

PT-1 (2024-25)

CLASS IX.

TIME: 90 minute. Sub. Maths. M.M: 40

Section -A.

1×10=10

Q.1. Which of the following is an irrational:

(a) 0.090909....

(c) $\frac{22}{7}$

(b) 0.25

(d) $\sqrt{0.4}$

Q2. A rational number between $\sqrt{2}$ and $\sqrt{3}$ is:

(a) $\frac{\sqrt{2}+\sqrt{3}}{2}$

(b) $\sqrt{2}+\sqrt{3}$

(C) 1.5

(d) 1.8

Q3. The value of 1.999 in the form $\frac{p}{q}$ where p and q are integers and q not equal 0, is:

(a) $\frac{19}{10}$

(b) $\frac{1999}{1000}$

(c) 2

(d) $\frac{1}{9}$

Q4. Degree of the polynomial $27 + y^2 - 3y^3 + 5y^5$ is:

(a) 5

(b) 3

(c) 2

(d) 0

Q5. Zero of the polynomial $p(x) = 2x + 5$ is:

(a) $-2/5$

(b) $-5/2$

©. $2/5$

(d) $5/2$

Q6. If $(x - 2)$ is a factor of $x^3 - 6x^2 + 12x - k$ then value of k is:

(a) 4

(b) 8

(c) 6

(d) 10

Q7 . Abscissa of a point is negative in:

(a) only IIIrd quadrant

(b) only IInd quadrant

(c) IInd and IIIrd quadrants

(d) IInd and IVth quadrants

Q8. Ordinate of a point is positive in :

(a) Ist and IInd quadrants

(b) only Ist quadrant

(c) only IInd quadrant

(d) IInd and IV quadrants

Q9. $y = 0$ is the equation of:

- (a) x-axis
- (b) y-axis
- (c) both x-axis and y-axis
- (d) a line parallel to y-axis

Q10. $x = 0$ is the equation of:

- (a) x-axis
- (b) y-axis
- (c) both x-axis and y-axis
- (d) a line parallel to x-axis

Section -B 2×5=10

Q11. Find the value of k , if $x = 2$ $y = 1$ is a solution of the equation $2x + 3y = k$.

Q12. Factorise the following using appropriate identities:

(i) $9x^2 + 6xy + y^2$

Q13. Factorise the following quadratic polynomials by splitting the middle term :

(i) $x^2 - 25x + 144$

Q14. Prove that $3 + \sqrt{5}$ is an irrational number.

Q15. Express the following in the form $\frac{p}{q}$ where p and q are integers and $q \neq 0$:

(i) $0.\overline{001}$

Section -c 2×5=10

Q(16-17) Assertion-Reason Questions:

■Directions: In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is NOT the correct explanation of A.

(c) A is true but R is false.

(d) A is false and R is true.

Q 16. **Assertion (A):** The points $(-3, 8)$ and $(8, -3)$ are at different positions in the coordinate plane.

Reason (R): If $x \neq y$, then position of (x, y) in the cartesian plane is different from the position of (y, x)

Q17. **Assertion (A):** The point $(-6, 0)$ lies on y-axis and point $(0, 7)$ lies on X-axis.

Reason (R): Every point on the X-axis has zero distance from X-axis and every point on the Y-axis has zero distance from y-axis.

Q(18-20)Case Based Questions:

. Radha distributed chocolates in an orphanage, on her birthday, she gave 5 chocolates to each child and 20 chocolates to adults. Taking number of children as x and total chocolates distributed as y .

Q18. Write a linear equation, according to given question :

Q19. If she distributed 145 chocolates, then how many children are there in the orphanage?

Q20. If she distributed 205 chocolates, then how many children are there in the orphanage?

Section-D. 5×2=10

Q.21 Factorise $x^3 - 23x^2 + 142x - 120$

Q22. Verify that:

$$x^3 + y^3 + z^3 - 3xyz = \frac{1}{2}(x+y+z) [(x - y)^2 + (y - z)^2 + (z - x)^2].$$