

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, NOVEMBER - 2024**

**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 1 mark.**

**(9 x 1 = 9 Marks)**

		Module outcome	Cognitive level
1	Define Calorific Value.	M1.04	R
2	Define pour point.	M1.04	R
3	Name the impulse type water turbine used where high heads are available.	M2.01	U
4	State the function of a Spillway.	M2.01	R
5	Write the Fission reaction of U 235.	M3.06	R
6	List any two fuels for Nuclear fission.	M3.06	R
7	Name any one of the materials used as moderator in nuclear power plants.	M3.05	R
8	Name any one of the gases causing acid rain.	M4.02	R
9	Write the expansion of I.B.R	M4.06	R

**PART B**

**II. Answer any eight questions from the following. Each question carries 3 marks.**

**(8 x 3 = 24 Marks)**

		Module outcome	Cognitive level
1	Describe capacity factor of a power plant.	M1.02	U
2	Define Higher Calorific Value (H.C.V)	M1.04	U
3	Describe cetane number.	M1.04	R
4	Demonstrate pumped storage plant and runoff river plant.	M2.02	A
5	Describe nuclear fusion and give an example.	M3.02	U
6	Illustrate regeneration regarding thermal power plant.	M1.03	U
7	Explain acid rain.	M4.02	U
8	State any three causes of 'Greenhouse Effect'.	M4.02	R

9	Explain any three measures to prevent 'Greenhouse Effect'.	M4.02	U
10	Discuss any three effects of acid rain.	M4.02	U

**PART C**

**Answer all questions. Each question carries seven marks.**

**(6 x 7 = 42 Marks)**

		Module outcome	Cognitive level
III	Extrapolate the factors to be considered while choosing the location for a thermal power plant.	M1.02	A
	<b>OR</b>		
IV	Explain the working of Junker's gas calorimeter with a suitable sketch.	M1.03	U
V	Explain the working of Gas turbine power plant with suitable block diagram.	M2.05	U
	<b>OR</b>		
VI	State the advantages and disadvantages of Hydroelectric Power plants.	M2.03	R
VII	Draw the block diagram of Combined Cycle Power plant and mark all its components in it.	M2.06	U
	<b>OR</b>		
VIII	Distinguish the advantages and disadvantages of diesel power plants.	M2.04	U
IX	Explain the working of Boiling Water Reactor with a suitable sketch.	M3.03	U
	<b>OR</b>		
X	Describe the working of Pressurised Water Reactor with a suitable sketch.	M3.06	U
XI	Explain the working of Nuclear Reactor with suitable sketch.	M3.03	U
	<b>OR</b>		
XII	Describe the working of Fast Breeder Reactor with a suitable sketch.	M3.06	U
XIII	Demonstrate the causes and effects of 'Greenhouse Effect'.	M4.02	A
	<b>OR</b>		
XIV	Discuss any seven precautions to be taken while handling oil.	M4.05	U

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