

## AP EAPCET 2025 May 19 Shift 2 Question Paper

<b>Time Allowed :3 Hours</b>	<b>Maximum Marks :160</b>	<b>Total questions :160</b>
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### General Instructions

**Read the following instructions very carefully and strictly follow them:**

1. Duration of Exam: 3 Hours
2. Total Number of Questions: 160 Questions
3. Section-wise Distribution of Questions:
  - Physics - 40 Questions
  - Chemistry - 40 Questions
  - Mathematics - 80 Questions
4. Type of Questions: Multiple Choice Questions (Objective)
5. Marking Scheme: One mark awarded for each correct response
6. Negative Marking: There is no provision for negative marking.

**1. Which of the following is a strong acid?**

- (A) Acetic acid
  - (B) Hydrochloric acid
  - (C) Carbonic acid
  - (D) Formic acid
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**2. Which element has the smallest atomic radius among the following?**

- (A) Li
  - (B) C
  - (C) F
  - (D) Ne
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**3. Which of the following compounds contains both ionic and covalent bonds?**

- (A) NaCl
  - (B) NH<sub>3</sub>
  - (C) CaCO<sub>3</sub>
  - (D) CH<sub>4</sub>
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**4. What is the number of moles in 88 grams of carbon dioxide (CO<sub>2</sub>)?**

- (A) 1 mole
  - (B) 2 moles
  - (C) 3 moles
  - (D) 4 moles
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**5. Which gas will diffuse the fastest under identical conditions of temperature and pressure?**

- (A) Oxygen (O<sub>2</sub>)
  - (B) Nitrogen (N<sub>2</sub>)
  - (C) Ammonia (NH<sub>3</sub>)
  - (D) Hydrogen (H<sub>2</sub>)
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**6. What is the pH of a 0.001 M HCl solution?**

- (A) 3
  - (B) 1
  - (C) 2
  - (D) 4
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**7. How many atoms are present in 1 mole of oxygen gas ( $O_2$ )?**

- (A)  $6.022 \times 10^{23}$
  - (B)  $1.204 \times 10^{24}$
  - (C)  $3.011 \times 10^{23}$
  - (D)  $2 \times 6.022 \times 10^{23}$
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**8. Which of the following elements exhibits variable oxidation states and forms colored compounds?**

- (A) Sodium
  - (B) Calcium
  - (C) Copper
  - (D) Magnesium
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**9. What volume will 2 moles of an ideal gas occupy at STP (Standard Temperature and Pressure)?**

- (A) 11.2 L
  - (B) 22.4 L
  - (C) 44.8 L
  - (D) 33.6 L
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**10. What is the acceleration of a body of mass 4 kg when a force of 20 N is applied to it?**

- (A)  $2 \text{ m/s}^2$
  - (B)  $4 \text{ m/s}^2$
  - (C)  $5 \text{ m/s}^2$
  - (D)  $10 \text{ m/s}^2$
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**11. A 100 W electric bulb is used for 5 hours daily. What is the energy consumed in 30**

**days?**

- (A) 15 kWh
  - (B) 10 kWh
  - (C) 5 kWh
  - (D) 20 kWh
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**12. A car accelerates uniformly from 10 m/s to 30 m/s in 10 seconds. What is the distance covered?**

- (A) 200 m
  - (B) 250 m
  - (C) 300 m
  - (D) 400 m
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**13. Two light waves of intensities  $I_1 = 4I$  and  $I_2 = I$  interfere. If the path difference between the waves is 25% of the wavelength  $\lambda$ , find the resultant intensity at that point.**

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**14. A total charge  $q$  is uniformly distributed over a circular ring of radius  $R$ . The ring is rotated about its axis with angular velocity  $\omega$ . Find the magnetic dipole moment of the ring.**

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**15. In a nuclear reactor, fuel is consumed at the rate of  $2 \times 10^{-3}$  g/s. If 100% of the mass is converted to energy, find the power output of the reactor in kilowatts (kW).**

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**16. Which blood component is responsible for clotting?**

- (A) Red blood cells
  - (B) White blood cells
  - (C) Platelets
  - (D) Plasma
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**17. In plants, which structure is mainly responsible for the absorption of water and minerals?**

- (A) Stem

- (B) Root hairs
  - (C) Leaves
  - (D) Xylem
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**18. Which hormone is secreted in response to high blood sugar levels?**

- (A) Glucagon
  - (B) Insulin
  - (C) Adrenaline
  - (D) Thyroxine
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