Multiple-Choice Questions

Choose the correct answer out of the given four options in the following questions:

1. If the volume of a cube is 216 cm^3, then its edge is
   (*a*) 36 cm (*b*) 6 cm (*c*) 12 cm (*d*) 16 cm
2. The diameter of a sphere having surface area of 55.44 m^2 is
   (*a*) 4.2 m (*b*) 2.1 m (*c*) 6.3 m (*d*) 3.65 m
3. A conical vessel is full of water. If its diameter is 50 cm and internal depth is 42 cm, then the number of litres of water in it is
   (*a*) 42 L (*b*) 41.25 L (*c*) 55 L (*d*) 27.5 L
4. The total surface area of a cone whose radius is $\frac{r}{2}$ and slant height $2l$ is
   (*a*) $2\pi rl$ (*b*) $\pi r(l + r)$ (*c*) $\pi r\left(l + \frac{r}{4}\right)$ (*d*) $2\pi r(l + r)$

Short Answer Questions

5. A cone has a base radius 3 cm and slant height 5 cm. Find its height.
6. The base radii of two right circular cones of the same height are in the ratio 3 : 5. Find the ratio of their volumes.
7. A hemispherical bowl has a radius of 7 cm. How much water can it hold?
8. Find the cost of sinking a tubewell 210 m deep, having diameter 4 m, at the rate of ₹ 5.50 per cubic metre.
9. The dimensions of a cuboid are 36 cm × 75 cm × 80 cm. Find the edge of a cube whose capacity is equal to that of a cuboid.
10. The radii of two spheres are in the ratio 2 : 5. Find the ratio between their surface areas.
11. The circumference of the base of a 12 m high solid cone is 22 m. Find the volume of the cone. $\left(\text{Take } \pi = \frac{22}{7}\right)$

Multiple-Choice Questions

Choose the correct answer out of the given four options in the following questions:

1. In an examination, ten students scored the following marks:

60, 58, 90, 51, 47, 81, 70, 95, 87, 99

The range of this data is

(*a*) 60 (*b*) 81 (*c*) 52 (*d*) 51

2. The minimum value of a data is 82 and range is 38, then the maximum value is

(*a*) 82 (*b*) 60 (*c*) 76 (*d*) 120

3. Given the class intervals 1–10, 11–20, 21–30, . . ., then 20 is considered in class

(*a*) 21–30 (*b*) 11–30 (*c*) 11–20 (*d*) 15–25

4. Class mark of a particular class is 9.5 and the class size is 6, then the class interval is

(*a*) 12.5–18.5 (*b*) 6.5–12.5

(*c*) 3.5–15.5 (*d*) 15.5–27.5

5. In a frequency distribution, the mid-value of a class is 60.5 and the width of the class is 10. The lower limit of the class is:

(*a*) 55.5 (*b*) 65.5 (*c*) 56.5 (*d*) 62.5

6. In a bar graph if 1 cm represents 30 km, then the length of bar needed to represent 75 km is

(*a*) 3.5 cm (*b*) 2.5 cm (*c*) 2 cm (*d*) 3 cm

7. In a histogram, which of the following is proportional to the frequency of the corresponding class?

(*a*) Length of the rectangle (*b*) Width of the rectangle

(*c*) Area of the rectangle (*d*) Perimeter of the rectangle

8. If, for the set of observations 4, 7, x, 8, 9, 10 the mean is 8, then x is equal to

(*a*) 8 (*b*) 10 (*c*) 12 (*d*) 9

9. The median for the digits 1, 2, 3, . . ., 9 is

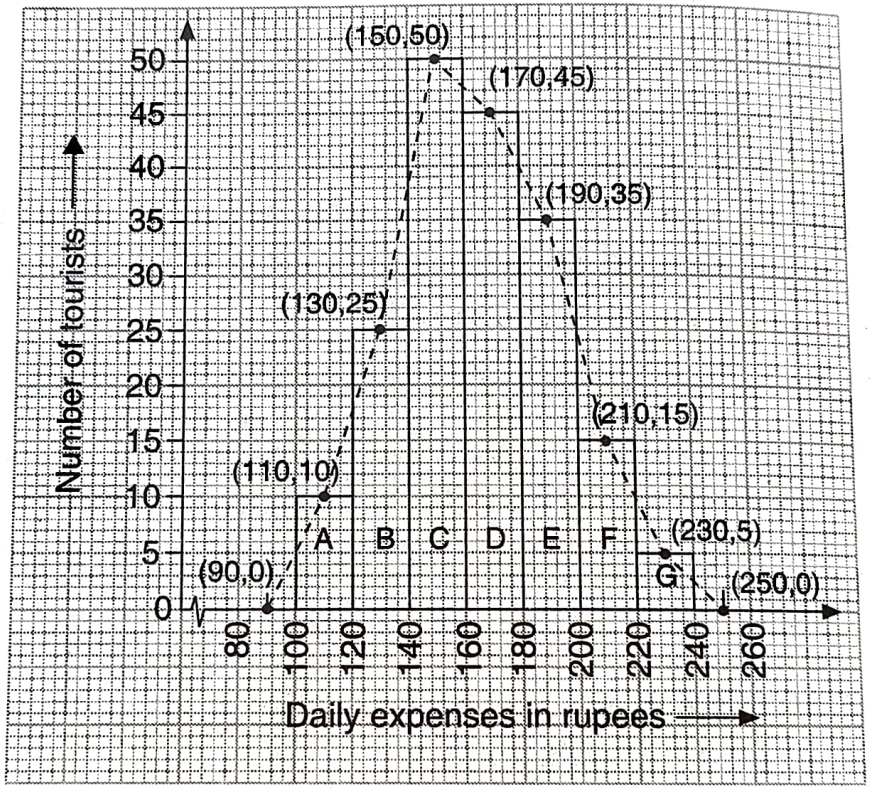
(*a*) 5 (*b*) 4 (*c*) 4.5 (*d*) 5.5

10. The numbers 2, 3, 4, 4, $2x + 1$, 7, 7, 8 and 9 are written in an ascending order. If the median is 7, then mode of this data is

(*a*) 4 (*b*) 8 (*c*) 7 (*d*) 9

.. *The graph given alongside shows the histogram and the frequency polygon of the daily expenses of a group of tourists.*

Read the graph and answer the following questions:



(i) *What is the least daily expense?*

(ii) *What is the highest daily expense?*

(iii) *How many tourists spent on an average of ₹ 150?*

(iv) *Determine the average expenditure of the group which has spent the maximum.*

(v) *How many tourists belong to D?*

(vi) *Determine the lowest and highest expenses of the tourists belonging to group F.*

(vii) *Identify the largest group and give the number of persons in this group.*

(viii) *Identify the smallest group and give the number of persons in this group.*

Find the missing frequency 'f' from the following data.

x_i	5	10	15	20	25
f_i	2	8	f	10	5

It is given that the mean is 16.