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| **PERIOD** | **DATE**  **{Tentative}** | **TOPIC** | **UNIT**  **No** | **TEACHING**  **METHODOLOGY** | **REMARKS** | **CORRECTIVE**  **ACTION UPON**  **REVIEW** |
|  |  | **UNIT I - Interference** |  | **C.R Lecture** |  |  |
| 1 | 29/12/15 | Interference introduction | I | ,, |  |  |
|  |  | Principle of superposition of waves, coherence | I | ,, |  |  |
| 2 | 29/12/15 | Young’s double slit experiment | I | ,, |  |  |
|  |  | Intensity distribution | I | ,, |  |  |
| 3 | 31/12/15 | **Fringe width** | I | ,, |  |  |
| 4 | 31/12/15 | Interference in plane parallel films by reflection | I | ,, |  |  |
| 5 | 5/1/16 | Determination of wave length |  |  |  |  |
|  |  | Radius of curvature | I | ,, |  |  |
| 6 | 5/1/16 | Diffraction: introduction | I | ,, |  |  |
|  |  | Types of diffraction | I | ,, |  |  |
| 7 | 7/1/16 | Fraunhofer diffraction due to single slit |  |  |  |  |
|  |  | Intensity distribution | I | ,, |  |  |
| 8 | 7/1/16 | Differences between interference and diffraction | I | ,, |  |  |
| 9 | 12/1/16 | Laser: introduction | II | ,, |  |  |
|  |  | Characteristics of laser | II | ,, |  |  |
| 10 | 12/1/16 | Principle of laser | II | ,, |  |  |
|  |  | Absorption. Spontaneous emission, stimulated emission |  |  |  |  |
| 11 | 19/1/16 | **Einstein co-efficients** | II | ,, |  |  |
|  |  | Population invertion, optical resonator | II | ,, |  |  |
| 12 | 19/1/16 | Lasing action, Ruby laser | II | ,, |  |  |
| 13 | 21/1/16 | He-Ne laser | II | ,, |  |  |
| 14 | 21/1/16 | Applications of laser in various fields | II | ,, |  |  |
| 15 | 28/1/16 | Fiber optics: introduction, principle of optical fiber | II | ,, |  |  |
|  |  | Total internal reflection, conditions of light to propagate |  |  |  |  |
| 16 | 28/1/16 | Acceptance angle and numerical aperture | II | ,, |  |  |
|  |  | Optical fiber construction | II | ,, |  |  |
| 17 | 9/2/16 | Types of optical fibers | II |  |  |  |
|  |  | Step index and graded index fibers | II | ,, |  |  |
|  |  | Differences between step index and graded index fibers | II | ,, |  |  |
| 18 | 9/2/16 | Differences between single mode and multimode fibers |  |  |  |  |
| 19 | 11/2/16 | Advantages of optical fibers in communication | II | ,, |  |  |
| 20 | 11/2/16 | Crystal structure introduction, basic terms, lattice, basis | III | ,, |  |  |
| 21 | 16/2/16 | Crystal structure, coordination number, atomic radius, packing fraction | III | ,, |  |  |
|  |  | Free volume, lattice parameters | III | ,, |  |  |
|  |  | Unit cell, primitive cell |  |  |  |  |
| 22 | 16/2/16 | Crystal systems and Bravais lattices | III | ,, |  |  |
| 23 | 23/2/16 | Structure and packing fraction of S.C., B.C.C., | III | ,, |  |  |
| 24 | 23/2/16 | Packing fraction of F.C.C | III | ,, |  |  |
| 25 | 25/2/16 | X-Ray diffraction: crystal planes and crystal directions | III | ,, |  |  |
| 26 | 25/2/16 | Miller indices | III | ,, |  |  |
| 27 | 1/3/16 | Distance of separation between successive planes h k l |  |  |  |  |
| 28 | 1/3/16 | Diffraction of x-rays by crystal planes, Bragg’s law |  | ,, |  |  |
| 29 | 3/3/16 | Magnetic properties: introduction | IV | ,, |  |  |
|  |  | Basic terms: flux, flux density | “ |  |  |  |
| 30 | 3/3/16 | Intensity, magnetization, permeability, relative permeability | V |  |  |  |
|  |  | Susceptibility | “ |  |  |  |
| 31 | 8/3/16 | Relation between B,H and I,  RELATION BETWEEN RELATIVE PERMEABILITY AND SUSCEPTABILITY | “ |  |  |  |
| 32 | 8/3/16 | ORIGIN OF MAGNETIC MOMENT, BOHR MAGNETON | “ |  |  |  |
| 33 | 10/3/16 | Classification of dia, para, and ferro magenetic materials | “ |  |  |  |
| 34 | 10/3/16 | Domain theory of ferro magnetism | “ |  |  |  |
| 35 | 15/3/16 | Hysteresis curve | “ |  |  |  |
| 36 | 15/3/16 | Soft and hard magnetic materials | “ |  |  |  |
| 37 | 16/3/16 | Dielectric properties: introduction | “ |  |  |  |
| 38 | 17/3/16 | Electric fields, permittivity, polarization | “ |  |  |  |
| 39 | 17/3/16 | Displacement vector | “ |  |  |  |
| 40 | 22/3/16 | Permittivity and susceptibility | “ |  |  |  |
| 41 | 22/3/16 | Relation between D, E and P | “ |  |  |  |
| 42 | 29/3/16 | Relation between Eand x | “ |  |  |  |
| 43 | 29/3/16 | Electric polarization | “ |  |  |  |
| 44 | 31/3/16 | Ionic polarization | “ |  |  |  |
| 45 | 31/3/16 | Total polarizability, ferro, piezo electricity | “ |  |  |  |
| 46 | 5/4/16 | Free electron theory: introduction | V |  |  |  |
| 47 | 5/4/16 | Drift velocity, electrical conductivity | “ |  |  |  |
| 48 | 7/4/16 | Current density, mobility | “ |  |  |  |
| 49 | 7/4/16 | Relaxation time | “ |  |  |  |
| 50 | 12/4/16 | Quantum mechanics: introduction | “ |  |  |  |
| 51 | 12/4/16 | Wave, particle properties |  |  |  |  |
| 52 | 19/4/16 | Wave particle duality |  |  |  |  |
| 53 | 19/4/16 | De-Broglie hypothesis |  |  |  |  |
| 54 | 21/4/16 | G.P. Thomson experiment |  |  |  |  |
| 55 | 21/4/16 | Time independent wave equation |  |  |  |  |
| 56 | 26/4/16 | Physical significance of wave function |  |  |  |  |
| 57 | 26/4/16 | Particle in one dimensional box |  |  |  |  |