

**PLEASE ENSURE THAT THIS QUESTION BOOKLET CONTAINS 120
QUESTIONS SERIALLY NUMBERED FROM 1 TO 120. PRINTED PAGES 32.**

1. The axis of the parabola $x^2 + 6x + 4y + 5 = 0$ is
(A) $x = 0$ (B) $y = 1$ (C) $x + 3 = 0$
(D) $y = 4$ (E) $y + 2 = 0$
2. The distance between the foci of the ellipse $\frac{(x+2)^2}{9} + \frac{(y-1)^2}{4} = 1$ is
(A) $\sqrt{5}$ (B) $2\sqrt{5}$ (C) $3\sqrt{5}$
(D) $9\sqrt{5}$ (E) $7\sqrt{5}$
3. The value of k , if the circles $2x^2 + 2y^2 - 4x + 6y = 3$ and $x^2 + y^2 + kx + y = 0$ cut orthogonally is
(A) 2 (B) 3 (C) 4
(D) 5 (E) 1
4. The circle passing through $(1, -2)$ and touching the x -axis at $(3, 0)$ also passes through the point
(A) $(2, -5)$ (B) $(-5, -2)$ (C) $(-2, 5)$
(D) $(-5, 2)$ (E) $(5, -2)$
5. If α and β are the roots of the equation $x^2 + \alpha x + \beta = 0$, then
(A) $\alpha = -1, \beta = -2$ (B) $\alpha = 0, \beta = 1$ (C) $\alpha = -2, \beta = 0$
(D) $\alpha = -2, \beta = 1$ (E) $\alpha = 1, \beta = -2$

Space for rough work

