

Unit-3

- 1) Working of nuclear detectors
- 2) ^{*}Shell Model & magic no's
- 3) ^{**}Gamow's theory of α -decay
- 4) ^{**}Geiger-muttal law
- 5) ^{**}Liquid-drop model
- 6) Semi-empirical mass formula
- 7) ^{*}G-M counter
- 8) ^{**} β -Spectrum
- 9) prop's of nucleus
- 10) ^{*}proportional counter
- 11) α -decay
- 12) B.E of deuteron
- 13) Nuclear detectors
- 14) n-p scattering
- 15) Neutrino hypothesis
- 16) Nuclear forces
- 17) Scintillation Counter

Unit-4

- 1) ^{****}Born-Haber cycle
- 2) ^{**}7 crystal systems
- 3) ^{**}Lattice energy of a crystal
- 4) ^{*}Miller indices
- 5) ^{**}Bravais lattices
- 6) ^{*}Laue's method
- 7) ^{*}Laue's spots
- 8) powder method & advantages
- 9) ^{*}Bragg's law
- 10) NaCl structure
- 11) Lattice energy of ionic mole
- 12) Characteristics of covalent bonding
- 13) calcⁿ of repulsive exponent
- 14) structure of diamond
- 15) " " ZnS
- 16) Types of bonding ✓
- 17) primitive unit cell.
- 18) Modeling

Sem - vPhysicsUnit - 1

- 1) ^{**} Origin of electronic spectra of molecules
- 2) ^{*} L-S and J-J coupling
- 3) ^{*} Stern-Gerlach experiment
- 4) ^{**} Quantum theory of Raman effect
- 5) ^{*} Applicaⁿs of Raman effect
- 6) ^{*} drawbacks of Bohr's theory
- 7) ^{*} P-P scattering (3rd out)
- 8) ^{**} vector atom model (long)
- 9) ^{*} Rotational Spectrum
- 10) ^{*} paschen-Back effect
- 11) ^{*} zeeman effect & applicⁿs
- 12) ^{*} Elementary theory of Raman effect
- 13) ^{*} ~~electro~~ postulates of quantum mechanics
- 14) ^{**} Rotational-vibrational spectra
- 15) ^{*} Selection rules & intensity rules
- 16) ^{*} Diff. Qua. No's associated with vector model
- 17) ^{*} Stark-effect
- 18) ^{*} pure rotational energy

Unit - 2

- 1) ^{*} Props of matter waves
- 2) ^{*} Work function & stopping potential.
- 3) ^{**} Compton's effect
- 4) ^{**} Schrodinger time dependent wave eqⁿ.
- 5) ^{*} photo-electric effect.
- 6) ^{*} physical significance of wave function.
- 7) ^{*} S.T $[x, p_y] = 0$
- 8) ^{*} phase & group velocities
- 9) ^{*} Eigen fun, Eigen value, exceⁿ-ption values
- 10) ^{*} Operator concept
- 11) ^{*} Expression for wavelength of matter waves
- 12) ^{*} Davison - Germer
- 13) ^{*} photo-electric eqⁿ
- 14) ^{*} Heisenberg uncertainty
- 15) ^{*} Schrodinger time independent
- 16) ^{*} dual nature of matter Waves
- 17) ^{*} Gamma x-ray microscope