

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2025**

POWER PLANT ENGINEERING

[Maximum Marks: 75]

[Time: 3 Hours]

PART-A

I. Answer ‘all’ the following questions in one word or one sentence. Each question carries ‘one’ mark.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1.	Name any hydroelectric power plant located in Kerala.	M2.01	U
2.	Interpret Octane number.	M1.04	U
3.	Determine the difference between head race and tail race in a hydroelectric power plant.	M2.01	U
4.	Identify the function of governor in diesel power plant.	M2.04	U
5.	Name a high head water turbine.	M2.02	U
6.	Highlight the moderator when nuclear fuel is uranium.	M3.04	U
7.	Identify minimum size of the reactor for a self-sustaining reaction.	M3.03	U
8.	Name the reactor in which Primary and secondary loop system is used.	M3.06	U
9.	List the basic ways of controlling thermal discharges.	M4.02	U

PART-B

II. Answer any ‘eight’ questions from the following. Each question carries ‘three’ marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1.	Define calorific value of fuel.	M1.04	U
2.	List the requirements of a good fuel.	M1.04	U
3.	Classify hydroelectric power plant according to head.	M2.02	U
4.	List the advantages of hydroelectric power plant.	M2.03	U
5.	List any three safety measures observed in oil handling system.	M4.05	U
6.	List measures to control thermal pollution	M4.01	U
7.	State the function of moderator in a nuclear reactor.	M3.04	R
8.	Express greenhouse effect.	M4.02	U
9.	Comment the methods to Prevent acid rain.	M4.02	U
10.	Identify the purpose of Control rods in nuclear reactor.	M3.04	R

PART-C

Answer 'all' questions from the following. Each question carries 'seven' marks.

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	List the merits and demerits of liquid fuel over solid fuels. OR	M1.04	U
IV.	Explain with a neat sketch working of a diesel power plant.	M2.04	A
V.	With a neat sketch explain the working of a hydro-electric power plant. OR	M2.02	A
VI.	Compare liquid and gaseous fuels.	M1.04	U
VII.	Describe the working of Junker's gas calorimeter with suitable sketch. OR	M1.05	A
VIII.	List the advantages and disadvantages of Diesel power plant.	M2.04	U
IX.	Explain nuclear fission, fusion and Chain reaction, How fission reactions are controlled in a nuclear reactor. OR	M3.02	U
X.	Explain the working of Boiling water reactor with suitable sketch.	M3.06	A
XI.	Write short notes on Uranium, Thorium, and Plutonium. OR	M3.05	U
XII.	Explain the working of a pressurized water reactor (PWR) with a line diagram.	M3.06	A
XIII.	Summarize the causes of greenhouse effect. OR	M4.01	U
XIV.	Describe the safety measures followed in power plants.	M4.04	U
