



Question Paper (Memory-Based)

Conducted by Joint Entrance Examination Council, Uttar Pradesh (JEECUP).

General Instructions

- (i) The examination is conducted in Computer-Based Test (CBT) mode.
- (ii) Each question carries **+4 marks** for a correct answer and **-1 mark** for a wrong answer.
- (iii) The total number of questions is **100**.
- (iv) The total duration of the exam is **150 minutes** (2 hours and 30 minutes).

1. The value of the universal gravitational constant $G = 6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ in CGS system is-

- (A) 6.67×10^{11}
- (B) 6.67×10^{-18}
- (C) 6.67×10^{-8}
- (D) 6.67×10^8

2. A 2 kW air conditioner works for 8 hours per day. At the rate of Rs 6/kWh the electricity bill for one day will be-

- (A) Rs 12
- (B) Rs 24
- (C) Rs 48
- (D) Rs 96

3. Two forces of 4 N and 3 N act on a particle. For maximum resultant force, the angle between them should be-

- (A) 180°
- (B) 120°
- (C) 90°

(D) 0°

4. During short circuiting, the electric current in the circuit-

- (A) Becomes very small
 - (B) Remains unchanged
 - (C) Increases greatly
 - (D) Changes continuously
-

5. The order (characteristic) of 0.99 is-

- (A) -1
 - (B) 0
 - (C) 1
 - (D) 2
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6. What is the chemical formula of rust?

- (A) Hydrated ferrous oxide
 - (B) Only ferric oxide
 - (C) Hydrated ferric oxide
 - (D) None of these
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7. What does pH value indicate in water?

- (A) Temperature
 - (B) Acidity or alkalinity
 - (C) Turbidity
 - (D) Conductivity
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8. Which type of radiation consists of high-energy photons with no mass or charge?

- (A) Alpha radiation
 - (B) Beta radiation
 - (C) Gamma radiation
 - (D) Neutron radiation
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9. Which element is always present in organic compounds?

- (A) Hydrogen
 - (B) Carbon
 - (C) Oxygen
 - (D) Nitrogen
-

10. The main function of enzymes in organic reactions is to:

- (A) Increase reaction temperature
 - (B) Increase reaction rate
 - (C) Change reaction mechanism
 - (D) Inhibit reaction progress
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11. Ribosomes are the sites for the synthesis of which of the following?

- (A) Lipids
 - (B) Proteins
 - (C) Carbohydrates
 - (D) Nucleic acids
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12. Which of the following nitrogenous bases is NOT found in DNA?

- (A) Adenine
 - (B) Cytosine
 - (C) Thymine
 - (D) Uracil
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13. Fluid Mosaic Model of cell membrane was proposed by:

- (A) Schleiden and Schwann
 - (B) Singer and Nicolson
 - (C) Watson and Crick
 - (D) Robert Brown
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14. During which phase of the cell cycle does DNA replication occur?

- (A) G_1 phase
 - (B) S phase
 - (C) G_2 phase
 - (D) M phase
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15. Which organelle is known as the 'Suicidal Bag' of the cell?

- (A) Mitochondria
 - (B) Lysosome
 - (C) Ribosome
 - (D) Golgi apparatus
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