ANGEL'SPUBLIC SCHOOL

SAMPLE PAPER

PERIODIC TEST – I SESSION 2024 – 25

CLASS – IX

TIME: 2 HRS **SUBJECT : MATHEMATICS** **M.M:40**

General Instructions:

(a) Section – A comprises 10 questions of 1 mark each.

(b) Section – B comprises 5 questions of 2 marks each.

(c) Section – C comprises 5 questions of 3 marks each. Attempt any 4.

(d) Section – D comprises 3 questions of 4 marks each. Attempt any 2.

SECTION – A

1. The value of $243^{1/5}$ is ____.

(a) 2 (b) 3 (c) –3

2. The coordinates (–6, 7) lies in ____ quadrant.

(a) I quadrant (b) II quadrant (c) IV quadrant

3. The ordinate of (7,8) is ___.

(a) 8 (b) 7 (c) –7

4. Which of the following is an irrational number?

(a) 0.01010101… (b) 2.525525…. (c) 0.91911911191111….

5. The value of n in the expression $81^{\frac{n}{5}} = 243$ is___.

(a) $n = \frac{25}{4}$ (b) $n = \frac{2}{3}$ (c) $n = \frac{-12}{5}$

6. Which of the following is a quadratic polynomial?

(a) $x+ x^2+x^3$ (b) $x+7$ (c) $3x^2–6$

7. The value of $(0.001)^{1/3}$ is ___.

(a) $\frac{1}{10}$ (b) 10 (c) 0.001

8. Which of the following has –2 as a root?

(a) $x^2–2$ (b) x^2+2 (c) $x+2$

9. The ordinate of (8,–9) is ___.

(a) 8 (b) –9 (c) 9

10. The value of k, if x–1 is a factor of $4x^3+3x^2–5x+k$ is ____.

(a) 3 (b) –2 (c) $\frac{1}{3}$

SECTION – B

11. Locate $\sqrt{3}$ on the number line.

12. Is zero a rational number? Can you write it in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$?

13. Factorise : $6x^2+17x+5$.

14. Factorise:

$4x^2+9y^2+16z^2+12xy–24yz–16xz$

15. Factorise : $27y^3+125z^3$

SECTION – C (ATTEMPT ANY 4)

16. Represent $\sqrt{9.3}$ on the number line.

17. If $x+y+z=0$, show that $x^3+y^3+z^3= 3xyz$

18. Rationalize the following:

(a) $\dfrac{3+\sqrt{2}}{\sqrt{5}+\sqrt{3}}$ (b) $\dfrac{7}{5+\sqrt{3}}$

19. Express 0.9999… in the form of p/q , where p and q are integers, and q = 0.

Are you surprised by your answer?

20. Simplify:

(a) $(2+\sqrt{3})(\sqrt{5}+\sqrt{7})$ (b) $(\sqrt{2}+\sqrt{3})^2$ (c) $2^{2/3} \cdot 2^{1/5}$

(d) $11^{1/2} \div 11^{1/4}$ (e) $7^{1/2} \cdot 8^{1/2}$

SECTION – D (ATTEMPT ANY 2)

21. Simplify: $\dfrac{2^{p-q} \times 2^{r-p}}{2^{r-q}}$

22. Rationalise the denominator and simplify:

$$\frac{4\sqrt{3}+5\sqrt{2}}{\sqrt{48}+\sqrt{18}}$$

23. Find three irrational numbers between $\frac{5}{7}$ and $\frac{9}{11}$.