Name : **Register No.**

Class & Year: **Department :**

SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai

Puzzles

Unit II

Regulations 2023

1	**A point PPP lies on the circumference of a circle of radius 10 cm. What is the radius of curvature of the circle at the point PPP?** **a) 5 cm** **b) 10 cm** **c) 20 cm** **d) Infinite**	**Ans.**	
2.	A concave mirror has a focal length of 15 cm. What is the **radius of curvature** of the mirror? a) 7.5 cm b) 15 cm c) 30 cm d) 45 cm	**Ans.**	
3	A car is moving on a circular track with a radius of 50 meters. What is the **location of the centre of curvature** at any point along the track? a) At the centre of the track b) At the point where the car is moving c) Directly behind the car d) Infinite distance from the car	**Ans.**	
4	A convex lens has a focal length of 20 cm. If both surfaces of the lens have equal radii of curvature, what is the radius of curvature of each surface? (Assume the refractive index is 1.5.) a) 10 cm b) 20 cm c) 30 cm d) 40 cm	**Ans.**	
5	A concave mirror forms a real image of an object placed 20 cm from it. If the radius of curvature of the mirror is 40 cm, where is the **centre of curvature** located? a) 10 cm behind the mirror b) 20 cm in front of the mirror c) 40 cm in front of the mirror d) 40 cm behind the mirror	**Ans.**	

6	You have a convex mirror with a focal length of 30 cm. Where is the **centre of curvature** located? a) 15 cm behind the mirror b) 30 cm in front of the mirror c) 60 cm behind the mirror d) 60 cm in front of the mirror	**Ans.**	
7	A convex lens forms a sharp image of a distant object. If the lens has a radius of curvature of 25 cm on both sides, where will the **centres of curvature** of the lens surfaces be located? a) 25 cm on both sides from the optical center b) 50 cm on both sides from the optical center c) 25 cm behind the lens only d) At the focal point on each side	**Ans.**	
8	A car is driving on a curved road with a **radius of curvature** of 100 meters. Where is the **centre of curvature** of the car's path? a) 50 meters behind the car b) 100 meters towards the inside of the curve c) 100 meters towards the outside of the curve d) At the car's current position	**Ans.**	
9	A particle is moving along the circumference of a circle with a radius of 20 cm. Where is the **centre of curvature** for the particle's motion at any given point? a) At the particle's current position b) At the centre of the circle c) 20 cm behind the particle d) Infinite distance from the particle	**Ans.**	
10	A small ball rolls along the inner surface of a hemispherical bowl with a radius of 25 cm. At the lowest point of the bowl, what is the **radius of curvature** of the ball's path a) 12.5 cm b) 25 cm c) 50 cm d) Infinite	**Ans.**	