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UNIT I

Syllabus : Basic illumination, Terminology, Laws of illumination. Polar curves, polar curve : its meaning and applications for designing the lamp. Concept of Photometry. Measurement of illumination. Lighting calculation methods : a. Watt / m2 method b. Lumens or light flux method c. Point to point method. Standards for illumination.

UNIT II

Syllabus : Incandescent lamp. ARC lamps – AC and DC arc lamps. Fluorescent lamp. Types of other lamps : Mercury vapour lamp, HPMV lamp, Mercury iodide lamp, Sodium vapour lamp, LED, CFL, Halogen Lamps, Ultraviolet Lamps, Neon Lamps, Neon Sign Tubes, Metal halides, Lasers. HID and Arc lamps. Selection Criteria for lamps

UNIT III

Syllabus : Purpose of lighting control and Dimmer, Resistance type Salt water Dimmer. Working principle and operation of Dimmer. Transformer and their types, Dimmer Transformer, Auto transformer dimmer, Two winding transformer dimmer. Electronic Dimmer : working principle and operation (a) Thyrister operated dimmer (b) Triac operated dimmer. Control of Enhance Lighting. Methods used for light control. Control circuits for lamps : single lamp controlled by single switch, two switches. Single Lamp control by two point method, three point method and four point method. Control circuits for lamps (refer) : ON/OFF control

UNIT IV

Syllabus : Standard for various locations of Interior Illumination. Design considerations for Interior location of residences (1/2/3/4 BHK), Commercial, Industrial premises. Illumination scheme for different Interior locations of Residential, Commercial, industrial unit.

UNIT V

Syllabus : Factory Lighting. Street Lighting (Latest Technology), Flood Lighting. Railway Lighting. Lighting for advertisement / Hoardings/sports lighting, Agriculture and Horticulture lighting, Health Care. Centers / Hospitals, Decorating Purposes, Stage Lighting, Aquariums and Shipyards. Special purpose lamps used in photography video films.

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