# Unit - I

### Chapter 1: Electrical Wiring Diagram/(s) 1-1 to 1-37

### Syllabus

- 1.1 Electrical symbols used in electrical diagrams as per Indian standard, multiline and single line representation of conductors.
- 1.2 Electrical diagrams, their Classification. Definition of wiring and circuit (Schematic) diagram according to IS: 2042(Part-I)-1962.
- 1.3 Methods of representation for the wiring diagram- multiline and single line representation, conversion of multi line representation into single line and vice versa.
- 1.4 Fundamental principles for electrical installations, Safety in electrical work, permit to electrical work, safety instruction and safety practices
- 1.5 Scope and features of National Electrical Code 2011 (NEC 2011), Types of electrical installation- Non industrial and industrial, Standard value of voltages and their limits.

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# Chapter 2: Domestic and Commercial Installations

2-1 to 2-42

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- 2.2 General requirements and inspection of electrical installation to IS: 732 1982.
- 2.3 Design and drawing, estimation and costing of a residential installation having maximum 5 KW load.
- 2.4 Design consideration of electrical installation in commercial buildings. Design electrical installation scheme of commercial complex such as drawing halls and auditorium.
- 2.5 Residential building Service Connection- types Underground and overhead. Calculation of Material required for service connection.

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3-1 to 3-20

# Syllabus

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- 3.2 Drawing of wiring diagram and single line diagram for single phase and three phase motors.
- 3.3 Design consideration in industrial installations.
- 3.4 Design electrical installation scheme and preparation of small industrial unit having total aggregate three -phase load of 30 KW, agricultural pump and flourmill.
- 3.5 Erection, Inspection and testing of installation as per Part 1 section 13 of NEC 2011.

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Unit - VI

#### **Chapter 6: Contracting** 6-1 to 6-29

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- 6.2 Meaning and purpose of-Rough estimate, detailed estimate, supplementary estimate, annual maintenance estimate and revised estimate, Factors to be considered while preparation of detailed estimate and economical execution of work.
- 6.3 Concepts of contracts, types of contracts, contractor, role of contractor, qualities of good contractor
- 6.4 Type of tender, tender notice, preparation of tender document, and method of opening of tender; e-tendering.
- 6.5 Quotation, quotation format, comparison between tender and quotation. Comparative statement format of comparative statement. Order format, placing of purchasing order.
- 6.6 Principles of execution of works, planning, organizing and

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