

CLASS –IX (Session : 2024-25)

PERIODIC TEST -1

Subject – Mathematics

Maximum Marks: 40

Time: 1.5 HOURS

1. The question paper contains three parts A, B, C and D
2. Section A consists of 10 questions of 1 marks each
3. Section B consists of 3 questions of 2 marks each
4. Section C consists of 4 questions of 3 marks each
5. Section D consists of 3 questions of 4 marks each

SECTION - A

1. Find the value of K in $p(x) = x^2 - x + K$ if $x+1$ is a factor of $p(x)$.
2. Find the degree of each polynomial (i) $7-5x^2+3x$ (ii) 9
3. $(3+\sqrt{3})(3-\sqrt{3})$ is rational number or irrational number.
4. Simplify $11^{1/2} / 11^{1/4}$
5. If $1/7 = 0.142857 \text{ bar}$. Find the value of $3/7$.
6. Expand $(x + y + z)^2$
7. Find the product using identity $(3x + 4)(3x - 5)$.
8. Write True or False
 - i. Every integer is a whole number.
 - ii. Every rational number is a whole number.
9. Find the product : $(\sqrt{a} + \sqrt{b})(\sqrt{c} + \sqrt{d})$
10. Find the value of the polynomial $5x^2 + 9x - 7$ at $x = -1$

SECTION – B

11. Factorise $x^2 - (y^2/100)$
12. Rationalise the following :
 - i. $1/2 + \sqrt{3}$
 - ii. $5/(\sqrt{3} + \sqrt{5})$
13. Write in expanded form $(-2x + 5y - 3)^2$.

SECTION – C

14. Represent $\sqrt{9.3}$ on number line.

15. Verify whether the following are zeroes of the polynomial indicated against them :

i. $P(x) = 3x^2 - 1$, $x = -1/\sqrt{3}$

ii. $P(x) = -5x - 9$, $x = 4/5$

iii. $P(x) = x^2 - 1$, $x = -1$

16. Express 0.39 bar in the form of p/q .

SECTION – D

17. Factorise : $2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8xz$.

18. Using long division method ; Factorise : $x^3 + 13x^2 + 32x + 20$

19. Factorise : $(1/4)p - (9/2)p^2 + 27p^3 - (1/216)$.

20. $(5 - \sqrt{3})/(2 + \sqrt{3}) = x + y\sqrt{3}$.