

# Sample test on Polynomial and Factorization for class X

## SECTION – A (Single-Answer Type) :

[ 4 x 3 M = 12 M ]

- The degree of the polynomial  $p(x) = (x^2 + 1)^4(2 - x^3)^2$  is ...  
 (A) 8 (B) 11 (C) 14 (D) None
- The remainder obtained when  $p(x) = x^{2010} - x^{2009} - x^{2008} - \dots - x^2 - x - 1$ , is divided by  $(x - 2)$  is ...  
 (A) 0 (B) 1 (C) 2 (D)  $2^{2010}$
- $x^4 - 6x^3 + 7x^2 + 6x + 1 \equiv \dots$   
 (A)  $(x^2 - 3x + 1)^2$  (B)  $(x^2 + 3x - 1)^2$  (C)  $(x^2 - 3x - 1)^2$  (D)  $(x^2 + 3x + 1)^2$
- Which among the following expressions is homogeneous but not symmetric :  
 (A)  $2x^2 - 3xy + 2y^2$  (B)  $(x + 3y)(3x + y)$  (C)  $(4x - 1)(4y - 1)$  (D)  $(3x + 2y)(3x - 2y)$

## SECTION – B (Multi-Answer Type) :

[ 2 x 4 M = 8 M ]

- Which among the following is not a factor of the polynomial  $p(x) = 6x^3 - 7x^2 - x + 2$  :  
 (A)  $x - 1$  (B)  $2x - 3$  (C)  $2x + 1$  (D)  $3x + 2$
- Which among the following expressions is both homogeneous and cyclic :  
 (A)  $(a + 2b)(b + 2c)(2a + c)$  (B)  $2x^2 - 3xy + 2y^2 - 3yz + 2z^2 - 3zx$   
 (C)  $a^2(b - c) - b^2(a - c) + c^2a - bc^2$  (D)  $(x^2 - 2xy + y^2)(y^2 - 2yz + z^2)$

## SECTION – C (Column-Matching Type) :

[ 5 x 2 M = 10 M ]

Column - 1		Column - 2	
A	If $1 < x < 2$ , then $\sqrt{(x^2 - 3x + 2)^2} \equiv \dots$	P	0
B	The remainder obtained when $x^{2010}$ is divided by $(x + 1)(x - 1)$ is ...	Q	1
C	If $a, b, c$ are distinct reals, then $\sum_{a,b,c} \frac{1}{(b-c)(c-a)} \equiv \dots$	R	3
D	$(x^2 - 2x - 1)(x^2 - 2x + 3) + 2 + a$ is the square of a real quadratic, if $a = \dots$	S	$(x - 1)(x - 2)$
E	When a polynomial $p(x)$ (of degree $> 3$ ) is divided by $(2x^3 - 1)$ , the degree of the remainder is atmost ...	T	$(1 - x)(x - 2)$

	A	B	C	D	M1	P	Q	R	S	T
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	E	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>						