Model Test

1. If position vector of a particle is $\vec{r} = acos\omega t\hat{i} + asin\omega t\hat{j}$ then velocity vector of particle is
(1 marks)

- Parallel to position
- Perpendicular to position vector
- Directed towards origin
- Directed away from origin

2. The velocity of projection of projectile is $v = (3\hat{i} + 4\hat{j})m/s$. The horizontal range will be
(1 marks)

- 4.8 m
- 48 m
- 2.4 m
- 24 m

3. A toy gun consist a spring and a rubber dart of 20g. When spring is compressed to 4 cm and released it and dart rises to 2m. If the spring is compressed to 6cm then rise in height is
(1 marks)

- 3 m
- 4 m
- 4.5 m
- 6 m

4. If the speed of rotation of earth increases then the wt of body on the surface of earth
(1 marks)

- increases
- decreases

- remain unchanged
- may increase or decreases

5. A thermometer which measure the temperature of body at any distance without actual contact of body is
(1 marks)

- Gas thermometer
- Thermocouple thermometer
- Pyrometer
- Resistance thermometer

6. A person can chew 3g of ice per minutes then power of his teeth is
(1 marks)

- 4 W
- 12.6 W
- 16.8 W
- 3 W

7. Two sound waves of phase difference 60° then they will have a path difference of
(1 marks)

- $\frac{\lambda}{2}$
- $\frac{\lambda}{3}$
- $\frac{\lambda}{6}$
- $\frac{\lambda}{8}$

8. Two tuning forks having frequencies 450 Hz & 454 Hz. On sounding, these forks together, the time between successive maximum intensities will be
(1 marks)

- 0.25 s
- 0.5 s
- 2 s

- 0.75 s

9. A small object is at 10 cm in front of a plane mirror. If you stand 30 cm behind object and look at its image. The eye should be focused at
(1 marks)

- 10 cm
- 30 cm
- 40 cm
- 50 cm

10. Refractive index of glass will be greatest for
(1 marks)

- red light
- yellow light
- violet light
- green light

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