

I. Answer all the questions

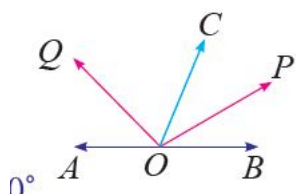
Time : 01:30:00 Hrs

Total Marks : 50

10 x 1 = 10

Part-A

- 1) The coefficients of x^2 and x in $2x^3 - 3x^2 - 2x + 3$ are respectively
(a) 2, 3 (b) -3, -2 (c) -2, -3 (d) 2, -3
- 2) The root of the polynomial equation $3x - 1 = 0$ is
(a) $x = -\frac{1}{3}$ (b) $x = \frac{1}{3}$ (c) $x=1$ (d) $x=3$
- 3) If a polynomial $p(x)$ is divided by $(ax + b)$, then the remainder is
(a) $p(\frac{b}{a})$ (b) $p(-\frac{b}{a})$ (c) $p(\frac{a}{b})$ (d) $p(-\frac{a}{b})$
- 4) If $(ax - b)$ is a factor of $p(x)$, then
(a) $p(b)=0$ (b) $p(-\frac{b}{a}) = 0$ (c) $p(a)=0$ (d) $p(\frac{b}{a}) = 0$
- 5) One of the factors of $x^2 - 3x - 10$ is
(a) $x - 2$ (b) $x + 5$ (c) $x - 5$ (d) $x - 3$
- 6) Find the supplement of each of the following angles.
(a) 58° (b) 148° (c) 120° (d) 40° (e) 100°
- 7) In the given figure, OP bisect $\angle BOC$, OQ bisect $\angle AOC$ Then $\angle POQ$



- (a) 90° (b) 120° (c) 60° (d) 100°
- 8) The complement of an angle exceeds the angle by 60° . Then the angle is equal to
(a) 25° (b) 30° (c) 15° (d) 35°
- 9) Find the measure of an angle, if six times of its complement is 12° less than twice of its supplement
(a) 48° (b) 96° (c) 24° (d) 58°
- 10) ABCD is a parallelogram, E is the mid-point of AB and CE bisects $\angle BCD$ then $\angle DEC$ is
(a) 60° (b) 90° (c) 100° (d) 120°

Part-B

5 x 2 = 10

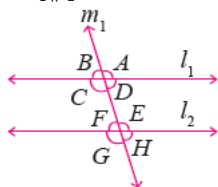
- 11) Classify the following polynomials based on number of terms.
(i) $x^3 - x^2$ (ii) $5x$ (iii) $4x^4 - 2x^3 + 1$ (iv) $4x^3$ (v) $x + 2$ (vi) $3x^2$ (vii) $y^4 + 1$
(viii) $y^{20} + y^{18} + y^2$ (ix) 6 (x) $2u^3 + u^2 + 3$ (xi) $u^{23} - u^4$ (xii) y
- 12) Write the coefficient of x^2 and x in each of the following.
 $\sqrt{3}x + 1$
- 13) Find the remainder when $4x^3 + 5x^2 + 6x - 2$ is divided by $x - 1$.
- 14) In the parallelogram ABCD if $\angle A = 65^\circ$, find $\angle B$, $\angle C$ and $\angle D$.
- 15) If ABCD is a rhombus and if $\angle A = 76^\circ$ find $\angle CDB$.

Part-C

10 x 3 = 30

- 16) State whether the following expressions are polynomials in one variable or not. Give reasons for your answer.
 $y^3 + 2\sqrt{3}$
- 17) Write the degree of each of the following polynomials.
 $12 - x + 4x^3$
- 18) Give one example of a binomial of degree 27 and monomial of degree 49 and trinomial of degree 36.
- 19) Find the zeros of the following polynomials
 $p(x) = 3x + 5$
- 20) Find the roots of the following polynomial equations.
 $11x + 1 = 0$

- 21) Find the angles in each of the following.
- The angle which is two times its complement.
 - The angle which is four times its supplement.
 - The angles whose supplement is four times its complement.
 - The angle whose complement is one-sixth of its supplement.
 - Supplementary angles are in the ratio 4:5.
 - Two complementary angles are in the ratio 3:2.
- 22) Let $l_1 \parallel l_2$ and m_1 is a transversal $\angle F = 65^\circ$, find the measure of each of the remaining angles



- 23) The angles of a triangle are in the ratio of 1:2:3. Find the measure of each angle of the triangle
- 24) Suppose ABCD is a parallelogram in which $\angle A = 108^\circ$ Calculate $\angle B$, $\angle C$ and $\angle D$.
- 25) The length of the diagonals of a rhombus are 24 cm and 18 cm. Find the length of each a side of the rhombus

