

Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 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)*

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define steam rate and heat rate.	L1	1	2
2.	Define Binary cycle.	L1	1	2
3.	Name the essential components of a diesel electric plant.	L1	2	2
4.	Define regenerator efficiency.	L1	2	2
5.	What is nuclear fission?	L2	3	2
6.	What is the purpose of control rod used in nuclear power plants?	L2	3	2
7.	What is a surge tank?	L2	4	2
8.	What is fuel cell?	L2	4	2
9.	Define load curve.	L1	5	2
10.	Define plant use factor.	L1	5	2

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

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Draw a general layout of steam power plant with neat diagram and explain the working of different circuits.	L2	1	16
	Or			
	b With a neat sketch explain the type of surface and jet condenser.	L2	1	16
12.	a Sketch the layout of a diesel engine power plant and applications of Diesel power plant.	L2	2	16
	Or			
	b Explain the integrated gasification combined cycle with a neat sketch.	L2	2	16
13.	a With the neat sketch explain the working of boiling water reactor (BWR) power plant.	L2	3	16
	Or			
	b With a neat sketch explain the working of CANDU reactor.	L2	3	16

14.	a	Explain the arrangement of the components of a hydroelectric power plant with a neat sketch.	L2	4	16
		Or			
	b	i Explain the operation of a fixed dome type digester biogas plant.	L2	4	10
		ii Write short notes on wind energy conversion.	L2	4	6
15.	a	i Explain the term demand factor and load factor.	L2	5	8
		ii Explain the elements of operating expenditure of a power plant.	L2	5	8
		Or			
	b	Discuss briefly on-air pollution and water pollution caused by thermal power plants.	L2	5	16