B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

PRE-MID TERM-2025-26
MATHEMATICS (041) MARKING SCHEME

Class: IX **Time: 1hr**
Date: 01/08/2025 **Max Marks: 25**
Admission no: **Roll no:**

I. Multiple choice questions. 1 mark for each question.

1. $3\sqrt{x}+\sqrt{2}$ [D]
2. -3 [A]
3. Third quadrant [C]
4. 0 [A]
5. -1 [D]

6. $7x^2+4x+6$ at i) $x=-1$, ii) $x=2$

i) $P(-1) = 7(-1)^2 + 4(-1) + 6$ ½
$= 7 - 4 + 6$
$= 9$ ½

ii) $P(2) = 7(2)^2 + 4(2) + 6$ ½
$= 42$ ½

7. Factorise : $2x^2 + 7x + 3 = 2x^2 + 6x + x + 3$ 1
$= 2x(x+3) + 1(x+3)$ ½
$= (2x+1)(x+3)$ ½

8. In which quadrant……
i) Second quadrant ii) on y – axis iii) on x axis
iv) First quadrant 4 x ½ = 2

9. I) Coordinates of A (3 , 0) , F (-6 , -2) , C (5 , -3) 4 x ½ = 2
II) Abscissa of L (3)

10. i) $(x+4)(x+10) = x^2 + (4+10)x + 4 \times 12$ ½
$= x^2 + 14x + 48$ ½

ii) $(100+4)(100-4) = (100)^2 - (4)^2$ ½
$= 10000 - 16$
$= 9984$ ½

11. a) Expand using suitable identity : $(x + 2y + 4z)^2$

$x^2 + (2y)^2 + (4z)^2 + 2 \times x \times 2y + 2 \times 2y \times 4z + 2 \times x \times 4z$ 1

$x^2 + 4y^2 + 16z^2 + 4xy + 16yz + 8xz$ 1

b) $(4a)^3 - (3b)^3 - 3(4a)^2 \times 3b + 3 \times 4a(3b)^2$ 1

$(4a - 3b)^3$ 1

12. i) $(2x + 1)^3 = (2x)^3 + (1)^3 + 3x2x\,1\,(2x + 1)$ 1

$= 8x^3 + 1 + 12x^2 + 6x$ ½

ii) $(x - \frac{2y}{3})^3 = x^3 - y^3 - 3xy(x - y)$ 1

$= x^3 - 8/27y^3 - 2x^2y + 4/3xy^2$ ½

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