Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Sixth Semester

Mechanical Engineering

CME384 – Power Plant Engineering

Regulations - 2021

Duration: 3 Hrs ***Maximum: 100 Marks***

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No.	Questions	BLT	CO	Marks
1.	List the major advantages of high-pressure boilers in modern thermal power plants.	L1	1	2
2.	Infer about the Cogeneration systems.	L2	1	2
3.	Under what circumstance will you recommend Diesel power plants?	L1	2	2
4.	Compare reheating and regeneration of gas turbine.	L2	2	2
5.	Name the coolants used for fast breeder reactor.	L1	3	2
6.	Interpret about nuclear fission and fusion process.	L2	3	2
7.	What is micro hydel plant?	L1	4	2
8.	Classify the tidal power plant.	L2	4	2
9.	Summarize the difference between peak load and connected load.	L2	5	2
10.	How to improve the power factor?	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No.			Questions	BLT	CO	Marks
11.	a	i	Describe the forced draught and induced draught system used in furnace.	L1	1	10
		ii	Write the advantages of Integrated Gasifier based Combined Cycle systems.	L1	1	6
			Or			
	b		With the help of a neat diagram explain the operation of Lamont boiler.	L1	1	16
12.	a		Discuss the working of any one type of combined cycle power plant with neat sketch.	L2	2	16
			Or			
	b		Explain the construction and working of gas turbine power plant with a layout.	L2	2	16

13.	a		Illustrate the function of components used in nuclear power plant with necessary sketch.	L3	3	16
			Or			
	b	i	Construct a labeled diagram and explain the working of a CANDU type reactor based on its real-world use.	L3	3	10
		ii	Identify the functions of reflectors and cladding in the operation of a nuclear reactor.	L3	3	6
14.	a		Construct a neat sketch and demonstrate the working of a pumped storage system used in hydro power generation.	L3	4	16
			Or			
	b		Apply the concept of flat plate collectors to explain the working of a low-temperature system in solar power plants.	L3	4	16
15.	a		Analyze the differences between various types of tariffs used in power economics and discuss their impact on consumers and utilities.	L4	5	16
			Or			
	b		Analyze the factors influencing the unit cost of power generation and outline the procedure to determine it.	L4	5	16