Ist B. Tech. 2017-2018 SEM-I ECE-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 | 11-08-2017 | INTRODUCTION | I | ,, |  |  |
| 2 | 12-08-2017 | **PRINCIPLE OF SUPERPOSITION** | I | ,, |  |  |
| 3 | 14-08-2017 | CONDITIONS | I | ,, |  |  |
| 4 | 14-08-2017 | **Interference and coherence** | I | ,, |  |  |
| 5 | 17-08-2017 | Thin Film Interference under Reflected System | I | ,, |  |  |
| 6 | 18-08-2017 | Cooler formation on Thin Film Interference under Reflected System | I | ,, |  |  |
| 7 | 19-08-2017 | Newton’s Rings under Reflected System | I | ,, |  |  |
| 8 | 21-08-2017 | Determination of R and WAVELENGTH | I | ,, |  |  |
| 9 | 21-08-2017 | APPLICATIONS | I |  |  |  |
|  |  | **UNIT I – Diffraction** | I | ,, |  |  |
| 10 | 24-08-2017 | INTRODUCTION |  |  |  |  |
| 11 | 25-08-2017 | DIFF BETWEEN **Interference AND Diffraction** | I | ,, |  |  |
| 12 | 26-08-2017 | Fraunhofer Diffraction at Single Slit | I | ,, |  |  |
| 13 | 28-08-2017 | Fraunhofer Diffraction at Single Slit continued… Effect of Slit Width  Maximum Number of Orders  Difference Between the Interference and Diffraction | I | ,, |  |  |
| 14 | 28-08-2017 | SOLVING PROBLEMS | I | ,, |  |  |
|  |  | **UNIT II - Lasers** |  | Lectures, PPT Demonstration  Animations,  Group Discussion |  |  |
| 15 | 31-08-2017 | Introduction to Lasers – | II | ,, |  |  |
| 16 | 1-9-17 | Characteristics of a Laser | II | ,, |  |  |
| 17 | 2-09-2017 | Absorption, Spontaneous and Stimulated Emissions and  Einstein’s Coefficients | II | ,, |  |  |
| 18 | 4-09-2017 | Population Inversion in Three Level and Four Level Systems | II | ,, |  |  |
| 19 | 4-09-2017 | LASNG Action | II | ,, |  |  |
| 20 | 7-09-2017 | Ruby Laser | II | ,, |  |  |
| 21 | 8-09-2017 | He-Ne Laser | II | ,, |  |  |
| 22 | 11-9-17 | Applications of Lasers | II | ,, |  |  |
|  |  | **UNIT II – Fiber Optics** |  | Lectures, PPT Demonstration  Animations,  Group Discussion |  |  |
| 23 | 11-09-2017 | Introduction to Fiber Optics | II | ,, |  |  |
| 24 | 15-09-2017 | Total Internal Reflection  Principle of Optical Fiber | II | ,, |  |  |
| 25 | 16-09-2017 | BASICS OF OFC | II | ,, |  |  |
| 26 | 18-9-17 | Numerical Aperture | II | ,, |  |  |
| 27 | 18-9-17 | Acceptance Angle, Acceptance Cone | II | ,, |  |  |
| 28 | 21-09-2017 | Types of Optical Fibers and Refractive Index Profiles, Step Index and Graded Index Fibers | II | ,, |  |  |
| 29 | 22-09-2017 | Single Mode and Multimode Fibers | II | ,, |  |  |
| 30 | 23-09-2017 | APPLICATIONS  Advantages of Optical Fiber Communication | II | ,, |  |  |
|  |  | **UNIT III**  **Preliminary Quantum Mechanics** |  | Lectures, PPT Demonstration  Animations,  Group Discussion |  |  |
| 31 | 25-09-2017 | Introduction | III | ,, |  |  |
| 32 | 25-9-17 | Derivation of Classical Wave Equation  and Its Physical Significance | III | ,, |  |  |
| 33 | 5-10-2017 | De-Brogile’s Wave Length | III | ,, |  |  |
| 34 | 6-10-17 | De-Brogile’s Wave Length – Physical Significance and Properties of Matter Waves | III | ,, |  |  |
| 35 | 7-10-17 | Heisenberg’s Uncertainty Principle and its Applications | III | ,, |  |  |
| 36 | 9-10-17 | Heisenberg’s Uncertainty Principle | III | ,, |  |  |
| 37 | 13-10-17 | Appications of Heisenberg’s Uncertainty Principle Contd…… | III | ,, |  |  |
| 38 | 16-10-17 | Schrodinger’s Time Independent Equation | III | ,, |  |  |
| 39 | 19-10-17 | Particle in One Dimensional Potential Box – The Relevant Plots | III | ,, |  |  |
| 40 | 20-10-17 | Maxwell Boltzmann, Bose Einstein and Fermi Dirac Statistics | III | ,, |  |  |
| 41 | 23-10-2017 |  | III | ,, |  |  |
|  |  | **UNIT IV – Magnetic Properties** |  | Lectures, PPT Demonstration  Animations,  Group Discussion |  |  |
| 42 | 23-10-2017 | Introduction | IV | ,, |  |  |
| 43 | 26-10-17 | 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 | ,, |  |  |
| 44 | 27-10-2017 | Basic Terms Continued…, Relation between B, H & I | IV | ,, |  |  |
| 45 | 30-10-2017 | Origin of Magnetic Moment – Bohr Magnetron | IV | ,, |  |  |
| 46 | 30-10-2017 | ORBITAL M.M | IV | ,, |  |  |
| 47 | 2-11-2017 | SPIN M.M | IV | ,, |  |  |
| 48 | 2-11-2017 | Dia, Para and Ferromagnetism | IV | ,, |  |  |
| 49 | 5-11-17 | Domain Theory of Ferromagnetism | IV | ,, |  |  |
| 50 | 6-11-17 | Hysteresis Soft and Hard Magnetic Materials | IV | ,, |  |  |
|  |  | **UNIT V – Dielectric Propeties** |  | Lectures, PPT Demonstration  Animations,  Group Discussion |  |  |
| 51 | 9-11-2017 | Introduction to Dielectrics and Basic Terms | V | ,, |  |  |
| 52 | 9-11-2017 | Basic Terms Continued…  Relation between D, E & P and  Relation between Permittivity and Susceptibility | V | ,, |  |  |
| 53 | 12-11-2017 | Polarization , Polarizability | V | ,, |  |  |
| 54 | 13-11-2017 | Electronic Polarization | V | ,, |  |  |
| 55 | 16-11-2017 | Ionic Polarization | V | ,, |  |  |
| 56 | 19-11-2017 | Orientational Polarization | V | ,, |  |  |
| 57 | 20-11-2017 | Dielectric Loss and Dielectric Breakdown  … | V | ,, |  |  |
| 58 | 27-11-2017 | Total Polarizability and Frequency Dependence of Polarizability | V | ,, |  |  |
| 59 | 30-11-2017 | Ferroelectricity - Spontaneous Polarization in Barium Titanate | V | ,, |  |  |
| 60 | 30-11-2017 | Piezoelectricity and applications | V | ,, |  |  |
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