

# Bong Motion

## WBJEE Test Series

Subject - Physics

Category-1 (Q.1 to Q.10)

One answer is correct. Correct answer will get 1 mark. Marks will be deducted for wrong answers or any multiple answers.

1. Which statement below is correct?

- (a) Boundary friction is proportional to the weight of the object
- (b) Frictional force is proportional to the weight of the object
- (c) Boundary frictional force is proportional to the perpendicular reaction
- (d) The boundary friction force is proportional to the perpendicular reaction

2. Radius of first bore orbit  $r$ . The radius of the second bore orbit is

- (a) 1:4.                      (b) 1:2
- (c) 4:1                      (d) 2:1

3. The kinetic energy  $E$  of a particle and the corresponding de Broglie wavelength. If the kinetic energy of the particle is  $2E$ , what will be the de Broglie wavelength?

- (a)  $\lambda/\sqrt{2}$                       (b)  $\lambda/2$
- (c)  $\lambda/3$                       (d)  $\lambda$

4. A beaker is filled to the brim with water at  $4^\circ\text{C}$ . The water in the beaker will overflow. If

- (a) The temperature is increased from  $4^\circ\text{C}$
- (b) The temperature is reduced from  $4^\circ\text{C}$
- (c) Any one of (a) and (b).
- (d) None of these

5. During longitudinal propagation through a medium, the transmitted mass is

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(a) Energy. (b) Substance

(c) Energy and matter (d) Momentum

6. To increase the ammeter range

(a) Inferior resistance classes should be added to cooperatives

(b) Low quality resistors should be connected in parallel

(c) High quality resistance classes should be added to cooperatives

(d) High resistance should be added in parallel co-operation

7. An AC circuit has a resistance of  $200\sqrt{2}$  and the angle between the current and the induced force is  $60^\circ$ . The resistance value of the circuit is

(a)  $50\sqrt{2}\ \Omega$ . (b)  $100\sqrt{2}\ \Omega$

(c)  $100\sqrt{3}\ \Omega$  (d)  $300\sqrt{3}\ \Omega$

8. If the electric field value of a point-source of an electromagnetic wave is  $100\text{ Vm}^{-1}$ , the power density at a distance of 5 m from the point source will be

(a)  $11 \times 10^{-9}\text{ J/m}^2$ . (b)  $22 \times 10^{-9}\text{ J/m}^2$

(c)  $88 \times 10^{-9}\text{ J/m}^2$ . (d)  $44 \times 10^{-9}\text{ J/m}^2$

9. 17. A ray of light is incident at an angle of  $60^\circ$  on one side of a prism of angle  $30^\circ$ . The ray emerging from the prism makes an angle of  $30^\circ$  with the incident ray. Refractive index of element of prism

(a)  $\sqrt{2}$ . (c) 1.5

(b)  $\sqrt{3}$ . (d) 1.6

10. A P-class cell

(a) Positive

(b) Negative

(c) Uncharged

(d) None of these

Answer Key:

1. C	2. C	3. a	4. C	5. b
6. b	7. b	8. d	9. b	10. C