Q.P. Code: 20EE0203

R20

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B. Tech II Year I Semester Supplementary Examinations November-2022

GENERATION OF ELECTRICAL POWER

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I		
1		Draw the typical layout of hydro power plant and discuss the operation of following components. i) Dam ii) Spillway iii) Penstock iv) Surge Tank	L3	12M
		OR		
2	a	Explain the need of super heater and economizer in thermal power plant. Discuss their operation.	L2	6M
	b	Draw the layout of typical thermal power plant and explain features.	L3	6M
		UNIT-II		
3	a	Enumerate and explain briefly the components of a nuclear power plant.	L3	8M
	b	List out the merits and demerits of nuclear power plant.	L1	4M
		OR		
4	a	What are the factors considered while selecting the site for nuclear power plant?	L1	6M
	b	Draw the typical layout of nuclear power plant and discuss the following components briefly. i) Moderators ii) Control rods	L3	6M
		UNIT-III		
5	a	What is the role and potential of solar energy? Explain in detail.	L1	6M
	b	Explain the working principle of concentrating solar energy collectors.	L3	6M
		OR		
6	a	Compare vertical and horizontal axis wind mills.	L3	6M
	b	Write a short note pitch and yaw control.	L3	6M
		UNIT-IV		
7	a	What factors are considered while selecting the site for a bio-gas plant?	L1	6M
	b	Write short notes on Bio-gas generation and its classification.	L3	6M
		OR		
8	a	With a neat sketch explain about OTEC system.	L3	8M
	b	Mention the advantages and disadvantages ocean thermal energy.	L1	4M
		UNIT-V		
9		A generating station has the following daily load cycle. Time (hrs) 0-6 6-10 10-12 12-16 16-20 20-24 Load (MW) 30 40 20 70 50 40 Draw the load curve and find i) Maximum demand ii) Units generated per day iii) Average load and load factor	L4	12M
		OR		
10	a	Define tariff. Discuss various tariffs used in practice and write desirable	L3	8M

characteristics of tariff

b	A generating station has a maximum demand of 500MW. The annual load factor is 50% and capacity factor of 40%. Find reserve capacity of plant.	**L3**	**4M**

*** END ***