Part – A

Section – A (10 x 1= 10)

1. The value of $0.3\overline{2}$ in the form $\frac{p}{q}$, where p and q are integers and q$\neq$ 0

    (a) $\frac{8}{25}$ (b) $\frac{29}{90}$ (c) $\frac{32}{99}$ (d) $\frac{32}{199}$

2. The smallest irrational number to be added to $3 + \sqrt{2}$ to get a rational number

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

3. If x= 2 and y = 3 , then the value of $x^y + y^x$

    (a) 15   (b) 17   (c) 19   (d) 21

4. Every rational number is

    (a) A natural number   (b) an integer   (c) a real number   (d) a whole number

5. If (2,-3) is a solution of the linear equation 2x + 3y – k = 0 , then value of k is

    (a) 5   (b) -5   (c) 13   (d) -13

6. The graph of the linear equation 3x - y = 2 cuts the y-axis at the point

    (a) (0,2)   (b) (0, -2)   (c) (-2,0)   (d) (2,0)

7. The measure of an angle which is 32° less than its supplement is

    (a) 148°   (b) 58°   (c) 74°   (d) 122°

8. An exterior angle of a triangle is 110 and its two opposite interior angles are equal. Each of these angles is

    (a) 70°   (b) 110°   (c) 35°   (d) 55°

9. In $\Delta\ ABC$,if BC = AB and angle B = 80° then angle A will be equal to

    (a) 80°   (b) 40°   (c) 50°   (d) 100°

10. A data is such that its maximum value is 75 and range is 20, then the minimum value is

    (a) 95   (b) 20   (c) 75   (d) 55

Section – B (2 x 3 = 6)

11. If two lines intersect each other, then the vertically opposite angles are equal.

12. The taxi fare in a city is as follows: For the first kilometer, the fare is Rs 8 and for the subsequent distance it is Rs 5 per km. Taking the distance covered as x km and total fare as Rs y. Write a linear equation for this information , and draw its graph.

Case –Study (1x4= 4)

   13.   Four friends Ram, Raju, Ravi and Ritu are standing in reference to a well situated at the origin with the following respective coordinates (2,4),(-2,4),(-2,-4)and (2,-4).

(i) By plotting this point on a graph paper,the figure obtained is rectangle, find the perimeter of the rectangle.

    (a) 12 cm   (b) 24cm   (c) 48 cm (d) 8 cm

(ii) Find the distance between Ram and Raju

    (a) 2 cm (b) 3 cm (c) 4 cm (d) 5 cm

(iii)   Raju stands in which quadrant

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

(Iv)   Abscissa of (-2,-4) is

    (a) -2   (b) -4   (c) 2   (d) 4

Part – B

Section – A (10 x 1= 10)

1. The value of (3+√3)(3-√3) is:
   - (a) 9   (b) 6   (c) 3   (d) 27

2. Class mark of the class 150-160 is:
   - (a) 150   (b) 155   (c) 160   (d) 165

3. For two parallel lines sum of interior angles on the same side of a transversal line is:
   - (a) 360⁰   (b) 180⁰   (c) 90⁰   (d) 0⁰

4. if the measure of each base angle of an isosceles triangle is seven times the measure of the vertex angle, then the measure of the vertex angle is
   - (a) 84⁰   (b) 48⁰   (c) 12⁰   (d) 24⁰

5. Which of the following is not a creation for congruency of triangles?
   - (a) SAS   (b) SSA   (c) ASA   (d) SSS

6. The value of $(3 + \sqrt{5})^2 (3 - \sqrt{5})^2$ is
   - (a) 4   (b) 14   (c) 15   (d) 16

7. $(256/625)^{-3/4}$ in its simplest form is equal to
   - (a) 25/64   (b) 64/125   (c) 125/64   (d) 64/25

8. The value of $[8^{-4/3} \div 2^{-2}]^{1/2}$ is
   - (a) ½   (b) 2   (c) ¼   (d) 4

9. In a grouped frequency distribution , the class intervals are 0-10 , 10-20 , 20-30 , ………then the class width is
   - (a) 5   (b) 10   (c) 15   (d) 20

10. The distance between the graph lines of the equations x = 5 and x = -7
    - (a) 2   (b) 5   (c) 7   (d) 12

Section –B (2x3=6)

11. AD is an altitude of an isosceles triangle ABC in which AB = AC .Show that
    - (i) AD bisect BC   (ii) AD bisect angle A

12. In a city, the weekly observations made in a study on the cost of living index are given in the following table. .

    Draw a histogram

Classes	140-150	150-160	160-170	170-180	180-190	190-200
Frequency	5	10	20	9	6	2

Case- Study (1x4)

13. ABC is an equilateral triangle. Answer the following question on the basis of above information.
    - (i) The perimeter of an equilateral triangle is 60 m. the area is ……….. m².
    - (a) 10√3   (b) 15√3   (c) 20√3   (d) 100√3
    - (ii) The length of each side of an equilateral triangle having an area of 9√3 cm².
    - (a) 4   (b) 6   (c) 8   (d) 36
    - (iii) The area of an equilateral triangle with side 2√3 cm is
    - (a) 0.866   (b) 1.732   (c) 3.496   (d) 5.196
    - (iv) If the area of an equilateral triangle is 2√3 cm², then the perimeter is
    - (a) √3   (b) 2√2   (c) 3√2   (d) 6√2