



ENTERENCE EXAM

11th STANDARD

SUBJECT: PHYSICS

MARKS: 25

I. Choose the correct answer

(25x1=25)

1. Velocity and wavelength of light are related by a relation

- (a) $g = c\lambda$ (b) $\gamma = \frac{c}{\lambda}$
(c) $c = \gamma\lambda$ (d) both b & c

2. ___ determines speed of light in a medium

- (a) thickness (b) wavelength
(c) refractive index (d) both b and c

3. Rainbow formation is due to _____ water droplets

- (a) Ionisation
(b) absorption of sunlight
(c) reflection and refraction of sunlight
(d) reflection of sunlight

4. When a beam of light is passed through a colloidal solution, the light will be

- (a) scattered (b) reflected
(c) absorbed (d) unchanged

5. The value of universal gas constant

- (a) $3.81 \text{ mol}^{-1} \text{ K}^{-1}$ (b) $8.03 \text{ mol}^{-1} \text{ K}^{-1}$
(c) $1.38 \text{ mol}^{-1} \text{ K}^{-1}$ (d) $8.31 \text{ mol}^{-1} \text{ K}^{-1}$

6. In which process heat is transferred directly from one molecule to other?

- (a) conduction (b) convection
(c) Radiation (d) all the above

7. SI unit of heat is

- (a) calorie (b) joule
(c) kilo calorie (d) kelvin



8. According to Charles's law

- (a) $P \propto \frac{1}{\mu}$ (b) $V \propto T$
(c) $V \propto n$ (d) all the above

9. Which of the following is correct?

- a) Rate of change of charge is electrical power
b) Rate of change of charge is current
c) Rate of change of energy is current
d) Rate of change of current is charge.

10. kilowatt hour is the unit of

- (a) resistivity (b) conductivity
(c) Electrical energy (d) electrical power

11. When will be the current flow in a circuit?

- (a) A switch is closed
(b) A switch is opened
(c) Switch is either open or closed
(d) None of the above

12. The amount of work done in joules when one unit electric charges moves from one point to another point in an electric circuit is called.

- a) Resistance
b) Potential difference
c) Current
d) charge

13. The unit of 'g' is ms^{-2} . It can be also expressed as

- (a) cm s^{-1} (b) N kg^{-1}
(c) $\text{N m}^2 \text{kg}^{-1}$ (d) $\text{cm}^2 \text{s}^{-2}$

14. To project the rockets which of the following principle(s) is / (are) required?

- a) Newton's third law of motion
b) Newton's law of gravitation
c) law of conservation of linear momentum
d) both a and c

15. A & B are two objects with masses 100 kg & 75 kg respectively, then

- (a) both will have same inertia
(b) B will have more inertia
(c) A will have more inertia
(d) both will have less inertia



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- 16. The physical quantity which is the measure of inertia is ____.**
- (a) density (b) weight
(c) force (d) mass
- 17. The velocity of sound in air at a particular temperature is 330 ms^{-1} . What will be its value when temperature is doubled and the pressure is halved?**
- (a) 330 ms^{-1}
(b) 165 ms^{-1}
(c) $330 \times \sqrt{2} \text{ ms}^{-1}$ (d) $320 \times \sqrt{2} \text{ ms}^{-1}$
- 18. At what velocity should a source of sound move towards a listener so that apparent frequency is twice the actual frequency?**
- (a) 165 m/s (b) 330 m/s
(c) 660 m/s (d) 110 m/s
- 19. When a sound wave travels through air, the air particles**
- (a) vibrate along the direction of the wave motion
(b) vibrate but not in any fixed direction
(c) vibrate perpendicular to the direction of the wave motion
(d) do not vibrate
- 20. At what velocity should a source of sound move towards a listener so that apparent frequency is twice the actual frequency?**
- (a) 165 m/s (b) 330 m/s
(c) 660 m/s (d) 110 m/s
- 21. Gamma radiations are dangerous because**
- (a) it affects eyes & bones
(b) it affects tissues
(c) it produces genetic disorder
(d) it produces enormous amount of heat
- 22. Which of the following is/are correct?**
- (a) Chain reaction takes place in a nuclear reactor and an atomic bomb.
(b) The chain reaction in a nuclear reactor is controlled
(c) The chain reaction in a nuclear reactor is not controlled
(d) No chain reaction takes place in an atom bomb
- (a) (i) only correct
(b) (i) & (ii) are correct
(c) (iv) only correct
(d) (iii) & (iv) are correct



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23. Energy generation in stars is due to

- (a) chemical reaction
- (b) fission
- (c) fusion of light nuclei
- (d) Fusion of heavy nuclei

24. The control rod in a nuclear reactor is made of

- (a) uranium
- (b) cadmium
- (c) graphite
- (d) plutonium

25. Which of the following material is normally fissionable?

- (a) U^{238}
- (b) Th^{232}
- (c) Pu^{240}
- (d) U^{235}

ALL THE BEST