

DPP CIRCULAR MOTION

- Q.1** A particle completes 1.5 revolutions in a circular path of radius 2 cm. The angular displacement of the particle will be – (in radian)
(a) 6π (b) 3π (c) 2π (d) π
- Q.2** A particle revolving in a circular path completes first one third of circumference in 2 sec, while next one third in 1 sec. The average angular velocity of particle will be – (in rad/sec)
(a) $2\pi/3$ (b) $\pi/3$ (c) $4\pi/3$ (d) $5\pi/3$
- Q.3** The ratio of angular speeds of minute hand and hour hand of a watch is -
(a) 1 : 12 (b) 6 : 1 (c) 12 : 1 (d) 1 : 6
- Q.4** The angular displacement of a particle is given by
 $\theta = \omega_0 t + \frac{1}{2} \alpha t^2$, where ω_0 and α are constant and
 $\omega_0 = 1 \text{ rad/sec}$, $\alpha = 1.5 \text{ rad/sec}^2$. The angular velocity a time, $t = 2 \text{ sec}$ will be (in rad/sec) -
(a) 1 (b) 5
(c) 3 (d) 4
- Q.5** The magnitude of the linear acceleration of the particle moving in a circle of radius 10 cm with uniform speed completing the circle in 4 s, will be -
(a) $5\pi \text{ cm/s}^2$ (b) $2.5\pi \text{ cm/s}^2$
(c) $5\pi^2 \text{ cm/s}^2$ (d) $2.5\pi^2 \text{ cm/s}^2$
- Q.6** A cane filled with water is revolved in a vertical circle of radius 4 m and water just does not fall down. The time period of revolution will be –
(a) 1 s (b) 10 s
(c) 8 s (d) 4 s

ANSWERS 1.(B) 2.(A) 3.(C) 4.(D) 5.(D) 6.(D)