

## Method of Assessment

- Continuous Assessment – Quiz/Presentation/Assignment/Case study (20 Marks)  
CA1: Quiz of 10 Marks (Units 1, 2, 3)
- Mid Sem Test – 20 marks on Units 1, 2, 3
- Continuous Assessment – Quiz/Presentation/Assignment/Case study (20 Marks)
- CA2: Group Case Study of 10 Marks (Units 4, 5, 6)
- End Sem Exam – 60 marks (Unit 1, 2,3 ,4 5, 6)
- Grading System - Relative grading
- Total Lectures - 28 (14 Weeks) as per 2 Hrs/Week
- Each Unit carry 10 Marks

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## Detailing of Syllabus of EEE

### Unit 1: (5 hrs duration)

- Scenario of conventional power in India and abroad
- Schematic diagram, components, their functions, working operation, advantages, applications and limitations of:
  - Steam power plant
  - Nuclear power plant
  - Gas turbine power plant
  - Hydro power plant
  - Thermionic power
- Environmental concern of all above plants

### Unit 2: Renewable Power Generation (5 hrs duration)

- Status of renewable power in India and abroad
- Schematic diagram, components, their functions, working operation, advantages, applications and limitations of:
  - Solar power plant
  - Tidal power
  - Wind power – types
  - Fuel cell
  - Biomass power
  - OTEC
  - MHD

### Unit 3: (4 hrs duration)

- Energy conservation – definition
- Scenario of energy conservation in India
- Energy Conservation Act - Definition
- Maximum energy efficiency - Definition

- Energy conservation/ saving in electric motors, refrigerators, AC, electric furnace, pumps, compressors, fans, blowers, lighting illumination (Tips of energy saving on above only)

#### **Unit 4: Air Pollution (5 hrs duration)**

- Air pollution – definition
- Causes or sources of air pollution
- Types of pollutants, primary and secondary
- Effect of air pollution on: human, environment and animals
- Indoor and outdoor air pollution
- Preventive/ control measures of air pollution
- Air quality standard – AQI values, effect on health
- Air quality measurements – Air sampling method, Particulate and gases measurement

#### **Unit 5: Water Pollution (5 hrs duration)**

- Point and nonpoint sources of water pollution
- Types of water pollution:  
BOD/ COD – inorganic, organic, biologic  
pH  
Eutrophication  
Suspended solids  
NH<sub>3</sub> – N<sub>2</sub>  
Micro bacteria  
Heavy metals  
Pesticides
- Effects of water pollution
- Control of water pollution
- Soil pollution and thermal pollution – additional forms of water pollution
- Solid waste (types) and disposal methods (only list)
- Noise pollution – causes, effects, preventive measures and control

#### **Unit 6: Environmental Laws and Sustainable Development (4 hrs duration)**

- Clean Air Act/Clean Water Act
- Wild Life Protection Act 1972
- Forest Conservation Act 1980
- Environmental Protection Act 1986
- Disaster Management Act 2005 -Definition- Cycle  
Types of disasters  
Guidelines
- Watershed management- method and guidelines
- Rainwater Harvesting- method and guidelines