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परमाणु ऊर्जा शिक्षण संस्था
Atomic Energy Education Society
आवधिक परीक्षण / Periodic Test 1 (2025-26)

विद्यालय/School: _____ केंद्र/Centre: _____

कक्षा/Class: IX **विषय/Subject: Mathematics** **अंक/Marks: 40**

दिया गया पाठ्यक्रम/ Portion covered: Chapter 1- 4

विद्यार्थी का नाम / Name of the student: _____

अनुक्रमांक/Roll No._____ कक्षा/अनुभा दिनांक /Date: _____

Question Bank

Section – A (1m x 10 = 10 m)

1. **The number 1.010010001….. is a _____ number**

a) natural b) whole c) rational d) irrational

2 **The value of x, if** $\sqrt[3]{4x - 7} = 5$, is

a) 23 b) 39 c) 33 d) 34

3. **If (-4) is a zero of the polynomial $x^2 - x - 2k$, then the value of k is**

a) 3 b) 9 c) 10 d) -9

4. **What is the reciprocal of** $2 + \sqrt{3}$?

a) $2 + \sqrt{3}$ b) $2 - \sqrt{3}$ c) $2 + 2\sqrt{3}$ d) $2 - 2\sqrt{3}$

5. **The point (0,0) in a Cartesian plane is known as the ____**

a) abscissa b) ordinate c) origin d) none of these

6. **One of the solutions for the linear equation 3x + 2y = 14 is**

a) (4, 4) b) (-4, -1) c) (4, 1) d) (4, -1)

7. **The point (-2,-4) lies in the ___ quadrant.**

a) I b) II c) III d) IV

8. **(x +1) is a factor of**

a) $x^3 + x^2 - x + 1$ b) $x^3 + x^2 + x + 1$ c) $2x^3 + x^2 - x + 1$ d) $x^3 + x^2 - x + 2$

9. **The linear equation 3x +7y = 20 has _____ solutions.**

a) Infinitely many b) unique c) two d) No solutions

10. **The equation for the x –axis is :**

a) x = 0 b) y = 0 c) x = 0, y = 0 d) None of these

SECTION – B (2m x 3 = 6m)

11. **Represent** $\sqrt{8.5}$ on the number line.

12. **Find the value of k if (x-2) is a factor of the polynomial $x^3 + 3x^2 - 5x - k$.**

13. **For what value of c, the linear equation $2x + cy = 8$, has equal values of x and y for its solution?**

SECTION – C (3m x 4 = 12m)

14. **Represent the real number 4. $\overline{34}$ in the form of p/q.**

15. **Factorise: (i) $9x^2 + 16y^2 + 4z^2 + 24xy - 16yz - 12zx$**

(ii) $125x^3 - 27y^3$

(iii) $8a^3 + b^3 + 12a^2b + 6ab^2$

16. **Draw the graphs of the lines (i) x = y, (ii) x = 5 and (iii) y = -2 on a Cartesian plane.**

17. **Use suitable identity to expand the following.**

(i) $(a + b)^3 + (a - b)^3$ (ii) $(2x-y-z)(4x^2 + y^2 + z^2 + 2xy - yz + 2zx)$

SECTION – D (4m x 3 = 12m)

18 **If** $x = \frac{\sqrt{2}+1}{\sqrt{2}-1}$ **and** $y = \frac{\sqrt{2}-1}{\sqrt{2}+1}$, then find $x^2 + y^2 + xy$

19. **Factorise: $x^3 + 13x^2 + 32x + 20$ using factor theorems.**

20. **A shop keeper sells 5 pens and 8 pencils together for Rs 180. Express this situation as a linear equation in two variables taking x and y as the cost of each pen and pencil respectively. Also, find 3 solutions satisfying the equation.**

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