



RAM



(RECALL ALL MEMORY)

03

2023 THEORY

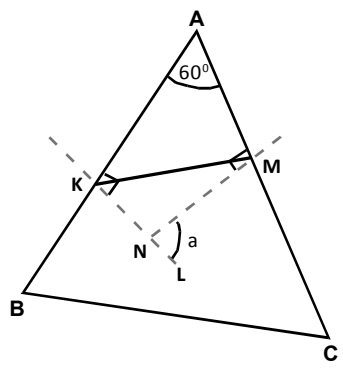
අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය , 2023 අගෝස්තු
கல்விப் பொதுத் தராதரப் பத்திர(உயர் தர)ப் பரீட்சை, 2023 ஓகஸ்ட்
General Certificate of Education (Adv. Level) Examination, August 2023

භෞතික විද්‍යාව I
பௌதிகவியல் I
Physics I

Multiple Choice Questions

1. The mass of an empty beaker is 100.082 g. Its mass with a certain amount of water is 191.953 g. The mass of the water is,
(1) 91.782 g (2) 89.871 g (3) 90.871 g (4) 190.871 g (5) 91.871 g

2. MN and KL are the perpendiculars drawn to the sides AB and AC respectively in the given triangle. The value of the angle marked as a is,
(1) 30° (2) 60°
(3) 90° (4) 120°
(5) 75°

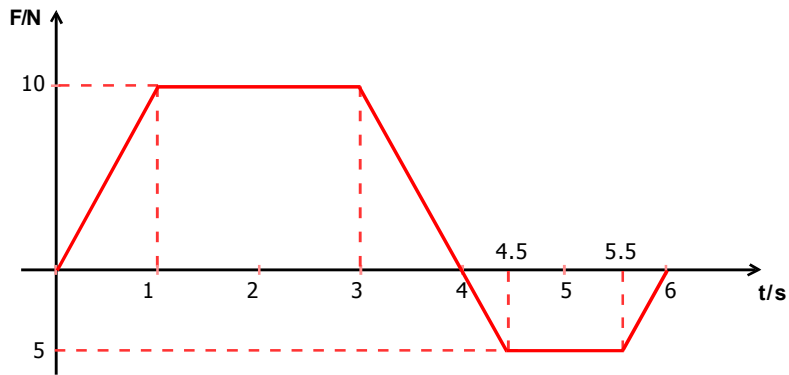


3. The kinetic energy of an object is $E = 1/2mv^2$, when the mass is m and the velocity is v. To double the kinetic energy without changing its mass, its velocity must be changed into
(1) Two times. (2) Four times. (3) Half.
(4) $\sqrt{2}$ times. (5) Three times.

4. Length of a wire is made to four times as the initial due to the increase of temperature. The percentage of increased length of the wire due to the increment in temperature is,
(1) 400 % (2) 4 % (3) 300 % (4) $\frac{100}{3}$ % (5) 125 %

5. When $T = 10^2$ and $m = 0.01$ in $V = \sqrt{\frac{T}{m}}$, V is equal to,
(1) 10000 (2) 1000 (3) 100 (4) 0.1 (5) 0.001

6. Obtain that how many times the area of the top portion as that of the bottom,

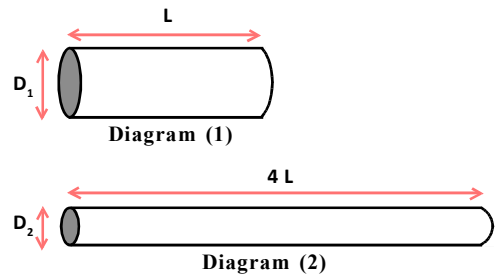


- (1) 4 (2) 3 (3) 8 (4) 2 (5) 12

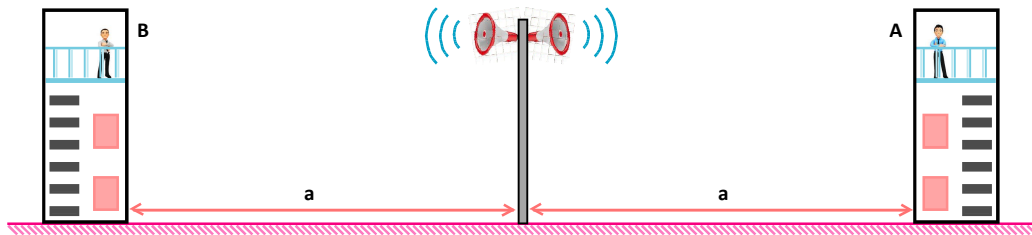
7. The length of the wire (1) is made to four times without changing its volume. If the cross - sectional diameter of the changed wire is D_2 as shown in the (2) figure and that of the initial wire is D_1 ,

$\frac{D_2}{D_1}$ equals to,

- (1) $\frac{1}{2}$ (2) $\frac{1}{4}$ (3) $\frac{1}{3}$
 (4) $\frac{1}{6}$ (5) $\frac{1}{8}$



8.



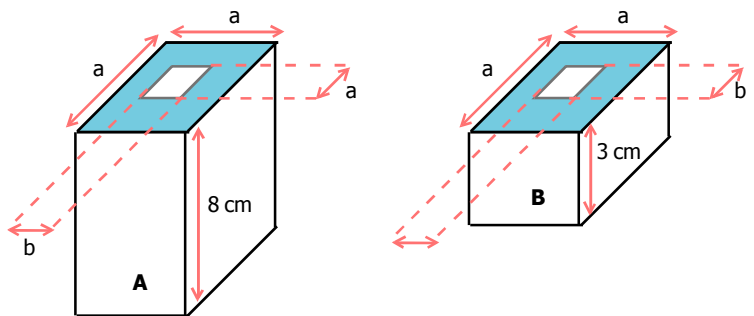
The velocity of sound in air is 340 ms^{-1} . When the sound travels to both sides as in the shown speakers, a wind with a speed of 20 ms^{-1} blows from B to A.

$\frac{\text{Time taken to reach the emitted sound to A from the speaker}}{\text{Time taken to reach the emitted sound to B from the speaker}}$ is equal to,

- (1) $\frac{18}{17}$ (2) $\frac{17}{18}$ (3) $\frac{9}{8}$ (4) $\frac{8}{9}$ (5) $\frac{1}{1}$

9. According to the given measurements, $\frac{\text{volume of the object B}}{\text{volume of the object A}}$ is equal to,

- (1) $\frac{3}{8}$ (2) $\frac{5}{8}$
 (3) $\frac{3(a^2 - b^2)}{8}$ (4) $\frac{5(a^2)}{8b^2}$
 (5) $\frac{5b^2}{8a^2}$



10. The radius of the earth is 6400 km. The distance from the surface to the space object is $12.8 \times 10^{11} \text{ m}$. The distance to that space object as that of the radius of the earth is,

- (1) 2×10^8 (2) 5×10^4 (3) 2×10^5 (4) 2×10^7 (5) 5×10^5