1804E081

Candidate's Seat No:

M.Sc. Sem-4 Examination 510 Med. Physics

Time : 2-00 Hours] April 2022 [Max. Marks : 50

Instructions: All questions in **Section** – I carry equal marks. Attempt any Three questions in Section -I. Questions in Section - II is COMPULSORY. Section - I Q-I A. Write a note on personal monitoring and describe TLD. 7 Write a note on system of radiological protection – 7 Justification of practice Optimization of practice Individual dose limits Q-II A. What are the emergency conditions and its management procedures in 7 telecobalt unit? B. Write a note on area monitoring and radiation survey in teletherapy and 7 brachytherapy. O-III A. Draw a layout plan of a Co-60 unit bunker and calculate the shielding 7 thickness required for primary walls. Write the basic principle of radiation safety. How internal radiation hazard 7 can be controlled? Q-IV A. What are the types of radioisotope laboratory in nuclear medicine and 7 write their room planning also. B. Explain the radiation safety during source transfer operations. 7 Q-V A. Describe the general requirement for all types of packages. What are the 7 additional requirements for packages to be transported by air. Describe the tests required for a package to demonstrate its ability to 7 withstand normal conditions of transport. Q-VI A. Write short note on 7 1. Sources of radioactive waste 2. Incineration

(P.T.O)

	B. A cobalt-60 source of activity 333 TBq is to be transported for a 7 teletherapy unit. Determine the type of the package for this shipment and describe the specified tests to be performed for this type of package.							
Q-VII	A.	Write down the type of radiation accidents and explain the emergency 7 procedures.						
	B. Explain the emergency procedures in a radioisotope laboratory and very the procedure for handling spills.							
Q-VIII	A.	A. Write the responsibilities of a radiological safety officer.						
X 1222	В.	Explain the safety and security of sources during storage, use, transport and disposal.						
Section – II								
Q-IX	M	CQs			8			
1.	W	What is the unit of collective dose?						
	A.	Gy	B.	Sv				
	C.	Ci	D.	Person-Sv				
2.	2. If the radiation level at 1 cm is 65 R/hr. What would be the radiation level at 10cm							
		0.65 R/hr	B.	0.35 R/hr				
	C.	0.5 R/hr	D.	None				
3.	Н	VT for I-131 in lead is						
	A	. 0.3 cm	В.	3.0 cm				
	C	. 4.5cm	D.	None				
4.	4. Arrange in increasing order of external hazard							
. •		γ<β<α	В.	α<β<γ				
		C. γ>β>α	D.	α>β>γ				

5.		order to import radioactive materi nined from	als,	a no objection certificate should be		
	A.	BRIT	B.	DAE		
	C.	Chairman, AERB or Head RSD	D.	Customs Authorities		
6.	The competent authority for enforcing radiation protection in India is					
	A.	Head, RPAD, BARC	B.	Chairman, AEC		
	C.	Chairman, AERB	D.	Director, BARC		
7. Which of the following is not a radioactive waste management						
	A.	Delay and decay	B.	Dilute and disperse		
	C.	Contain and decontaminate	D.	Concentrate and contain		
8.	. The minimum age of a worker who may be occupationally exposed to radiati					
	A.	18 years	B.	12 years		
	C.	21 years	D.	23 years		
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