2013-2014 SEM –II EEE-A ENGINEERING PHYSICS LESSON PLAN

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| **PERIOD** | **DATE**  **{Tentative}** | **TOPIC** | **UNIT**  **No** | **TEACHING**  **METHODOLOGY** | **REMARKS** | **CORRECTIVE**  **ACTION UPON**  **REVIEW** |
|  |  | **UNIT I - Interference** |  |  |  |  |
| 1 | 3-3-14 | **INTRODUCTION** |  |  |  |  |
| 2 | 4-3-14 | Young’s Double Experiment | I | ,, |  |  |
| 3 | 5-3-14 | Thin Film Interference under Reflected System | I | ,, |  |  |
| 4 | 6-3-14 | Newton’s Rings under Reflected System | I | ,, |  |  |
| 5 |  | Newton’s Rings Continued…  Applications of Newton’s Rings | I | ,, |  |  |
|  |  | **UNIT I - Diffraction** |  |  |  |  |
| 6 | 7-3-14 | Introduction to Diffraction – Fresnel and Fraunhofer Diffraction | I | ,, |  |  |
| 7 | 10-3-14 | TYPES OF **- Diffraction** |  |  |  |  |
| 8 | 12-3-14 | Fraunhofer Diffraction at Single Slit | I | ,, |  |  |
| 9 | 13-3-14 | Fraunhofer Diffraction at Single Slit continued… Effect of Slit Width  Maximum Number of Orders | I | ,, |  |  |
| 10 | 14-3-14 | Difference Between the Interference and Diffraction | I | ,, |  |  |
|  |  | **UNIT II - Lasers** |  |  |  |  |
| 11 | 18-3-14 | Introduction | II | ,, |  |  |
| 12 | 19-3-14 | Characteristics of a Laser | II | ,, |  |  |
| 13 | 20-3-14 | PRINCIPLE OF LASER | II | ,, |  |  |
| 14 | 21-3-14 | Absorption, Spontaneous and Stimulated Emissions and  Einstein’s Coefficients | II | ,, |  |  |
| 15 | **21-3-14** | Einstein’s Coefficients continued… - MASER and LASER | II | ,, |  |  |
| 16 | 22-3-14 | Population Inversion in Three Level and Four Level Systems  Optical Feedback and Resonating Action | II | ,, |  |  |
| 17 | 24-3-14 | Ruby Laser | II | ,, |  |  |
| 18 | 25-3-14 | He-Ne Laser | II | ,, |  |  |
| 19 | 26-3-14 | Applications of Lasers | II | ,, |  |  |
|  |  | **UNIT II OPTICAL FIBER** | II | ,, |  |  |
| 20 | 27-3-14 | TIR | II | ,, |  |  |
| 21 | 28-3-14 | NA AND ACCEPTANCE ANGLE | II | ,, |  |  |
| 22 | 1-4-14 | STEP INDEX GRADE INDEX | II | ,, |  |  |
| 23 | 2-4-14 | SINGLE AND MULTI MODE | II | ,, |  |  |
| 24 | 3-4-14 | APPLICATIONS | II | ,, |  |  |
|  |  | **UNIT III – Crystal Structure** |  |  |  |  |
| 25 | 4-4-14 | Introduction to Crystal Structure and Basic Terms – Unit Cell, Primitive Cell, Lattice, Basis, Crystal Structure | III | ,, |  |  |
| 26 | 7-4-14 | Lattice Parameters [Crystallographic Axes, Interfacial Angles and Primitives] Atomic Radius, Coordination Number and Packing Fraction | III | ,, |  |  |
| 27 | 8-4-14 | Bravais Lattices | III | ,, |  |  |
| 28 | 9-4-14 | Illustration and Packing Fraction of Simple Cubic Structure Illustration and Packing Fraction of Body Centered Cubic Structure | III | ,, |  |  |
| 29 | 10-4-14 | Illustration and Packing Fraction of Face Centered Cubic Structure | III | ,, |  |  |
|  |  | **UNIT III – X-Ray Diffraction** |  |  |  |  |
| 30 | 11-4-14 | Crystal Planes, Directions and Miller Indices | III | ,, |  |  |
| 31 | 19-5-14 | Inter Planar Spacing | III | ,, |  |  |
| 32 | 20-5-14 | Diffraction of X-Rays by Crystal Planes | III | ,, |  |  |
| 33 | 21-5-14 | Bragg’s Law | III | ,, |  |  |
|  |  | **UNIT IV – Magnetic Properties** |  |  |  |  |
| 34 | 22-5-14 | Basic Terms in Magnetism – Magnetic Flux (φ),  Magntic Flux Density/Magnetic Field Induction/ Magnetic Induction (B)  Magnetic Filed Strength/Magnetizing Force/Magnetic Field Intensity/Magnetic Intensity/Intensity of Magnetizing Field (H)  Intensity of Magnetization (I), Permeability (µ) and Susceptibility | IV | ,, |  |  |
| 35 | 23-5-14 | Origin of Magnetic Moment – Bohr Magnetron | IV | ,, |  |  |
| 36 | 26-5-14 | Dia, Para and Ferromagnetism – | IV | ,, |  |  |
| 37 | 27-5-14 | Weiss and Domain Theory |  |  |  |  |
| 38 | 28-5-14 | Hysteresis – Soft and Hard Magnetic Materials | IV | ,, |  |  |
|  |  | **UNIT IV – Dielectric Propeties** |  |  |  |  |
| 39 | 29-5-14 | Introduction to Dielectrics and Basic Terms | IV | ,, |  |  |
| 40 | 30-5-14 | Relation between D, E & P and  Relation between Permittivity and Susceptibility | IV | ,, |  |  |
| 41 | 2-6-14 | Electronic Polarization | IV | ,, |  |  |
| 42 | 3-6-14 | Ionic Polarization | IV | ,, |  |  |
| 43 | 4-6-14 | Total Polarization | IV | ,, |  |  |
| 44 | 5-6-14 | Ferroelectricity and Piezoelectricity | IV | ,, |  |  |
|  |  | **UNIT V – Free Electron Theory** |  |  |  |  |
| 45 | 6-6-14 | Introduction | V | ,, |  |  |
| 46 | 11-6-14 | Classical Free Electron Theory | V | ,, |  |  |
| 47 | 13-6-14 | Mean Free Path, Relaxation Time and Drift Velocity | V | ,, |  |  |
| 48 | 14-6-14 | Relation between various Terms | V | ,, |  |  |
| 49 | 18-6-14 | MOBILITY | V | ,, |  |  |
| 50 | 21-6-14 | CONDUCTIVITY | V | ,, |  |  |
|  |  | **UNIT V – Preliminary Quantum Mechanics** |  |  |  |  |
| 51 | 26-6-14 | Introduction | V | ,, |  |  |
| 52 | 1-7-14 | WAVE,PARTICLE | V | ,, |  |  |
| 53 | 3-7-14 | De-Brogile’s Wave Length – Physical Significance and Properties of Matter WAVES | V | ,, |  |  |
| 54 | 7-7-14 | Experimental Verification of De-Brogile Hypothesis – G.P. Thompson Experiment | V | ,, |  |  |
| 55 | 9-7-14 | Schrodinger’s Time Independent Equation | V | ,, |  |  |
| 56 | 11-7-14 | Schrodinger’s Time Independent Equation | V | ,, |  |  |
| 57 | 14-7-14 | Physical Significance of Wave Function – The Waves of Probability, Heisenberg’s Uncertainty Principle and its Applications | V | ,, |  |  |
| 58 | 16-7-14 | Particle in One Dimensional Potential Box – The Relevant Plots | V | ,, |  |  |
| 59 | 17-7-14 | Problems on Preliminary Quantum mechanics and Revision  Guidelines in Exam Point of View | V | ,, |  |  |
| 60 | 18-7-14 | Problems on Preliminary Quantum mechanics and Revision  Guidelines in Exam Point of View | V | ,, |  |  |
| 61 | 22-7-14 | Problems on Preliminary Quantum mechanics and Revision  Guidelines in Exam Point of View | V | ,, |  |  |