

SECTION - A (Multiple Choice Questions)

Q.1 Choose the correct answer for each from the given options:

1. Mathematical expression for potentiometer is given by _____.

- (a) $\frac{E_1}{E_2} = \frac{L_1}{L_2}$ (b) $\frac{E_1}{E_2} = \frac{L_1}{L_2}$ (c) $E_1 L_1 = E_2 L_2$ (d) $E_1 E_2 = L_1 L_2$

2. P.O Box is used for the measure _____.

- (a) Current (b) Voltage (c) emf (d) Resistance

3. The process in which alternative current into direct current is _____.

- (a) Amplification (b) Rectification (c) Both a and b (d) None of these

4. Momentum of photon, from the theory of relativity is related by _____.

- (a) $P = \frac{hc}{\lambda}$ (b) $P = \frac{hf}{c}$ (c) $P = hcf$ (d) None of these

5. If energy of incident photon is less than _____ no pair production will take place.

- (a) 0.311 Mev (b) 3.5 Mev (c) m_0c^2 (d) $2 m_0c^2$

6. The wavelength of last spectral line is Lyman series is equal to

- (a) R_H (b) R_H^2 (c) $\frac{1}{R_H}$ (d) $\frac{1}{R_H}$

7. The energy of X-ray photon is _____ the energy of photon of ultra-violet light.

- (a) Equal to (b) Less than
(c) Greater than (d) Depends on velocity of

8. Due to the alpha decay the mass number of atom _____.

- (a) Decreased by two (b) Decreased by four
(c) Increased by two (d) Increased by four

9. Lenz's law is in accordance with the law of conservation of _____.

- (a) Momentum (b) Energy (c) Angular Momentum (d) All of these

10. The transformer in which secondary voltage is less than primary voltage is called _____.

- (a) Step up Transformer (b) Step down Transformer
(c) Rectifier (d) Amplifier

11. The transformer has 1000 turns in the primary and 200 in the secondary, if input current is 2A. What will be its output current?

- (a) 10 A (b) 0.4 A (c) 12 A (d) None of these

12. _____ is a device that raises the strength of a weak signal.

- (a) Transistor (b) Amplifier (c) Ammeter (d) Voltmeter

13. Photocell is a device which converts _____ energy into _____ energy.

- (a) Chemical, Light (b) Light, Electrical
(c) Chemical, Electrical (d) Electrical, Light

14. The speed of x-ray photon is always _____.

- (a) Equal to C (b) Greater than C
(c) Less than C (d) Depends upon intensity

15. The Balmer series lies in the _____.

- (a) Infrared region (b) For infrared region
(c) Ultraviolet region (d) Visible region

16. In any reaction ${}_{90}\text{Th}^{227}$ makes alpha decay the daughter element will be

- (a) ${}_{36}\text{Kr}^{89}$ (b) ${}_{56}\text{Br}^{144}$ (c) ${}_{92}\text{U}^{235}$ (d) ${}_{88}\text{Ra}^{223}$

17. The quantity of matter such that its mass in grams is numerically equal to the _____.

- (a) Molecular Formula (b) Molecular Weight
(c) One Mole (d) Suspected Mass

18. In an isobaric process the work done is equal to _____.

- (a) $\frac{R\Delta V}{n}$ (b) $\frac{C}{n\Delta v}$ (c) $\frac{C}{n\Delta v}$ (d) $n R \Delta T$

19. The S.I unit of electric field intensity is _____.

- (a) Newton / Coulomb (b) Volt / Meter
(c) Both (a) and (b) (d) None of these

20. Electron volt is the unit of _____.

- (a) Power (b) Energy
(c) Potential Difference (d) Both a and c

21. What is a current passing in 5×10^6 ohm resistor if it is provided p.d of 5KV?

- (a) 10^{-1} A (b) 10^{-4} A (c) 1 mA (d) None of these

22. If one ampere current flow through a conductor for one hour, how much charges flow through area of cross section of conductor?

- (a) 3600 C (b) 7.2×10^3 (c) 1 C (d) None of these

23. Tesla is the unit of _____.

- (a) Magnetic Flux (b) Electric Flux
(c) Magnetic flux Density (d) None of these

24. The direction of induced current in a certain coil can easily be found by using _____.

- (a) Right hand rule (b) Faraday's law
(c) Lenz's law (d) Both (a) and (c)

25. The penetrating power of neutron is _____.

- (a) Zero (b) Very low (c) Medium (d) Very high

26. The specific heat of water is _____.

- (a) 4.2×10^5 Joule (b) One kilo Calorie
(c) One Calorie (d) None of these

27. Heat can not be measured in _____.

- (a) Calorie (b) B.T.U (c) Joule (d) Centigrade

28. The Coulomb's force _____ when any material medium is placed between two charges.

- (a) Increases (b) Decreases
(c) Remains Same (d) None of these

29. The Surface density of charge is define as charge per unit _____.

- (a) Volume (b) Length (c) Area (d) Mass

30. 1 Coloumb per one volt is equal to _____.

- (a) One Joule (b) One Ampere
(c) One Calorie (d) One Farad

31. The graph between current and voltage for ohm's law is _____.

- (a) Hyperbola (b) Ellipse (c) Straight Line (d) Parabola

32. Hyb of the following is not unit of magnetic field induction is _____.

- (a) Tesla (b) $\frac{\text{Newton}}{\text{Ampere Meter}}$ (c) $\frac{\text{Weber}}{\text{Meter}^2}$ (d) Newton per volt