

## **Mechanical - HVAC Internship Curriculum:**

### **Introduction into the Field of MEP**

- Codes and Standards using in HVAC design, Electrical design,
- Plumbing design and firefighting design.
- Importance of MEP Industry in Construction and
- Infrastructure
- Design.
- Job nature and job roles of Engineers in MEP Industry.
- Refrigeration cycle and major components.
- Briefing about refrigerants using in air conditioning field.

Assigning a layout or Architect Plan for the students.

- Overview of HAP software and software's using in HVAC Design.
- Load calculation using E20 method by considering a real
- project on various types of Buildings i.e. Residential, Commercial and Industrial.
- As a result of this load calculation, we will get required TR and CFM for each and every space.
- As per the calculated TR and CFM for each and every space we will check for the requirement of Centralized air • conditioning system.
- If there is requirement for centralized air conditioning system we can move into ducting.
- Then Introduction about the Centralized air conditioning system.
- Type of Outdoors (DX, VRF, Chillers), Selection of Outdoor as per the total Capacity and chiller design.
- Briefing about cooling tower and equipment placement.
- Selection of AHU for the calculated total CFM requirement.
- Explanation on Codes and standards should be used and considerations as per the building types.

- SLD for each and every space as per the Tr and Cfm.
- Conversion of SLD to 2d.
- Basic conversions.
- Duct sizing in Manual method.
- Duct sizing using duct sizer software for the same project assigned to the students.
- Assigning a new project to practice the trained concepts.
- After giving a duct layout asking them to find duct sizes in software and manual once again.
- Briefing about the fittings and various types of fittings.
- Where to consider and what is the benefits of using fittings.
- How to select reducer, conditions and codes and standards.
- Insulations, codes and standards and types of insulation.
- Air terminals.
- Sizing of air terminals and various types of air terminals.
- Installation of air terminal and considerations.
- BOQ.
- Drafting