

Deptt. Of mathematics

THEORY OF EQUATION

DSE -3

Choose the correct answer from the given alternatives .

1. If one root of $x^3 - 1 = 0$ is 1, then other roots are

- (a) $\frac{1 \pm i\sqrt{3}}{2}$ (b) $\frac{-1 \pm i\sqrt{3}}{2}$ (c) $\frac{1 \pm i\sqrt{-3}}{2}$ (d) None of these

2. Every equation of nth degree has

- (a) infinite roots (b) n roots (c) (n-1)roots (n+1)roots

3. If $f(x) = 3x^3 - 4x^2 + 2x + 1$ is divided by $x-3$, then the remainder is

- (a) 51 (b) 50 (c) 52 (d) none of these

4. If α, β, γ be the roots of $4x + 6x^2 - 3x^3 - 9 = 0$, then $\sum \alpha$ is

- (a) 1 (b) 0 (c) 2 (d) none of these

5. $\alpha, \beta, \gamma, \delta$ are the roots of $x^4 - 3x^3 + 2x^2 - 1 = 0$, then

- (a) 2 (b) 0 (c) 1 (d) none of these

6. If two roots of the equation $x^3 - 3x^2 + 4 = 0$ are equal, then the roots are

- (a) 2,2,1 (b) 2,-2,1 (c) 2,-2,-1 (d) none of these

7. If $\alpha, \beta, \gamma, \delta, \pi$ are the roots of the equation $a_0x^2 - 4a_1x^3 + 6a_2x^2 - a_3x + a_4 = 0$

Then $\frac{1}{\alpha} + \frac{1}{\beta} + \frac{1}{\gamma} + \frac{1}{\delta} =$

- (a) $\frac{4a_1}{a_0}$ (b) $\frac{4a_3}{a_0}$ (c) $\frac{4a_3}{a_4}$ (d) none of these

8. If $f(x) = 3x^4 - 4x^3 + 2x + 1$ then $f(4)$ is

- (a) 542 (b) 522 (c) 521 (d) none of these

9. If product of two roots of the equation $x^3 - 5x^2 - 2x + 24 = 0$ is 12, then other roots are

- (a) 1 (b) -1 (c) 2 (d) -2

10. The roots of the equation $f(x) = 3x^3 - 4x^2 + 2x + 1$ are in A.P the roots are

- (a) 246 (b) 345 (c) 125 (d) none of these