



**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(Autonomous, Accredited by NAAC with 'A+' Grade)

**B.Tech VI Semester Supplementary Examinations, July 2024**

**NUCLEAR POWER GENERATION AND SYSTEM**  
(Mechanical Engineering)

**Maximum Marks: 70**

Date:26.07.2024 Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.  
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.  
3. Part B consists of 5 Units. Answer any one full question from each Unit.  
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

**Part-A**

All the following questions carry equal marks		(10X2M=20 Marks)	Bloom's Tx	CO
1	Differentiate between loss of coolant and shielding coolant?		L1	CO1
2	Discuss about primary cooling system in nuclear power plant?		L1	CO1
3	Explain about reflector material?		L1	CO2
4	What is the containment and ventilation system?		L1	CO2
5	What are beyond reactor design basis events?		L1	CO3
6	What are the methods of achieving design safety in practice		L1	CO3
7	What are advantages of gas cooled reactor?		L1	CO4
8	Why shut down of plant is need?		L1	CO4
9	Define radioactive?		L1	CO5
10	How are nuclear wastes classified?		L1	CO5

**Part-B**

Answer All the following questions.		(10M X 5=50Marks)		
11	Explain briefly the different steps in radio-active waste management. [10]		L2	CO1
	OR			
12	Explain about fuel cycle in nuclear power plant. [10]		L2	CO1
13	Explain about cover gas system. [10]		L2	CO2
	OR			
14	Briefly explain about containment and ventilation systems in nuclear power plant. [10]		L2	CO2
15	Explain about reactor design loading consideration under normal operations.[10]		L2	CO3
	OR			
16	Explain about reactor design under loss of coolant accident and earthquake. [10]		L2	CO3
17	Explain the pressurized heavy water reactor with neat diagram. [10]		L1	CO4
	OR			
18	What is the difference between thermal reactors and fast reactor breeders?[10]		L2	CO4
19	Explain about pressurized heavy water reactor with neat diagram. [10]		L1	CO5
	OR			
20	Explain about reactor stages and safety assurances in nuclear power plant. [10]		L2	CO5

