

Choose the correct answer from the given alternatives: 1x5=5

Q1. A wire is looped in the form of a circle of radius 28cm. it is rebent into a square form. Then the length of the side of the square is :-

- i.. 22cm ii. 33cm iii. 44cm iv. 48cm

Q2. If the circumference of a circle increase from $2 \wedge \text{cm}^2$. The radius of the circle is

1. Doubled ii. tripled iii. Quadruped iv.. none of these

Q3. An arc of a circle is of length $5 \wedge \text{cm}$ and the sector it bound has a area of $20 \wedge \text{cm}^2$. The radius of the circle is :-

- i. 16cm ii. 4cm iii. 8cm iv. 12cm

Q4. Area of a sector of angled 'p' (in degrees) of a circle with radius 'R' is :-

- i. $\frac{P}{180} \times 2 \wedge R$ ii. $\frac{P}{180} \times 2 \wedge R^2$ iii. $\frac{P}{360} \times 2 \wedge R$ iv. $\frac{P}{720} \times 2 \wedge R^2$

Q5. The ratio of the surface area to the lateral surface area of a cylinder with base radius 80cm and height 20cm is:-

- i. 2:1 ii. 3:1 iii. 4:1 iv. 5:1

Section B

2x5=10

Q6. The cost of fencing a circular field at the ratio of Rs 24 per metre is Rs 5280. Find the radius of the field.

Q7. The length of the minute hand of a clock is 14cm. Find the area swept by the minute hand is 10 minutes.

Q8. AB and CD are respectively arcs of two concentric circles of radii 21cm and 7cm with centre 'O'. If $\angle AOB=30^0$; find the shaded region. (For Fig. refer Page 248 fig 12.33)

Q9. Three cubes each of volume 125cm^3 are joined end to end. Find the surface area of the resulting cuboids.

Q10. A car has two wipers which do not overlap. Each wiper has a blade of length 25cm sweeping through an angle of 115^0 . Find the total area cleaned at each sweep of the blades.

Section C

3x7=21

Q11. The diameter of a wheel of a bus is 90cm., which makes 315 revolution per minute. Determine its speed in Km/hr. (use $\wedge = \frac{22}{7}$)

Q12. A horse is tied to a peg at one corner of a square shaped grass field of side 15m by means of a 7m long rope. Find :-

- i. The area of that part of the field in which the horse can graze.
ii. The increase in grazing area if the rope were doubled instead of 7m. (use $\wedge =3.14$)

Q13. A round table cover has six equal design as shown in the adjoining fig. If the radius f the cover is 28cm, find the cost of making the design at the rate of Rs 0.35 per cent (use $\sqrt{3}=1.7$) (For Fig. refer Page 242 fig 12.15)

Q14. Find the area of the shaded region in the adjoining fig. where a circular arc of radius 6cm has been drawn with vertex 'O' of an equilateral triangle OAB of side 12cm as centre. (For Fig. refer Page 246 fig 12.23)

Q15. From a solid cylinder whose height is 2.4 cm and diameter 1.4cm, a conical cavity of the same height and same diameter is hollowed out. Find the total surface area of the remaining solid to the nearest cm^2 .

Q16. If P(x,y) is any point on the line joining the points A(a,0) and B(0,b); then show that $\frac{x}{a} + \frac{y}{b} = 1$

Q17. If A and B are (-2,-2) and (2,-4) respectively find the co-ordinates of 'P' such that $AP = \frac{3}{7} AB$ and 'P' lies on the line segment AB.

Section D

Q18. Find the area of the triangle formed by joining the mid-point of the sides of the triangle whose vertices are (0,1), (2,1) and (0,3). Find the ratio of this area to the areas of the given triangle. **4m**

Q19. A toy is in the form of a cone of radius 3.5 cm mounted on a hemisphere of the same radius. The total height of the toy is 15.5 cm. Find the total surface area and volume of the toy. **5m**

Q20. A tent is in the shape of a cylinder surrounded by a conical top. If the height and diameter of the cylindrical part are 2.1m and 4m respectively and the slant height of the top is 2.8m, find the area of canvas used for making the tent. Also, find the cost of the canvas of the tent at the rate of Rs 500 per m^2 . **5m**

Q21. In a circle of radius 21cm, an arc subtends an angle of 60° at the centre. Find :- i. the length of the arc. **3m**
ii. area of sector formed by the arc.
iii. Area of the segment formed by the corresponding chord.

Q22. Two women and five men can together finish a work in 4 days, while 3 women and 6 men can finish in 3 days. Find the time taken by 1 woman alone to finish the work and also that taken by 1 man alone. **5m**