Sr. No.	Questions	A	B	C	D
1	The equation of a straight line in the slope-intercept form is written as:	$y = m(x + c)$	$y - y_1 = m(x - x_1)$	$y = c + mx$✓	$ax + by + c = 0$
2	The gradients of two parallel lines are:	equal✓	zero	negative reciprocals of each other	always undefined
3	If the product of the gradients of two lines is -1, then the lines are:	parallel	perpendicular✓	collinear	coincident
4	Distance between two points $P(1,2)$ and $Q(4,6)$ is:	5✓	6	$\sqrt{13}$	4
5	The midpoint of a line segment with endpoints $(-2,4)$ and $(6,-2)$ is:	(4,2)	(2,1) ✓	(1,1)	(0,0)
6	A line passing through points $(1,2)$ and $(4,5)$ is:	$y = x + 1$✓	$y = 2x + 3$	$y = 3x - 2$	$y = x + 2$
7	The equation of a line in point-slope form is:	$y = m(x + c)$	$y - y_1 = m(x - x_1)$✓	$y = c + mx$	$ax + by + c = 0$
8	$2x + 3y - 6 = 0$ in the slope-intercept form is:	$y = \frac{-2}{3}x + 2$✓	$y = \frac{2}{3}x - 2$	$y = \frac{2}{3}x + 1$	$y = \frac{-2}{3}x - 2$
9	The equation of a line in symmetric form is:	$\frac{x}{a} + \frac{y}{b} = 1$	$\frac{x - x_1}{1} + \frac{y - y_1}{m} = \frac{z - z_1}{1}$	$\frac{x-x_1}{\cos\alpha} = \frac{y-y_1}{\sin\alpha} = r$✓	$y - y_1 = m(x - x_1)$
10	The equation of a line in normal form is:	$y = mx + c$	$\frac{x}{a} + \frac{y}{b} = 1$	$\frac{x - x_1}{\cos\alpha} = \frac{y - y_1}{\sin\alpha}$	$x\cos\alpha + y\sin\alpha = p$✓

Solution of MCQs

1	Slope-Intercept Form is $y = c + mx$ Also written as $y = mx + c$.
2	Parallel lines have **equal slopes**.
3	Perpendicular lines: product of slopes $= -1$
4	Distance between $P(1,2)$ and $Q(4,6)$ $\|\overline{PQ}\| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $= \sqrt{(4-1)^2 + (6-2)^2}$ $= \sqrt{(3)^2 + (4)^2}$ $= \sqrt{9 + 16}$ $= \sqrt{25}$ $= 5$

5	Midpoint of $(-2,4)$ and $(6,-2)$: $M(x,y) = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ $= \left(\frac{-2+6}{2}, \frac{4+(-2)}{2}\right)$ $= \left(\frac{4}{2}, \frac{2}{2}\right)$ $= (2,1)$
6	Slope of line from $(1,2)$ to $(4,5)$: $m = \frac{y_2-y_1}{x_2-x_1}$ $m = \frac{5-2}{4-1}$ $m = \frac{3}{3}$ $m = 1$ Now Point Slope Form $y - y_1 = m(x - x_1)$ $y - 2 = 1(x - 1)$ $y = x - 1 + 2$ $y = x + 1$
7	Equation of a line in point-slope form is $y - y_1 = m(x - x_1)$
8	$2x + 3y - 6 = 0$ $\Rightarrow 3y = -2x + 6$ $y = \frac{-2x+6}{3}$ $y = \frac{-2x}{3} + \frac{6}{3}$ $y = \frac{-2x}{3} + 2$
9	$\frac{x-x_1}{\cos\alpha} = \frac{y-y_1}{\sin\alpha} = r$
10	$x\cos\alpha + y\sin\alpha = P$