

**Roll No.**

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**Total No. of Pages : 02**

**Total No. of Questions : 09**

**B.Tech.(EE) PT (Sem.-4)**  
**POWER PLANT ENGINEERING**

**Subject Code : BTEE-406**

**M.Code : 72449**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

## SECTION-A

- 1. Write briefly :**
- a) What are advantages and disadvantages of hydro power plant?
  - b) What is the pH value of pure water? Is it acidic or basic?
  - c) List different types of spillways
  - d) What are the common pollution monitoring systems in coal fired plants?
  - e) Define the term “Breeding”?
  - f) Define dry saturation steam.
  - g) What is the thermal efficiency of Rankine cycle?
  - h) What do you understand by pulverized coal?
  - i) Explain any three parts in diesel engine.
  - j) List the methods to remove pollutants from flue gas.

## SECTION-B

2. State the advantages and disadvantages of steam power station as compared to Hydro-electric power plant. Describe the various factors which determine the location of hydroelectric power plant.
3. Explain the working of babcock wilcox boiler with suitable diagrams.
4. With neat diagram explain the operation of nuclear power plant and mention the important parameters to be monitored in each block.
5. Draw and explain the construction and working principle of Kaplan turbine.
6. Explain different components of diesel power plant with neat sketch and give the performance characteristics.

## SECTION-C

7.
  - a) Explain the Dalton's law of partial pressure with suitable diagram and equations.
  - b) Discuss the role of heat exchangers and economizers in steam power plant.
8.
  - a) Discuss the effect of intercooling and reheating in a gas turbine plant.
  - b) Explain the nuclear fusion and fission reaction and energy released from reactions.
9. Write short note on followings :
  - a) Solid Waste Disposal.
  - b) Air Preheaters