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# JEE (MAIN) 2026

MEMORY BASED QUESTIONS & TEXT SOLUTION

SHIFT-2

**DATE & DAY:** 22<sup>nd</sup> January 2026 & Thursday

**PAPER-1**

**Duration:** 3 Hrs.

**Time:** 03:00 PM – 06:00 PM

**SUBJECT: PHYSICS**

Selections in JEE (Advanced)/  
IIT-JEE Since 2002

**52979**

Classroom: 35901 | Distance: 17078

Selections in JEE (Main)/  
AIEEE Since 2009

**262693**

Classroom: 194471 | Distance: 68222

Selections in NEET (UG)/  
AIPMT/AIIMS Since 2012

**22733**

Classroom: 15409 | Distance: 7324

**Admission Open for 2026-27**

**Target:** JEE (Advanced) | JEE (Main) | NEET (UG) | PCCP (Class V to X)

**100% Scholarship** on the basis of Class 10<sup>th</sup>, 12<sup>th</sup>  
& JEE (Main) 2026 %ile / AIR

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## PART : PHYSICS

1. Find the dimensions of the expression  $\frac{\epsilon_0 E}{T}$ , where  $\epsilon_0$ , E and T are permittivity, electric field and time.

(1) AL (2)  $AL^{-2}$  (3)  $MA^{-1} L$  (4)  $MLA^2$

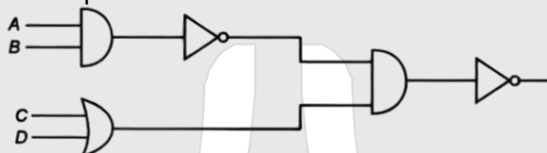
Ans. (2)

2. In an open organ pipe 3<sup>rd</sup> and 6<sup>th</sup> harmonic frequency differ by 3200 Hz . Find the length of organ pipe (speed of sound = 320 m/s )

(1) 5 cm (2) 10 cm (3) 15 cm (4) 20 cm

Ans. (3)

3. For the given logic gate find output function.



(1)  $\bar{A} \cdot \bar{B} + C + D$

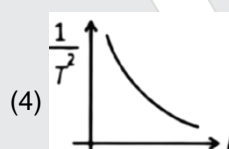
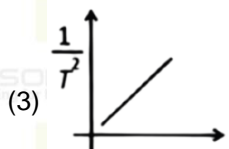
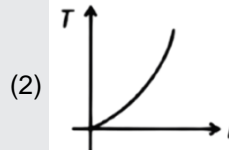
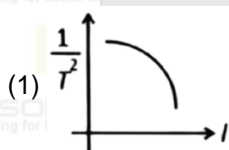
(2)  $\bar{A} + \bar{B} + \bar{C} \cdot \bar{D}$

(3)  $AB + CD$

(4)  $AB + \bar{C} \cdot \bar{D}$

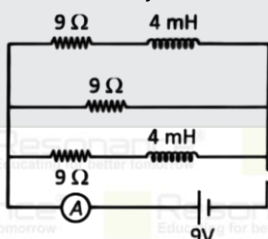
Ans. (4)

4. Using a simple pendulum experiment  $g$  is determined by measuring its time period  $T$ . Which of the following plots represent correct relation b/w the pendulum length  $\ell$  & time period  $T$ .



Ans. (4)

5. For the given circuit, find reading of ammeter just after key(s) is closed.



(1) 1A

(2) 3 A

(3)  $\frac{3}{2}$  A

(4)  $\frac{1}{2}$  A

Ans. (1)

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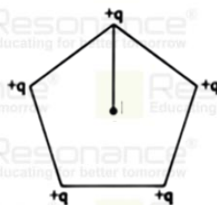
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6. Five positive charges each having charge  $q$  are placed at the vertices of a pentagon as shown in the figure. The electric potential ( $V$ ) & the electric field ( $\vec{E}$ ) at the center  $O$  of the pentagon due to the 5 positive charges are:-



(1)  $V = 0, E = 0$

(2)  $V = \frac{5q}{4\pi\epsilon_0 r}$   
 $E = \frac{5q}{4\pi\epsilon_0 r^2}$

(3)  $V = \frac{5q}{4\pi\epsilon_0 r}, \vec{E} = 0$

(4)  $V = \frac{5q}{4\pi\epsilon_0 r}, E = \frac{5\sqrt{3}q}{8\pi\epsilon_0 r^2} \hat{r}$

Ans. (3)

7. 3 small identical bubbles of water having same charge on each coalesce to form a bigger bubble. Then the ratio of the potentials on one initial bubble & that on the resultant bigger bubble is:

(1)  $1:3^{2/3}$

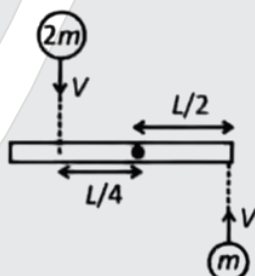
(2)  $3^{2/3}:1$

(3)  $1:2^{2/3}$

(4)  $1:3^{1/3}$

Ans. (1)

8. Two balls of mass  $2m$  and  $m$  collide with rod of mass  $m$  and length  $L$  as shown balls stick to the rod after collision. Find  $\frac{V}{\omega}$  if rod is hinged at centre. ( $L = 8m$ )



(1)  $11/2$

(2)  $11/3$

(3)  $11/4$

(4)  $9/4$

Ans. (2)

9. A gas undergoes a process in which state variable changes from (1 atm, 60 ml,  $27^\circ\text{C}$ ) to (atm, 30ml,  $77^\circ\text{C}$ ) then  $P$  is

(1) 3 atm

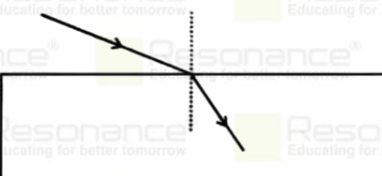
(2)  $\frac{5}{4}$  atm

(3)  $\frac{7}{3}$  atm

(4)  $\frac{4}{3}$  atm

Ans. (3)

10. A light ray incident on a slab of refractive index  $\frac{3}{2}$ . If wavelength of refracted ray is 520 nm. Find wavelength of incident ray.



(1) 460 nm

(2) 780 nm

(3) 360 nm

(4) 560 nm

Ans. (1)

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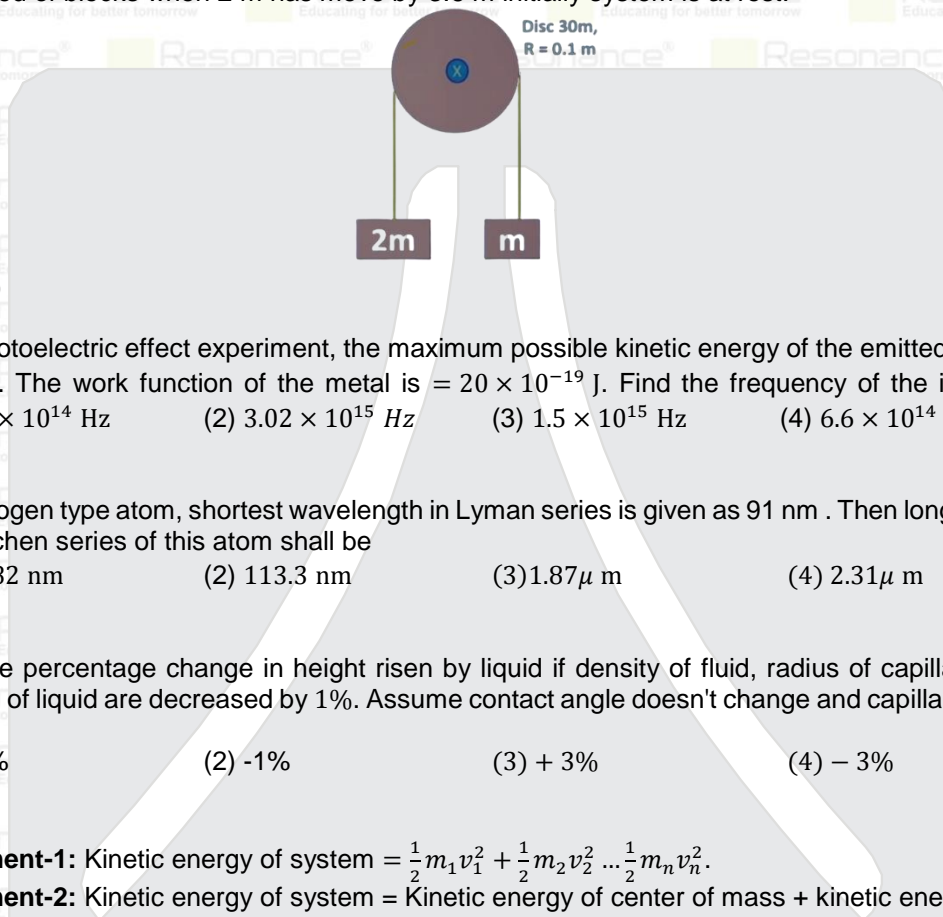
11. Which of the following is/are true for YDSE experiment?

- i. Fringe width increases if slit width is constant & wavelength increased
- ii. Fringe width increases if slit width is constant & wavelength decreased
- iii. Fringe width increases if slit width is increased & wavelength constant
- iv. Fringe width increases if slit width is decreased & wavelength constant.

(1) i, iii (2) i, iv (3) ii, iii (4) ii, iv

Ans. (4)

12. Find speed of blocks when 2 m has move by 3.6 m initially system is at rest.



Ans. (2 m/s)

13. In a photoelectric effect experiment, the maximum possible kinetic energy of the emitted photoelectrons is zero. The work function of the metal is  $= 20 \times 10^{-19}$  J. Find the frequency of the incident photon.

- (1)  $3.0 \times 10^{14}$  Hz (2)  $3.02 \times 10^{15}$  Hz (3)  $1.5 \times 10^{15}$  Hz (4)  $6.6 \times 10^{14}$  Hz

Ans. (2)

14. In hydrogen type atom, shortest wavelength in Lyman series is given as 91 nm. Then longest wavelength in Panchen series of this atom shall be

- (1) 31.82 nm (2) 113.3 nm (3)  $1.87 \mu\text{m}$  (4)  $2.31 \mu\text{m}$

Ans. (3)

15. Find the percentage change in height risen by liquid if density of fluid, radius of capillary and surface tension of liquid are decreased by 1%. Assume contact angle doesn't change and capillary is of sufficient length.

- (1) +1% (2) -1% (3) + 3% (4) - 3%

Ans. (2)

16. **Statement-1:** Kinetic energy of system  $= \frac{1}{2}m_1v_1^2 + \frac{1}{2}m_2v_2^2 \dots \frac{1}{2}m_nv_n^2$ .

**Statement-2:** Kinetic energy of system = Kinetic energy of center of mass + kinetic energy with respect to center of mass.

- (1) Statement I is true. Statement II is true. (2) Statement I is true Statement II is false  
(3) Statement I is false Statement II is true (4) Statement I is false Statement II is false

Ans. (1)

17. A capacitor of capacitance  $10 \mu\text{F}$  is connected with a battery 6 V. Now battery is disconnected and another uncharged capacitor of capacitance  $20 \mu\text{F}$  is connected to the capacitor. Find charge on  $20 \mu\text{F}$  capacitor.

- (1)  $\frac{30}{4} \mu\text{C}$  (2)  $10 \mu\text{C}$  (3)  $\frac{20}{3} \mu\text{C}$  (4)  $40 \mu\text{C}$

Ans. (4)

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