

CLASS XI SAMPLE PAPER MATHS

Co-ordinate Geometry

Time: - 1 ½ hr

F.M-50

Group-A [2×10=20]

- 1)
 - a) Find the distance between the points $(a + b, b + c)$ and $(a - b, c - b)$.
 - b) For what value of 'a' points $(a, -1), (1, -1), (11, 4)$ are collinear.
 - c) Find what the following equation become when the origin is shifted to the point $(1, 1), x^2 + xy - 3x - y + 2 = 0$.
 - d) What can be said regarding a line if its slope is ,
 - (i) Zero. (ii) Positive. (iii) Negative.
 - e) Express $x + y + 1 = 0$ in normal form and find $p = ?$ and $\alpha = ?$
 - f) Find the distance between the lines: $3x - 1 = 0$ and $x + 3 = 0$.
 - g) Find the length of perpendicular drawn from origin to the line $2x - 1 = 0$.
 - h) Find the angle between the lines: $x - y = 0$ and $x + y = 0$.
 - i) Find the value of λ so that the lines $3x - 4y - 13 = 0, 8x - 11y - 33 = 0$ and $2x - 3y + \lambda = 0$ are concurrent.
 - j) State whether $(1, 2)$ & $(-2, 7)$ lies same or opposite side of the line $x - 3y + 14 = 0$

Group-B [6 × 5 = 30]

- 2) Find the ratio the line segment joining $(2, -3)$ and $(5, 6)$ is divided by the co – ordinate axes?
- 3) A rod of length '1' slides between two perpendicular lines.
Find the locus of the point on the rod which divides it in the ratio 1:2?
- 4) Find the distance of the point $(3, 2)$ from the line $x + 3y - 1 = 0$, measured parallel to the line $3x - 4y + 1 = 0$.
- 5) In which direction a line be drawn through $(1, 2)$ such that the point of intersection of the line $x + y = 4$ and this line be at a distance $\left(\frac{\sqrt{6}}{3}\right)$ from the given point.

6) Prove that the product of perpendiculars from the points $(\pm\sqrt{a^2 - b^2}, 0)$ to the line $\frac{x \cos \theta}{a} + \frac{y \sin \theta}{b} = 1$ is b^2 .

Ranjan Ku Mohapatra

mahapatra.ranjan@rediffmail.com

+91-9437534728