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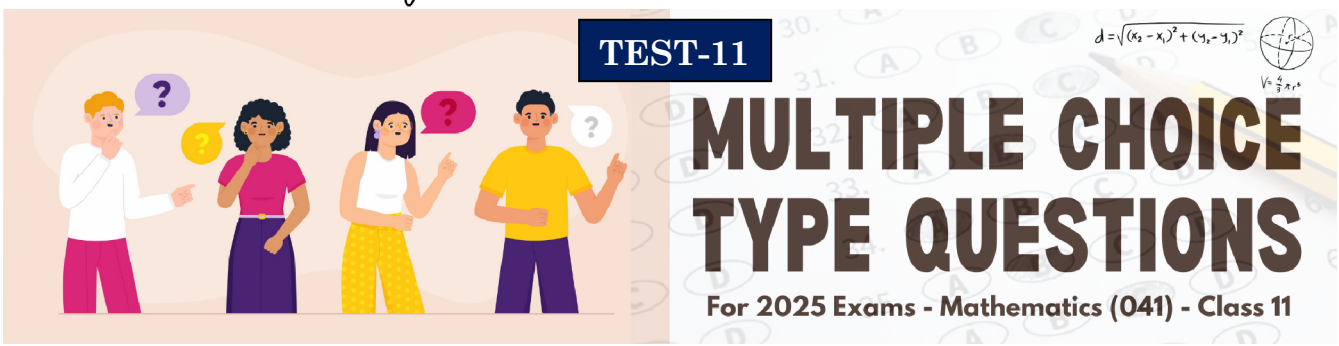

☑ ***Select the correct option in the followings. Each question carries 1 mark.***

01. Let P(3, 4, 5). Then the foot of perpendicular drawn from point P on XY-plane is at
(a) (3, 4, 0) (b) (3, 0, 4) (c) (0, 4, 5) (d) (3, 0, 5)

02. Let P(3, 4, 5). Then the foot of perpendicular drawn from point P on YZ-plane is at
(a) (3, 4, 0) (b) (3, 0, 4) (c) (0, 4, 5) (d) (3, 0, 5)

03. Let P(3, 4, 5). Then the image of point P in XY-plane is at
(a) (3, –4, 5) (b) (3, 4, –5) (c) (–3, 4, 5) (d) (3, –4, –5)

04. Let P(3, 4, 5). Then the image of point P in ZOX-plane is at
(a) (3, –4, 5) (b) (3, 4, –5) (c) (–3, 4, 5) (d) (3, –4, –5)

05. The coordinates of perpendicular drawn from point A(1, 2, 3) on x-axis are
(a) (1, 2, 0) (b) (0, 2, 0) (c) (–1, 2, 3) (d) (1, 0, 0)

06. The distance of the point (2, 3, 1) from the point (–1, 1, 2) is
(a) 14 (b) $\sqrt{14}$ (c) $\sqrt{41}$ (d) $\sqrt{21}$

07. The distance of the point (α, β, γ) from x-axis is
(a) $\sqrt{\beta^2+\gamma^2}$ (b) $\sqrt{\alpha^2+\beta^2}$ (c) $\sqrt{\gamma^2+\alpha^2}$ (d) $\sqrt{\alpha^2+\beta^2+\gamma^2}$

08. The distance of the point (a, 0, 1), $a>0$, from the point (0, 1, 2) is $\sqrt{27}$. Then $a =$
(a) ±5 (b) –5 (c) 5 (d) 0

09. The distance of $(\sqrt{2}, -2, -\sqrt{3})$ from the origin is
(a) 3 (b) $\sqrt{3}$ (c) $\sqrt{5}$ (d) 9

10. The point (–1, –6, 7) lies in
(a) III octant (OX′Y′Z) (b) IV octant (OXY′Z)
(c) I octant (OXYZ) (d) None of these

11. Distance of the point P(2, 1, 4) from YZ-plane is
(a) 1 (b) 2 (c) 3 (d) 4

12. Which of the following point (s) on the x-axis is/are at a distance $3\sqrt{5}$ units from A(–1, 4, 2)?
(a) (4, 0, 0), (–6, 0, 0) (b) (–4, 0, 0), (6, 0, 0)
(c) (–4, 0, 0), (–6, 0, 0) (d) (4, 0, 0), (6, 0, 0)

*Question numbers **13** to **15** are Assertion and Reason based questions. Two statements are given, one labelled **Assertion (A)** and the other labelled **Reason (R)**. Select the correct answer from the codes (a), (b), (c) and (d) as given below.*

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is **not** the correct explanation of Assertion (A).
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

13. **Assertion (A) :** If $x^2+y^2=1$, then the point $(x, y, 1-x^2-y^2)$ is at a distance of 1 unit from the origin (0, 0, 0).

Reason (R) : The distance between the points $P(x_1, y_1, z_1)$ and $Q(x_2, y_2, z_2)$ is given by the expression $PQ=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2+(z_2-z_1)^2}$.

14. **Assertion (A) :** The x-axis is the intersection of yz and zx planes.
Reason (R) : The locus of a point for which $y = 0, z = 0$ is x-axis.

15. **Assertion (A) :** Point (–1, –1, 1) is at a distance of $\sqrt{3}$ units from the origin.
Reason (R) : The three coordinate planes divide the space into eight parts.

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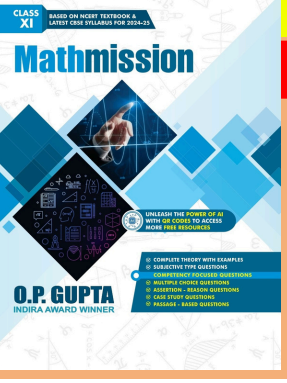

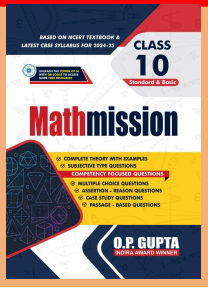

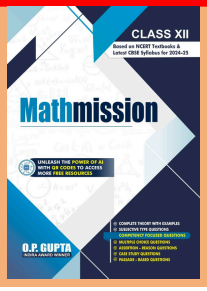

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