परमाणु ऊर्जा शिक्षण संस्था
Atomic Energy Education Society
आवधिक परीक्षण / Periodic Test 1 (2025-26)
विद्यालय/School: AECS केंद्र/Centre: MYSURU

कक्षा/Class: X   विषय/Subject: Mathematics   अंक/Marks: 40

दिया गया पाठ्यक्रम/ Portion covered: CHAPTERS 1 -4

विद्यार्थी का नाम / Name of the student: _____

अनुक्रमांक/Roll No.____   कक्षा/अनुभाग   दिनांक /Date: _____

Question Bank

Section – A (1m x 10 = 10 m)

1. **LCM of $p^2 \times q^2$ and $p^5 \times q^3$ is**

   a) $p^3 \times q^5$ b) $p \times q^3$ c) $p^3 \times q^2$ d) $p^5 \times q^3$

2. **The HCF of 1405, 1465 and 1530 is**

   a) 15   b) 30   c) 5   d) 25

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

   a) 3   b) 9   c) 6   d) -9

4. **Find the quadratic polynomials whose zeroes are $3 + \sqrt{3}$ & $3 - \sqrt{3}$.**

   a) $x^2 + 6x + 1$ b) $x^2 - x + 1$ c) $x^2 - 6x + 6$ d) $x^2 + 6x - 6$

5. **For what value of k is one zero of the quadratic equation $2x^2 - 3x + k$ the reciprocal of the other?**

   a) 2   b) -2/3   c) -3/2   d) -3

6. **Solution for the system of equations 2x-y=7 & 3x + 2y = 14 is**

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

7. **The pair of equations ax + 2y = 7 and 3x + by = 16 represent parallel lines if**

   a) a = b   b) 3a=2b   c) 2a=3b   d) ab=6

8. **Find the value of k if the equation if $4x^2 - kx + 49 = 0$ has equal roots.**

   a) k = +28   b) k = -28   c) k = $\pm$ 28   d) k = $\pm$ 14

9. **If $ax^2 + bx + c = 0$ has equal roots, then c is equal to :**

   a) $\frac{b}{2a}$ b) $\frac{-b}{2a}$ c) $\frac{b^2}{4a}$ d) $\frac{-b^2}{4a}$

10. **The equation $2x^2 - \sqrt{5}\, x + 1 = 0$ has :**

    a) two real distinct roots   c) no real roots

    b) two real equal roots   d) more than two roots

SECTION – B (2m x 3 – 6m)

11. **Solve the following linear equations.**

$$2u - 7v = -1 \text{ and}$$

$$4u + 3v = 15$$

12. Find the zeroes of the polynomial $x^2 - 5x - 14$ and verify the relationship between the coefficients & zeroes of the polynomial.

13. Solve for x : $24x^2 + 17x + 3 = 0$

SECTION – C (3m x 4 = 12m)

14. For what value of k , the following pair of equations have infinitely many solutions.

$$kx + 4y - (k+8) = 0 \text{ and}$$

$$4x + ky + 4 = 0$$

15. Atul, Ravi and Tharun go for a morning walk. They step of together and their steps measure 40 cm, 42 cm and 45 cm respectively. What is the minimum distance each should cover so that each can cover the same distance in complete steps?

16. Solve for x & y : 43x + 67y = - 24 &

$$67x + 43y = 24.$$

17. The sum of the ages of Poojitha and her elder brother is 12 years and the sum of the square of their ages is 74 years. Find their ages.

SECTION – D (4m x 3 = 12m)

18. Prove that $\sqrt{3}$ is irrational. Hence prove that $7 + 3\sqrt{3}$ is irrational.

19. Solve graphically : 2x + y = 8 & x - y = 1. Shade the triangle formed by the lines & the y-axis.

20. An aeroplane covers a distance of 1500 km in a certain time at a certain speed. After increasing its speed by 100 km, it covers the same distance in a time which is half an hour less than the previous time. Find the original speed of the aeroplane.

* * * * *