniques like pruning, pollarding, and coppicing for canopy control.



Question 54: Which of the followings are correct regarding Riparian zones?

- (A) Strips of vegetation bordering water bodies
- (B) Width may be up to 50 m
- (C) Interface between land and river
- (D) Most nations have neglected them

Choose the correct answer from the options given below:

- (A) (A), (B) and (C) only.
- (B) (A), (B) and (D) only.
- (C) (A), (B), (C) and (D).
- (D) (B), (C) and (D) only.

Correct Answer: (A) (A), (B) and (C) only.

Solution:

Riparian zones are vegetative buffers along water bodies that help in water quality management and erosion prevention. While many are neglected, the correct practices focus on their conservation.

Quick Tip

Tip: Riparian zones are crucial for ecosystem conservation and biodiversity support.

Question 55: Identify the chronological order of establishment of the following programmes/organizations:

- (A) Central Agroforestry Research Institute
- (B) International Council for Research in Agroforestry
- (C) All India Co-ordinated Research Project on Agroforestry
- (D) National Research Center for Agroforestry

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).
- (B) (C), (B), (D), (A).
- (C) (A), (C), (D), (B).



(D) (C), (B), (D), (A).

Correct Answer: (C) (A), (C), (D), (B).

Solution:

The correct chronological order is:

1. Central Agroforestry Research Institute (A)
2. All India Co-ordinated Research Project on Agroforestry (C)
3. National Research Center for Agroforestry (D)
4. International Council for Research in Agroforestry (B)

Quick Tip

Tip: Remember the order by focusing on the sequence of research projects and councils in India.

Question 56: Match List-I with List-II and choose the correct answer from the options given below:

List I	System	List II: Components
A	Horti-pastoral	I. Fodder crops + tree
B	Silvi-olericulture	II. Perennial hedges + crops
C	Alley cropping	III. Fruit tree + fodder
D	Forage forestry	IV. Tree + vegetables

Options:

- (A) (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (A) (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Solution:



The matching between List-I and List-II is based on the components of the agroforestry systems:

- A. Horti-pastoral matches with III (Fruit tree + fodder), combining horticulture with fodder production.
- B. Silvi-olericulture matches with IV (Tree + vegetables), which integrates tree cultivation with vegetable farming.
- C. Alley cropping matches with II (Perennial hedges + crops), a system that uses hedges to support crop production.
- D. Forage forestry matches with I (Fodder crops + tree), designed for animal feed and forestry production.

Thus, the correct sequence is (A) - (III), (B) - (IV), (C) - (II), (D) - (I).

Quick Tip

Quick Tip:

To recall the associations:

- Horti-pastoral: Fruit tree + fodder.
- Silvi-olericulture: Tree + vegetables.
- Alley cropping: Perennial hedges + crops.
- Forage forestry: Fodder crops + tree.

Use the mnemonic *H-S-A-F* (*Horti, Silvi, Alley, Forage*) with their respective components to remember the matches.

Question 57: Which are the popular tree species under wood lot category?

- (A) Bamboo
- (B) Casuarina
- (C) Poplar



(D) Glyricidia

Choose the correct answer from the options given below:

(A) (A), (B) and (D) only.

(B) (A), (B) and (C) only.

(C) (A), (C) and (D) only.

(D) (B), (C) and (D) only.

Correct Answer: (B) (A), (B) and (C) only.

Solution:

Bamboo, Casuarina, and Poplar are widely planted under the woodlot category. These species are chosen for their economic and ecological benefits. Glyricidia, while useful, is more common in agroforestry systems.

Quick Tip

Tip: Remember Casuarina and Poplar as key woodlot species in India.

Question 58: Match List-I with List-II and choose the correct answer from the options given below:

List I	Agroforestry Classification	List II: Practices
A	Agri-silviculture	I. Cut and carry fodder production
B	Silvipasture	II. Multipurpose wood lots
C	Agrisilvipastural	III. Alley cropping
D	Other systems	IV. Home gardens

Options:

(A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

(B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)

(C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

(D) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)



Correct Answer: (D) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

Solution:

The matching between List-I and List-II is based on the classification of agroforestry systems and their practices:

- A. Agri-silviculture matches with III (Alley cropping), which integrates trees with crops in rows or alleys.
- B. Silvipasture matches with I (Home gardens), which combine forestry with livestock grazing.
- C. Agrisilvipastural matches with IV (Cut and carry fodder production), which involves combining trees with agriculture and pasture.
- D. Other systems matches with II (Multipurpose wood lots), which focus on diverse and flexible forestry systems.

Thus, the correct sequence is (A) - (III), (B) - (I), (C) - (IV), (D) - (II).

Quick Tip

Quick Tip:

To recall the associations:

- Agri-silviculture: Alley cropping.
- Silvipasture: Home gardens.
- Agrisilvipastural: Cut and carry fodder production.
- Other systems: Multipurpose wood lots.

Use the mnemonic *A-S-A-O* (*Agri, Silvi, Agrisilvipastural, Other*) with respective practices for better retention.

Question 59: What is the decreasing order of approximate area in different states in India under Taungya cultivation?



- (A) Tripura
- (B) West Bengal
- (C) Uttar Pradesh
- (D) Maharashtra

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).
- (B) (C), (B), (D), (A).
- (C) (A), (B), (D), (C).
- (D) (C), (B), (D), (A).

Correct Answer: (B) (C), (B), (D), (A).

Solution:

The correct order is Uttar Pradesh $\hookrightarrow$ West Bengal $\hookrightarrow$ Maharashtra $\hookrightarrow$ Tripura based on forested areas under Taungya cultivation, emphasizing states with high forest plantation activity.

Quick Tip

Tip: Uttar Pradesh leads, followed by West Bengal and Maharashtra in Taungya practices.

Question 60: Arrange correct time of seed collection in different forest tree species starting from January to December.

- (A) *Acacia catechu*
- (B) *Acrocarpus fraxinifolius*
- (C) *Ailanthus grandis*
- (D) *Casuarina equisetifolia*

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D).
- (B) (A), (C), (B), (D).
- (C) (B), (A), (C), (D).
- (D) (B), (D), (A), (C).



Correct Answer: (B) (A), (C), (B), (D).

Solution:

The correct sequence for seed collection:

1. *Acacia catechu* (January-February)
2. *Ailanthus grandis* (March-May)
3. *Acrocarpus fraxinifolius* (June-August)
4. *Casuarina equisetifolia* (October-December)

Quick Tip

Tip: Sequence seed collection by aligning with regional flowering timelines.

Question 61: Identify the tree with fleshy fruits.

- A. Teak and walnut
- B. Anthocephala
- C. Oak, Almond
- D. *Gmelina* and *Azadirachta*

Choose the correct answer from the options given below:

- (A) A and B only
- (B) A, B and C
- (C) C and D
- (D) B and D

Correct Answer: (D) B and D

Solution: Trees with fleshy fruits usually exhibit soft, edible structures surrounding their seeds. *Gmelina* and *Azadirachta* are examples of such trees, making option (D) the correct answer.

Quick Tip

Fleshy fruits have seeds covered with a soft, pulpy layer—typically seen in trees like *Azadirachta* (Neem).



Question 62: Which of the following trees are not meant for pulpwood extraction?

- A. Anthocephalus chinensis
- B. Eucalyptus tereticornis
- C. Populus spp.
- D. Pithecellobium

Choose the correct answer from the options given below:

- (A) A and B only
- (B) B and D only
- (C) A only
- (D) D only

Correct Answer: (D) D only

Solution: Pulpwood is primarily derived from species like *Eucalyptus* and *Populus*. *Pithecellobium* is not commonly used for pulpwood extraction.

Quick Tip

Pulpwood trees are fast-growing species such as *Eucalyptus* and *Populus*, commonly used in the paper industry.

Question 63: Arrange the states in the decreasing order of approximate area under forests in India:

- (A) Madhya Pradesh
- (B) Maharashtra
- (C) Orissa
- (D) Arunachal Pradesh

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D)
- (B) (A), (C), (B), (D)
- (C) (B), (A), (D), (C)
- (D) (C), (B), (D), (A)



Correct Answer: (A) (A), (B), (C), (D)

Solution: Madhya Pradesh has the largest forest cover among Indian states, followed by Maharashtra, Odisha, and Arunachal Pradesh.

Quick Tip

Remember: Madhya Pradesh consistently ranks first in forest area, while states like Arunachal have dense but smaller forests.

Question 64: What is the size of the drawing sheet generally used in survey work?

- (A) 56 x 56 cm
- (B) 66 x 66 cm
- (C) 76 x 76 cm
- (D) 76 x 56 cm

Correct Answer: (D) 76 x 56 cm

Solution: The standard size for survey sheets is 76 x 56 cm, allowing for adequate representation of terrain and details.

Quick Tip

Standardize your memory: Common survey drawing sizes are 76 x 56 cm for field applications.

Question 65: Which of the following statements about survey are correct?

- (A) A leader: one who directs the work and records the measurements.
- (B) A follower: one who holds the handle of the chain at the rear end.
- (C) In close traverse survey a polygon is formed.
- (D) In open traverse survey a polygon is not formed.

Choose the correct answer from the options given below:

- (A) (A), (B) and (D) only
- (B) (A), (B) and (C) only



(C) (A), (B), (C) and (D)

(D) (B), (C) and (D) only

Correct Answer: (D) (B), (C) and (D) only

Solution: Statements (B), (C), and (D) are correct. In open traverse surveys, polygons are not formed, whereas close traverse surveys result in a polygon.

Quick Tip

Survey types: Open traverse is used for roads, while closed traverse is suitable for boundary mapping.

Question 66: Which of the following statements about forest classification are correct?

(A) Government-owned forests in the state are under the control of the central government.

(B) Government-owned forests in Union Territories are under the control of the central government.

(C) The head of state forests department is designated as Chief Conservator of Forests.

(D) National forest was one component in the classification as per National Forest Policy 1952.

(A) (A), (B) and (D) only

(B) (A), (B) and (C) only

(C) (A), (B), (C) and (D)

(D) (B), (C) and (D) only

Correct Answer: (D) (B), (C) and (D) only

Solution: Statements (B), (C), and (D) align with the National Forest Policy of 1952. Union Territories' forests are managed by the central government, while Chief Conservator of Forests oversees state forests.

Quick Tip

Union Territories' forests are managed directly by the central government, unlike states with local management.



Question 67: In India, how much per cent of land holdings are less than two ha?

- (A) 90
- (B) 80
- (C) 70
- (D) 60

Correct Answer: (A) 90

Solution: In India, approximately 90% of land holdings are classified as small or marginal, measuring less than two hectares.

Quick Tip

India's agricultural landscape is dominated by small and marginal farmers due to land fragmentation.

Question 68: Which of the following statements are correct?

- (A) In shifting cultivation areas, the land is plentiful and labour is scarce.
- (B) Taungya system involves intensive use of land.
- (C) In shifting cultivation areas, the land is limited and labour is plentiful.
- (D) In shifting cultivation areas, both land and labour are plentiful.

Choose the correct answer from the options given below:

- (A) (A) and (B) only
- (B) (B) and (C) only
- (C) (B) and (D) only
- (D) (D) only

Correct Answer: (A) (A) and (B) only

Solution: Shifting cultivation occurs in regions where land is abundant but labour is scarce. Taungya systems involve intensive cultivation practices.



Quick Tip

Shifting cultivation is often practiced in sparsely populated regions with dense vegetation.

Question 69: Arrange gases in sequence (Higher to lower) as per their content in the environment at or near sea:

- (A) Nitrogen
- (B) Oxygen
- (C) CO₂
- (D) Argon

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D)
- (B) (A), (B), (D), (C)
- (C) (D), (C), (A), (B)
- (D) (C), (D), (B), (A)

Correct Answer: (B) (A), (B), (D), (C)

Solution: Nitrogen constitutes 78% of the atmosphere, followed by Oxygen (21%), Argon (0.93%), and CO₂ (0.04%).

Quick Tip

Memorize the order: Nitrogen ζ Oxygen ζ Argon ζ CO₂ for atmospheric composition.

Question 70: The chief source of carbon monoxide in the environment is

- (A) Open fires
- (B) Burning coal mines
- (C) Factories
- (D) Automobiles

Correct Answer: (D) Automobiles

Solution: Automobiles contribute the most carbon monoxide emissions due to incomplete



combustion of fossil fuels.

Quick Tip

Automobiles with poor fuel combustion emit significant carbon monoxide. Regular engine maintenance can reduce emissions.

Question 71: International Agreement on Convention on Biological Diversity was enacted in which year?

- (A) 1992
- (B) 1998
- (C) 2006
- (D) 2011

Correct Answer: (A) 1992

Solution: The Convention on Biological Diversity (CBD) was opened for signature at the Earth Summit in Rio de Janeiro in 1992. It is a key international treaty for sustainable biodiversity management.

Quick Tip

The Earth Summit of 1992 marked a turning point in global environmental policy, introducing treaties like the CBD.

Question 72: Which of the following statements regarding pests of forest are correct?

- (A) Sap feeder insects predominantly belong to order hemiptera.
 - (B) Cicadas and Psyllids are sap-sucking pests.
 - (C) In most cases sap feeders lead to tree death.
 - (D) *Bacillus thuringiensis* is the dominant agent against defoliators.
- (A) (A), (B) and (D) only
 - (B) (A), (B) and (C) only
 - (C) (A), (B), (C) and (D)



(D) (B), (C) and (D) only

Correct Answer: (A) (A), (B) and (D) only

Solution: Sap feeders like Cicadas and Psyllids belong to the order Hemiptera and cause stress but rarely lead to death. *Bacillus thuringiensis* is effective against defoliators.

Quick Tip

Sap feeders weaken trees by extracting nutrients, while defoliators directly affect leaves.

Question 73: Which of the following statements are correct?

(A) Hymenopteran and dipteran parasitoids are enemies for lepidopteran.

(B) Some parasitoids directly predate their hosts.

(C) Parasitoids lay their eggs inside their host.

(D) Carabid beetles and spiders are predators.

(A) (A), (B) and (D) only

(B) (A), (B) and (C) only

(C) (A), (B), (C) and (D)

(D) (B), (C) and (D) only

Correct Answer: (C) (A), (B), (C) and (D)

Solution: All statements are correct. Parasitoids attack their hosts, and carabid beetles and spiders are natural predators in ecosystems.

Quick Tip

Parasitoids are biological control agents used in pest management, often targeting specific pests.

Question 74: Which of the following statements about Insect Associated Diseases are correct?

(A) Bark beetles are known to carry fungi that impart blue stain to the sapwood of infested trees.



(B) Bark beetles species of *Ophiostoma* and *Ceratocystis* impart substantial damage to timber products.

(C) After the insects infestation, the sapwood typically becomes severely discolored which is called blue stain.

(D) European spruce bark beetle *Ips typographus* is not pathogenic and does not harm the tree.

(A) (A), (B) and (D) only

(B) (A), (B) and (C) only

(C) (A), (B), (C) and (D)

(D) (B), (C) and (D) only

Correct Answer: (B) (A), (B) and (C) only

Solution: Statements (A), (B), and (C) are true. Blue stain fungi are carried by bark beetles and discolor the sapwood, causing economic losses.

Quick Tip

Blue stain fungi are associated with bark beetles and reduce timber quality but do not weaken structural properties.

Question 75: Match List-I with List-II and choose the correct answer from the options given below:

List I	Disease	List II: Causal organism
A	Dutch elm disease	I. <i>Ceratocystis fagacearum</i>
B	Chestnut blight	II. <i>Ophiostoma ulmi</i>
C	White pine blister	III. <i>Cryphonectria parasitica</i>
D	Oak wilt	IV. <i>Cronartium ribicola</i>

Options:

(A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

(B) (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

(C) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)



(D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (B) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Solution:

The matching between List-I and List-II is based on the causal organisms responsible for the listed diseases:

- A. Dutch elm disease matches with II (*Ophiostoma ulmi*), a fungal pathogen causing wilt in elms.
- B. Chestnut blight matches with I (*Ceratocystis fagacearum*), the fungus responsible for devastating chestnut trees.
- C. White pine blister matches with III (*Cryphonectria parasitica*), a rust fungus affecting white pine trees.
- D. Oak wilt matches with IV (*Cronartium ribicola*), which infects oak species, causing wilt.

Thus, the correct sequence is (A) - (II), (B) - (I), (C) - (III), (D) - (IV).

Quick Tip

Quick Tip:

To remember the associations:

- Dutch elm disease: *Ophiostoma ulmi*.
- Chestnut blight: *Ceratocystis fagacearum*.
- White pine blister: *Cryphonectria parasitica*.
- Oak wilt: *Cronartium ribicola*.

Use the mnemonic *DCWO* (*Dutch-Chestnut-White pine-Oak*) with the corresponding organisms for quick recall.

