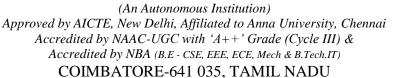


SNS COLLEGE OF TECHNOLOGY





Reg. No:

B.E/B.Tech - Internal Assessment - III Academic Year 2024-2025 (Even Semester) **Sixth Semester Biomedical Engineering** 19BME308 – Medical Radiation Safety

	Time: 1 ^{1/2} Hours			ximum Marks: 50			
			Answer All Questions PART – A (5*2=10 Marks)		Bloom's	СО	Industry
1.	Tell	abou	bout radiological incident and how could such a situation arise?		Level UND	CO4	/ GATE Gate 2022
2.	When an incident would become an emergency and what would then be initiated?			1?	UND	CO4	Gate 2021
3.	Outline the principles for handling radioactive accidents				UND	CO5	
4.	Recall Decommissioning				REM	CO5	
5.	Writ	e abo	but the consequences of releases of radioactivity to environment PART - B (2*13=26 Marks)		UND	CO5	Gate 2023
6.	(a)		cuss the importance of the rapid detection of an abnormal situation explain how such detection might be achieved in practice.	13	APP	CO4	
			(OR)				
	(b)	spil	te a short set of emergency instructions to apply in the event of a lage in a small laboratory handling about 100 MBq of a low-toxicity lide.	13	Арр	CO4	
7.	(a)	Crit	icize on the insights that have been gained from major nuclear dents over the past six decades	13	App	CO5	
			(OR)				
	(b)		cribe the various methods used to safely dispose the radioactive te while minimizing environmental impact PART - C (1*14=14 Marks)	13	App	CO5	
8.	(a)	i)	Outline the steps to be taken by a research lab to identify potential contamination and ensure compliance with radiation safety protocols when a shipping box shows signs of leakage but no radiation exposure is detected by a GM survey meter?	7	ANA	CO4	
		ii)	Illustrate the possible exposure pathways resulting from releases of radioactivity to the atmosphere. How would the exposure from these pathways be limited? (OR)	7	ANA	CO5	
	(b)	i)	Explain the concept of a critical exposure pathway and analyze an example where this pathway involves a food chain, illustrating its potential impact	7	ANA	CO4	
		ii)	Outline the three general approaches used for radioactive waste disposal. For each approach, provide a practical example of how it has been implemented in real-world scenarios	7	ANA	CO5	

Bloom's Taxonomy: REM - Remember UND - Understand APP - Apply ANA - Analyze EVA - Evaluate CRT - Create