

# VAISHALI EDUCATION POINT

(QUALITY EDUCATION PROVIDER)

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## POLYNOMIAL

Class :- Ix

Subject :- Math

Time:3 Hours

Total Marks :- 30

### General Instructions

QNo.

Questions

1

If  $x + \frac{1}{x} = 2$ , then  $x^3 + \frac{1}{x^3} =$

- (a) 64
- (b) 14
- (c) 8
- (d) 2

2

If  $a + b + c = 0$ , then  $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} =$

- (a) 0
- (b) 1
- (c) -1
- (d) 3

3

If  $a + b + c = 9$  and  $ab + bc + ca = 23$ , then  $a^2 + b^2 + c^2 =$

- (a) 35
- (b) 58
- (c) 127
- (d) None of these

4

$(a - b)^3 + (b - c)^3 + (c - a)^3 =$

- (a)  $(a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$
- (b)  $(a - b)(b - c)(c - a)$
- (c)  $3(a - b)(b - c)(c - a)$
- (d) None of these

5

The product  $(a + b)(a - b)(a^2 - ab + b^2)(a^2 + ab + b^2)$  is equal to

- (a)  $a^6 + b^6$
- (b)  $a^6 - b^6$
- (c)  $a^3 - b^3$
- (d)  $a^3 + b^3$

6

The value of  $\frac{(0.013)^3 + (0.007)^3}{(0.013)^2 - 0.013 \times 0.007 + (0.007)^2}$

- (a) 0.006
- (b) 0.02
- (c) 0.0091

- (d) 0.00185
- 7 If  $x + 2$  and  $x - 1$  are the factors of  $x^3 + 10x^2 + mx + n$ , then the values of  $m$  and  $n$  are
- (a) 5 and  $-3$
  - (b) 17 and  $-8$
  - (c) 7 and  $-18$
  - (d) 23 and  $-19$
- 8 value of  $k$  for which  $x - 1$  is a factor of  $4x^3 + 3x^2 - 4x + k$ , is
- (a) 3
  - (b) 1
  - (c)  $-2$
  - (d)  $-3$
- 9 The remainder when  $x^3 - px^2 + 6x - p$  is divided by  $x - p$  is :
- (a)  $p$
  - (b)  $5p$
  - (c)  $-5p$
  - (d)  $5p^2$
- 10 The zeroes of the polynomial  $p(x) = 2x^2 + 5x - 3$  are
- (a)  $\frac{1}{2}, 3$
  - (b)  $\frac{1}{2}, -3$
  - (c)  $\frac{-1}{2}, 3$
  - (d)  $1, \frac{-1}{2}$
- 11 When  $p(x) = x^4 + 2x^3 - 3x^2 + x - 1$  is divided by  $(x - 2)$ , the remainder is
- (a) 0
  - (b)  $-1$
  - (c)  $-15$
  - (d) 21
- 12 If  $(x + 5)$  is a factor of  $p(x) = x^3 - 20x + 5k$ , then  $k = ?$
- (a)  $-5$
  - (b) 5
  - (c) 3
  - (d)  $-3$
- 13  $4a^2 + b^2 + 4ab + 8a + 4b + 4 = ?$
- (a)  $(2a + b + 2)^2$
  - (b)  $(2a - b + 2)^2$
  - (c)  $(a + 2b + 2)^2$
  - (d) none of these

14

If  $a + b + c = 0$ , then  $\left(\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab}\right) = ?$

- (a) 1
- (b) 0
- (c) -1
- (d) 3

15

If  $x + y + z = 9$  and  $xy + yz + zx = 23$ , then the value of  $(x^3 + y^3 + z^3 - 3xyz) = ?$

- (a) 108
- (b) 207
- (c) 669
- (d) 729