R20

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year I Semester Regular & Supplementary Examinations May/June-2022
NUCLEAR ENGINEERING
(Thermal Engineering)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

1	a	Which types of neutrons are most suitable for chain reaction? Why.	L1	6M
	b	Explain the process of breeding with an example.	L2	6M

OR

2	Explicate the following terms in detail (i) Breeding ratio (ii) Fertile Material (iii) Chain reaction	L2	12M

UNIT-II

3	a	The slow Neutrons are more useful rather than faster one in power generation. Justify.	L5	6M
	b	What do you know about Neutron transport? Explain.	L2	6M

OR

4	Discuss the importance of diffusion theory of approximation.	L6	12M

UNIT-III

5	a	Find solution for diffusion equations for a particular region.	L5	6M
	b	Describe the working of PWR with a neat sketch.	L2	6M

OR

6	How do you find the solution for multi group diffusion equations.	L1	12M

UNIT-IV

7	How do you dispose radioactive materials without damaging environment.	L1	12M

OR

8	Write an equation for simple point Kinematics and mention the importance of each term in that.	L2	12M

UNIT-V

9	What is the need of radiation protection and also mention its standards.	L1	12M

OR

10	Write various equations and its solutions for heat transfer in reactor core.	L2	12M

*** END ***