

I. Answer all the questions

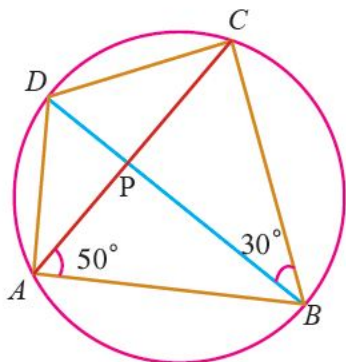
Time : 01:10:00 Hrs

Total Marks : 45

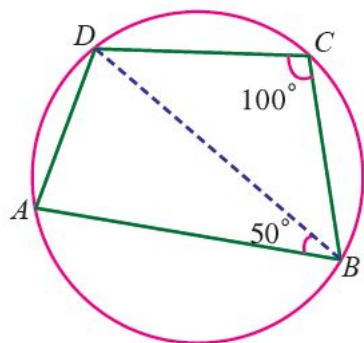
10 x 1 = 10

Part-A

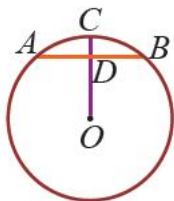
- 1) In the figure at right, ABCD is a cyclic quadrilateral whose diagonals intersect at P such that $\angle DBC = 30^\circ$ and $\angle BAC = 50^\circ$. Find (i) $\angle BCD$, $\angle CAD$



- (a) (i) 100° (ii) 30°
- 2) In the figure at right, ABCD is a cyclic quadrilateral in which $\angle BCD = 100^\circ$ and $\angle ABD = 50^\circ$ find $\angle ADB$



- (a) 50°
- 3) O is the centre of the circle. AB is the chord and D is mid-point of AB. If the length of CD is 2cm and the length of chord is 12 cm, what is the radius of the circle



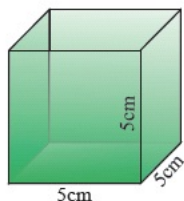
- (a) 10 cm (b) 12 cm (c) 15 cm (d) 18 cm
- 4) Angle in a semicircle is
(a) obtuse angle (b) right angle (c) an acute angle (d) supplementary
- 5) Angle in a major segment is
(a) an acute angle (b) an obtuse angle (c) a right triangle (d) a reflexive angle
- 6) If the radius and arc length of a sector are 17 cm and 27 cm respectively, then the perimeter is
(a) 16 cm (b) 61 cm (c) 32 cm (d) 80 cm
- 7) Area of a sector having radius 12 cm and arc length 21 cm is
(a) 126 cm^2 (b) 256 cm^2 (c) 33 cm^2 (d) 45 cm^2
- 8) If the area and arc length of the sector of a circle are 60 cm^2 and 20 cm respectively, then the diameter of the circle is
(a) 6 cm (b) 12 cm (c) 24 cm (d) 36 cm

- 9) A solid having six equal square faces is called a
 (a) cube (b) cuboid (c) square (d) rectangle
- 10) The LSA of a cube of side 1dm is
 (a) 16 dm^2 (b) 4 dm^2 (c) 2 dm^2 (d) 1 dm^2

Part-B

10 x 2 = 20

- 11) A chord of length 16 cm is drawn in a circle of radius 10 cm. Find the distance of the chord from the centre of the circle
- 12) In two concentric circles, chord AB of the outer circle cuts the inner circle at C and D. Prove that $AC = BD$.
- 13) The length of arc of a sector is 22 cm and its radius is 10.5 cm. Find its central angle.
- 14) Find the perimeter of a sector whose radius and central angle are 18 cm and 210° respectively.
- 15) Calculate the area of a sector whose radius and arc length are 6 cm and 20 cm respectively.
- 16) Find the perimeter and area of a semicircle of radius 28 cm.
- 17) Find the L.S.A, T.S.A and volume of a cube of side 5 cm.

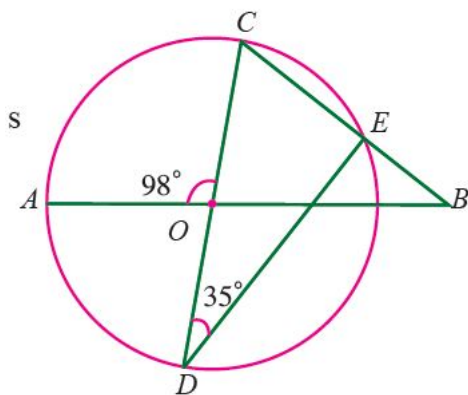


- 18) Find the total surface area of a cuboid whose length, breadth and height are 20 cm, 12 cm and 9 cm respectively
- 19) Two cubes each of volume 216 cm^3 are joined to form a cuboid as shown in the figure. Find the T.S.A of the resulting cuboid.
- 20) Find the area of the shaded portion in the following figure [$\pi=3.14$]

Part-C

5 x 3 = 15

- 21) A chord is 8 cm away from the centre of a circle of radius 17 cm. Find the length of the chord
- 22) AB and CD are two parallel chords of a circle which are on either sides of the centre. Such that $AB = 10 \text{ cm}$ and $CD = 24 \text{ cm}$. Find the radius if the distance between AB and CD is 17 cm.
- 23) In the figure at right, AB and CD are straight lines through the centre O of a circle. If $\angle AOC = 98^\circ$ and $\angle CDE = 35^\circ$ find (i) $\angle DCE$ (ii) $\angle ABC$



- 24) Find the arc length, area and perimeter of the sector with radius 14 cm and sector angle 45°
- 25) Calculate the perimeter and area of a quadrant circle of radius 7 cm.
