

## 2.8 30284 ELECTRICAL ESTIMATING & COSTING

### UNIT-1 WIRING MATERIALS AND ACCESSORIES:

- 1.1 Different electrical symbols
- 1.2 Brief description, general specification and approximate cost of
  - 1.2.1 Different types of wire and cable
  - 1.2.2 Switches, socket outlets, ceiling roses, lamp holders, plugs
  - 1.2.3 Conduits and its accessories
  - 1.2.4 Distribution boards and boxes
  - 1.2.5 Fuses, MCB, isolators, E.L.C.B. and energy meters
  - 1.2.6 Incandescent, Fluorescent and discharge lamps
  - 1.2.7 D.C. and A.C. motors and starters
  - 1.2.8 Diesel generating set

### UNIT-2 GENERAL PRINCIPLE OF ESTIMATING AND COSTING:

- 2.1 Purpose and essential of estimating and costing
- 2.2 Preparation of list of materials
- 2.3 Market survey, price list and net prices
- 2.4 Calculation of material and labour cost, contingencies, supervision, overhead charges, profit and total cost.
- 2.5 Purchase process: quotations, comparative statement, purchase order, tender order, and security money

### UNIT-3 EARTHING:

- 3.1 Need of earthing
- 3.2 Pipe and plate earthing
- 3.3 Schedule of material and accessories, costing and estimates.

### UNIT-4 SERVICE CONNECTION:

- 4.1 General rules and regulation
- 4.2 Overhead and underground service connection
- 4.3 Schedule of material and accessories for single phase and three-phase service connection
- 4.4 Costing of material and work

### UNIT-5 PLAN ESTIMATION OF 1- $\Phi$ AND 3- $\Phi$ ELECTRICAL LOAD:

- 5.1 Installation plan
- 5.2 Single line-wiring diagram
- 5.3 Calculation of conductor size
- 5.4 Design for main switch boards and distribution board
- 5.5 Calculation of number of circuits
- 5.6 List of material required for following and preparation of estimate, calculation of material cost using PWD B.S.R.
  - 5.6.1 Single story building

- 5.6.2 Multistory building
- 5.6.3 Small workshop
- 5.6.4 Agricultural pump
- 5.6.5 Floor mill

**Reference Books:**

1. Electrical Estimating and Costing TTTI Madras
2. Electrical Estimating and Costing M.F. Buereslui
3. Electrical Estimating and Costing Y.P. Jaggi
4. Electrical Estimating and Costing Raina, Bhattacharya.
5. Electrical Drawing and Estimating Surjit Singh

