

**DEMAND****PAVIATH INTEGRATED SOLUTION****CIVIL ENGG****CIVIL POLY****BUILDING SERVICES****Paviath ONLINE****◆ CIVIL POLY ◆ III YEAR ELECTIVE ◆ CODE CEM63.4****OBJECTIVES:**

- IDENTIFY THE PRINCIPLES OF ELECTRICAL SERVICES IN BUILDINGS
- DESCRIBE ELECTRICAL LAYOUT
- EXPLAIN MECHANICAL SERVICES
- IDENTIFY FIRE PROTECTION IN BUILDING
- DESCRIBE ACOUSTICS AND SOUND INSTALLATIONS
- EXPLAIN THE TYPES OF MAINTENANCE WORK IN BUILDING
- DESCRIBE DEFECTS AND REPAIR WORKS IN BUILDING

1.1 ELECTRICAL SERVICES

CONVENTIONAL SYMBOLS FOR ELECTRICAL INSTALLATIONS – MAIN – SUB MAIN – WIRING ACCESSORIES – WIRE, CABLE, SWITCHES, WALL PLUGS, FUSES AND CUTOUPS – H.R.C TYPE, ROUND TYPE, CARTRIDGE TYPE – DISTRIBUTION BOXES, CIRCUIT BREAKER, JUNCTION BOXES – 2PIN AND 3PIN SOCKETS, LAMP HOLDER, CEILING ROSES, OVER SWITCHES – VARIOUS SYSTEMS OF WIRING – WOODEN CASING WIRING, CLEAT WIRING, CTS WIRING, CONDUIT WIRING – INSULATION – EARTHING – ELECTRICAL METERS – USE OF GENERATORS, INVERTERS, EMERGENCY LAMPS.

1.2 ELECTRICAL LAYOUT

PLANNING OF ELECTRICAL INSTALLATION AND DISTRIBUTION – PREPARATION OF ELECTRICAL LAYOUT FOR A SMALL RESIDENCE, SMALL WORKSHOP, SHOWROOM, SCHOOL BUILDING ETC – ESTIMATION OF LOAD.

2.1 MECHANICAL SERVICES

LIFTS – DEFINITION – LOCATION – SIZES – COMPONENT PARTS – LIFT WELL, TRAVEL PIT, HOIST WAY, MACHINE, BUFFER, DOOR LOCKS – SUSPENDED DROPE, LIFT CAR, LANDING DOOR, CALL PUSH – DIFFERENT TYPES OF ELEVATORS – FREIGHT ELEVATORS, PASSENGERS ELEVATORS, HOSPITAL ELEVATORS – DUMB WAITERS AND VERTICAL CONVEYORS – ESCALATORS – LOCATIONS AND FUNCTIONS – ADVANTAGES OF ESCALATORS.

2.2 AIR CONDITIONING

DEFINITION – PURPOSE – PRINCIPLES – TEMPERATURE CONTROL, AIR VELOCITY CONTROL, HUMIDITY CONTROL – AIR CONDITIONING SYSTEMS – COMPONENT PARTS – AIR PUMPS, AIR DELIVERY SYSTEM, AIR DISTRIBUTION SYSTEM – CLEANERS – FILTERS, SPRAY WASHERS, ELECTRIC PRECIPITATORS – TYPES OF AIR CONDITIONERS – CENTRAL TYPE – WINDOW TYPE – SPLIT UNIT.

3.1 LIGHTING

NATURAL AND ARTIFICIAL LIGHTING – REQUIREMENTS OF GOOD LIGHTING – DAYLIGHT PENETRATION – AIMS OF GOOD LIGHTING – GENERAL PRINCIPLES OF OPENING STATE FOR GOOD LIGHTING – REFLECTION FACTORS – ILLUMINATION – UNITS OF MEASUREMENT – LUX, CANDELA, LUMINOUS FLUX – ORIENTATION OF BUILDINGS – EXTERNAL REFLECTED COMPONENT – INTERNAL REFLECTED COMPONENT – NECESSITY OF ARTIFICIAL LIGHTING – ARRANGEMENT OF LUMINAIRES – DISTRIBUTION OF ILLUMINATION – UTILIZATION FACTOR – TEMPERATURE RISE DUE TO ARTIFICIAL LIGHTING – REMEDIAL MEASURES.

3.2 VENTILATION

DEFINITION – NECESSITY – TYPES – NATURAL / MECHANICAL VENTILATION – WIND EFFECT – FACTORS TO BE CONSIDERED IN THE DESIGN OF VENTILATION – RESPIRATION, VITATION OF AIR, AIR CHANGES, HEAT BALANCE OF BODY – GENERAL RULES FOR NATURAL VENTILATION – ADVANTAGES AND DISADVANTAGES OF MECHANICAL VENTILATION – METHODS OF MECHANICAL VENTILATION – COMBINED SYSTEMS

4.1 FIRE PROTECTION

CAUSES AND EFFECTS OF FIRE – PRE CAUTIONARY MEASURES – FACTORS TO BE CONSIDERED FOR LIMITING FIRE SPREAD AREA – CHARACTERISTICS OF FIRE RESISTING MATERIALS – GENERAL REQUIREMENTS FOR FIRE RESISTING BUILDINGS – FIRE PROTECTION SYSTEMS – FIRE EXITS – GENERAL REQUIREMENTS AS PER NBC 2005 – MAXIMUM TRAVEL DISTANCE – HORIZONTAL EXIT, ROOF EXIT / FIRE LIFTS, EXTERNAL STAIRS – FIRE FIGHTING INSTALLATIONS.

4.2 ACOUSTICS AND SOUND INSULATIONS**5.1 MAINTENANCE OF BUILDINGS**

INTRODUCTION – MAINTENANCE WORKS IN BUILDINGS – PAINTING – FLOORING – SINKING OF FLOORS – DOORS AND WINDOWS – TERMITE ATTACK – SANITARY APPLIANCES – WATER SUPPLY AND DRAINAGE SYSTEM – LEAKAGES – CRACKS IN CONCRETE – TYPES – CRACKS IN WALLS – TYPES – COMMON METHODS OF CRACK REPAIR – PREVENTIVE MAINTENANCE – CORROSION OF STEEL ELEMENTS – SPECIAL PRECAUTIONS FOR REPAIRS OF BUILDING

5.2 DEFECTS AND REPAIR WORKS IN BUILDINGS**TEXT BOOK:**

1. NATIONAL BUILDING CODE OF INDIA – 2005, BUREAU OF INDIAN STANDARDS, NEW DELHI

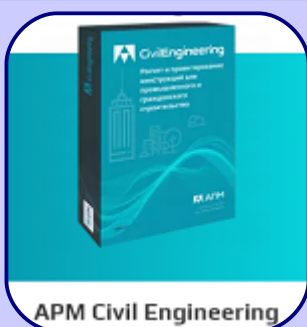
2. BUILDING CONSTRUCTION, P.C. VARGHESE, PHI LEARNING PVT. LTD., NEW DELHI

REFERENCE BOOK:

1. BUILDING CONSTRUCTION, DR. B.C. PUNMIA, LAXMI PUBLICATIONS (P) LTD, NEW DELHI

2. A TEXT BOOK ON BUILDING SERVICES, R.UDYAKUMAR, ESWAR PRESS, CHENNAI

3. BUILDING REPAIR AND MAINTENANCE MANAGEMENT, P.S. GAHLOT, CBS PUBLISHERS & DISTRIBUTORS (P) LTD, MAINTENANCE OF BUILDINGS, A.C. PANCHDHARI.

**STC APM**

SYLLABUS COACHING
TRAINING – 2/UNIT TRAINING
SELF – 4/UNIT ASSIGNMENT
PRESENTATION – 2/UNIT
SHOWTIME – 2/UNIT

MATHS ILLUSTRATION – GEOMETRY EXPRESSIONS**ASCON RENG**

SYLLABUS PERIOD
TRAINING – 2/2 HRS/UNIT
REMOTE – 2/2 HRS/UNIT
DURATION – SEMESTER
ONLINE/REMOTE ACCESS

MECHANICAL EXPRESSIONS – ANALYTIX CAMS**ARCADIA BIM**

FEATURES
TRAINING BY IND. PROFESSIONAL
INDUSTRY APPLICATION
TRAINER OPPORTUNITY
CERTIFICATION