MHT CET 2026 April 18 Shift 2

Question Paper (Memory Based)

Conducted by CET Cell, Maharashtra

General Instructions

(i) **Duration:** The total duration of the examination is 3 hours (180 minutes).

(ii) **Total Marks:** The complete paper carries a maximum of 200 marks.

(iii) **Structure:** The paper has 3 Sections:

- **Section A:** 50 Multiple Choice Questions (Physics)
- **Section B:** 50 Multiple Choice Questions (Chemistry)
- **Section C:** 50 Multiple Choice Questions (Mathematics)

(iv) **Compulsory Questions:** All 150 questions are compulsory.

(v) Each question has four options. Only **one** option is correct.

(vi) **Right Answer:** Physics (+1 marks), Chemistry (+1 marks) and Mathematics (+2 marks).

(vii) **Incorrect Answer:** (No Negative marking).

(viii) **Unanswered/Marked for Review:** 0 marks.

1. Which of the following is not used as a parameter for the classification of polymers?

(A) Source of polymer

(B) Structure of polymer chain

(C) Mode of polymerization

(D) Boiling point of monomer

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3. Consider two matrices $A=\begin{bmatrix}3 & -4\\ 1 & -1\end{bmatrix}$ and $B=\begin{bmatrix}6 & -13\\ 5 & -10\end{bmatrix}$. If the following matrix equation holds true:

$$\left((A^{-1})^2+B\right)\begin{bmatrix}x\\ y\end{bmatrix}=\begin{bmatrix}0\\ 0\end{bmatrix}$$

Find the values of x and y.

(A) $(3,5)$

(B) $(10,7)$

(C) $(4,6)$

(D) $(5,3)$

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4. Evaluate the following indefinite integral:

$$\int \sin(\log x)\,dx$$

(A) $\frac{x}{2}[\sin(\log x)-\cos(\log x)]+C$

(B) $\frac{x}{2}[\cos(\log x)-\sin(\log x)]+C$

(C) $x[\sin(\log x)+\cos(\log x)]+C$

(D) $\frac{x}{2}[\sin(\log x)+\cos(\log x)]+C$

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5. If A is a 3×3 matrix such that $|A|=4$ and $B=\text{adj}A$, find the value of $|B|$.

(A) 4

(B) 8

(C) 16

(D) 64

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6. Find the value of k if the function $f(x)=\frac{k\sin x}{x}$ is continuous at $x=0$ and $f(0)=3$.

(A) 1

(B) 2

(C) 3

(D) 6

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7. The converse of the statement $((\sim p) \wedge q) \rightarrow r$ is:

(A) $r \rightarrow ((\sim p) \wedge q)$

(B) $((\sim p) \wedge q) \rightarrow (\sim r)$

(C) $r \rightarrow (\sim p)$

(D) $q \rightarrow r$

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8. Find the value of $\tan(105^\circ)$ using compound angle identities.

(A) $2+\sqrt{3}$

(B) $-(2+\sqrt{3})$

(C) $1+\sqrt{3}$

(D) $\sqrt{3}-2$

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9. What is the power factor of an AC circuit containing only a pure resistor?

(A) 0

(B) 0.5

(C) 1

(D) -1

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10. A ball is thrown upwards with a velocity of $20\,m/s$. Find the maximum height reached ($g = 10\,m/s^2$).

(A) $10\,m$

(B) $20\,m$

(C) $30\,m$

(D) $40\,m$

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11. A particle in SHM has a speed of $6\,cm/s$ at the mean position and an amplitude of $4\,cm$. Find its position when its velocity is $2\,cm/s$.

(A) $\frac{8\sqrt{2}}{3}\,cm$

(B) $\frac{4\sqrt{2}}{3}\,cm$

(C) $\frac{8}{3}\,cm$

(D) $2\sqrt{2}\,cm$

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12. Identify the product formed when phenol reacts with bromine water.

(A) Bromobenzene

(B) *o*-Bromophenol

(C) 2, 4, 6-Tribromophenol

(D) Chlorobenzene

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13. What is the SI unit of molar conductivity?

(A) $S\,cm^{-1}$

(B) $S\,cm^{2}\,mol^{-1}$

(C) $S\,mol^{-1}$

(D) $S\,cm$

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14. Which enzyme converts trypsinogen into active trypsin in the digestive system?

(A) Pepsin

(B) Amylase

(C) Enterokinase

(D) Lipase

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15. What is the number of unit particles present in a Body-Centered Cubic (BCC) unit cell?

(A) 1

(B) 2

(C) 4

(D) 6
