

AP PGECET 2025 Question Paper - Memory Based

Time Allowed :2 Hours	Maximum Marks :120	Total questions :120
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. **Mode of Examination:** Online (Computer-based examination)
2. **Medium of Exam:** English
3. **Duration of Exam:** 2 hours
4. **Type of Questions:** Multiple-choice questions
5. **Number of Questions:** 120 Questions
6. **Total Marks:** 120 Marks
7. **Marking Scheme:**
 - 1 mark for each correct answer.
 - No negative markings for incorrect answers.

1. A project requires 12 workers to complete in 20 days. If 4 workers leave after 8 days, how many additional days will the remaining workers take to finish the project?

- (1) 12 days
 - (2) 15 days
 - (3) 18 days
 - (4) 20 days
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2. The ratio of the ages of A and B is 5:3. After 6 years, their ages will be in the ratio 6:4.

What is the current age of A?

- (1) 15 years
 - (2) 18 years
 - (3) 20 years
 - (4) 25 years
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3. If the efficiency of a machine is 80% and it consumes 500 W of power, what is the useful output power?

- (1) 400 W
 - (2) 420 W
 - (3) 450 W
 - (4) 480 W
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4. In a simply supported beam of length 6 m, a uniformly distributed load of 10 kN/m is applied. What is the maximum bending moment?

- (1) 45 kN-m
 - (2) 60 kN-m
 - (3) 90 kN-m
 - (4) 120 kN-m
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5. The permeability of a soil sample is 2×10^{-4} cm/s. If the hydraulic gradient is 0.5, what is the seepage velocity (in cm/s) given a porosity of 0.4?

- (1) 1×10^{-4}
 - (2) 2×10^{-4}
 - (3) 5×10^{-4}
 - (4) 1×10^{-3}
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6. Which of the following methods is most suitable for the design of flexible pavements in high-traffic areas?

- (1) Group Index Method
 - (2) CBR Method
 - (3) Triaxial Test Method
 - (4) Plate Load Test
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7. A Carnot engine operates between a hot reservoir at 800 K and a cold reservoir at 300 K. What is its maximum theoretical efficiency?

- (1) 37.5%
 - (2) 62.5%
 - (3) 50%
 - (4) 75%
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8. In a turning operation, the cutting speed is 120 m/min, and the diameter of the workpiece is 50 mm. What is the spindle speed in RPM?

- (1) 764 RPM
 - (2) 382 RPM
 - (3) 955 RPM
 - (4) 1910 RPM
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9. Which of the following materials is most suitable for high-temperature applications in gas turbines?

- (1) Aluminum
 - (2) Titanium
 - (3) Nickel-based superalloy
 - (4) Stainless steel
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10. A 3-phase, 400 V, 50 Hz induction motor runs at 1440 RPM. If the synchronous speed is 1500 RPM, what is the slip?

- (1) 2%
 - (2) 4%
 - (3) 6%
 - (4) 8%
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11. In a series RLC circuit, $R = 10 \Omega$, $L = 0.1 \text{ H}$, and $C = 100 \mu\text{F}$. What is the resonance frequency (in Hz)?

- (1) 50.3 Hz
 - (2) 159.2 Hz
 - (3) 318.3 Hz
 - (4) 503.2 Hz
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12. Which of the following is a key advantage of a PID controller in control systems?

- (1) Reduces steady-state error
 - (2) Increases oscillation
 - (3) Decreases system stability
 - (4) Eliminates feedback
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13. Which of the following sorting algorithms has the best average-case time complexity?

- (1) Bubble Sort
 - (2) Selection Sort
 - (3) Quick Sort
 - (4) Insertion Sort
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14. In a relational database, a table has 5 attributes and 1000 records. If a query returns 200 records after applying a condition, what is the selectivity of the query?

- (1) 0.2
 - (2) 0.5
 - (3) 0.8
 - (4) 1.0
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15. Which of the following is NOT a characteristic of cloud computing?

- (1) On-demand self-service
 - (2) Resource pooling
 - (3) Limited scalability
 - (4) Measured service
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