

SECTION - A (6 Marks)

(Attempt all questions from this section)

Q.1) Choose the correct answers to the questions from the given options:-

- i) If a, b, c are sides of a triangle then area of triangle is given by (according Heron's formula),
 a) $\sqrt{s(s+a)(s+b)(s+c)}$ b) $\sqrt{(s-a)(s-b)(s-c)}$ c) $\sqrt{s(s-a)(s-b)(s-c)}$
- ii) Area of equilateral triangle is,
 a) $\frac{\sqrt{3}}{4}(\text{side})^2$ b) $\frac{\sqrt{3}}{2}(\text{side})^2$ c) $\frac{\sqrt{3}}{4}(\text{side})^3$ d) $\frac{\sqrt{3}}{2}(\text{side})^3$
- iii) Surface area of cuboid is given by,
 a) $2(lb + bh)$ b) $(lb + bh + hl)$ c) $2(lb + bh + hl)$ d) $(lb - bh)$
- iv) The mean of $x - 1$, $x + 1$, $x + 3$ and $x + 5$ is,
 a) $x + 1$ b) $x + 2$ c) $x + 3$ d) $x + 4$
- v) Median of the numbers $4, 4, 5, 7, 6, 7, 7, 3, 12$ is,
 a) 4 b) 5 c) 6 d) 7
- vi) The difference between the maximum and minimum value of a variable is called _____.
 a) data b) variate c) range d) class limits

SECTION - B (14 Marks)

(Attempt any seven questions from this section)

- Q.1)** Find the circumference of the circle whose area is equal to the sum of the areas of three circles with radius 2 cm, 3 cm and 6 cm.
- Q.2)** Mean of 9 observations was found to be 35. Later on, it was detected that an observation 81 was misread as 18. Find the correct mean of the observation.
- Q.3)** A copper wire when bent in the form of an equilateral triangle has area $121\sqrt{3} \text{ cm}^2$. If the same wire is bent into the form of a circle, find the area enclosed by the wire.
- Q.4)** i) Find the mean of the first six prime numbers.
 ii) Find the mean of the first seven odd prime numbers.
- Q.5)** The base of a right angled triangle is 12 cm and its hypotenuse is 13 cm long. Find its area and the perimeter.
- Q.6)** Find the surface area and the volume of a rectangular solid measuring 5 m by 4 m by 3 m. Also find the length of a diagonal.
- Q.7)** The following observations have been arranged in ascending order. If the median of the data is 13, find the value of x.
 3, 6, 7, 10, x , $x + 4$, 19, 20, 25, 28.
- Q.8)** Find the area of quadrilateral ABCD in which $\angle B = 90^\circ$, $AB = 6 \text{ cm}$, $BC = 8 \text{ cm}$ and $CD = AD = 13 \text{ cm}$.
- Q.9)** Given below is the data of number of students (boys and girls) of class IX of a certain school.

Class	IX A	IX B	IX C	IX D
Boys	28	22	40	15
Girls	18	34	12	25

Draw a bar graph to represent the above data.

Q.10) The marks out of 100 of 50 students in a test are given below :

5	35	6	35	18	36	12	36	85	32
20	36	22	38	24	50	22	39	74	31
25	54	25	64	25	70	28	66	58	25
29	72	31	82	31	84	31	82	37	21
32	84	32	92	35	95	34	92	35	5

Taking a class interval of size 10, construct a cumulative frequency table for the given data
