PHYSICS 2019

Time: 20 Minutes Max. Marks: 17

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. **Choose the correct answer for each from the given options:**

(i) *If* $\vec{F} = 3\hat{i}$ *, and* $\vec{d} = 6\hat{j}$, the work done will be:

• zero • 2 • 9 • 18

(ii) Beats are produced due to:

• diffraction of waves in time
• reflection of waves in time
• interference of waves in time
• polarization of waves in time

(iii) The wave from of waves will be spherical when the rays of light are: • parallel • perpendicular
• monochromatic • not parallel

(iv) If 'F' be the limiting friction and R be the normal reaction, then the co-efficient of static friction will be equal to: • $\frac{F}{R}$ • FR • $\frac{R}{F}$ • $\frac{1}{FR}$

(v) The dimensions of G'g are:

• $M^0L^1T^{-2}$ • $M^1L^2T^{-2}$ • $M^{-1}L^2T^{-2}$ • $M^{-1}L^2T^0$

(vi) The magnitude of resultant of two forces of magnitudes 2N and 10N cannot be: • 4N • 6N • 9N • 13N

(vii) If a body moves in a circle, then the angle subtended at the centre of circle by as are equals to twice of its radius will be: • 2° • 57.3° • 80° • 114.6°

(viii) In a spectrometer, the focal length of convex lens is equal to length of its:

• telescope • obstacles • collimator • turntable

(ix) The point which describes the motion of the whole system or body is known as the: • cetre of gravity
• centre of mass • inertia • moment of inertia

(x) The product of frequency and time period is:

• 1 • 2 • 3 • 4

(xi) When a transverse wave travelling through a rare medium is reflected from a dense medium, then phase change produced in it will be equal to:

• 0° • 90° • 180° • 360°

(xii) The gravitational constant was determined experimently by: • Newton • Einstein • Cavendish • Maxwell

(xiii) A projectile is thrown upward with a certain velocity. Its time of flight will be minimum, if it is launched at an angle of: • 30° • 45° • 60° • 75°

(xiv) $(\hat{i} \times \hat{j}) * (\hat{j} \times \hat{i})$ *is* : • -1 • $\hat{k}$ • 1 • zero

(xv) Two forces which are equal in magnitude but opposite in direction and not acting along the same straight line form a: • cicle • couple • power • torque

(xvi) If the time interval is very small ($\Delta t \to 0$), the rate of change of velocity of a body is called:

• Average acceleration • Acceleration
• Instantaneous acceleration • Constant acceleration

(xvii) Weber Fechner Law is:

• $I \alpha \log L$ • $L \alpha \log I$ • $I \alpha \frac{I}{\log L}$ • $I \alpha \log L$