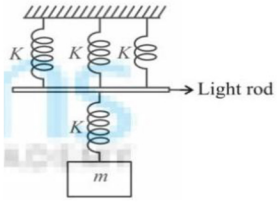
25) The time period of small oscillations of mass m as shown in the figure is (All springs are ideal)



a) $2\pi\sqrt{\frac{3m}{4K}}$ b) $2\pi\sqrt{\frac{4m}{3K}}$

c) $2\pi\sqrt{\frac{m}{K}}$ d) $2\pi\sqrt{\frac{8m}{3K}}$

26) A body of mass 2 kg initially at rest moves under the action of an applied horizontal force of 7 N on a table with coefficient of kinetic friction = 0.1. Compute the work done against friction in 10 s,

a) 250 J b) -250 J

c) 427 J d) -427J

27) If the escape speed from surface of the earth is v_e, then escape speed form center of earth will be

a) $\sqrt{\frac{3}{2}}v_e$ b) $\sqrt{\frac{1}{2}}v_e$

c) $\sqrt{\frac{7}{2}}v_e$ d) Zero

28) A conducting wire shaped in form of regular hexagon of side 4 cm carries a current of 4 A. Find magnitude of net magnetic field at center of hexagon.

a) $4\sqrt{3}\times10^{-5}T$ b) $6\sqrt{3}\times10^{-5}T$

c) $8\sqrt{3}\times10^{-5}T$ d) $2\sqrt{3}\times10^{-5}T$

29) In a uniform circular motion which of the following is not correct :

a) $\vec{v}=\vec{r}\times\vec{\omega}$ b) $\vec{a}=\vec{\omega}\times(\vec{\omega}\times\vec{r})$

c) $\vec{v}=\vec{\omega}\times\vec{r}$ d) $\vec{a}=\vec{\omega}\times\vec{v}$

30) A uniform chain is stable at a horizontal table and its $\frac{1}{n^{th}}$ part is hanging. The active friction coeffiecient between table and chain is:

a) $\frac{1}{n}$ b) $\frac{1}{n-1}$

c) $\frac{n}{n-1}$ d) $\frac{n-1}{n}$

31) The height at which the weight of a body becomes 1/16th, its weight on the surface of earth (radius R), is :-

a) 3R b) 4R

c) 5R d) 15R

32) The potential energy of a body as a function of distance is given as $U(x) = (-6x^2 + 2x)$ J. The conservative force acting on body at $x = 1$ m will be :

a) 6 N b) 8 N

c) 10 N d)12 N

33) A string under a tension of 129.6 N produces 10 beats/s when it is vibrated along with a tuning fork. When the tension in the string is increases to 160 N it vibrates in unison with same tuning fork. Fundamental frequency of tuning fork is

a) 100 Hz b) 50 Hz

c) 150 Hz d) 200 Hz

34) An electric heater having heating coil of 484 Ω is connected with a supply voltage of 220 V is used to heat water. Time taken to increase the temperature of 100 g water by 50°C is (specific heat of water = 4200J/kg°C)

a) 140 s b) 270 s

c) 210 s d) 315 s

35) A satellite revolve very near to the earth (radius R_e) then it's time - period is :

a) $\pi\sqrt{\frac{2R_e}{g}}$ b) $2\pi\sqrt{\frac{2R_e}{g}}$

c) $2\pi\sqrt{\frac{R_e}{g}}$ d) $\frac{\pi}{2}\sqrt{\frac{R_e}{g}}$

36) A body possesses kinetic energy x, moving on a rough horizontal surface, is stopped in a distance $2x$. The friction force exerted on the body is :

a) 1 b) 2

c) 0.5 d) 0.2

Answer Key for 19-04-2025 NEET MODEL QUESTION PAPER - PHYSICS

Q	13	14	15	16	17	18
A	C	D	B	D	A	C
Q	19	20	21	22	23	24
A	D	D	B	D	A	D