Cantonment Public School and College, Saidpur
Online CT Exam-1/ 2020
Class –XI (EV)
Subject : Physics (MCQ)

Time - 40 minutes Full Marks - 20

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1. The frequency of a second pendulum in the space is-
   a. $0Hz$ b. $1Hz$
   c. $2Hz$ d. infinity

2.What will be the time period of a simple pendulum at the equal height of the radius of the earth?
   a. $\frac{1}{4}$ b. $\frac{1}{2}$
   c. 2 d. 4

3. What will be the intensity of a sound, of 10times more intensity than the standard intensity?
   a.1 B b. 1 dB
   c. 2 B d. 2dB

Answer questions 4 and5 from the information:
The intensity level of a vacuum cleaner and a television are respectively 85dB and 78dB. In a class room intensity of sound is $10^{-8}Wm^{-2}$.

4.If the intensity of the television is increased three times, then the intensity level will increase?
   a. 3dB b. 4.77dB
   c. 86dB d. 81.5dB

5. If the two instruments run at a time then the combine intensity level will be –
   a. 163dB b. 90dB
   c. 86dB d. 81.5dB

6. The displacement of two oscillating particles are respectively $x = A\sin\omega t$ and $x = A\cos\omega t$
The phase difference between them is-
   a. 0^0 b. 45^0
   c. 90^0 d. 180^0

7. Which characteristic remain constant when a wave enters from one medium to another medium?
   a. Frequency b. Velocity
   c. Wavelength d. Intensity

8.The ratio of the amplitude of minimum and maximum audible sound is ?
   a. 10^{-5} b. 10^{-6} c. 10^{6} d. 10^{12}

Answer questions 9 and 10 from the information:
A wave $y = 10\sin\frac{2\pi}{0.5}(350t - x)m$
reflects at the free terminal of a medium and creates stationary wave by superposition.

9.How many distance the wave will cross after two seconds?
   a) $175m$ b) $350m$
   c) $700m$ d) $750m$

10.Aperson standing 0.5m away from the wave creating place will hear-
   a. loud sound
   b. no sound
   b. both loud sound and no sound
   d. will hear the beat

11. The amplitude of a simple harmonic particle is 3cm and maximum velocity is $6.24cms^{-1}$.What will be the time period?
   a. $3\times10^{-2}\sec$ b. $3\sec$
   c. 0 d. Infinity

12. If a second pendulum is taken on the surface of the moon, the weight of the bob decreases 80%.What will be it's time period on the Moon's surface?
   a. $3.97\sec$ b. $3.99\sec$
   c. $4.47\sec$ d. $5\sec$

13. For a stationary wave, the distance between two consecutive nodes, will be how many times of the wavelength? -
   a. Two times b. Equal
   c. Half d. One fourth

14. The relation between simple harmonic motion and uniform circular motion-
   i. angular frequency of simple harmonic motion and angular velocity of uniform circular motion is same.
   ii. the time period of simple harmonic motion and uniform circular motion are different
   iii. the amplitude of simple harmonic motion is equal to the radius of circle
   What one of the following is true?
   a. i b. ii
   c. iii d. i and iii

15. The intensity of wave is-
   i. proportional to the amplitude
   ii. proportional to the square of frequency
   iii. proportional to the density of the medium
   What one of the following is true?
   a. i b. ii
   c. ii, iii d. i, ii and iii

16. The sound of 20dB is how much more powerful than the sound of standard intensity?
   a. 2 b. 10
   c. 20 d. 100

17. The distance between two particles of a wave is0.15m. The phase difference of the particles is 1.57rad.If the frequency is 770Hz,then what will be the wave velocity?
   a. $275ms^{-1}$ b. $329ms^{-1}$
   c. $462ms^{-1}$ d. $658ms^{-1}$

18. The maximum acceleration of a simple harmonic particle is $8\pi ms^{-2}$ and maximum velocity is $1.6ms^{-1}$ what will be the time period?
    a. $0.4s$ b. $0.2s$
    c. $0.1s$ d. $0.05s$
19. What will be the angular frequency of the simple harmonic particle $\frac{d^2x}{dt^2} + 25x = 0$ **?**
    a. $4rads^{-1}$ b. $5rads^{-1}$
    c. $25rads^{-1}$ d. $100rads^{-1}$
20. If the effective length of a simple pendulum is increased 25.6% ,then it's time period will increase -
    a. 5% b. 12%
    c. 24% d. 50%