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Note:-

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

Section A

Q.1. Select and write the correct answer.

(4)

1. At 3:40 the hour and minute hands of a clock are inclined at

A) $\frac{2\pi^c}{3}$ B) $\frac{7\pi^c}{12}$
C) $\frac{13\pi^c}{18}$ D) $\frac{3\pi^c}{4}$

2. The angle between the minute and hour hands of a clock at 8.30 is

A) 80° B) 75°
C) 60° D) 105°

Q.2. Answer the following.

(3)

1. Determine which of the following pairs of angles are co-terminal :
 $-180^\circ, 540^\circ$
2. Determine which of the following pairs of angles are co-terminal :
 $-405^\circ, 675^\circ$
3. A pendulum of 14 cm long oscillates through an angle of 18° . Find the length of the path described by its extremity.

Section B

Attempt any Four

Q.3 In $\triangle ABC$, $m\angle A =$ and $m\angle B = 120^\circ$. Find $m\angle C$ in degree and radian. **(2)**

Q.4 The measures of the angles of a triangle are in the ratio 3:7:8. Find their measures in degree and radian. **(2)**

Q.5 Find the degree and radian measure of exterior and interior angle of a regular Pentagon **(2)**

Q.6 In a circle of diameter 40 cm, the length of a chord is 20 cm. Find the length of the minor arc of the chord. **(2)**

Q.7 In a right angled triangle, the acute angles are in the ratio 4:5. Find the angles of the triangle in degree and radian. **(2)**

Q.8 The perimeter of a sector of a circle, of area 64π sq.cms is 56 cms. Find the area of the sector. **(2)**

Section C

Attempt any Two

Q.9 Find the angle between hour-hand and minute-hand in a clock at thirty five past one **(3)**

Q.10 Find the angle between hour-hand and minute-hand in a clock at quarter to six (3)

Q.11 A wire of length 10 cms is bent so as to form an arc of a circle of radius 4 cms. What is the angle subtended at the centre in degrees? (3)

Section D
Attempt any One

Q.12 The area of the circle is 25π sq.cms. Find the length of its arc subtending an angle of 144° at the centre. Also find the area of the corresponding sector. (4)

Q.13 The area of a circle is 81π sq.cms. Find the length of the arc subtending an angle of 300° at the centre and the area of the corresponding sector. (4)