



Q.1 Solve any three of the following. **6**

i) Factorise the following polynomials.

1) $2y^2 - 11y + 15$

2) $m^6 - 64n^6$

ii) Simplify following algebraic expression

$$\frac{3x^4 - 24}{x^2 + 3x - 10}$$

iii) Find HCF of the following polynomials

$$x^3 + y^3 ; \quad x^4 + xy^3 ; \quad x^2(x + y^2)(x^2 - xy + y^2)$$

iv) Simplify the following algebraic expressions.

$$\frac{x+y}{x-y} \cdot \frac{x-y}{x+y}$$

v) If HCF of two polynomials is $(a + 2)$ and LCM of those polynomial is $(a + 2)^2(a - 3)$ then find those polynomials.

Q.2 Solve any two **6**

i) If the G. C. D. of the polynomials $(x - 2)(x^2 + ax + 12)$ and $(x + 3)(x^2 - bx + 6)$ is $(x + 3)(x - 2)$, Find a and b .

ii) Simplify the algebraic expressions, $\frac{2x^3 - 9x^2 + 10x - 3}{2x^3 + 3x^2 - 8x + 3}$

iii) Simplify $\frac{m^2 + 9m + 20}{m^2 - 16} \div \frac{m^2 - 2m - 35}{m^2 + 3m - 28}$

Q.3 Solve any two. **8**

i) Simplify $\left[\frac{1+y}{1-y} - \frac{1-y}{1+y} + \frac{4y}{1+y^2} \right] \div \frac{2y}{1-y^4}$

ii) Find HCF and LCM of the following polynomials.

$$4x^3 - 16x^2 + 20x - 8 ; \quad 8x^3 - 48x^2 + 72x - 32$$

iii) Simplify, $\frac{x-3}{x^2-x-6} + \frac{2x-1}{2x^2+5x-3} - \frac{3x+11-x^2}{x^2+5x+6}$

iv) Factorize the polynomial, $x^3 + 5x^2 + x - 15$

