

ICAR AIEEA PG 2025 Agricultural Engineering and Technology Question Paper

Time Allowed :120 Minutes

Maximum Marks :480

Total questions :120

General Instructions

Read the following general instructions carefully and adhere to them strictly:

- 1. Duration of the Exam:** The total duration of the examination is 2 hours and 30 minutes.
- 2. Total Marks:** The question paper carries a total of 480 marks.
- 3. Number of Questions:** The paper contains 120 multiple-choice questions (MCQs)
- 4. Question Paper Format:**
 - All questions are compulsory unless otherwise instructed.
 - Each question has four options, out of which only one is correct.
- 5. Mode of Examination:** The examination is conducted in online mode (Computer-Based Test).
- 6. Marking Scheme:**
 - Each correct answer carries 4 marks.
 - 1 mark will be deducted for each incorrect answer.
 - No marks will be awarded or deducted for unattempted questions.
- 7. Medium of Paper:** The question paper will be bilingual (English and Hindi), except for the language section (if applicable).
- 8. Electronic Devices:** Use of calculators, mobile phones, smartwatches or any electronic gadgets is strictly prohibited.

1. Which of the following is a primary function of a moldboard plow in soil tillage?

- (A) Breaking soil compaction layers
 - (B) Cutting and inverting the soil slice
 - (C) Pulverizing soil clods
 - (D) Leveling the soil surface
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2. In drip irrigation systems, the emission uniformity is most affected by:

- (A) Pump pressure fluctuations
 - (B) Soil texture variations
 - (C) Crop root depth
 - (D) Ambient temperature
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3. The specific speed of a pump is defined as the speed at which a geometrically similar pump would operate to deliver:

- (A) Unit discharge at unit head
 - (B) Maximum efficiency
 - (C) Zero discharge at maximum head
 - (D) Infinite discharge at zero head
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4. In food processing, the primary purpose of blanching vegetables before freezing is to:

- (A) Enhance flavor
 - (B) Reduce microbial load
 - (C) Inactivate enzymes
 - (D) Increase moisture content
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5. The thermal conductivity of dry soil is primarily influenced by:

- (A) Soil color
- (B) Organic matter content
- (C) Soil texture
- (D) Soil moisture content

6. In renewable energy systems, the primary function of an inverter is to:

- (A) Store electrical energy
 - (B) Convert DC to AC
 - (C) Increase voltage levels
 - (D) Regulate current flow
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7. The main advantage of using a chisel plow over a moldboard plow is:

- (A) Complete soil inversion
 - (B) Reduced soil erosion
 - (C) Enhanced weed control
 - (D) Increased fuel consumption
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8. In post-harvest technology, the primary purpose of controlled atmosphere storage is to:

- (A) Increase humidity levels
 - (B) Enhance color development
 - (C) Slow down respiration rate
 - (D) Promote ripening
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9. The primary function of a surge tank in an irrigation pipeline system is to:

- (A) Store excess irrigation water
 - (B) Remove air from the pipeline
 - (C) Absorb pressure fluctuations
 - (D) Increase water velocity
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