Short Questions:

Write the short answers of the following:

Q.1: What is partial fractions?

Q.2: Define proper fraction and give example.

Q.3: Define improper fraction and given one example:

Q.4: Resolve into partial fractions $\frac{2x}{(x - 2)(x + 5)}$

Q.5: Resolve into partial fractions: $\frac{1}{x^2 - x}$

Q.6: Resolve $\frac{7x + 25}{(x + 3)(x + 4)}$ into partial fraction.

Q.7: Resolve $\frac{1}{x^2 - 1}$ into partial fraction:

Q.8: Resolve $\frac{x^2 + 1}{(x + 1)(x - 1)}$ into partial fractions.

Q.9: Write an identity equation of $\frac{8x^2}{(1 - x^2)(1 + x^2)^2}$

Q.10: Write an identity equation of $\frac{2x + 5}{x^2 + 5x + 6}$

Q.11: Write identity equation of $\frac{x - 5}{(x + 1)(x^2 + 3)}$

Q.12: Write an identity equation of $\frac{6x^3 + 5x^2 - 7}{3x^2 - 2x - 1}$

Q.13: Write an identity equation of $\frac{(x - 1)(x - 2)(x - 3)}{(x - 4)(x - 5)(x - 6)}$

Q.14: Write an identity equation of $\frac{x^5}{x^4 - 1}$

Q.15: Write an identity equation of $\frac{2x^4 - 3x^2 - 4x}{(x + 1)(x^2 + 2)^2}$

Q16. Form of partial fraction of $\frac{1}{(x+1)(x-2)}$ is _____.

Q.17. Form of partial fraction of $\frac{1}{(x+1)^2(x-2)}$ is _____.

Q.18. Form of partial fraction of $\frac{1}{(x^2+1)(x-2)}$ is _____.

Q.19. Form of partial fraction of $\frac{1}{(x^2+1)(x-4)^2}$ is _____.

Q.20. Form of partial fraction of $\frac{1}{(x^3-1)(x^2+1)}$ is _____.

Answers

Q4. $\frac{4}{7(x-2)} - \frac{10}{7(x+5)}$ Q5. $\frac{-1}{x} + \frac{1}{x-1}$

Q6. $\frac{4}{x+3} + \frac{3}{x+4}$ Q7. $\frac{1}{x^2-1} = \frac{1}{2(x-1)} - \frac{1}{2(x+1)}$

Q8. $1 + \frac{1}{x+1} + \frac{1}{x-1}$ Q9. $\frac{A}{1-x} + \frac{B}{1+x} + \frac{Cx+D}{1+x^2} + \frac{Ex+F}{(1+x^2)^2}$

Q10. $\frac{A}{x+2} + \frac{B}{x+3}$ Q11. $\frac{A}{x+1} + \frac{Bx+C}{x^2+3}$

Q12. $(2x+3) + \frac{A}{x-1} + \frac{B}{3x+1}$ Q13. $1 + \frac{A}{4-4} + \frac{B}{x-5} + \frac{C}{x-6}$

Q14. $x + \frac{A}{x-1} + \frac{B}{x+1} + \frac{Cx+D}{x^2+1}$ Q15. $\frac{A}{x+1} + \frac{Bx+C}{x^2+2} + \frac{Dx+E}{(x^2+2)^2}$

Q16. $\frac{A}{x+1} + \frac{B}{x-2}$ Q17. $\frac{A}{x+1} + \frac{B}{(x+1)^2} + \frac{C}{x-2}$

Q18. $\frac{Ax+B}{x^2+1} + \frac{C}{x-2}$ Q19. $\frac{Ax+B}{x^2+1} + \frac{C}{x-1} + \frac{D}{(x-1)^2}$

Q20. $\frac{A}{(x-1)} + \frac{Bx+C}{(x^2+x+1)} + \frac{Dx+E}{x^2+1}$