

(Please write your Exam Roll No. immediately)

Roll No.-----

## End-Term Examination

EIGHTH SEMESTER [ B.TECH ] MAY-JUNE 2019

**Paper Code: ETEE-426**

**Subject: Power Plant Instrumentation**

Time: 3 Hours

Maximum Marks: 75

**Note: Attempt any five questions including Q.No.1 which is compulsory. Assume missing data if any.**

- Q.1.a) How are power plant classified? Give the application of each type of power plant?  
b) Explain Flue gas flow diagram?  
c) Why monitoring and control of speed is required in a turbine?  
d) Compare Nuclear power plant with conventional power plants?  
e) What is called SCADA? How is it useful for power plant operations?  
(5×5=25)
- Q.2. Explain three-element boiler drum level control? How is three element level control is superior to both two-element and single-element controls? (12.5)
- Q.3. a) Enumerate the essential steam turbine parameters that should be monitored and controlled. (6.5)  
b) Classify the turbines based on process condition? (6)
- Q.4. Explain briefly horizontal straight water tube boiler. What are its merits against fire tube boiler? (12.5)
- Q.5. a) Give the importance of hydro electric power generation in India? (6.5)  
b) Write a short note on pollution by thermal power plants and its control. (6)
- Q.6. List various types of solar power plant. Explain in detail the working of photo voltaic solar energy plant? (12.5)
- Q.7. Describe distributed control systems in power plant? Explain with suitable diagram. (12.5)
- Q.8. a) Explain the importance of hydro electric power generation in India? (6.5)  
b) Write short note on any two of the following:  
(1) Penstock (2) Spillways (3) Interlock (4) Water hammer (3×2)
- Q.9. What are the components of nuclear power plant? Explain the block diagram and working of Nuclear power plant. (12.5)