विद्या सर्वार्थि साधिका

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PERIODIC TEST – 1

Class: IX

Subject: Mathematics M.M: 40

Date : 19-07-2025 Time: 1 Hour 30 min

General Instructions:

1. The question paper consists of 22 questions divided into 3 sections A, B and C
2. All questions are compulsory.
3. Section A comprises of 10 questions of 1 mark each.
4. Section B comprises of 6 questions of 2 marks each. Internal choice has been provided in two questions.
5. Section C comprises of 6 questions of 3 marks each. Internal choice has been provided in two questions.

SECTION- A

1. Which one is the irrational numbers between $\frac{3}{5}$ and $\frac{7}{8}$. (1)

   (A) 0.61616161…. (B) 0.71711711171111…… (C) $0.\overline{67}$ (D) π

2. $\frac{5}{3+\sqrt{n}}$ when rationalised becomes $3-\sqrt{n}$ find value of n. (1)

   (A) 4 (B) – 5 (C) 5 (D) – 4

3. What is the abscissa of the point (7, – 9)? (1)

   (A) 9 (B) - 9 (C) 7 (D) 2

4. From the choices given below, choose the equation which does not passes through the origin. (1)

   (A) $y = x$ (B) $3x = 7y + 0$ (C) $y = 5x$ (D) $3x + 4y + 5 = 0$

5. If x = 27, find the value of $\sqrt[3]{x} + x - 30$. (1)

   (A) 1 (B) 6 (C) 0 (D) – 12

6. What is the value of p, if equation $2x + y = 7$ written in the form $y = px + c$. (1)

   (A) 1/2 (B) 7/2 (C) – 2 (D) – 1/2

7. What is the distance of a point $(5, -12)$ from x – axis? (1)

   (A) 5 units (B) 12 units (C) 13 units (D) 7 units

8. Find the value of $p(x) = x^3 - 3x - 3$ for $x = -1$. (1)

   (A) 1 (B) – 7 (C) 3 (D) – 1

9. Find the value of k, if x = 2, y = 1 is a solution of the equation 2x + 3y + k = 0. (1)

   (A) 5 (B) – 7 (C) 7 (D) – 5

   In the following question number 10, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

   (A) Both A and R are true and R is the correct explanation of A.

   (B) Both A and R are true but R is not the correct explanation of A.

   (C) A is true but R is false.

   (D) A is false but R is true.

10. (A): The point P (3, – 8) lies in IInd quadrant. (1)

    (R): The sign of abscissa and ordinates are opposite in IInd and IVth quadrant.

SECTION- B

11. Simplify: $\left(1 + \sqrt{2}\right)^2$. (2)

12. If $x = 1 - \sqrt{2}$, find the value of $\left(x - \frac{1}{x}\right)$. (2)

13. Rationalise the denominator and simplify. $\frac{30}{5\sqrt{3}-3\sqrt{5}}$. (2)

OR

Find three rational numbers between $\frac{1}{4}$ $and \frac{3}{5}$.

14. Write whether the following statements are True or False? (2)
(i) Point (0, –2) lies on *y*-axis
(ii) Point (3, 0) lies in the first quadrant.
(iii) The perpendicular distance of the point (4, 3) from the *x*-axis is 4.
(iv) Points (1, –2) and (2, 1) lie in the same quadrant

15. Check whether A (2, 3), B (4, – 3), C (1,1) and D (3, 2) is the solution of line$2x - y = 1$. (2)

OR

If $(m+1, m+2)$is the solution of the equation $3x + 4y = 25$, find the value of m.

16. If $\left(\frac{3}{4}\right)^6 \times \left(\frac{16}{9}\right)^5 = \left(\frac{4}{3}\right)^{x+2}$ find x. (2)

SECTION- C

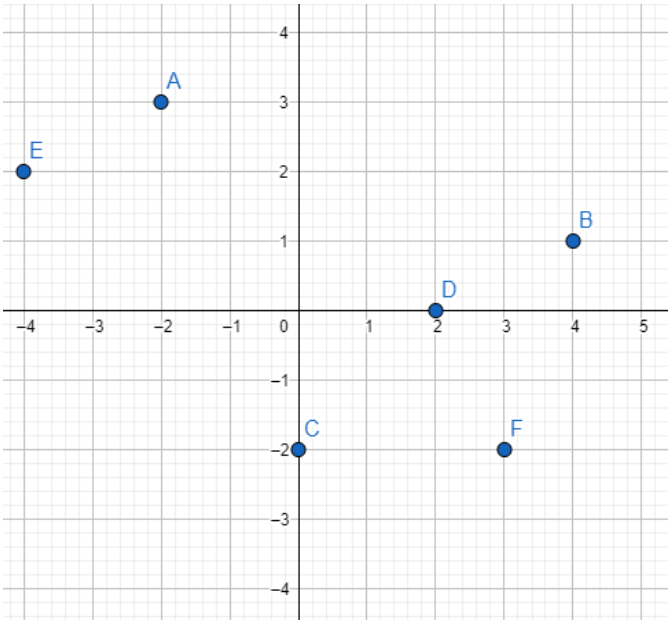
17. Represent $2+\sqrt{5}$ on number line. (3)

18. If x = 2 and x = 0 are zeroes of the polynomial $2x^3 - 5x^2 + ax + b$, then find the value of a and b. Also find the third zero of it. (3)

OR

Find the value of $x^3 + y^3 - 12xy + 64$ where it is given that $x + y = -4$.

19. (i) The perpendicular distance of the point B to Y- axis is _____ (3)
(ii) The point which is on the x- axis, write the coordinates.
(iii) The abscissa of the point C
(iv) Coordinates of A.
(v) The ordinate of the point F
(vi) The point identified by the coordinates$(-4, 2)$



20. The rapido two-wheeler taxi fare in a city is as follows: For the first kilometre, the fare is ₹ 8 and for the subsequent distance it is ₹ 5 per km. Taking the distance covered as x km and total fare as ₹y, write a linear equation for this information, also write two different solutions for this equation. (3)

OR

Write the coordinates of the points of line $2x + y = 5$;
(i) cuts at y – axis. (ii) When ordinate of point is '– 5'. (iii) Satisfy the given equation.

21. Express: $0.1\overline{37}$ as quotient of integers (in p/q form). (3)

22. (i) Factorise: $36x^2 + 5x - 1$. (3)
(ii) Factorise the polynomial $p(x) = x^4 - 1$, also mention the identities used.