O.P. JINDAL SCHOOL, SAVITRI NAGAR

Periodic Test-2 (Round 2) 2024-2025

Class: XI Maths **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.) The inclination of line $x - y + 3 = 0$ with positive direction of x axis is
a) 45^0 b) 135^0 c) -45^0 d) -135^0

2.) The coordinate of the foot of the perpendicular from the point (2, 3) on the line $x + y - 11 = 0$ are
a) (-6, 5) b) (5, 6) c) (5, -6) d) (6, 5)

3.) The area of triangle with vertices at (-4, 1), (1, 2) and (4, -3) is
a) 17 b) 16 c) 15 d) none of these

4.) The equation of line which have slope -2 and cuts – off an intercept -6 on X – axis is
a) $2x - y + 12 = 0$ b) $2x + y + 12 = 0$ c) $-2x + y + 12 = 0$ d) $2x + y - 12 = 0$

5.) If the equation of circle is $x^2 + y^2 - 2x + 4y - 8 = 0$ then its radius is
a) 13 units b) $\sqrt{13}$ units c) $\sqrt{28}$ units d) 15 units

6.) The length of the latus rectum of ellipse $3x^2 + y^2 = 12$ is
a) 4 b) 3 c) 8 d) $\frac{4}{\sqrt{3}}$

7.) The focus of a 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) $y^2 = 12x$

8.) The eccentricity of a conics is 1.56. Then shape of conics is
a) Parabola b) Ellipse c) Circle d) Hyperbola

SECTION B

9) Find the value of x for which the points (x, -1), (2, 1) and (4, 5) are collinear.

10) Find the equation of a circle with centre (2, 2) and passes through the points (4, 5).

OR

Find the equation of ellipse with vertices $(0, \pm 13)$ and foci $(0, \pm 5)$.

11) Find the eccentricity and length of latus rectum of hyperbola $16x^2 - 9y^2 = 576$.

SECTION C

12) Find the equation of line passing through (-3, 5) and perpendicular to the line through the points (2, 5) And (-3, 6).

OR

Find the point on x axis, whose distance from the line $\frac{x}{3}+\frac{y}{4}=1$ are 4 units.

13) An arch is in the form of a parabola with its axis vertical. The arch is 10 m high 5 m wide at the base. How wide is it 2 m from the vertex of the parabola?

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