

PHYSICS
Full portion test – 02

1. vande graff generator works on the principle of
a) electrostatic induction b) both electrostatic induction and action of points
c) action of points d) eddy current
2. which of the following cannot be accelerated using vande graff generator?
a) α particle b) electron c) proton d) deuteron
3. which of the following is a polar molecule?
a) O_2 b) H_2 c) NH_3 d) N_2
4. The work done in moving $4 \mu C$ charge from one point to another in an electric field is $0.012 J$. the potential difference between them is
a) $3000v$ b) $6000v$ c) $30 v$ d) 48×10^3
5. unit of current density is
a) A b) AM^{-2} c) AS^{-1} d) AM^{-1}
6. which one of the following does not have negative Thomson effect?
a) Ni b) Fe c) Zn d) Bi
7. which one of the following does not have negative Thomson effect?
a) Hg b) Co c) Pt d) Cd
8. An Emf of $12 v$ is induced when the current in the coil changes from $2A$ to $6A$ in $0.5s$. The coefficient of self induction of the coil is
a) $1.5 H$ b) $6H$ c) $0.3H$ d) $30 H$
9. transformer ratio is
a) $k = E_s/E_p$ b) $K = N_s/N_p$ c) $K = I_p/I_s$ d) all the above
10. The inductance of audio frequency choke is....
a) Zero b) low c) high d) very low
11. which of the following has the dimension of time?
a) L^2/R b) R/L^2 c) R/L d) L/R
12. Which of the following is not an optically active material?
a) Quartz b) sugar crystals c) turpentine oil d) calcium chloride
13. which one of the following are not as electromagnetic waves?
a) gamma rays b) X rays c) β rays d) micro waves
14. the energy of a photon of red light of wavelength 6000 \AA is
a) $3313 \times 10^{-19} J$ b) $3.313 \times 10^{-19} J$
c) $33.13 \times 10^{-19} J$ d) $0.3313 \times 10^{-19} \text{ KG MS}^{-1}$
15. refractive index of glass is $3/2$. time taken for light to pass through a glass plate of thickness 7 cm is ..
a) $3.5 \times 10^{-6} s$ b) $3.5 \times 10^{-10} s$ c) $0.35 \times 10^{-10} s$ d) $35 \times 10^{-10} s$
16. in sommerfield atom model, for a given value of n , the number of values l can take is
a) n b) $n+1$ c) $n-1$ d) $2n+1$
17. the ionization potential of hydrogen atoms is
a) 13.6 ev b) -13.6 ev c) $13.6 v$ d) $-13.6 v$

18. paschen series is in the region of
- a) infra red b) ultra violet c) visible d) none of above
19. which of the following is produced by maser?
- a) microwaves b) infrared rays C) electric field d) magnetic field
20. the frequency of a photon whose energy is 13.252 ev is
- a) 3.2×10^{15} HZ b) 2×10^{16} HZ c) 2×10^{14} HZ d) 2×10^{17} HZ
21. when the momentum of a particle increase,its debroglie wavelength
- a)increases b) decreases c) does not change d) infinity
22. the penetrating power is maximum for
- a) α particle b) β particle c) gamma rays d) protons
23. which of the following is not a moderator?
- a) liquid sodium b) ordinary water c) graphite d) heavy water
24. the mass of a neutron is
- a) 1.66×10^{-27} kg b) 931 kg c) 1.008665 amu d) 1.007276
25. which of the following is more stable?
- a) ${}_2\text{He}^4$ b) ${}_{10}\text{Ne}^{20}$ c) ${}_6\text{C}^{12}$ d) ${}_4\text{Be}^8$
26. the forbidden energy gap for conductors is.....
- a) 0.7ev b)1.1ev c) zero d) 3 ev
27. the cut- in voltage for silicon diode is
- a)7v b)3v c) 0.7v d) 0.3v
28. for a transistor $\beta = 49$, its α value is,
- a)49 b) 1.02 c) 0.98 d) 9.8
29. the buffer amplifier is a ----- amplifier.
- a) high frequency b) low frequency
c) voice frequency d) super high frequency
30. antimony trisulphide is
- a) an insulator b) photo conductive
c) photo sensitive d) a phosphor