

EASWARI ENGINEERING COLLEGE

(Autonomous)

Department of Civil Engineering

Industry supported course

Name of the courses:

Building Services Engineering (MEP)

Module 1 - Plumbing

Module 2 - Firefighting Systems

Module 3 - HVAC and Electrical Systems

Module 1 - Building Services Engineering - Plumbing

15Hours

Course Outcomes:

- To design the water supply and sanitary system for domestic, Public and commercial buildings
- To design the storm water system for domestic, Public and commercial buildings
- To prepare the technical specifications and bill of quantities for domestic, Public and commercial buildings

Introduction – glossary of terms – classification of plumbing system – codes and standards Fixtures and fittings - water supply system – water demand – water storage calculations – underground sump and overhead tank capacity calculations – pump design calculations – design procedure for sizing of internal water supply system – external water supply – sizing calculations (hot and cold water) – scheme layout Sanitary system requirements – types of stack system – sizing calculations for sanitary system – storm water design calculations – rain water harvesting pit calculations – materials used for water supply, sanitary and storm water system – Case study including bill of quantities and costing.

Module 2 - Building Services Engineering - Fire Fighting System

15Hours

Course Outcomes:

- To calculate the water storage capacity and pump design for High-rise, domestic, Public and commercial buildings
- To design the firefighting system for the buildings as per National Building Code (NBC)
- To prepare the technical specifications and bill of quantities for building services engineering – Firefighting

Introduction – glossary of terms – classification of firefighting system – codes and standards Requirements of firefighting system as per NBC for different buildings – fire protection system – fire extinguisher – hose reel – dry risers –

wet risers – down comer – yard hydrant Fire water storage calculations for underground sump and overhead tank as per code – pump design – sprinkler system - design procedure for sizing of sprinkler system - schematic layout preparation Introduction to fire alarm and detection, water curtain system – materials used for firefighting system – Case study including bill of quantities and costing

Module 3 - Building Services Engineering - HVAC & Electrical System **15Hours**

Course Outcomes:

- To design the Air Conditioning and ventilation units for High-rise, domestic, Public and commercial buildings
- To select the electrical system equipment from the single line diagram and load calculations for High-rise, domestic, Public and commercial buildings
- To prepare the technical specifications and bill of quantities for building services engineering – HVAC & Electrical System

Introduction – glossary of terms – classification of HVAC system – codes and standards Basic components of Air conditioning and refrigeration machines and its functions – types of AC systems (water cooled, air cooled, water-air cooled) – study of psychometric charts – dry bulb temperature – wet bulb temperature – dew point – relative humidity – Heat load estimation – equipment selection – AHU equipment and layout – chillers and types – pump selection – toilet ventilation – fan selection - materials used for AC system – case study including bill of quantities and costing

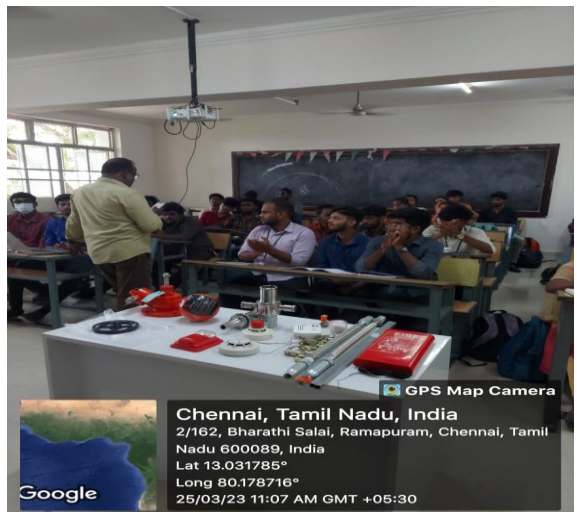
Introduction – glossary of terms – classification of HVAC system – codes and standards – symbols - importance of coordination pertaining to electrical with other system – Single line diagram (SLD) for residential building – Light and power sub circuits – circuit protection – Electrical load calculations – selection of MCBs and types – selection of equipment - case study including bill of quantities and costing

List of experts / consultants

S. No.	Title	Name	Designation	Company Name	Year of Experience
1	Dr	S.VIRAPAN	Chairman and Managing Director	Sanvir Associates Pvt. Ltd.	32 Years
2	Mr	DURAI SINGAM	General Manager (FPS and Plumbing)	SPR Constructions	16 Years
3	Mr	ARUN.K.S	DGM (Electrical)	Chennai Metro Rail Limited	16 Years
4	Mr	D.BALAJI	Director (HVAC)	Consultant	36 Years
5	Mr	D SANTHYANARAYANAN	Senior Manager (HVAC)	ABS Fujitsu General Pvt. Ltd.	17 Years



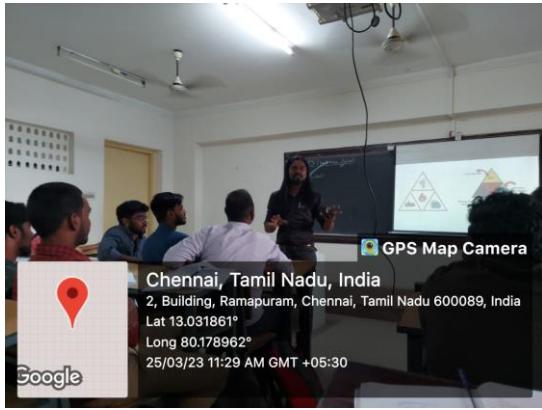
As per the Reg.2019, conducted Industry Supported Course titled “Building Services Engineering” (Module I, II & III) for III Year Civil Engg. Students of Batch (2019-23) with the support of industrial experts and EISC-EEC during the month of October – December, 2021



Chennai, Tamil Nadu, India
 2/162, Bharathi Salai, Ramapuram, Chennai, Tamil Nadu 600089, India
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 Long 80.178716°
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As per the Reg.2019, conducted Industry Supported Course titled “Building Services Engineering” (Module I, II & III) for III Year Civil Engg. Students of Batch (2020-24) with the support of industrial experts and EISC-EEC during the month of Jan – June, 2023