

(PHYSICS 2012)

1. Name the device which converts electrical energy into mechanical energy:

- | | |
|----------------|-----------------|
| (1) Alternater | (2) Transformer |
| (3) Dynamo | (4) Motor |

Ans. (4)

2. The numerical ratio of displacement to distance is-

- | | |
|--------------------------|-------------------------------|
| (1) always less than one | (2) always more than one |
| (3) always equal to one | (4) equal to or less than one |

Ans. (4)

3. A stone is dropped from a bridge reaches the bottom in 4 sec. The height of the bridge is:

- | | |
|-----------|-----------|
| (1) 78.4m | (2) 64 m |
| (3) 20 m | (4) 260 m |

Ans. (1)

4. A force of 5N acts on a body of weight 9.8 N. The acceleration produced is :

- | | |
|--------------------------|--------------------------|
| (1) 40ms^{-2} | (2) 5ms^{-2} |
| (3) 1.46ms^{-2} | (4) 0.51ms^{-2} |

Ans. (2)

5. The Kinetic Energy of a body increases by 300%. The linear momentum of the body increases by:

- | | |
|----------|----------|
| (1) 300% | (2) 150% |
| (3) 100% | (4) 50% |

Ans. (3)

6. The Inertial and gravitational mass of a body are:

- (1) unequal
- (2) exactly equal
- (3) energy
- (4) density

Ans. (2)

7. A 4°C given mass of water has maximum

- (1) heat
- (2) volume
- (3) energy
- (4) density

Ans. (4)

8. The audible frequency range is:

- (1) 20Hz to 2000 Hz
- (2) 10 Hz to 20 Hz
- (3) 20Hz to 20,000 Hz
- (4) 20 Hz to 100 Hz

Ans. (3)

9. A cube of ice floats in a beaker of water when the ice melts, the level of water in beaker:

- (1) falls
- (2) rises
- (3) remains the same
- (4) may rises or fall

Ans. (3)

10. Clouds floats in the atmosphere on account of their:

- (1) low temperature
- (2) low viscosity
- (3) low density
- (4) low pressure

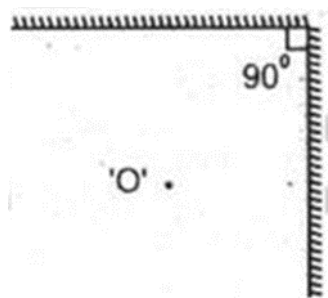
Ans. (3)

11. A printed page is seen through a glass slab place on it. The printed words appear raised. This is due to:

- (1) refraction of the upper surface of the slabs.
- (2) refraction of the lower surface of the slab.
- (3) partial reflection of the upper surface of the slab
- (4) partial reflection of the lower surface of the slab

Ans. (2)

12. Two mirrors are placed at right angles to each other as shown in the figure. The total number of images of an object 'O' placed between them, that are seen are: **(2012)**



- (1) Two
- (2) Three
- (3) Four
- (4) Six

Ans. (3)

13. Lunar eclipse occurs when earth comes in between sun and moon. Solar eclipse occurs when moon comes in between sun and earth. This suggests that:

- (1) both eclipses occur on a new moon day
- (2) solar eclipses occurs on a new moon day
- (3) Lunar eclipse occurs on a new moon day
- (4) both eclipses occur on a full moon day

Ans. (2)

14. A ball of mass 1 kg is dropped from a height of 10m it loses 50% of its velocity when it strike the ground The height gained by the ball after strike will be:

- (1) 2.5m
- (2) 4 m
- (3) 3 m
- (4) 1.25 m

Ans. (1)

15. A car covers distance S_1 with velocity V_1 and distance S_2 with velocity V_2 between two cities P and Q. Its average velocity will be:

- (1) $\frac{V_1 + V_2}{2}$
- (2) $\frac{V_1 - V_2}{2}$
- (3) $\frac{(S_1 + S_2) V_1 V_2}{S_1 V_2 + S_2 V_1}$
- (4) $\frac{S_1 V_1 + S_2 V_2}{S_1 + S_2}$

Ans. (3)

16. Pascal's law related to:

- (1) atmospheric pressure
- (2) Fluid pressure
- (3) Viscous flow
- (4) Stream line flow

Ans. (2)

17. The particles which actually move in a current carrying conductor are:

- (1) protons in a direction opposite to that of current
- (2) protons in a direction which is same as that of current
- (3) electrons in the direction opposite to that of current
- (4) electrons in the direction of the current

Ans. (3)

18. A technician has 10 resistors, each of resistance 0.1Ω . The largest and smallest resistance that he can obtain by combining these resistors are:

- (1) 10Ω and 1Ω respectively
- (2) 1Ω and 0.1Ω respectively
- (3) 1Ω and 0.01Ω respectively
- (4) 0.1Ω and 0.01Ω respectively

Ans. (3)

19. The Neutron was discovered by:

- (1) Rutherford
- (2) Chadwick
- (3) Neils Bohr
- (4) Summerfield

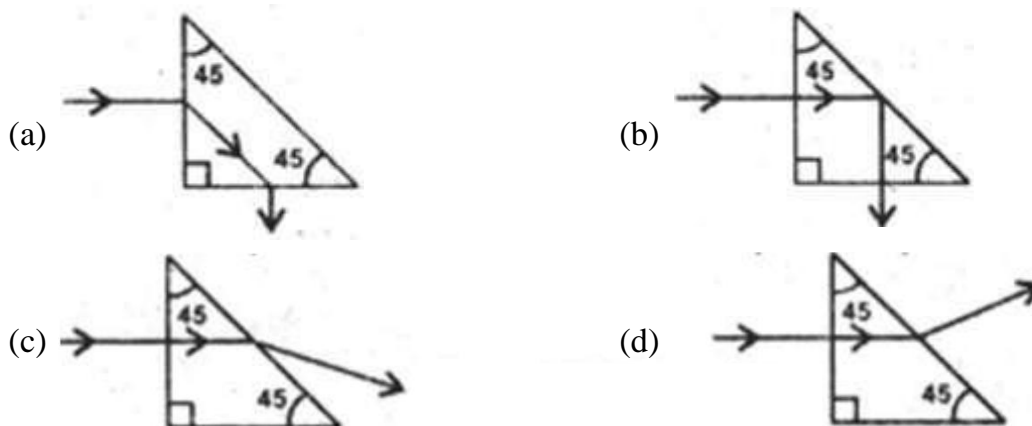
Ans. (2)

20. Ocean wave striking the shore were found to move with a speed of 10 m/s. If the time interval between two consecutive waves be 5 sees. Their wave length will be :

- (1) 100 m (2) 50 m
(3) 2 m (4) 0.5 m

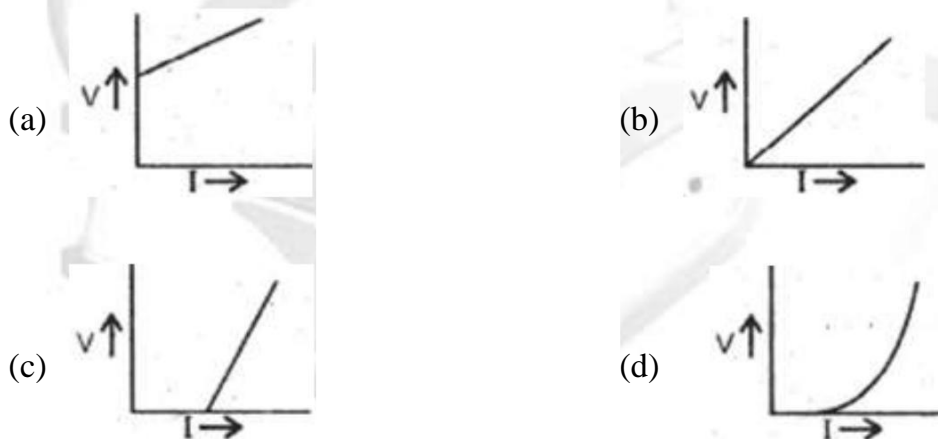
Ans. (2)

21. Which one of the following figures represents correct path of a ray of light through a glass prism :



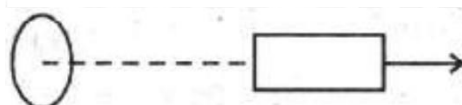
Ans. (3)

22. If a voltage (V) is applied to a copper conductor and a current (I) flows through it which one of the following gives the relation between V and I.



Ans. (2)

23. A magnet NS is placed along the axis of a circular coil. The magnet is moved away from the coil as shown.



The induced current in the coil is:

- (1) zero (2) clockwise
(3) anti clockwise (4) none of these

Ans. (2)

24. Who first established the fact that the earth revolves round the sun.

- (1) Kepler (2) Copernicus
(3) Newton (4) Galileo

Ans. (2)

25. At what point the centigrade and Fahrenheit temperatures are same, that point is:

- (1) 10° (2) 0°
(3) -10° (4) -40°

Ans. (4)

26. If there were no atmosphere, what would be the colour of sky?

- (1) Red (2) Blue
(3) White (4) Black

Ans. (4)

27. Red, yellow and blue are:

- (1) primary pigments (2) primary colours
(3) secondary colours (4) complementary colours

Ans. (2)

28. Tungstan is used for the manufacture of an electric bulb because:

- (1) it is malleable (2) it is un expensive
(3) it has a very high melting point (4) it is a good conductor

Ans. (3)

29. Water pipes are apt to burst in cold weather because:

- (1) heavy pressure is exerted by show.
(2) they contract in cold
(3) the water in the pipe turns into ice and expands
(4) they expand on cooling

Ans. (2)

30. Match following

- A. Inductance
B. Capacitance
C. Variable resistance

- | | | | |
|-----|---|---|---|
| (1) | A | B | C |
| | 1 | 2 | 3 |
| (2) | A | B | C |
| | 2 | 1 | 3 |
| (3) | A | B | C |
| | 3 | 1 | 2 |
| (4) | A | B | C |
| | 3 | 2 | 1 |

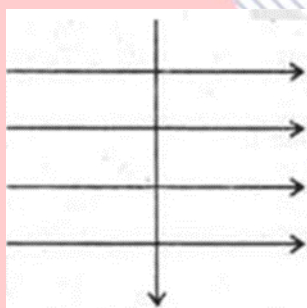
Ans. (3)

31. 100w bulb in 5 hrs consumes energy:

- | | |
|---------------|-------------|
| (1) 0.5 units | (2) 1 unit |
| (3) 2 units | (4) 5 units |

Ans. (1)

32. An electron enters a magnetic field at right angles to it shown in figure. The direction of force acting on the electron will be :



magnetic field

- | | |
|---------------------|-------------------|
| (1) to the right | (2) to the left |
| (3) out of the page | (4) into the page |

Ans. (4)

