

DIFFERENT TYPES OF QUESTIONS – FOR PUBLIC REVISION

MOST IMPORTANT ONLY

I. USES / APPLICATIONS

1. Capacitors
2. Joule's law
3. Seebeck effect
4. Eddy current
5. IR rays
6. UV rays
7. Microwave
8. X-rays
9. Visible light
10. Optical tweezer
11. Spectrometer
12. Erecting lens in terrestrial telescope
13. Polaroids
14. RADAR
15. Photo cells
16. Zener diode
17. LED
18. Solar cells
19. Photo diodes
20. Satellite communication
21. Mobile communication
22. Internet
23. Nano materials

II. PROPERTIES / CHARACTERISTICS

1. Electric field lines
2. Dia, para and ferro
3. Electromagnetic waves
4. X-rays
5. Photons
6. Cathode rays
7. Nuclear force
8. Neutrino

III. DIFFERENCES

1. Coulomb force and gravitational force
2. Electric energy and electric power
3. Coulomb's law and Biot-Savart law
4. Step up transformer and step down transformer
5. Primary rainbow and secondary rainbow
6. Interference and diffraction
7. Fresnel diffraction and Fraunhofer diffraction
8. Polarised and unpolarised light
9. Myopia and hypermetropia
10. Intrinsic and extrinsic semi conductor
11. Avalanche and Zener breakdown
12. Capacitors in series and parallel
13. Resistors in series and parallel
14. Linear charge density and surface charge density
15. Drift velocity and mobility
16. Polar and non polar molecules
17. Inductive reactance and capacitive reactance

IV. LAW / RULE / PRINCIPLE / THEORY / STATEMENT / FORMULA / POSTULATES / EFFECT

1. Coulomb's law in electrostatics
2. Gauss law
3. Kirchhoff's rules
4. Biot – Savart law
5. Ampere circuital law
6. Curie law
7. Curie Weiss law
8. Fleming's left hand
9. Fleming's right hand
10. Faraday's laws of EMI
11. Lens law
12. Snell's law
13. Huygens'
14. Duane-Hunt
15. Bohr's
16. Photoelectric emission
17. Ampere – Maxwell law
18. Malus law
19. Brewster's law
20. Radioactive decay
21. Reflection
22. Peltier
23. Thomson

V. CONDITIONS

1. Total internal reflection
2. Barkhausen
3. Clear and broad interference bands

VI. ADVANTAGES / DISADVANTAGES / MERITS / DEMERITS / LIMITATIONS

1. AC over DC
2. Amplitude modulation
3. Frequency modulation
4. Optical fibre
5. Cyclotron
6. Robotics

VII. REASONING QUESTIONS / JUSTIFY / SHORT NOTE ON

1. Microwave oven
2. It is safer to sit inside a bus during lightning
3. Charged balloon after rubbing sticks on to a wall
4. Current is a scalar
5. Inductor blocks ac but allows dc.
6. Capacitor blocks dc but allows ac.
7. Sky appears blue
8. Sun looks reddish during sunrise and sunset
9. Clouds appear white
10. Oil immersed objective is preferred in microscope
11. Wave properties of a baseball – We don't see
12. Ammeter connected in series or parallel in a circuit.
13. Proton and electron have same KE. de Broglie wavelength is greater for
14. Electron and alpha have same KE. de Broglie wavelength is greater for
15. Diode is a unidirectional device
16. Temperature coefficient of resistance is negative for semiconductor
17. Emitter and collector of a transistor can't be interchanged
18. NOR and NAND are universal gates
19. Steel is preferred in making robots
20. In alpha decay, the unstable nucleus emits ${}^2_4\text{He}$ nucleus. Doesn't emit four separate nucleons
21. Two electric field lines never intersect
22. Path of a charged particle not a circle when its velocity is not perpendicular to magnetic field
23. Endoscope
24. Super conductors
25. EM waves are non mechanical
26. Nichrome is used as a heating element

VIII. METHODS / WAYS

1. Induced emf
2. Current sensitivity

ANSWER IN TWO LINES – TWO MARK QUESTIONS

1. Corona discharge
2. Electric polarisation
3. Q - factor
4. Fraunhofer lines
5. Doping
6. Constituent particles of neutron and proton

IX. DEFINITION

1. Electric field
2. Electrostatic potential
3. Electric flux
4. Electrostatic potential energy
5. Capacitance and unit
6. Current density
7. Electrical resistivity
8. Temperature coefficient of resistance
9. Magnetic flux
10. Dipole moment (1 & 3)
11. Average value of AC
12. RMS value of AC
13. Wavefront
14. Wavefront
15. Threshold frequency
16. Stopping potential
17. Excitation energy and potential
18. Ionisation energy and ionisation potential
19. Impact parameter
20. Atomic mass unit
21. Curie
22. Define activity (with unit)
23. Half life and mean life
24. Forbidden energy gap
25. Barrier potential
26. Surface barrier
27. Rectification
28. Skip distance
29. Skip area
30. Modulation
31. Dispersive power
32. Electric dipole
33. Lateral or transverse magnification
34. Optical path
35. Power of a lens`
36. Mass defect and binding energy

X. DIAGRAMS

1. NPN – CB
2. NPN – CE
3. NPN – CC
4. Half wave rectifier circuit and waveforms
5. Full wave rectifier circuit and waveforms
6. Energy level diagram of N-type semiconductor
7. Energy level diagram of P – type semiconductor
8. Block diagram of transmission and reception
9. Block diagram of oscillator
10. Circuit diagram of a transistor as switch / amplifier