INDIAN IQ

IBPS AFO MAINS **2025**

MOST AUTHENTIC ANSWER KEY

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MAX NO. OF QUESTIONS COVERED IN IBPS AFO MAINS 2025 BY ANY INSTITUTE

(WITH ALL PROOFS)

52

OUT OF 60 QUESTIONS IN IBPS AFO MAINS IS COVERED IN INDIAN IQ STUDY MATERIALS & TEST SERIES!

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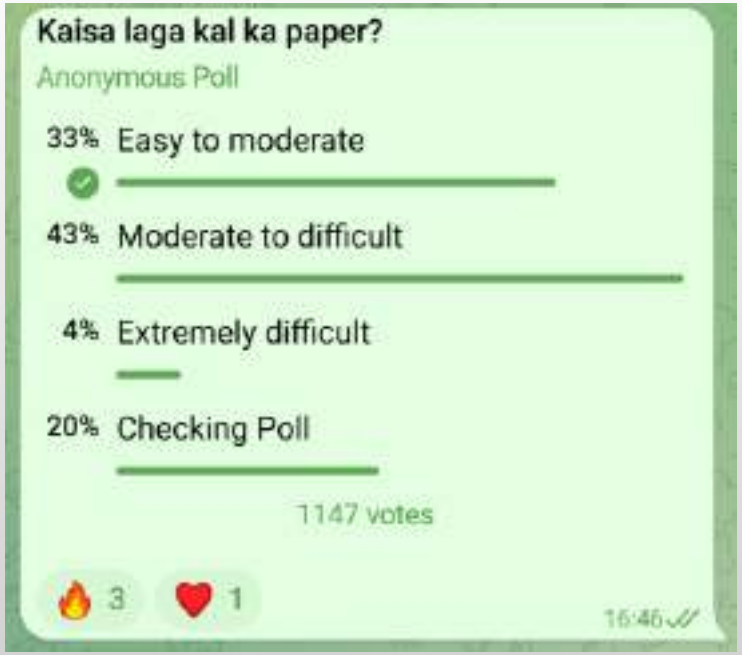
LEVEL OF QUESTIONS



- 33% students out of 1147 sample size told it was easy to moderate, 43% out of them said it to be moderate to difficult and only 4% considered it difficult thus the level of exam was **MODERATE but conceptual. It seems to be easy but actually the paper was tricky.**

MODERATE BUT TRICKY

SAFE SCORE FOR INTERVIEW

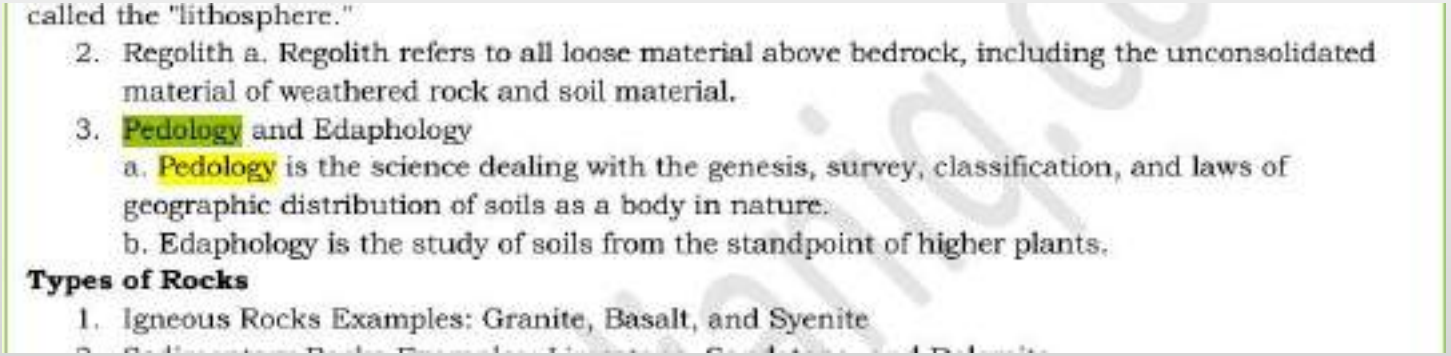
- UR- 23 (+/-3)
- EWS- 23 (+/-3)
- OBC- 23 (+/-3)
- SC- 16 (+/-2)
- ST- 16 (+/-2)

Note- Safe score for interview is predicted keeping current vacancies in consideration. It may increase or decrease with number of vacancies.

Q 1

- Which soil science branch specifically focuses on the origin, morphological characteristics, classification processes, and geographical distribution of soils? (Soil science)

- **Ans- Pedology**


called the "lithosphere."

2. Regolith a. Regolith refers to all loose material above bedrock, including the unconsolidated material of weathered rock and soil material.
3. Pedology and Edaphology
   a. Pedology is the science dealing with the genesis, survey, classification, and laws of geographic distribution of soils as a body in nature.
   b. Edaphology is the study of soils from the standpoint of higher plants.

Types of Rocks

1. Igneous Rocks Examples: Granite, Basalt, and Syenite

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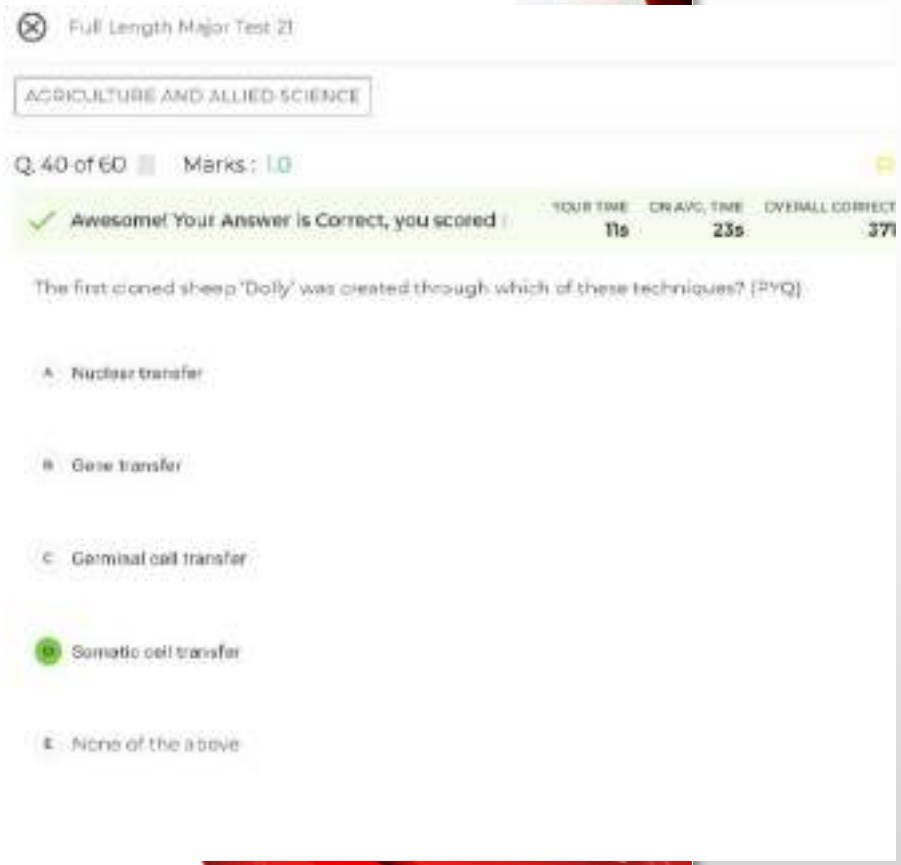
Q 2



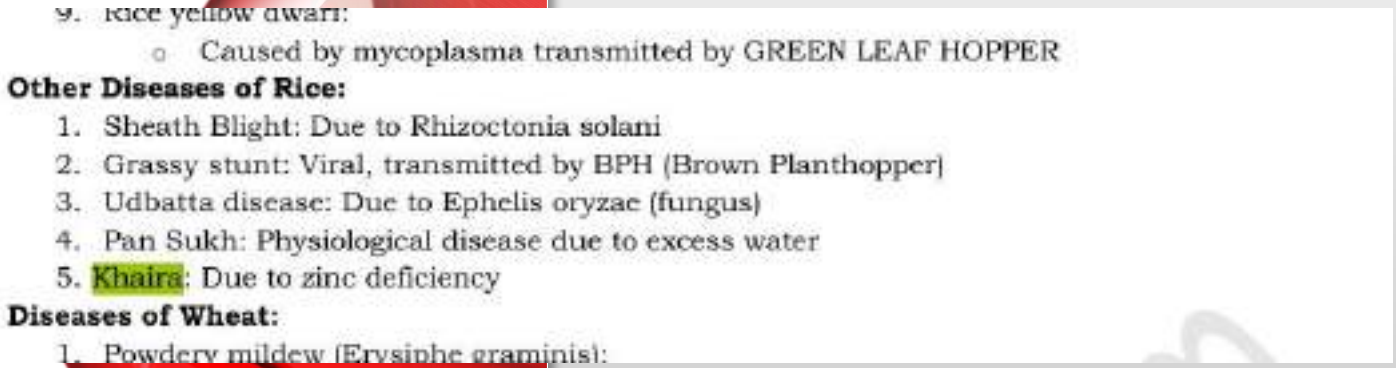
- Dolly the sheep became the first mammal cloned successfully. Which advanced biotechnological technique was utilized to produce this clone? (Biotechnology)

- **Ans- Somatic cell nuclear transfer**

Q 3

- The deficiency of which essential micronutrient leads to the manifestation of Khaira disease in rice, characterized by chlorotic leaves and stunted growth? (Plant physiology)

- **Ans-Zinc**



9. Rice yellow dwarf:
    - Caused by mycoplasma transmitted by GREEN LEAF HOPPER

Other Diseases of Rice:

1. Sheath Blight: Due to Rhizoctonia solani
2. Grassy stunt: Viral, transmitted by BPH (Brown Planthopper)
3. Udbatta disease: Due to Ephelis oryzae (fungus)
4. Pan Sukh: Physiological disease due to excess water
5. Khaira: Due to zinc deficiency

Diseases of Wheat:

1. Powdery mildew (Erysiphe graminis):

Q 4

- Identify the botanical species name of Okra, a widely cultivated vegetable known for its mucilaginous green pods. (Horticulture)

- **Ans-Abelmoschus esculentus**

Convolvulaceae	Sweet potato	Ipomea batata	Tuber	South America
Malvaceae	Okra	Abelmoschus esculentus	Fruit	Africa
Amaranthaceae	Amaranthus	Amaranthus spp.	Leaves, stem	India
Euphorbiaceae	Cassava	Manihot esculanta	Tuber	Brazil

Compounds Responsible for Aroma in Vegetables

Vegetable	Raw/Cooked	Compound

Q 5

- The complete discoloration and death of blossoms, stems, and leaves beginning from the tips and spreading throughout the plant is characteristic of which plant disease category? (Plant Pathology)

- **Ans-Blight**

Definition of diagnostic symptoms in plant diseases-

Disease	Diagnostic Symptoms	Affected Plants
Rust	Orange to reddish-brown pustules on leaves and stems.	Wheat, Corn, Roses
Mildew	White powdery substance on the surface of leaves, flowers, and fruits.	Grapes, Peas, Roses
Blight	Rapid and complete chlorosis, browning, then death of plant tissues.	Potatoes, Tomatoes
Wilt	Wilting and drooping of leaves despite adequate watering.	Tomatoes, Cotton
		Citrus, Apple

Q 6

- Under the DAY-NRLM scheme, which specific fund is provided to Self-Help Groups (SHGs) as an initial financial incentive to promote thrift-based savings and internal lending among members? (Government schemes)

- **Ans-Revolving fund**

MGNREGA	100 days of rural jobs for farm assets.	Feb 2, 2006	Wages: ₹220–319/day; 60:40 wage-material ratio; farm ponds, roads.	₹86,000 cr (2024–25)	11.5 cr households; UP: 2 cr.	PMKSY, RKVY	Geo-tagging via Bhuvan; skilling adds value.
DAY-NRLM	SHGs for women's farm livelihoods.	2011	₹10,000–₹15,000 Revolving Fund; ₹5–10 lakh loans; MKSP, SVEP.	₹14,129 cr (2024–25)	9.2 cr women in 83 lakh SHGs; UP: 20 lakh.	MGNREGA, NLM	25% dairy income boost in Andhra Pradesh.

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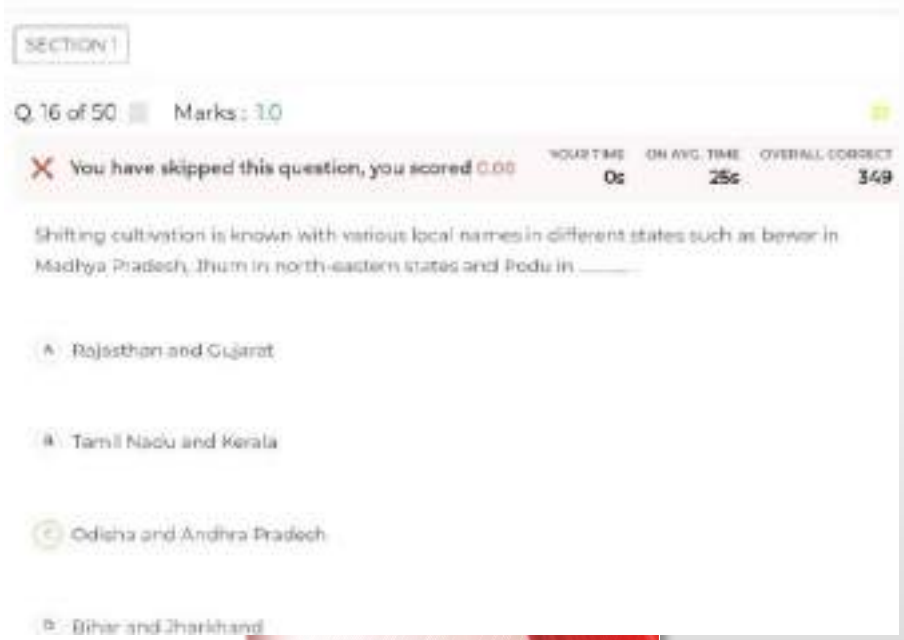
Q 7



- The traditional shifting cultivation system known as Jhum is also referred to as “Bewar” and “Dahiya.” In which Indian state are these local names used? (Forestry)

- **Ans-Madhya Pradesh**

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Q 8

- In papaya cultivation, a proportion of male plants must be retained to ensure adequate pollination for fruit development. What is the recommended percentage of male plants? (Horticulture)

- **Ans-10%**

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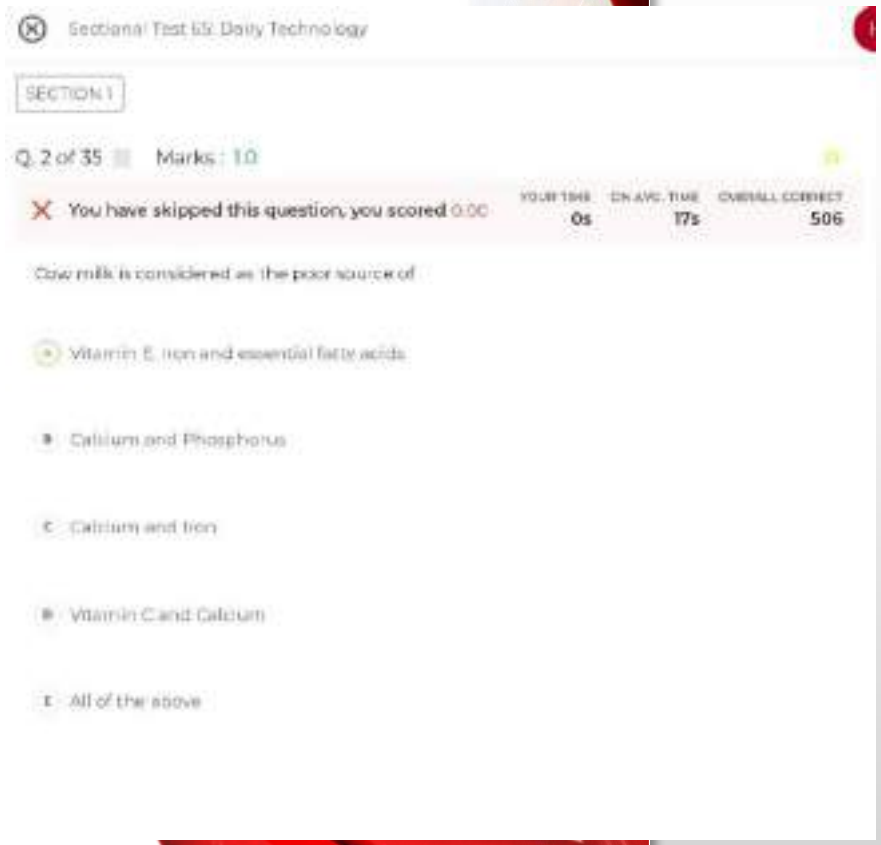
Q 9



- Among domestic animals, cow milk is known to be comparatively low in which essential mineral, making supplementation important for infants and certain populations? (Dairy technology)

- **Ans-Iron**

Q 10

- LD_{50} is a standard toxicological parameter used to express the potency of pesticides. What does LD_{50} specifically measure? (Entomology)

- **Ans-Insecticide toxicity**

- Fungistatis: Phenomenon of inhibition of growth of fungus
- Seed treatment: Thiram, Captan (4g/kg), Carbendazim @ 2g/kg
- Systemic fungicide: Chemical which enters entire plant system - Bavistin, Vitavax (Carboxin), Oxycarboxin
- Non-systemic fungicide: Carbendazim, Mancozeb, DM45
- LD50 value: Dose of fungicide which kills 50% spore
- ED50 value: Dose of fungicide which inactivates 50% spore population
- Oldest fungicide: Bordeaux mixture, discovered by Millardet for Downy mildew of grapes [Lime (1 Kg) + CuSO4 (1Kg) + H2O (100 Litres)]
- Bordeaux paste: Control stem bleeding of coconut
- Burgundy mixture: CuSO4 + Na2CO3 + H2O
- Sulphur: Powdery & Downy mildew, Rust, Tikka, Scab
- Kerathane: Powdery & Downy mildew

Fungicides and their trade name:

S.No.	Class/Common Name	Trade Name/Composition

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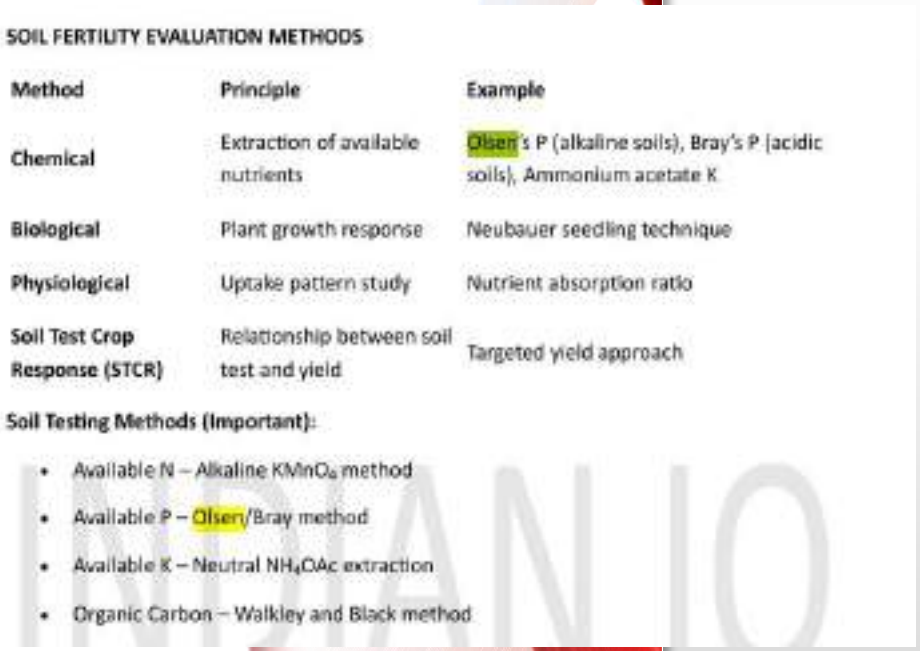
Q 11

- Olsen's extractant method is widely used to determine the availability of which nutrient in neutral to alkaline soils? (Soil science)

- **Ans-Available Phosphorus**



SOIL FERTILITY EVALUATION METHODS

Method	Principle	Example
Chemical	Extraction of available nutrients	Olsen's P (alkaline soils), Bray's P (acidic soils), Ammonium acetate K
Biological	Plant growth response	Neubauer seedling technique
Physiological	Uptake pattern study	Nutrient absorption ratio
Soil Test Crop Response (STCR)	Relationship between soil test and yield	Targeted yield approach

Soil Testing Methods (Important):

- Available N – Alkaline $KMnO_4$ method
- Available P – Olsen/Bray method
- Available K – Neutral NH_4OAc extraction
- Organic Carbon – Walkley and Black method

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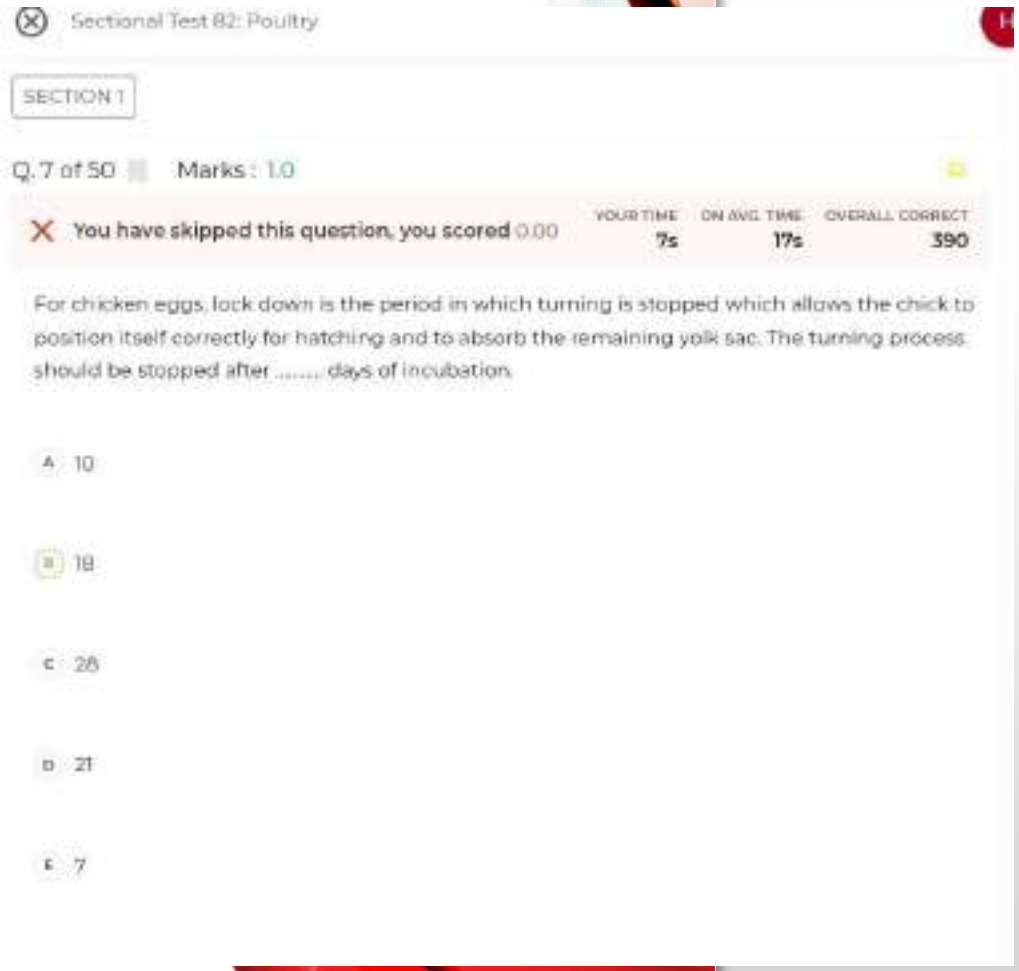
Q 12



During artificial incubation of eggs, turning is performed regularly to prevent embryonic adhesion. After which day of incubation should the turning process be completely stopped? (Poultry)

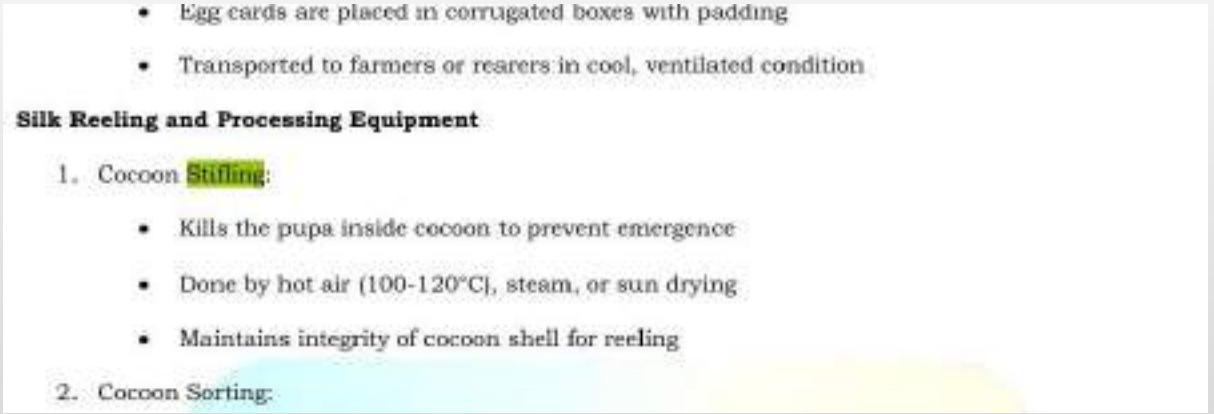
Ans-18th

If the language of question is AFTER which day answer is 18th, if it says from which day answer will be 19th but as in exam it asked after which day answer will be 18th.

Q 13

- In sericulture, what term refers to the process of killing the pupa inside the cocoon without damaging the outer shell to ensure proper reeling? (Sericulture)

- **Ans-Stifling**

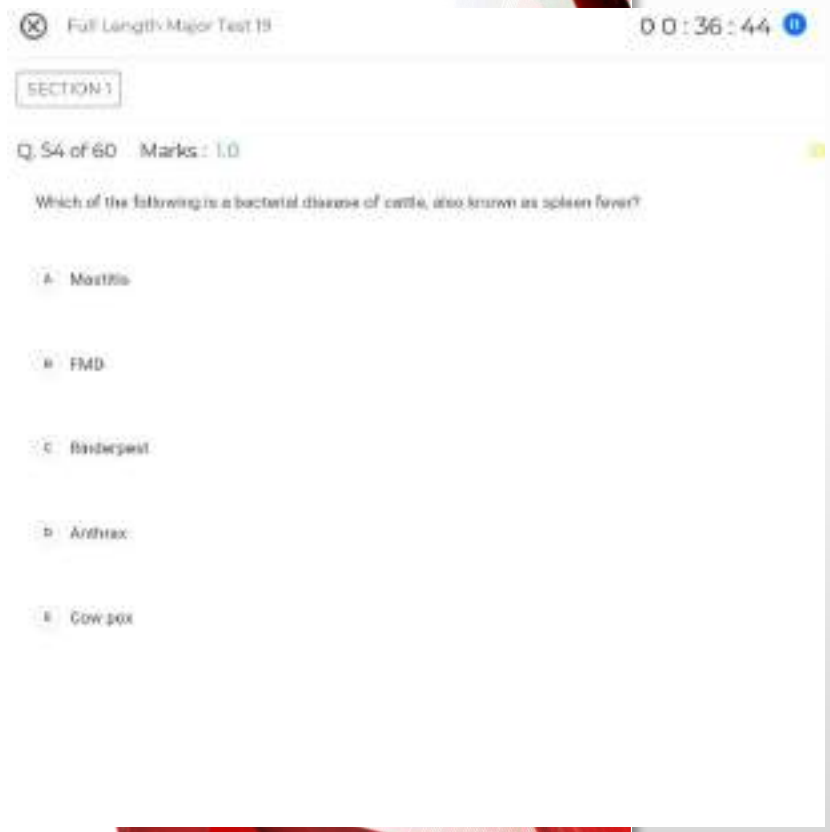


- Egg cards are placed in corrugated boxes with padding
- Transported to farmers or rearers in cool, ventilated condition

Silk Reeling and Processing Equipment

1. Cocoon Stifling:
   - Kills the pupa inside cocoon to prevent emergence
   - Done by hot air (100-120°C), steam, or sun drying
   - Maintains integrity of cocoon shell for reeling
2. Cocoon Sorting:

Q 14



- Anthrax, a highly contagious disease affecting livestock, can also be transmitted to humans. By what alternate name is this zoonotic disease known? (Animal Husbandry)

- **Ans-Spleen fever**

Q 15

- Which type of forest ecosystem is typically found in tropical regions with high rainfall and dense evergreen vegetation? (Forestry)

- **Ans-Wet evergreen forest**

India's forests are divided into **16 major types, 221 subtypes**, based on climatic, edaphic, and physiographic factors.

Major Type	Dominant Vegetation / Species	Rainfall (mm)
Tropical Wet Evergreen	Dipterocarpus, Mesua, Michelia	>2500
Tropical Semi-Evergreen	Terminalia, Syzygium	2000–2500
Tropical Moist Deciduous	Teak (Tectona grandis), Sal (Shorea robusta)	1500–2000
Tropical Dry Deciduous	Acacia, Terminalia, Butea	1000–1500
Tropical Thorn	Prosopis, Capparis	<750

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India's forests can be broadly classified into five categories based on the average annual rainfall they receive. These categories encompass a diverse range of forest types, each with its unique climatic conditions, flora, and geographical distribution.

1. Tropical Evergreen Forests

- **Moist Evergreen Forests:**
  - **Location**: Southern India along the Western Ghats, Andaman and Nicobar Islands, and the northeastern region.
  - **Climate**: Warm and humid with annual precipitation over 200 cm and a mean annual temperature above 22°C.
  - **Common Trees**: Jackfruit, betel nut palm, jamun, mango, and hollock.
- **Semi-Evergreen Forests:**
  - **Location**: Less rainy parts of Western Ghats, Andaman and Nicobar Islands, and the Eastern Himalayas

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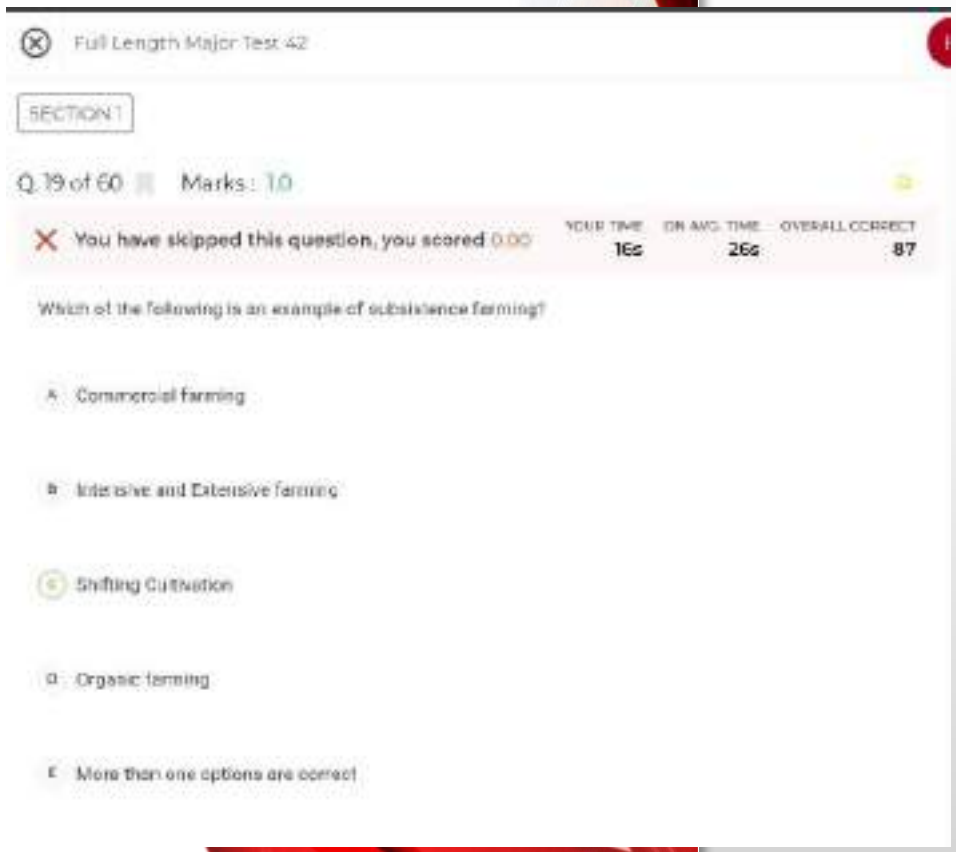
Q 16

- As per the Modified Interest Subvention Scheme (MISS), what is the maximum loan limit announced for fishers, farmers, processors, and other fisheries stakeholders under KCC?
  (Govt schemes)

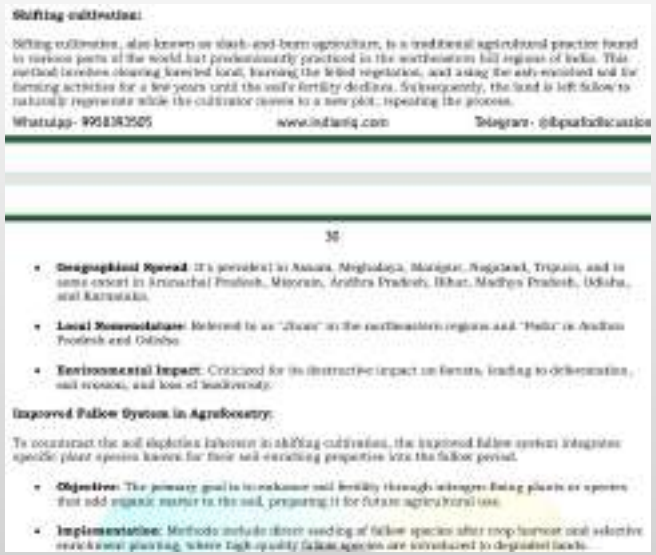
- **Ans-5 lakh**

Q 17



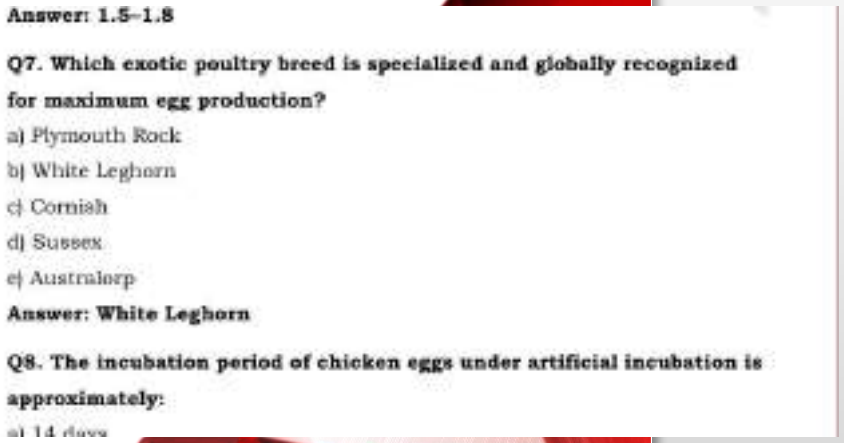
- The farming practice of shifting cultivation wherein forests are cleared and vegetation is burned before cultivation is commonly known as which form of agriculture? (Forestry)

- **Ans-Primitive subsistence farming**



Q 18

- Among the following poultry breeds, which one is globally recognized for having the highest egg-laying capacity? (Poultry)



Answer: 1.5–1.8

Q7. Which exotic poultry breed is specialized and globally recognized for maximum egg production?

a) Plymouth Rock
b) White Leghorn
c) Cornish
d) Sussex
e) Australorp

Answer: White Leghorn

Q8. The incubation period of chicken eggs under artificial incubation is approximately:

a) 14 days

- **Ans-White leghorn**

Q 19

			and worms	
Gaddi	Jammu	Meat and Wool	Small, white with brown hair on face. A part of clip is sent to Dhariwal mills and Amritsar markets. Undercoat is used for the manufacture of high quality Kulu shawls and blankets.	Yield: 1.13 kg/year per sheep
Chokla	Rajasthan, India	Wool Production	Medium-sized, compact body; white with tan or brown face, Merino of Rajasthan	Rams: 45-50 kg; Ewes: 30-35 kg
			Largest	

- Identify the North Indian sheep breed known for producing fine, silky fleece averaging about 5 cm, traditionally used for making high-quality Kullu shawls. (Animal Husbandry)

- **Ans- Gaddi**

Q 20

- Blanching of vegetables prior to freezing is carried out primarily to achieve which purpose? (Post harvest management)

- **Ans- To halt enzymatic activity**

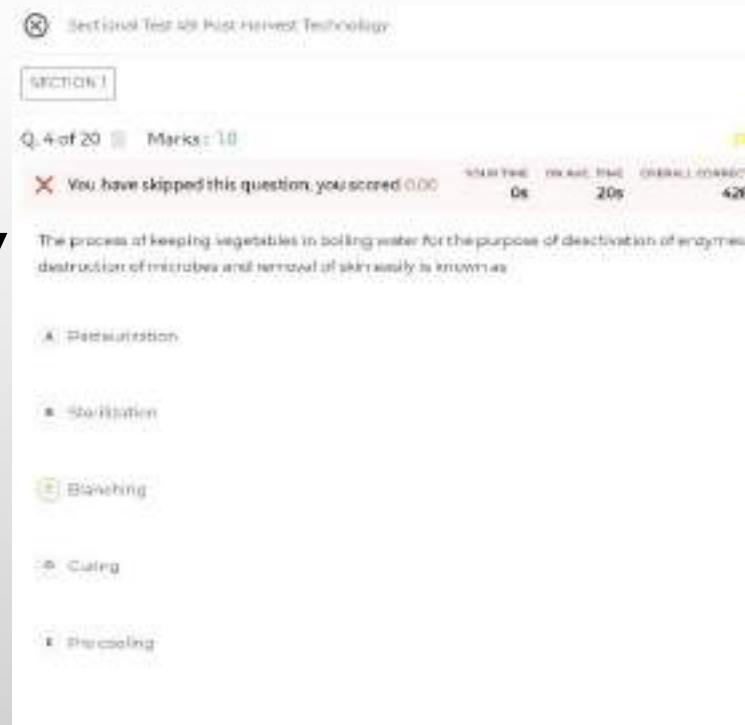
38. The high-protein food supplement developed from groundnut is known as? → Peanut protein concentrate

39. The gas used for carbonation of beverages is? → Carbon dioxide

40. The primary aim of blanching vegetables before freezing is to inactivate? → Enzymes

41. The sweetener saccharin is chemically classified as? → Non-nutritive sweetener

42. The common spoilage microorganism of bread is? → Rhizopus stolonifer



Q 21

- Agricultural loans granted against pledged agricultural produce (including warehouse receipts) for up to 12 months are classified under Agriculture up to what maximum loan limit? (Government schemes)

- **Ans- 90 lakh**

Q 22

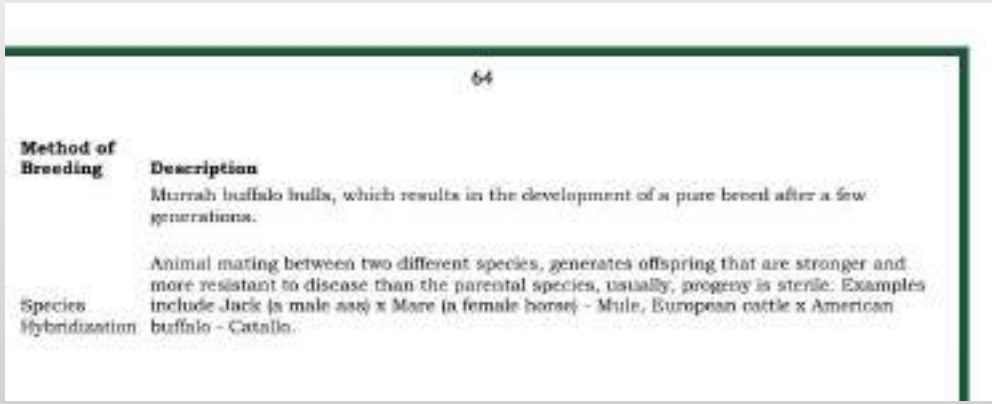
- Which organization in India specifically focuses on strengthening and promoting small-scale shrimp farming through technical support and cooperative development? (Fisheries)

- **Ans- NaCSA**

Q 23

- Which Indian buffalo breed is regarded as the best globally due to milk production and is extensively used for grading up various local buffalo populations? (Animal Husbandry)

- **Ans- Murrah**



Q 24

- The certification required to declare plants or planting material as disease-free for international export is known as which certificate? (Plant pathology)

- **Ans- Phytosanitary certificate**

is? → **Cercospora rodmanii**

59. The quarantine certificate issued for movement of plant material within a country is a? → **Phytosanitary certificate**

60. The method of evaluating insecticide deposits by fluorescent tracers examines what parameter? → **Spray coverage**

61. The application of herbicides along crop rows while leaving inter-rows

Q 25

- Which prestigious North Indian mango cultivar is famous for its sweet flavour, pleasant aroma, fiberless pulp, thin stone, and excellent transport quality? (Horticulture)

- **Ans- Dashehari**

Specially, the mango (as it is favorite fruit of examiners)

Varieties of Mango-

Variety Name	Special Features
Alphonso	Most popular in India, susceptible to spongy tissue, export quality
Banganpalli	Main commercial variety in A.P
Bombay Green	Earliest variety in North India, also known as Malda in UP
Chausa	Sweetest variety
Dashehari	Most popular in North India
Fazil	Late maturing variety
Rosica	Mutant variety
Lal Sindhuri	Powdery mildew resistant
Mulgoa	Mother of all colored varieties, used for preserve
Regular Bearing	Neelam, Gulabkhas, Him Sagar, Pairi, Totapuri
Off-Season Bearer	Niranjan, Madhulika
Rumani	Apple-shaped variety

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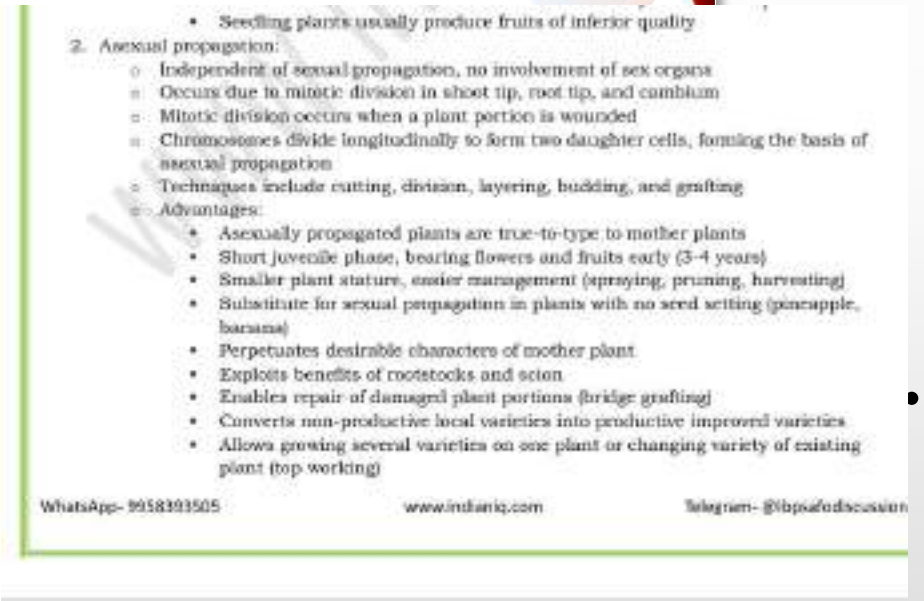
Q 26

- What is the primary advantage of vegetative (clonal) propagation of plants compared to seed propagation? (Biotechnology)


- Seedling plants usually produce fruits of inferior quality

2. Asexual propagation:
   - Independent of sexual propagation, no involvement of sex organs
   - Occurs due to mitotic division in shoot tip, root tip, and cambium
   - Mitotic division occurs when a plant portion is wounded
   - Chromosomes divide longitudinally to form two daughter cells, forming the basis of asexual propagation
   - Techniques include cutting, division, layering, budding, and grafting
   - Advantages:
     - Asexually propagated plants are true-to-type to mother plants
     - Short juvenile phase, bearing flowers and fruits early (3-4 years)
     - Smaller plant stature, easier management (spraying, pruning, harvesting)
     - Substitute for sexual propagation in plants with no seed setting (pineapple, banana)
     - Perpetuates desirable characters of mother plant
     - Exploits benefits of rootstocks and scion
     - Enables repair of damaged plant portions (bridge grafting)
     - Converts non-productive local varieties into productive improved varieties
     - Allows growing several varieties on one plant or changing variety of existing plant (top working)

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- **Ans- Maintenance of genetically identical offsprings**

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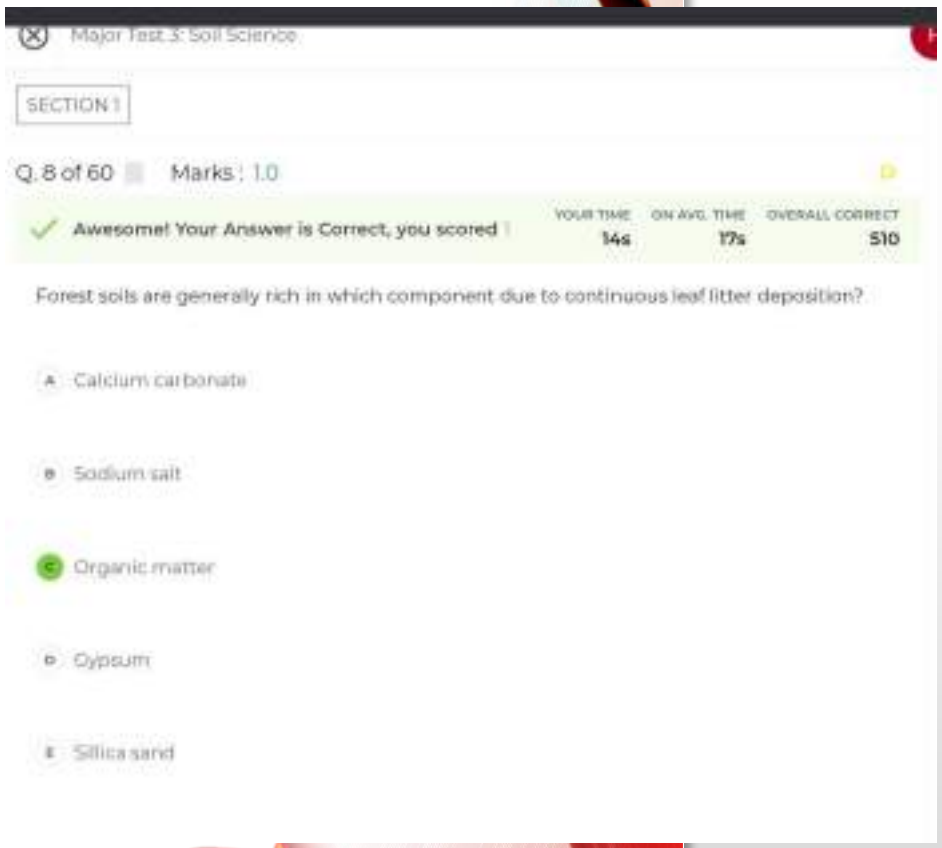
Q 27



- Which of the following statements is NOT correct regarding forest soils? (Soil science)

- **Ans- Nutrient demand of minerals and organic matter is low**

Q 28

- In diffusion of innovations, what term is used for the group of individuals who are traditional and the last to adopt new technology and often show resistance until the idea is fully established? (Agril Extension)

- **Ans- Laggards**

- Normal bell-shaped curve over time, S-shaped when cumulative adopters are plotted.

Adopter Categories

Categories	Traits	Percentage
Innovators	Venturesome	2.5%
Early Adopters	Respectable	13.5%
Early Majority	Deliberate	34%
Late Majority	Skeptical	34%
Laggards	Traditional	16%

Factors Influencing Adoption

- **Personal Factors:** Age, education, income, knowledge.

Q 29

- Which central crop insurance scheme compensates farmers based on weather-related parameters such as rainfall, temperature, and humidity? (Govt schemes)

- **Ans- RWBCIS**

- **Technology Integration**:
  - Drones, remote sensing, and smartphones for Crop Cutting Experiments (CCEs).
  - YES-TECH (Yield Estimation System using Technology) for accurate yield assessment.
  - Weather-based indices for Weather-based Crop Insurance Scheme (WBCIS).
- **Beed Model**: Risk-sharing model in Maharashtra; insurance companies bear losses up to 110% of premiums; states cover excess.
- **Claim Settlement**: Within 21 days post-CCE; 12% interest penalty for delays.

Q 30

- A mating or crossing between two individuals differing in only one pair of contrasting alleles results in which type of genetic cross? (Genetics and Plant Breeding)

- **Ans- Monohybrid cross**


segments into non-homologous chromosomes.
- Paracentric inversions do not involve the centromere, while pericentric inversions do.
- Monohybrid crosses involve two plants differing in one character pair.
- Dihybrid crosses involve two parents differing in two pairs of contrasting characters.
- Linkage is the physical association of genes on a chromosome, leading to non-independent assortment.
- Recombination can occur due to independent assortment or crossing over.

Sexual Reproduction in Plants-

1. Flower Formation: In sexual reproduction, most plants produce flowers. Flowers are reproductive

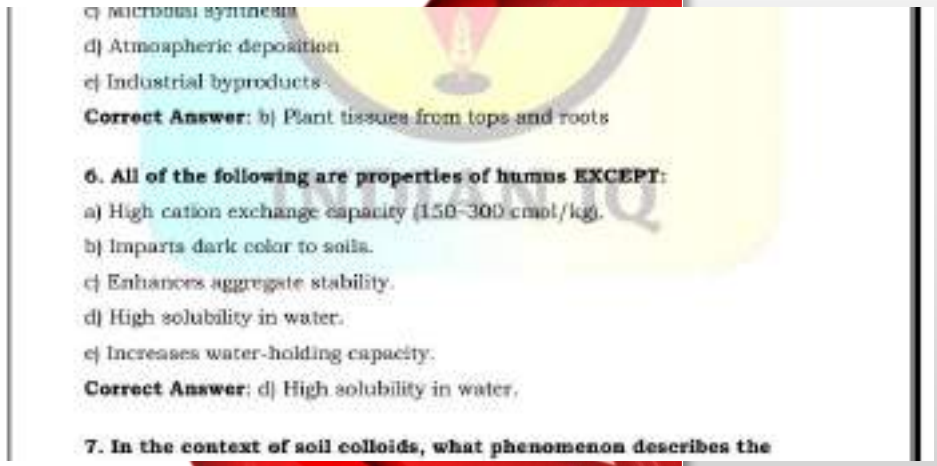
the ground and develop into new plants.
- Rhizomes: Rhizomes are underground stem that can produce new shoots and roots, giving rise to new plants.
- Tubers: Tubers, like those in potatoes, are modified underground stems that can develop into new plants.
- Bulbs: Plants like onions and tulips can produce bulbs that can be separated and planted to grow new individuals.

2. Layering: Layering involves bending a low branch of plant to the ground and covering it with soil. Roots develop at the covered portion, and a new plant forms.
3. Grafting: Grafting is a technique where a scion (a piece of stem with buds) from one plant is attached

Q 31

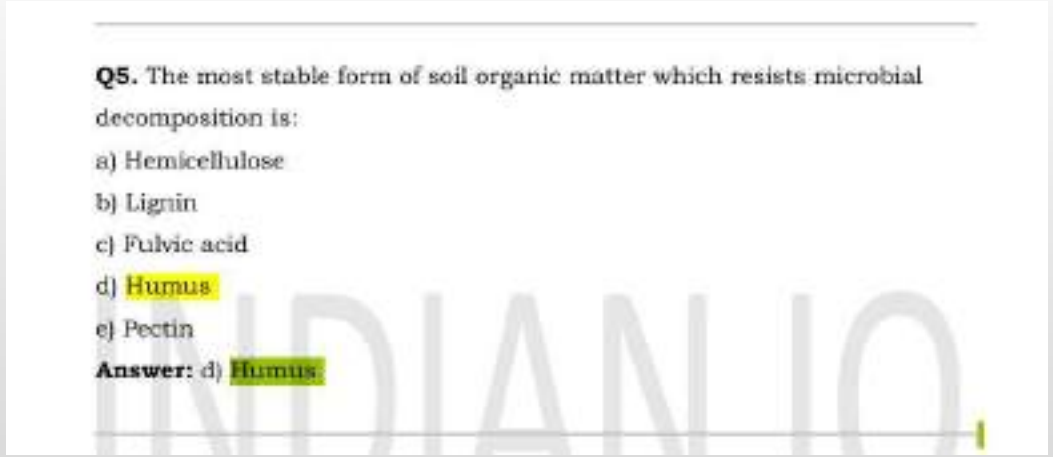
- The stable, dark, amorphous, colloidal product of organic matter decomposition that is resistant to microbial breakdown is known as what? (Soil science)

- **Ans- Humus**


c) Microbial synthesis
d) Atmospheric deposition
e) Industrial byproducts
Correct Answer: b) Plant tissues from tops and roots

6. All of the following are properties of humus EXCEPT:
a) High cation exchange capacity (150–300 cmol/kg).
b) Imparts dark color to soils.
c) Enhances aggregate stability.
d) High solubility in water.
e) Increases water-holding capacity.
Correct Answer: d) High solubility in water.

7. In the context of soil colloids, what phenomenon describes the


Q5. The most stable form of soil organic matter which resists microbial decomposition is:
a) Hemicellulose
b) Lignin
c) Fulvic acid
d) Humus
e) Pectin
Answer: d) Humus

Q 32

- The conversion of nitrite or nitrate into gaseous nitrogen during the nitrogen cycle is known as what process? (Plant physiology)

- **Ans- Denitrification**

47. The first Indian soil survey manual was published in? → 1956

48. The microbial process converting nitrate to nitrogen gas is? → Denitrification

49. The natural phenomenon of removal of clay particles from upper to lower horizons is called? → Illuviation

50. Which soil property is measured using a tensiometer? → Moisture tension

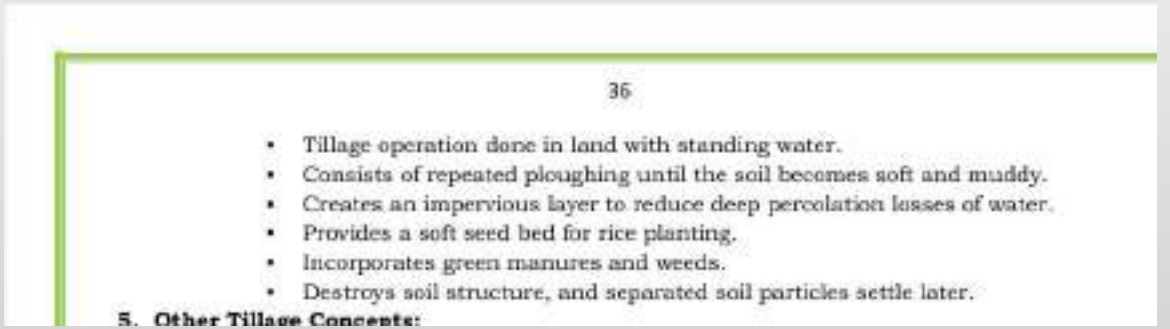
51. The most stable soil aggregate size range for crop growth is? → 1–2 mm

Q 33

- The agricultural field practice of ploughing and puddling soil in standing water prior to rice transplanting is called_____ . (Agronomy)

- **Ans- Puddling**


• Favors soil microorganism activity.
○ Wet Tillage or Puddling:

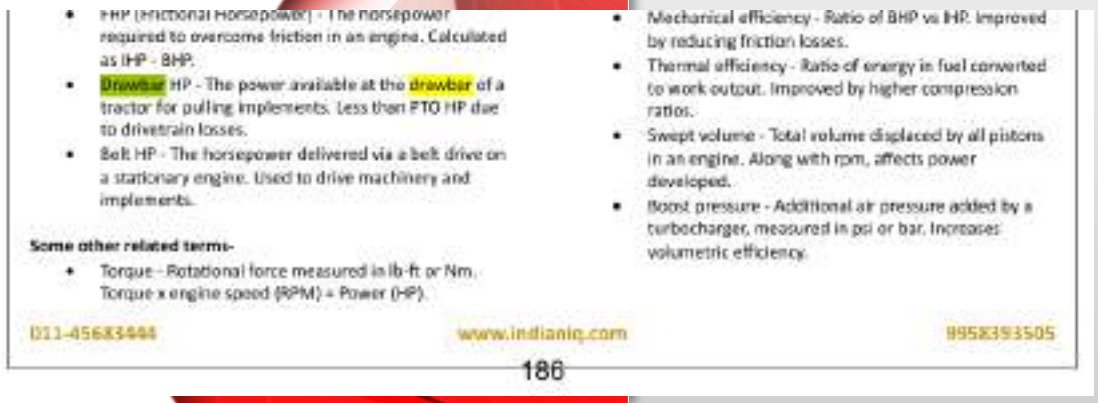


• Tillage operation done in land with standing water.
• Consists of repeated ploughing until the soil becomes soft and muddy.
• Creates an impervious layer to reduce deep percolation losses of water.
• Provides a soft seed bed for rice planting.
• Incorporates green manures and weeds.
• Destroys soil structure, and separated soil particles settle later.
5. Other Tillage Concepts:

Q 34

- Which component attached at the rear of a tractor serves as the connecting point for pulling various implements and is available in fixed, swinging, and adjustable types? (Agril Engineering)

- **Ans- Drawbar**


- FHP (Frictional Horsepower) - The horsepower required to overcome friction in an engine. Calculated as IHP - BHP.
- Drawbar HP - The power available at the drawbar of a tractor for pulling implements. Less than PTO HP due to drivetrain losses.
- Belt HP - The horsepower delivered via a belt drive on a stationary engine. Used to drive machinery and implements.

Some other related terms-

- Torque - Rotational force measured in lb-ft or Nm. Torque x engine speed (RPM) = Power (HP).
- Mechanical efficiency - Ratio of BHP vs IHP. Improved by reducing friction losses.
- Thermal efficiency - Ratio of energy in fuel converted to work output. Improved by higher compression ratios.
- Swept volume - Total volume displaced by all pistons in an engine. Along with rpm, affects power developed.
- Boost pressure - Additional air pressure added by a turbocharger, measured in psi or bar. Increases volumetric efficiency.

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Q 35

- Muga silkworms primarily feed on which type of host tree? (Sericulture)

- **Ans-Som and Soalu**

- White or brick-red colour, matte texture, less durability
- Used for shawls and quilts

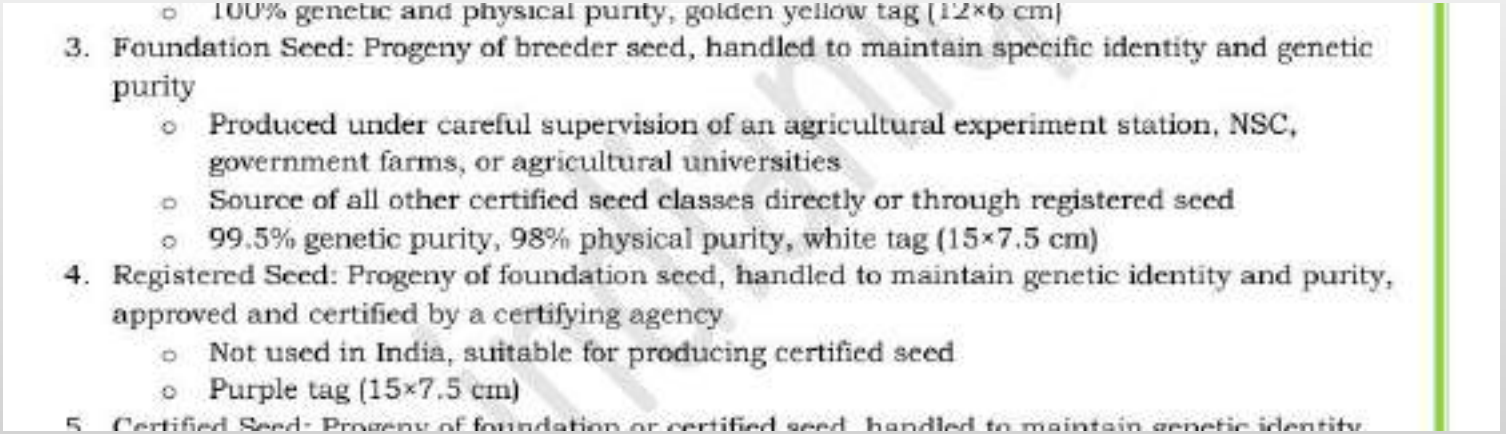
4. Muga Silk:

- From Antheraea assamensis semi-domesticated silkworms
- Feeds on aromatic som (Persea bombycine or Machilus bombycina) and soalu leaves (Litsea monopetela)

Q 36

- The certification tag colour associated with Foundation Seed under seed certification standards is which of the following? (Seed Tech)

- **Ans- White**



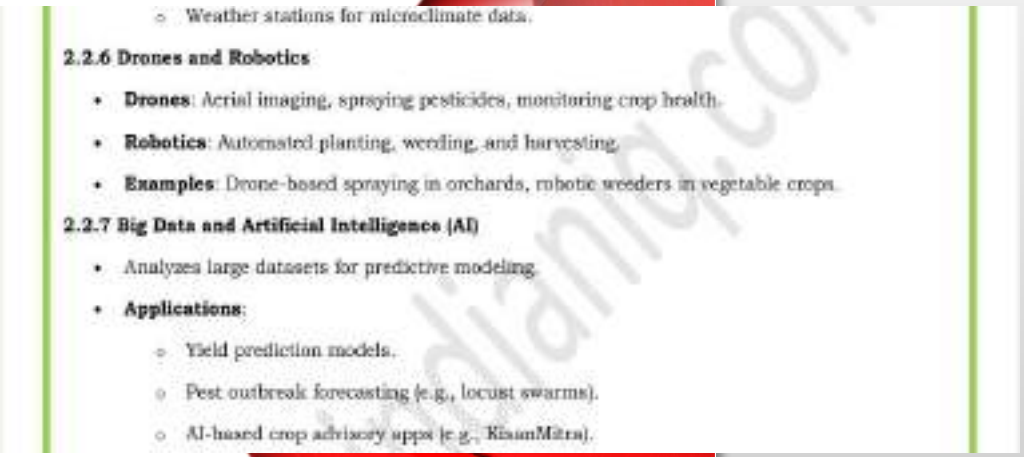
- 100% genetic and physical purity, golden yellow tag (12×6 cm)

3. **Foundation Seed**: Progeny of breeder seed, handled to maintain specific identity and genetic purity
   - Produced under careful supervision of an agricultural experiment station, NSC, government farms, or agricultural universities
   - Source of all other certified seed classes directly or through registered seed
   - 99.5% genetic purity, 98% physical purity, white tag (15×7.5 cm)
4. **Registered Seed**: Progeny of foundation seed, handled to maintain genetic identity and purity, approved and certified by a certifying agency
   - Not used in India, suitable for producing certified seed
   - Purple tag (15×7.5 cm)
5. Certified Seed: Progeny of foundation or certified seed, handled to maintain genetic identity

Q 37

- Which of the following correctly identifies the advantages of drone use in agriculture? (Precision agriculture)

- **Ans-Pesticide application, crop health monitoring and optimum fertiliser usage**


- Weather stations for microclimate data.

2.2.6 Drones and Robotics

- **Drones**: Aerial imaging, spraying pesticides, monitoring crop health.
- **Robotics**: Automated planting, weeding, and harvesting.
- **Examples**: Drone-based spraying in orchards, robotic weeders in vegetable crops.

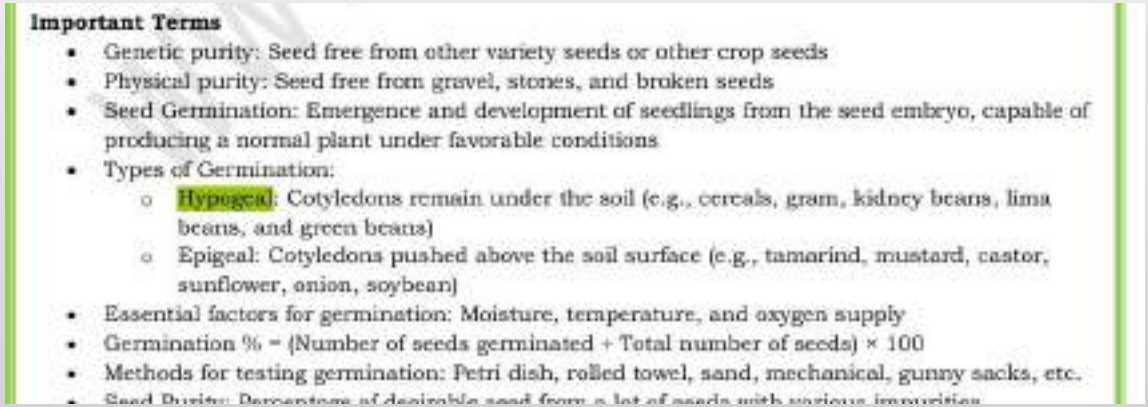
2.2.7 Big Data and Artificial Intelligence (AI)

- Analyzes large datasets for predictive modeling.
- **Applications**:
  - Yield prediction models.
  - Pest outbreak forecasting (e.g., locust swarms).
  - AI-based crop advisory apps (e.g., KisanMitra).

Q 38

- In which type of seed germination do cotyledons remain below the soil surface while the epicotyl elongates to push the shoot upward? (Seed Tech)

- **Ans-Hypogeal germination**



Important Terms

- Genetic purity: Seed free from other variety seeds or other crop seeds
- Physical purity: Seed free from gravel, stones, and broken seeds
- Seed Germination: Emergence and development of seedlings from the seed embryo, capable of producing a normal plant under favorable conditions
- Types of Germination:
  - Hypogeal: Cotyledons remain under the soil (e.g., cereals, gram, kidney beans, lima beans, and green beans)
  - Epigeal: Cotyledons pushed above the soil surface (e.g., tamarind, mustard, castor, sunflower, onion, soybean)
- Essential factors for germination: Moisture, temperature, and oxygen supply
- Germination % = (Number of seeds germinated ÷ Total number of seeds) × 100
- Methods for testing germination: Petri dish, rolled towel, sand, mechanical, gunny sacks, etc.

Q 39

- When goods change ownership from one person to another, creating value solely through transfer, which form of utility is generated? (Agril Economics)

- **Ans-Possession utility**

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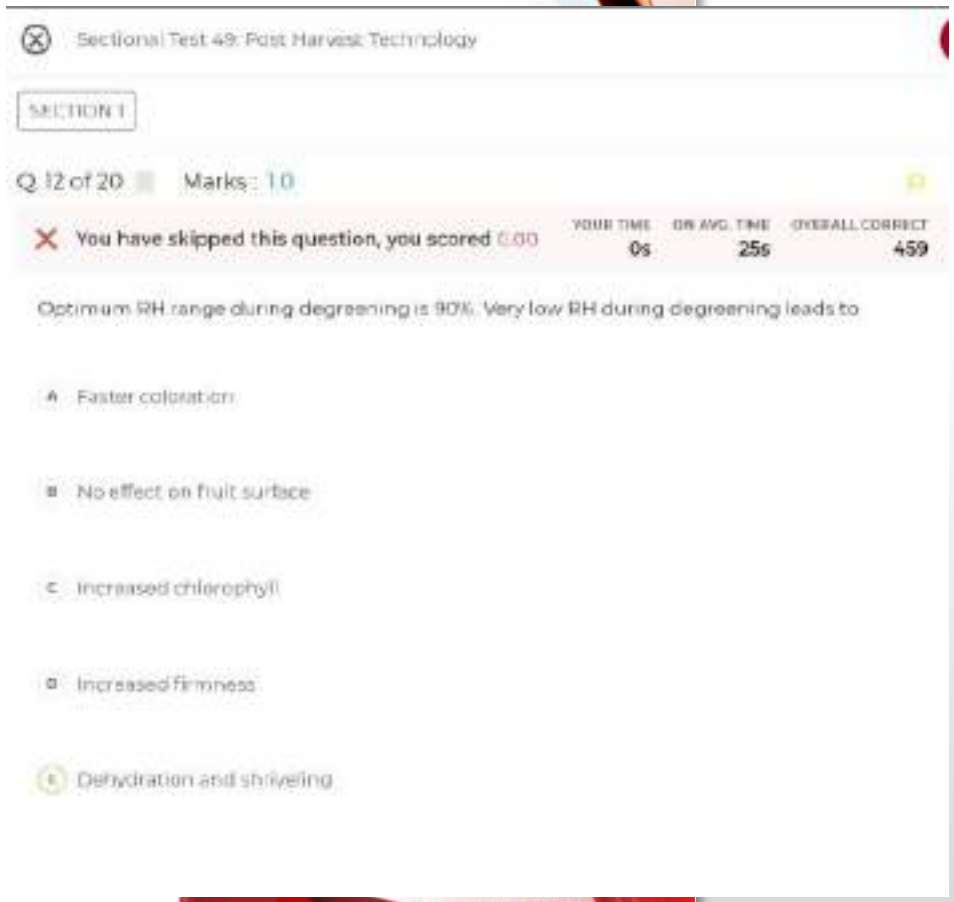
Q 40



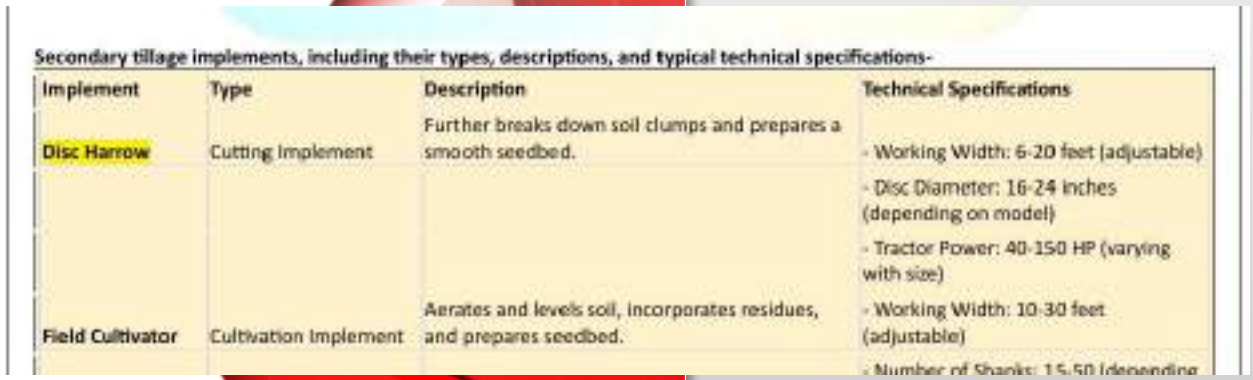
- Which range of relative humidity is essential to prevent degreening in citrus fruits during storage? (Post harvest management)

- **Ans- 90-95%**

Q 41

- Which implement is commonly used for cutting plant residues and pulverizing the soil while leaving mulches behind? (Agril Engineering)

- **Ans- Disc harrow**



Secondary tillage implements, including their types, descriptions, and typical technical specifications-

Implement	Type	Description	Technical Specifications
Disc Harrow	Cutting Implement	Further breaks down soil clumps and prepares a smooth seedbed.	- Working Width: 6-20 feet (adjustable) - Disc Diameter: 16-24 inches (depending on model) - Tractor Power: 40-150 HP (varying with size)
Field Cultivator	Cultivation Implement	Aerates and levels soil, incorporates residues, and prepares seedbed.	- Working Width: 10-30 feet (adjustable) - Number of Shanks: 15-50 (depending

destroying weed seedlings.

- Two types: disc harrow and blade harrow.

c. Disc Harrow:

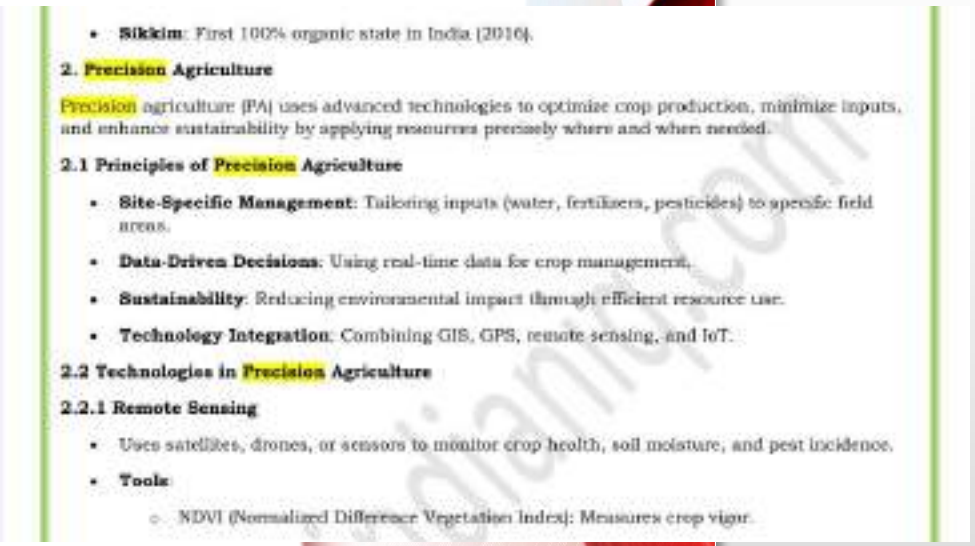
- Consists of numerous concave discs (45–55 cm diameter) arranged on a frame.
- Discs are smaller than disc plough but more numerous, arranged on axles 15 cm apart.
- Two sets of discs mounted on two axles, revolving together.
- Discs cut through soil and effectively pulverize clods.

d. Blade Harrow:

- Used for weed removal, stubble removal, clod crushing, shallow soil working, seed covering,

Q 42

- Farming that aims to optimize input use while minimizing environmental pollution through precise application is known as what? (Precision agriculture)



- **Sikkim**: First 100% organic state in India (2016).

2. Precision Agriculture

Precision agriculture (PA) uses advanced technologies to optimize crop production, minimize inputs, and enhance sustainability by applying resources precisely where and when needed.

2.1 Principles of Precision Agriculture

- **Site-Specific Management**: Tailoring inputs (water, fertilizers, pesticides) to specific field areas.
- **Data-Driven Decisions**: Using real-time data for crop management.
- **Sustainability**: Reducing environmental impact through efficient resource use.
- **Technology Integration**: Combining GIS, GPS, remote sensing, and IoT.

2.2 Technologies in Precision Agriculture

2.2.1 Remote Sensing

- Uses satellites, drones, or sensors to monitor crop health, soil moisture, and pest incidence.
- **Tools**:
  - NDVI (Normalized Difference Vegetation Index): Measures crop vigor.

- **Ans-Precision agriculture**

Q 43

- Under which pension scheme do farmers receive a monthly pension of ₹3000 after attaining 60 years of age? (Govt schemes)

1.3 Pradhan Mantri Kisan Maandhan Yojana (PM-KMY)

- **Objective:** Provide social security through a pension scheme for small and marginal farmers post-retirement.
- **Implementation:** Launched on September 12, 2019; managed by DA&FW and LIC.
- **Key Features:**
  - **Pension:** ₹3,000/month after age 60.
  - **Eligibility:** Farmers aged 18–40 years with landholding up to 2 hectares.
  - **Contribution:** ₹55–₹200/month by farmers (based on age); matched by Central Government.
  - **Spouse Benefit:** ₹1,500/month pension upon farmer's demise, provided contributions continue.
  - **Exit Clause:** After 5 years, farmers can exit with refund of contributions plus interest (savings bank rate).
  - **Registration:** Via CSCs, state nodal officers, or PM-KISAN portal.
  - **Funding:** Fully Central Government-funded; ₹1,200 crore for 2021–26.

- **Ans-PM- KMY**

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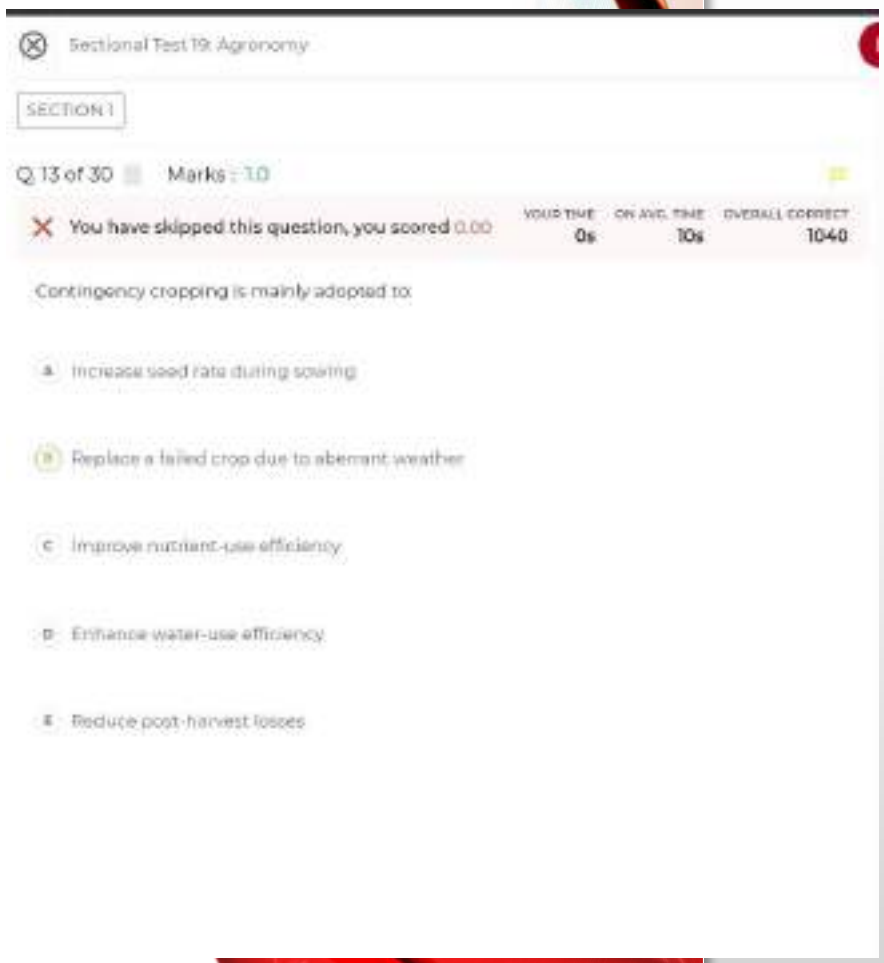
Q 44



- Growing an alternate crop instead of the usual one owing to delayed monsoon or unsuitable conditions is known as which cropping practice? (Agronomy)

- **Ans-Contingency cropping**

Q 45

- Where is the Central Rice Research Institute (now ICAR-NRRI) located? (General agriculture)

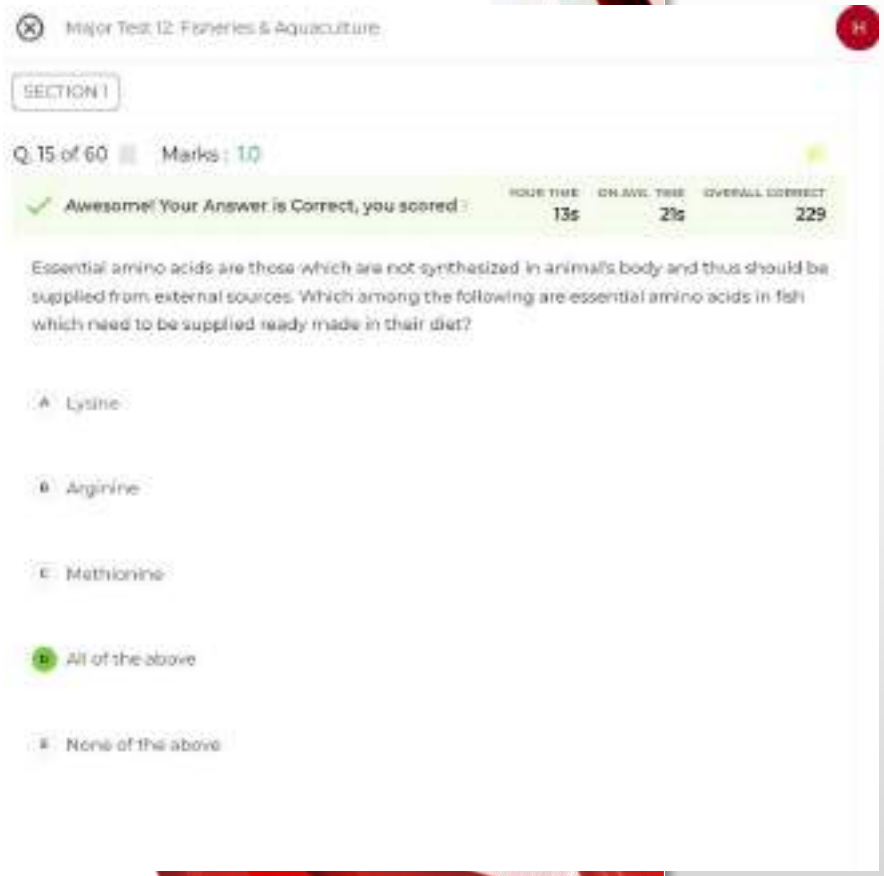
- **Ans-Cuttack**

Central Potato Research Institute (CPRI)	Shimla, Himachal Pradesh	Potato Research
National Institute of Abiotic Stress Management (NIASM)	Malegaon, Maharashtra	Abiotic Stress Management
National Rice Research Institute (NRRI)	Cuttack, Odisha	Rice Research
Central Arid Zone Research Institute (CAZRI)	Jodhpur, Rajasthan	Arid Zone Research
Central Institute of Brackishwater Aquaculture	Chennai, Tamil	Brackishwater

Central Institute of Agricultural Enginee (CIAE)
Central Institute for on Goats (CIRG)
Central Inland Fishe Research Institute (
Indian Institute of S Research (IISR)
Important Acts in Ag

INDIAN IQ

Q 46



- Which essential amino acid cannot be synthesized by fish in adequate quantity and must be supplied through feed? (Fishery)

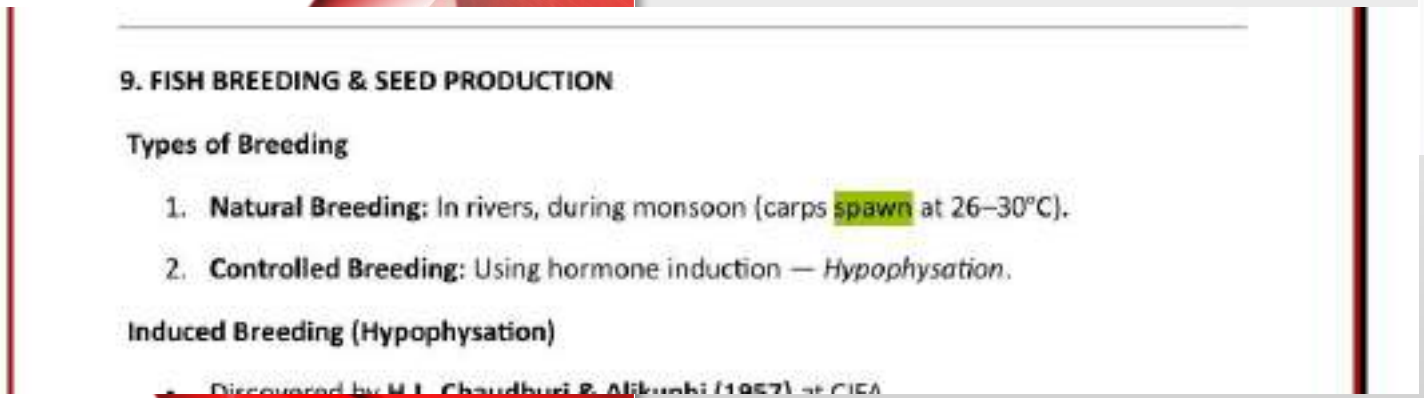
- **Ans- Arginine**

(Arginine, lysine, histidine, threonine, valine, leucine etc. are essential amino acids not synthesised by fish but as reported by students, lysine was not there in option thus arginine is the correct answer.

Q 47

- The act of egg-laying or release of sperms carried out by fish in water is referred as _____ . (Fishery)

- **Ans-Spawning**

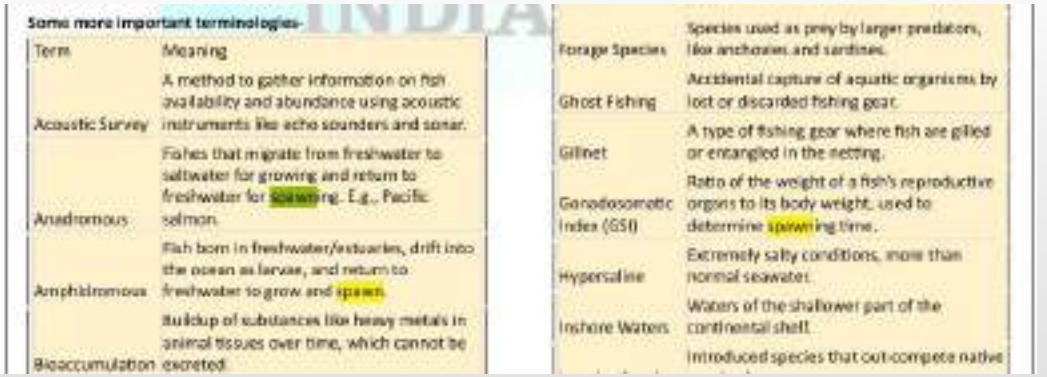


9. FISH BREEDING & SEED PRODUCTION

Types of Breeding

1. **Natural Breeding:** In rivers, during monsoon (carps spawn at 26–30°C).
2. **Controlled Breeding:** Using hormone induction — *Hypophysation*.

Induced Breeding (Hypophysation)



Some more important terminologies-

Term	Meaning
Acoustic Survey	A method to gather information on fish availability and abundance using acoustic instruments like echo sounders and sonar.
Anadromous	Fishes that migrate from freshwater to saltwater for growing and return to freshwater for spawning. E.g., Pacific salmon.
Amphidromous	Fish born in freshwater/estuaries, drift into the ocean as larvae, and return to freshwater to grow and spawn.
Bioaccumulation	Buildup of substances like heavy metals in animal tissues over time, which cannot be excreted.
Forage Species	Species used as prey by larger predators, like anchovies and sardines.
Ghost Fishing	Accidental capture of aquatic organisms by lost or discarded fishing gear.
Gillnet	A type of fishing gear where fish are gilled or entangled in the netting.
Gonadosomatic Index (GSI)	Ratio of the weight of a fish's reproductive organs to its body weight, used to determine spawning time.
Hypersaline	Extremely salty conditions, more than normal seawater.
Inshore Waters	Waters of the shallower part of the continental shelf.
	Introduced species that out-compete native

Q 48

- Variation in landforms such as hills, valleys, and slopes results in unique assemblages of plant and animal species. Which type of biodiversity does this represent? (Ecology and EVS)

- **Ans-Ecosystem biodiversity**

Q 49

- Which filter type, consisting of a mesh screen to trap suspended solids from water, is widely used in agricultural irrigation systems due to its simplicity? (Irrigation and Drainage)

- **Ans- Screen filter**

Q 50

- Toxicity of which nutrient appears first on the tips of older leaves, causing chlorosis followed by dark brown necrosis and eventual wilting? (Plant physiology)

- **Ans- Boron**

  Explanation
- **Boron toxicity** appears **first on older leaves** (because boron is mobile in xylem).
- It causes **tip and marginal chlorosis**, progressing to **dark brown necrosis**, then **leaf scorching** and **wilting**.

Q 51

- In which year was bamboo excluded from the definition of “trees” under the Indian Forest Act, 1927? (Forestry)

- **Ans-2017**

Q 52

- A normal erythrocyte count that falls within ±2 standard deviations for a species is classified under which category? (Animal Husbandry- Veterinary)

- **Ans- Normocyte**

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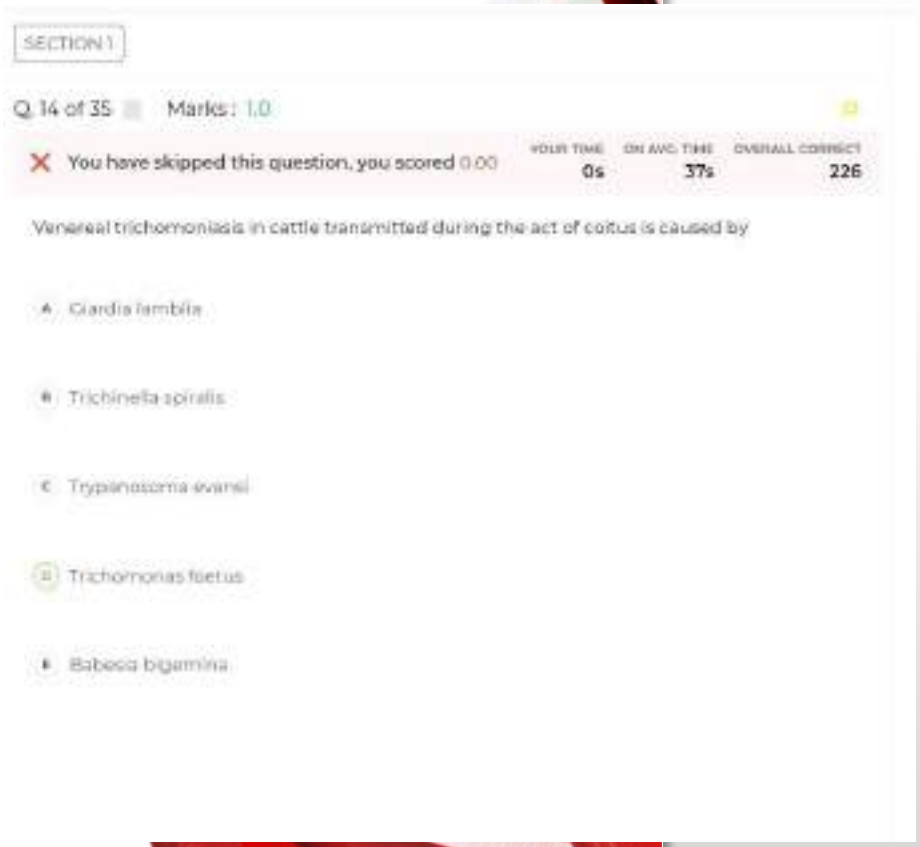
Q 53



- Which protozoan disease, caused by Trichomonas foetus, results in early embryonic death and repeated return to heat in affected female animals? (Animal husbandry- Veterinary)

- **Ans- Venereal trichomoniasis**

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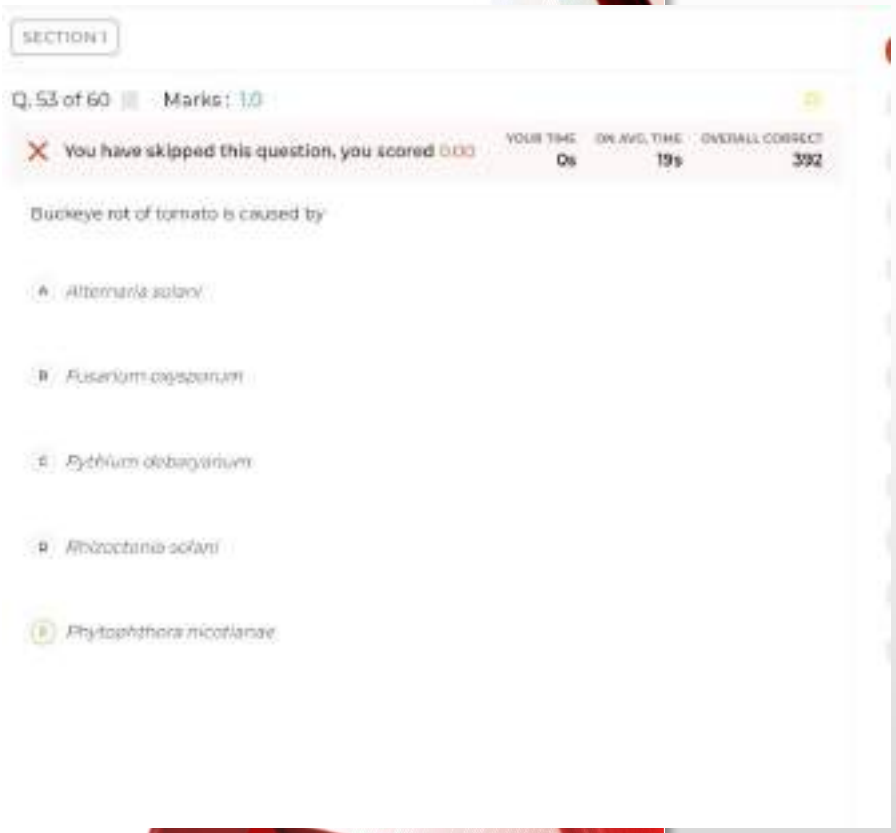
Q 54



- Buckeye rot, characterized by brownish circular spots with concentric rings, occurs predominantly in which crop? (Horticulture)

- **Ans-Tomato**

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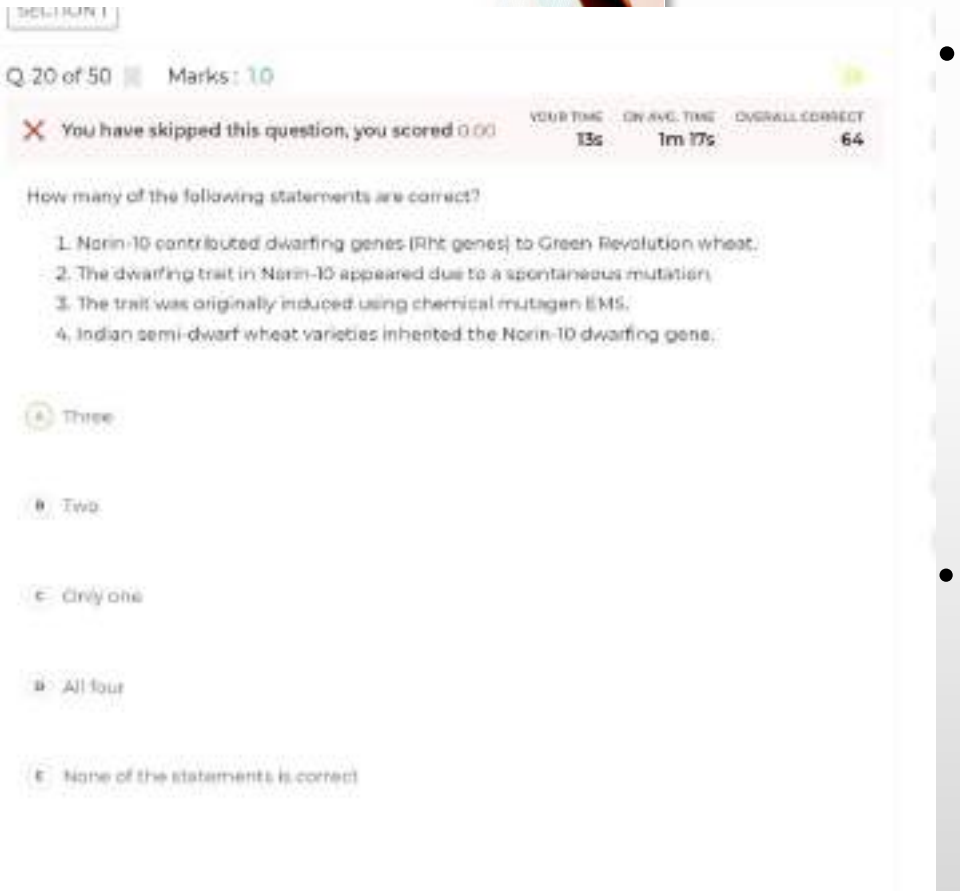
Q 55


Q 20 of 50 Marks : 1.0

You have skipped this question, you scored 0.00

YOUR TIME	ON AVG. TIME	OVERALL CORRECT
13s	1m 17s	64

How many of the following statements are correct?

1. Norin-10 contributed dwarfing genes (Rht genes) to Green Revolution wheat.
2. The dwarfing trait in Norin-10 appeared due to a spontaneous mutation.
3. The trait was originally induced using chemical mutagen EMS.
4. Indian semi-dwarf wheat varieties inherited the Norin-10 dwarfing gene.

A Three

B Two

C Only one

D All four

E None of the statements is correct

- The dwarfing gene incorporated into Indian wheat varieties during the Green Revolution originated from the Japanese wheat cultivar Norin-10. Through which method did this dwarfing trait arise? (Genetics and Plant Breeding)

- **Ans-Spontaneous mutation**

Q 56

- Which ornamental flower is popularly known as the “Herb of the Sun” due to its bright yellow blooms and cultural significance? (Horticulture)

- **Ans-Marigold**

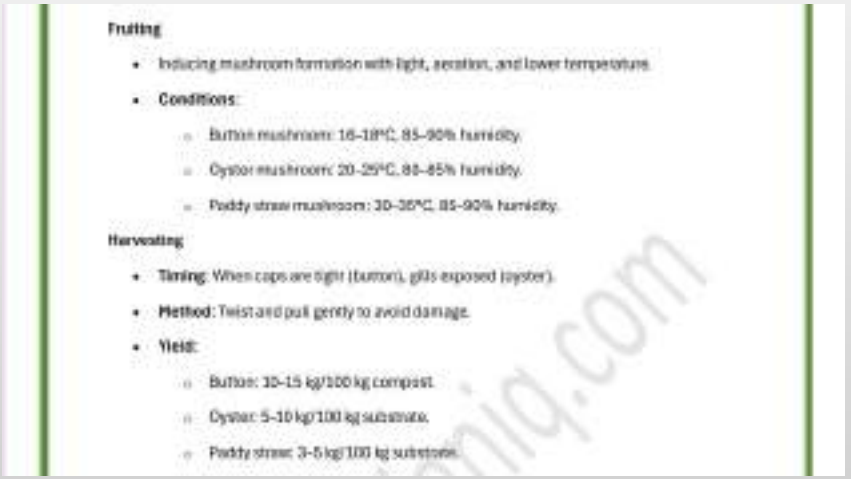
Q 57

- Which mushroom type is ready to harvest when their fruit bodies have curled under edges (wrinkled stage of umbrella) and with well formed gills, as their maturity advance, the fruit bodies start losing water and thus shrinkage occurs?

- **Ans-Oyster mushroom**

Different Types of Mushrooms in India with Details-

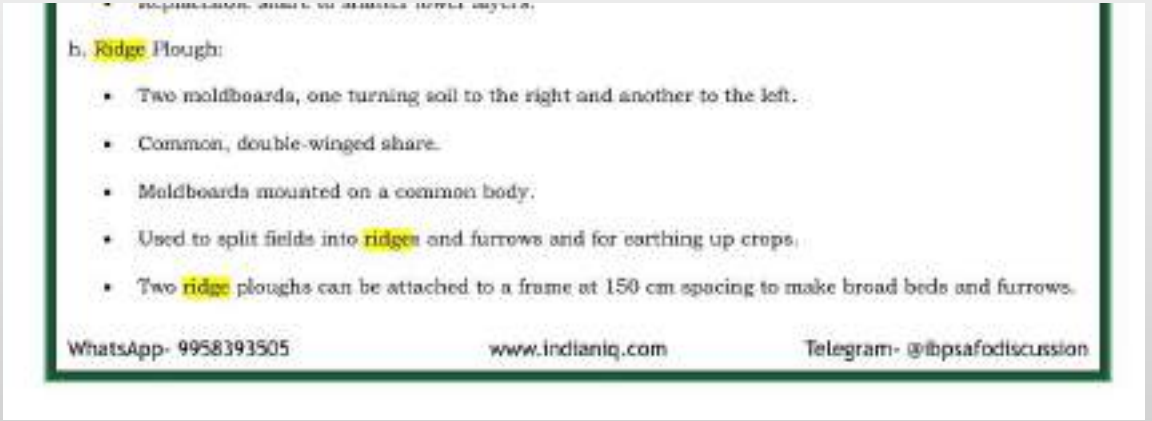
Type of Mushroom	Habitat / Growing Conditions	Uses / Culinary Applications
Button Mushroom (Agaricus bisporus)	Grown in composted organic matter.	Salads, soups, stir-fries.
Oyster Mushroom (Pleurotus ostreatus)	Grown on straw or wood.	Stir-fries, soups, and sauces.
Shiitake (Lentinula edodes)	Grown on hardwood logs or synthetic medium.	Used in Asian cuisines, soups, and stir-fries.
Milky Mushroom (Calocybe indica)	Grown in tropical and subtropical regions.	Curries, stir-fries.



Q 58

- In which ploughing tool are two mouldboard ploughs mounted on a single frame, turning soil in opposite directions to create ridges? (Agril Engineering)

- **Ans- Ridge plough**



Q 59

- Male bamboo (Dendrocalamus sp.) belongs to which of the following families? (Forestry)

- **Ans- Poaceae**

Sal	*Shorea robusta*	Dipterocarpaceae	is used in construction.
Bamboo	*Bambusa spp.*	Poaceae	Hollow stems, lanceolate leaves, and produces small flowers rarely. Used for construction, furniture, and crafts.
Jamun	*Syzygium cumini*	Myrtaceae	Simple opposite leaves, white flowers, and produces purple-black fruits. Known for its fruits and medicinal properties.
			Pinnate leaves, yellow flowers

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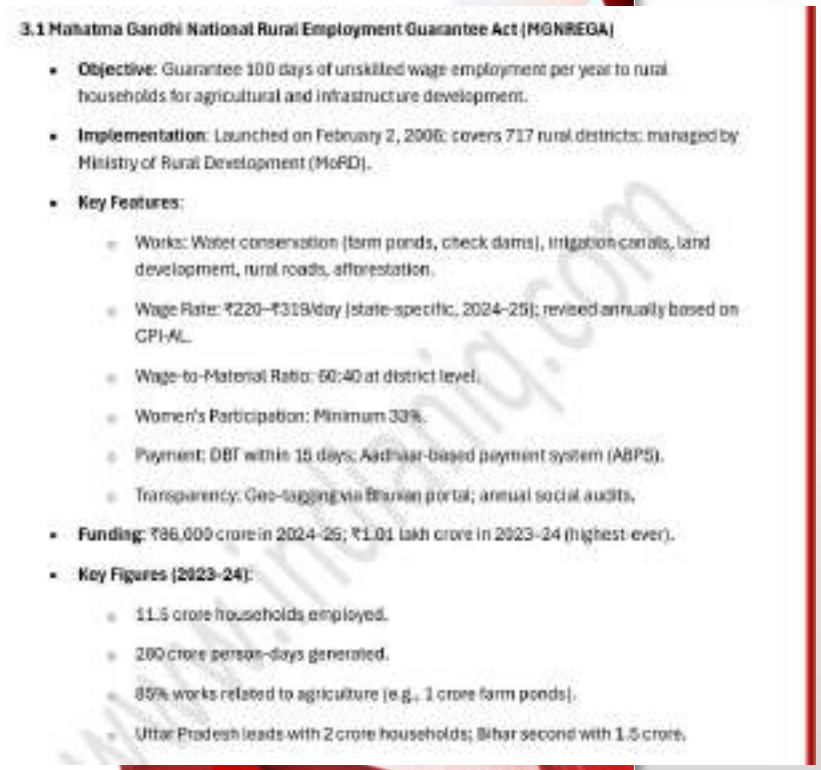
Q 60



3.1 Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

- **Objective**: Guarantee 100 days of unskilled wage employment per year to rural households for agricultural and infrastructure development.
- **Implementation**: Launched on February 2, 2006; covers 717 rural districts; managed by Ministry of Rural Development (MoRD).
- **Key Features**:
  - Works: Water conservation (farm ponds, check dams), irrigation canals, land development, rural roads, afforestation.
  - Wage Rate: ₹220–₹319/day (state-specific, 2024-25); revised annually based on CPI-AL.
  - Wage-to-Material Ratio: 60:40 at district level.
  - Women's Participation: Minimum 33%.
  - Payment: DBT within 15 days; Aadhaar-based payment system (ABPS).
  - Transparency: Geo-tagging via Bhuvan portal; annual social audits.
- **Funding**: ₹86,000 crore in 2024-25; ₹1.01 lakh crore in 2023-24 (highest ever).
- **Key Figures (2023-24)**:
  - 11.5 crore households employed.
  - 280 crore person-days generated.
  - 89% works related to agriculture (e.g., 1 crore farm ponds).
  - Uttar Pradesh leads with 2 crore households; Bihar second with 1.5 crore.

- Under the MGNREGA scheme, employment must be provided to eligible applicants within how many days of submitting the application? (Government schemes)

- **Ans- 15 days**

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