CHAPTER 11 – AREA RELATED TO CIRCLES

Q1.	Perimeter of sector of a circle having angle 90°and radius 14 cm is		
(A)	11cm	(B)	22cm
(C)	154cm	(D)	50cm
Q2.	Ratio of area of circle to area of square whose length of side is equal to the radius of circle is		
(A)	22:7	(B)	1:1
(C)	11:2	(D)	44:49
Q3.	Area of clock swept by minute hand of diameter 42 cm from 12.00 to 3.00 is		
(A)	693 cm^2	(B)	346.5 cm^2
(C)	1386 cm^2	(D)	5544 cm^2
Q4.	Find the diameter of circle whose area is equal to the sum of the areas of the two circles of diameters 20cm and 48cm.		
(A)	48cm	(B)	26cm
(C)	52cm	(D)	56cm
Q5.	Find the area of corresponding major sector of a circle of radius 14cm and central angle 90°.		
(A)	280 cm^2	(B)	616 cm^2
(C)	308 cm^2	(D)	462 cm^2
Q6.	Find the area of the sector of a circle of radius 5cm, if the corresponding length of arc is 3.5cm		
(A)	17.5 cm^2	(B)	35 cm^2
(C)	7.5 cm^2	(D)	8.75 cm^2
Q7.	A chord AB of a circle of radius 10cm subtends an angle of 60 ° at the centre of the circle. The area of minor segment is		
(A)	9.08 cm^2	(B)	8.08 cm^2
(C)	304.2 cm^2	(D)	None of the above

Q8.	If the length of a circle subtending and angle of 60° is 22 cm then the radius of circle is		
(A)	22 cm	(B)	20 cm
(C)	21cm	(D)	None of the above
Q9.	The perimeter of a certain sector of a circle of radius 6.5 cm is 31cm.Then the area of sector will be		
(A)	48.5 cm^2	(B)	54.33 cm^2
(C)	58.5 cm^2	(D)	None of the above
Q10.	The diameter of wheel is 63cm. How many revolutions will it make to cover 792m?		
(A)	200	(B)	300
(C)	400	(D)	350
Q11.	If the sum of the circumference of two circles with radius r_1 and r_2 is equal to the circumference of a circle of radius R then		
(A)	$R = r_1 + r_2$	(B)	$R < r_1 + r_2$
(C)	$R > r_1 + r_2$	(D)	None of the above
Q12.	If the circumference of the circle and perimeter of square are equal then		
(A)	Area of Circle = Area of Square	(B)	Area of Circle > Area of Square
(C)	Area of Circle < Area of Square	(D)	Nothing definite can be said about The relationship between The areas of the circle and the square.
Q13.	The circumferences of two concentric circles forming a ring are 88 cm and 66 cm respectively the width of the ring is		
(A)	14cm	(B)	3.5cm
(C)	7cm	(D)	21cm
Q14.	The radius of a circle is 50cm if the radius is decreased by 50% its area will be decreased by		
(A)	50%	(B)	75%
(C)	25%	(D)	80%

Q15.	If the circumference of two circles are in the ratio 4:9 then the ratio of their area will be		
(A)	16:81	(B)	8 : 18
(C)	4 : 9	(D)	4 : 81
Q16.	The area of a square that can be inscribed in a circle of radius10 cm is		
(A)	100 cm^2	(B)	100π cm^2
(C)	400 cm^2	(D)	200 cm^2
Q17.	If the perimeter of a semicircular garden is 36m then its radius is		
(A)	14 m	(B)	3.5 m
(C)	10 m	(D)	7 m
Q18.	The area of a semi circular field is 15400 m^2 then perimeter of the field is		
(A)	360 m	(B)	$360\sqrt{2}$ m
(C)	440m	(D)	380 $\sqrt{2}$ m
Q19.	The area of circle that can be inscribed in a square of side 6cm is		
(A)	36π cm^2	(B)	9π cm^2
(C)	12π cm^2	(D)	18π cm^2
Q20.	The area of a quadrant of a circle where the circumference of the circle is 154 m is		
(A)	943.25 cm^2	(B)	471.625 cm^2
(C)	925.43 cm^2	(D)	1886.5 cm^2
Q21.	The perimeter of a quadrant of a circle of radius r is		
(A)	$R^2/2$	(B)	π+4
(C)	R/2	(D)	r/2(π+4)
Q22.	Circumferences of two circles are equal. is it necessary that areas be equal? Why?		
(A)	True as $r_1 = r_2$	(B)	False as $r_1=r_2$
(C)	True as $r_1 \neq r_2$	(D)	False as $r_1 \neq r_2$

Q22.	Circumferences of two circles are equal. is it necessary that areas be equal? Why?		
(A)	True as $r_1 = r_2$	(B)	False as $r_1 = r_2$
(C)	True as $r_1 \neq r_2$	(D)	False as $r_1 \neq r_2$
Q23.	A car has two wipers which do not overlap each viper has a blade of length 21 cm sweeping through an angle of 120°.The total area cleaned at each sweep of the blades is		
(A)	922 cm^2	(B)	924 cm^2
(C)	942cm^2	(D)	964 cm^2
Q24.	A wire can be bent in the form of a circle of radius 56cm if it is bent in the form of a square then the area will be		
(A)	3520 cm^2	(B)	7744 cm^2
(C)	6400 cm^2	(D)	8800 cm^2
Q25.	Assertion: The area of the minor sector of a circle of radius 4 cm is 4.19cm^2 and that of the major sector is 46.1 $cm^{2.}$ Reason: Area of major sector = area of the circle – area of minor sector		
(A)	Both A and R are true and R is the correct explanation of A	(B)	Both A and R are true but R is not The correct explanation of A.
(C)	A is true but R is false.	(D)	A is false but R is true.
Q26.	Assertion: If the perimeter of a circle is double the area of the circle then the radius of the circle is 4 units. Reason: The areas enclosed by an arc and a chord is called sector of the circle.		
(A)	Both A and R are true and R is the correct explanation of A	(B)	Both A and R are true but R is not The correct explanation of A
(C)	A is true but R is false.	(D)	A is false but R is true.
Q27.	The area of the in circle of an equilateral triangle of side 42cm is		
(A)	1224 cm^2	(B)	$616\sqrt{3}$ cm^2
(C)	1848 cm^2	(D)	5544 cm^2

Q28.	Assertion: The area of sector depends on the measure of the angle in the centre θ and the square of the radius. Reason: The measure of the angle at the centre is 180° area of the sector = πr^2		
(A)	Both A and R are true and R is the correct explanation of A	(B)	Both A and R are true but R is not The correct explanation of A.
(C)	A is true but R is false.	(D)	A is false but R is true.
Q29.	Assertion: If the ratio of the circumference of two circles is 3:1 then the ratio of their areas is 9:1. Reason: If R_1 and R_2 are the radii of two circles then ratios of the areas is $\sqrt{\frac{R1}{R2}}$		
(A)	Both A and R are true and R is the correct explanation of A	(B)	Both A and R are true but R is not The correct explanation of A.
(C)	A is true but R is false.	(D)	A is false but R is true.
Q30.	Assertion: If the outer and inner diameter of a circular path is 10m and 6m then the area of the path is $16\pi m^2$ Reason: if R and r be the radius of outer and inner circular path then the area of the path is $\boldsymbol{\pi(R^2 - r^2)}$ m^2		
(A)	Both A and R are true and R is the correct explanation of A	(B)	Both A and R are true but R is not The correct explanation of A.
(C)	A is true but R is false.	(D)	A is false but R is true.

ANSWERS

1	(D)	50 cm	2	(A)	22:7	3	(B)	346.5 cm^2
4	(B)	26cm	5	(D)	462 cm^2	6	(D)	8.75 cm^2
7	(A)	9.08 cm^2	8	(C)	21cm	9	(C)	58.5 cm^2
10	(C)	400	11	(A)	R = $r_1 + r_2$	12	(B)	Area of Circle > Area of Square
13	(B)	3.5cm	14	(A)	75%	15	(A)	16:81
16	(D)	200 cm^2	17	(D)	7 m	18	(B)	$360\sqrt{2}$ m
19	(B)	9π cm^2	20	(B)	471.625 cm^2	21	(D)	$r/2(\pi+4)$
22	(A)	True as $r_1 = r_2$	23	(B)	924 cm^2	24	(B)	7744 cm^2
25	(A)	Both A and R are true and R is the correct explanation of A	26	(D)	A is false but R is true.	27	(C)	1848 cm^2
28	(C)	A is true but R is false.	29	(C)	A is true but R is false.	30	(A)	Both A and R are true and R is the correct explanation of A