| **LESSON PLAN** | | | | |
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| **Faculty** |  | | : Mr. Naveen Sharma | |
| **Discipline** | | | : ELECTRICAL ENGINEERING | |
| **Semester** |  | | : 4th | |
| **Subject** |  | | : ECEE | |
| **Duration** |  | | : WEEKS(from 20 January 2025 to 02 May 2025) | |
| **Work Load (Lecture) per week (in hours)** | | | :Theory- 03; Practical:02 | |
| **Week** |  | | **Theory** |  |
| **Lecture Day** | | **Topic** |  |
| **1st** | **1st** | | Introduction to the subject and the marks distribution | Introduction to the subject and the marks distribution |
| **2nd** | | Essentials of Estimation and Costing |
| **3rd** | | 1.1 Introduction :Purpose of estimating and costing, proforma for making estimates |
| **2nd** | **1st** | | preparation of materials schedule, costing, price list, net price list, market survey, overhead charges, labour charges, electrical point method and fixed percentage method, contingency, profit | 1. Prepare a tender notice for purchasing a transformer of 200 KVA for commercial installation. |
| **2nd** | | 1.2 Tenders and Quotations-Type of tender, tender notice, preparation of tender document, and method of opening of tender, Quotation-quotation format, comparison between tender and quotation, Comparative statement, format comparative statement. Earnest money deposit (EMD), purchase system, orders for supply, payment of bills |
| **3rd** | | Test of Chapter No. 01 |
| **3rd** | **1st** | | Domestic Installation 2.1 Wiring and accessories: Introduction, types of wiring: Cleat, batten, casing capping and conduit wiring, | 2. Prepare a quotation for purchasing different electrical material required. |
| **2nd** | | comparison of different wiring systems, selection and design of wiring schemes. Selection of wires and cables, wiring accessories and use of protective devices i.e. MCB, ELCB etc. Use of wire-gauge and tables (to be prepared/arranged). |
| **3rd** | | 2.2 Domestic installations: standard practice as per IS and IE rules |
| **4th** | **1st** | | Planning of circuits, sub-circuits and position of different accessories, electrical layout, preparing estimates including cost as per schedule rate pattern and actual market rate (single story and multi- story buildings having similar electrical load). | 3. Prepare a comparative statement for above material. Prepare purchase order for the same. |
| **2nd** | | Test of Chapter No. 02 |
| **3rd** | | Industrial Installation 3.1 Industrial installations: relevant IE rules and IS standard practices, planning, designing and estimation of installation for single phase motors of different ratings, |
| **5th** | **1st** | | electrical circuit diagram, starters, preparation of list of materials, estimating and costing exercises on workshop with singe-phase, 3-phase motor load and the light load (3-phase supply system). | 4. Prepare an estimate for a Two room residential building as per given plan. |
| **2nd** | | Continued |
| **3rd** | | Assignment no. 01 |
| **6th**  **6th** | **1st** | | 3.2 Design electrical installation scheme of factory/ small industrial unit, Preparation of material schedule and detailed estimation. | Quiz No. 01 and Viva Voce |
| **2nd** | | Continued |
| **3rd** | | Test of Chapter No. 3 |
| **7th** | **1st** | | Street Lighting Installation 4.1 Classification of outdoor installations streetlight/ public lighting installation, | 5. Design electrical installation scheme for any one factory / small industrial unit. Draw detailed wiring diagram. Prepare material schedule and detailed estimate. Prepare report and draw sheet |
| **2nd** | | Continued |
| **3rd** | | Street light pole structures. Selection of equipments, sources used in street light installations. Cables, recommended types and sizes of cable. Control of street light installation. |
| **8th** | **1st** | Continued | | Continued |
| **2nd** | 4.2 Design, estimation and costing of streetlight, Preparation of tenders. | |
| **3rd** | Continued | |
| **9th** | **1st** | Continued | | 6. Estimate with a proposal of the electrical Installation of streetlight scheme for small premises after designing. |
| **2nd** | Test of Chapter No. 4.1 | |
| **3rd** | Test of Chapter No. 4.2 | |
| **10th** | **1st** | Distribution Line and LT Substation | | 7. Prepare an estimate for service connection for residential building having connected load kW. |
| **2nd** | Continued | |
| **3rd** | Transmission and distribution lines (overhead and underground) | |
| **11th** | **1st** | Continued | | Quiz No. 02 and Viva Voce |
| **2nd** | Assignment no. 02 | |
| **3rd** | planning and designing of lines with different fixtures, earthing etc. based on unit cost calculations | |
| **12th** | **1st** | Service line connections estimate for domestic and industrial loads (overhead and underground connections) from pole to energy meter. | | 8. Estimate with a proposal of the L.T. line installation. Prepare report and draw sheet. |
| **2nd** | Substation: Types of substations, substation schemes and components, | |
| **3rd** | estimate of 11/0.4 kV pole mounted substation up to 200 kVA rating, earthing of substations. | |
| **13th** | **1st** | Test of Chapter no. 05 | | 9. Estimate with a proposal of the 500 KVA, 11/0.433 KV outdoor substation and prepare a report.  10. Visit a nearby substation and list the components with diagram |
| **2nd** | Assignment no. 03 | |
| **3rd** | Revision test of Chapter No. 01 | |
| **14th** | **1st** | Revision test of Chapter No. 02 | | Internal assessment and Viva Voce |
| **2nd** | Revision test of Chapter No. 03 | |
| **3rd** | Revision test of Chapter No. 4 | |
| **15th** | **1st** | Revision test of Chapter No. 5 | | Internal assessment and Viva Voce |
| **2nd** |  | |
| **3rd** |  | |