

O.P. JINDAL SCHOOL, SAVITRI NAGAR
Periodic Test-3 (Round 2) , 2025-2026

Class: XI Sci.

MM:20

Subject: Mathematics

Time :1Hour

General Instructions:

- i) All questions are compulsory.
 ii) Question no. 1 to 8 carries 1 mark each, question no. 9 to 11 carries 2 marks each, question no. 12 and 13 carries 3 marks each.
 iii) There is no overall choice. However, internal choice has been provided.

SECTION A

- 1.) If the slope of the line joining the points A(x, 2) and B(6, -8) is $-\frac{5}{4}$, then x = ?
 a) -2 b) 2 c) -3 d) 3
- 2.) The distance of the point P(4, 1) from the line $3x - 4y + 12 = 0$ is
 a) 4 units b) 5 units c) 3 units d) 6 units
- 3.) The angle between the x – axis and the line joining the points A(3, -1) and B(4, -2) is
 a) 45^0 b) 90^0 c) 135^0 d) 150^0
- 4.) The centre of the circle $x^2 + y^2 - 6x + 4y - 12 = 0$ is
 a) (-3, 2) b) (3, 2) c) (3, -2) d) (-3, -2)
- 5.) The focus of the parabola is (0, -3) and directrix is $y = 3$, then its equation is
 a) $x^2 = -12y$ b) $x^2 = 12y$ c) $y^2 = 12x$ d) $y^2 = -12x$
- 6.) The eccentricity of the ellipse $4x^2 + 9y^2 = 36$ is
 a) $\frac{1}{2\sqrt{3}}$ b) $\frac{1}{\sqrt{3}}$ c) $\frac{\sqrt{5}}{3}$ d) $\frac{\sqrt{5}}{6}$
- 7.) In which octant does the point (3, 2, -1) lie ?
 a) 1st b) 3rd c) 5th d) 7th
- 8.) The coordinate of foot of the perpendicular drawn from the point P(3, 4, 5) on yz – plane are
 a) (3, 4, 0) b) (0, 4, 5) c) (3, 0, 5) d) (3, 0, 0)

SECTION B

- 9.) Show that line through the points (-2, 6) and (4, 8) is perpendicular to the line through the points (3, -3) and (5, -9) .
- 10.) Find the equation of a circle of radius 5 cm, whose centre lies on y axis and which passes through the point (3, 2) .

ORFind the equation of hyperbola whose foci are $(\pm 5, 0)$ and transverse axis is of length 8.

- 11.) If three consecutive vertices of a parallelogram be $A(3, 4, -1)$, $B(7, 10, -3)$ and $C(5, -2, 7)$, find the fourth vertex D .

SECTION C

- 12.) Find the equation of line passing through the point $(2, 3)$ and perpendicular to the line $4x + 3y = 10$.

OR

Find the equation of the line passing through the point $(2, 2)$ and cutting of intercept on the axes whose sum is 9.

- 13.) The length of major axis of an ellipse is 20 units and its foci are $(\pm 5\sqrt{3}, 0)$. Find the equation of the ellipse.
