		VIVEK TUTORIALS				DATE: 22-02-19			
		(Special test)				TIME: 50 Mins			
		Mathematics Part - 2 -(6)			MARKS:				
	<u> </u>			SEAT NO	:				
Q.1	Multiple Choice	Questions						4	
1	Radius of a circle A) on the centre	with centre ( B) inside	O is 4 cm. If l(O) e the circle C	PP = 4.2 cm, say where point C) outside the circle D) on	P will lie. the circle				
2	Length of a chord of a circle is 24 cm. If distance of the chord from the centre is 5 cm, then the radius of that circle is								
	A) 12 cm E	3) 13 cm	C) 14 cm	D) 15 cm					
3	Radius of a circle is 10 cm and distance of a chord from the centre is 6 cm. Hence the length of the chord is								
	A) 16 cm E	3) 8 cm	C) 12 cm	D) 32 cm					
	The length of the longest chord of the circle with radius 2.9 cm is								
	A) 3.5 cm	B) 7 cm	C) 10 cm	D) 5.8 cm					
Q.2	Attempt the follo	wing						8	
-	from the centre of the circle? Given:- (1) A circle with centre P and radius 10 cm (2) Chord AB $\cong$ Chord CD (3) AB = CD = 16 cm (4) seg PM $\perp$ chord AB. A-M-B (5) chord PN $\perp$ chord CD, C-N-D C C P B B C C C C C C C C C C C C C C C								
		A							

2 Diameter of a circle is 26 cm and length of a chord of the circle is 24 cm. Find the distance of the chord from the centre.

Given:- (1) A circle with centre and diameter 26 cm



3 In the adjoining figure, centre of two circles is O. Chord AB of bigger circle intersects the smaller circle in points P and Q. Show that AP = BQ



Prove that:- AP = BQConstruction: Draw seg OM  $\perp$  chord AB, A - M - BProof:-1) In the bigger circle, seg OM  $\perp$  chord AB 2)  $\therefore$  AM = BM 3) In the smaller circle, seg OM  $\perp$  chord PQ 4)  $\therefore$  \_\_\_\_\_

5) AM - PM =6)  $\therefore AP = BQ$  ----- [Construction] ----- [Perpendicular drawn from the centre of the circle to the chord bisects the chord] ----- [Subtracting (4) form (2)] ----- ]

4 Prove that, if a diameter of a circle bisects two chords of the circle then those two chords are parallel of each other.

Given: (1) A circle with centre 'O'

(2) Diameter AB intersects chord AB and chord CD at points P and Q respectively. (3) AP = BP and CQ = DQ.

To Prove: Chord AB || chord CD



Proof: 1) AP = BP----- [Given] 2) i.e. seg OP bisect chord AB ----- [from (1)] -----3) : seg OP  $\perp$  chord AB 4) i.e.  $\angle OPB = 90^{\circ}$ ----- [From (3)] ----- [Given} 5) CQ = \_\_\_\_ 6) i.e. seg OQ bisects chord CD. ----- [From (5)] 7) : ----- [segment joining center of the circle and midpoint of the chord is perpendicular to the chord.] 8) i.e ∠OQC = \_\_\_\_\_ ----- [From (7)] 9)  $\angle OPB + \_\_= 90^0 + 90^0 = 180^0$ ----- [Adding (4) and (8) from (9) and O-Q-P] 10) i.e.  $\angle QPB + \angle PQC =$ ----- [Interior angle test ] 11) chord AB || \_\_\_\_\_

- Q.3 Answer the following.
  - 1 Radius of the circle is 34 cm and the distance of the chord from the centre is 30 cm, Find the length of the chord.
  - 2 Construct  $\triangle PQR$  such that  $\angle P = 70^{\circ}$ ,  $\angle R = 50^{\circ}$ , QR = 7.3 cm. and construct its circumcircle.
  - 3 Construct  $\triangle ABC$  such that  $\angle B = 100^{\circ}$ , BC = 6.4 cm and  $\angle C = 50^{\circ}$  Draw incircle of this triangle.
- Q.4 Answer the following
  - 1 Prove: The chords of a circle equidistant from the centre of a circle are congruent.
  - 2 Distance of chord AB from the centre of a circle is 8 cm. Length of the chord AB is 12 cm. Find the diameter of the circle.

12