



**BK BIRLA CENTRE FOR EDUCATION**  
SARALA BIRLA GROUP OF SCHOOLS  
SENIOR Secondary Co-Ed DAY CUM BOYS' RESIDENTIAL SCHOOL  
**PREMID TERM EXAMINATION-1 2024**



**MATHEMATICS (041)**

Class: XI Science

Duration: 1 Hour

Date: 30/07/24

MARKING SCHEME

Max. Marks: 25

Q No.	Answer	Scheme
1	A	$X \subset Y$
2	A	p
3	B	$2^{n \times n}$
4	A	$f(\alpha) = f(\beta) = -9$
5	C	A is true but R is false
6		{27,64,125,216}
7		Proper Venn diagram.
8		$(f+g)(x) = x^3 + 2x - 1$ $(f+g)(x) = 3^3 + 2 \times 3 - 1 = 32$
9		Domain is $\mathbb{R} - \{2\}$
10		$(-3, 7]$ , Draw proper real number line.
11		$A = \{2, 3, 5, 7\}$ , $B = \{1, 3, 5, 7, 9\}$ $A - (A \cap B) = \{2\}$
12		$f(x) + f(-x) = \frac{3x}{2x+5} + \frac{-3x}{-2x+5}$ $= \frac{12x^2 - 15x}{25 - 4x^2}$
13		$Y = \frac{x^2+2}{x^2+1}$ $X = \sqrt{\frac{2-y}{y-1}}$ $y \in (1, 2)$ Therefore range is