

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/ B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Seventh Semester

Agricultural Engineering

OCH353 - ENERGY TECHNOLOGY

Regulations - 2021

Duration : 3 Hrs

Maximum Marks: 100

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.	What do you understand by energy resources?	UN	1	2
2.	Differentiate the renewable and non-renewable sources of energy.	RE	1	2
3.	Why majority of coal based thermal power plant are located near seashore?	RE	2	2
4.	Mention the various functions of the moderator.	RE	2	2
5.	List any four advantage of wind turbine.	RE	3	2
6.	How are ocean tides created?	RE	3	2
7.	Classify the bio-mass resources.	UN	4	2
8.	Compare the fuel cell and battery.	EV	4	2
9.	What is energy audit?	RE	5	2
10.	List down the types of dryers.	RE	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Describe the various renewable energy resources available in India and its potential to supplement the conventional energy sources.	AN	1	13
	Or			
	b i List the advantage and limitations of renewable energy sources.	RE	1	4
	ii Explain the significance of energy consumption as prosperity.	UN	1	9
12.	a What is nuclear fission and fusion? Explain with a neat sketch the various parts of a nuclear reactor.	AP	2	13
	Or			
	b List out the unique features that make circulating fluidized bed boilers more attractive than other solid fuel fired boilers.	RE	2	13
13.	a i With the help of schematic diagram, explain the working of solar pond.	AN	3	7
	ii Describe the characteristics and types of flat plate solar collectors.	AN	3	6
	Or			
	b Discuss the various considerations taken into account for site selection of a wind energy system.	AN	3	13

14.	a	Explain the operation of biogas plant and discuss combustion characteristics.	UN	4	13
		Or			
	b	Explain the principle of operation and construction of various types of fuel cells with a neat sketch.	AP	4	13
15.	a	Explain the various methods to conserve energy in chemical with the use of distillation columns.	UN	5	13
		Or			
	b i	Write down the advantages of steam economy.	RE	5	5
	ii	What are boilers? Classify them with suitable sketch.	RE	5	8

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Discuss the theory and working principle of ocean thermal energy conversion systems.	AN	3	15
		Or			
	b	Discuss the biomass conversion technologies and explain any one in detail.	AN	4	15