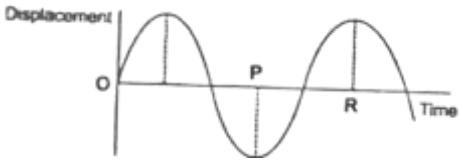
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1ST YEAR ENTRY TEST SESSION

NAME:			ROLL NO:		TIME:	20: MIN
SUB:	Physics	Date:			CLASS:	1st Year
SYLLABUS	Chp. 7 (Waves and Vibrations) Entry Test MCQs		T. MARKS	13	OBT. M	

Q. 1 Choose the Correct Answer. Cutting, Erasing, Double Selection is Strictly Prohibited. (1x13=13)

1. **The frequency of the fundamental mode of transverse vibration of a stretched wire 1000 mm long is 250 Hz. When the wire is shortened to 500 mm a the same tension, what is the fundamental frequency?**
   (A) 12Hz (B) 250Hz (C) 500Hz (D) 1000Hz
2. **A turning fork P produces 12 beats per second with another turning fork Q. If the frequency of Q IS 200 Hz the frequency of P is:**
   (A) 212Hz (B) 188Hz (C) 2400Hz (D) Either A or B
3. **The phenomenon of interference occurs in:**
   (A) Sound wave only (B) Visible light only (C) All type of waves (D) Radio waves only
4. **The density of oxygen is about 16 times that of hydrogen. Therefore if speed of sound in oxygen is x, its speed in hydrogen will be:**
   (A) Greater than x (B) Less than x
   (C) The same (D) Depending upon the pressure of gases
5. **An astronaut in space comes to known of an explosion in a nearby planet. The astronaut came to know about this explosion because:**
   (A) The astronaut saw, heard and felt the explosion
   (B) The astronaut only saw the explosion
   (C) The astronaut only heard the explosion
   (D) The astronaut both saw and heard the explosion
6. **An ambulance moves around a large round-about with its sirens on. For a person standing at the center of the round-about, the frequency of ambulance siren heard will be:**
   (A) Equal to actual siren frequency (B) Less than the actual siren frequency
   (C) Greater than the actual siren frequency (D) Change as the ambulance move frequency
7. **Two progressive waves of frequency 250Hz are superimposed to produce a stationary wave in which adjacent nodes are 2 m apart. The speed of the progressive waves is:**
   (A) 125 m/sec (B) 250% (C) 500 m/sec (D) 1000 m/sec
8. **In the diagram below, the displacement of an oscillating particle is plotted against time. What does the length 'PR' on the time axis represents?**



   (A) Twice the frequency (B) Half the period
   (C) Half the frequency (D) Twice the period

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9. When the source of sound moves towards the stationary observer, the value of apparent frequency 'f_o' is:

(A) $f_o = \left(\frac{v+u_s}{v}\right) f$ (B) $f_o = \left(\frac{v}{v+v_x}\right) f$ (C) $f_o = \left(\frac{v}{v+u_s}\right) f$ (D) $f_o = \left(\frac{v+v_x}{v}\right) f$

10. A source of sound moves towards wave emits waves of frequency 'f'. If 'v' is the speed of sound waves, then what will be the wavelength of waves:

(A) $\frac{v}{f}$ (B) vf (C) $\frac{(v-u)}{f}$ (D) (v-u)f

11. The spectrum of a star's light is measured and the wavelength of one of the line as the sodium's line is found to be 589nm. The same line has the wavelength of 497nm when observed in the laboratory. This means the star is:

(A) Moving away from the earth (B) Moving towards the earth
(C) Stationary (D) Revolving around the planet

12. The red shift measurements of Doppler Effect of galaxies indicate that universe is:

(A) Expanding (B) Contracting (C) Stationary (D) Oscillating

13. A source of sound towards stationary observer with a speed one third of sound. If the frequency of the sound from the source is 100 Hz, the apparent frequency of the sound heard by the observer is:

(A) 60 Hz (B) 200 Hz (C) 100 Hz (D) 150 Hz

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Answer Key											
1	C	**2**	D	**3**	C	**4**	A	**5**	B	**6**	A
7	D	**8**	B	**9**	B	**10**	A	**11**	A	**12**	A
13	D										