B. Sc. (RADIOLOGY & IMAGING TECHNOLOGY) SEM – IV (CBCS-2019 COURSE): SUMMER – 2022 **SUBJECT: RADIATION SAFETY** Day: Tuesday Time: Date: 19-07. 2022 Max. Marks: 20 5-22521-2022 N.B.: 1) There are Three sections as Section -A = Objective Type questions 20 Marks. Section -B = Long Answer Questions 20 Marks. Section -C = Short Answer Questions 20 Marks. Section A is given in **SEPARATE** sheet and has to be answered on same sheet. 2) This sheet should be completed within the first 20 minutes of starting of the examination. This sheet with Section A only will be collected by Supervisor. 3) Section B has four long questions and ANY TWO have to be answered. Section C has six short questions and ANY FOUR have to be answered. 4) 5) Put $\sqrt{ }$ in the appropriate box below the question number once only. Seat No.: SECTION - A Q.1 Multiple choice questions. Choose the single best option. [10 x 2 = 20] 1) Which of the following is not a triad of ALARA? Justification **a**) b) Time Distance c) d) 2) a) b) c) d) 3) a) b) c) d)

c)	Distance
d)	Shielding
2)	What is the full form of RSO?
a)	Radiation Safety Officer
b)	Radiology Safety Officer
c)	Radiology Supervising Officer
d)	Radiation Safety Officer
3)	Radium was discovered by?
a)	Marie Curie
b)	William Roentgen
c)	Godfrey Hounsfield
d)	Thomas Edison
4)	Which one of the following in not a non-ionising radiation?
a)	Radio waves
b)	Electromagnetic waves
c)	Lasers
d)	Infrared light
	P.T.O.

5)		Nuclear disintegration of radioactive isotopes produce
a)		X-ray
b)		Gamma-rays
c)		Alpha Particles
d)		Beta Particles
6)		What is the full form of DLP?
a)		Dose Linear Product
b)		Dose Length Product
c)		Dose Linear Packet
d)		Dose Length Packet
7)		Sum of scattered and leakage radiation is:
7) a)		Total Radiation
а) b)		Stray Radiation
c)		Primary Radiation
d)		Secondary Radiation
	L	
8)		Minimum protective lead equivalents in hand gloves and thyroid shields should bemm.
a)		1.0
b)		0.5
c)		0.25
d)		5.0
9)		SI unit of exposure is?
a)		Roentgen
b)		Coulombs / Kg
c)		Sievert
d)		REM
10)		In fluoroscopy, skin entrance dose rate should not
a)	[exceedmGy/min
a) b)		75
		50
c)		
d)	1 1	25

BACHELOR OF SCIENCE (RADIOLOGY & IMAGING TECHNOLOGY) (CBCS-2019 COURSE)

B.Sc. (R&IM) Sem-IV :SUMMER- 2022 SUBJECT : RADIATION SAFETY

Day: Tuesday

Date: 19-07-2022

S-22521-2022

Time: 10:00 AM-12:00 PM

Max. Marks: 60

N.B.:

1) There are Three sections as

Section -A = Objective Type questions

20 Marks.

Section -B = Long Answer Questions

20 Marks.

Section -C = Short Answer Questions

20 Marks.

2) Section B has four long questions and ANY TWO have to be answered.

- 3) Section C has six short questions and ANY FOUR have to be answered.
- 4) Answer to both sections should be written in same answer book.

SECTION - B

Q.1 Answer ANY TWO out of FOUR questions: $[10 \times 2 = 20]$

- a) What are three major ways in which radiation is absorbed and results in ionization?
- b) What are the different standards for X-ray equipment?
- c) What are the different aspects of shielding? Write in detail.
- d) What is the full form of ALARA? Explain in detail.

SECTION - C

- Q.1 Answer ANY FOUR out of SIX questions: $[5 \times 4 = 20]$
 - **a)** What is the minimum recommended thickness of lead apron? How should one take care of lead aprons?
 - b) What is (i) RAD and (ii) REM
 - c) What can be the effects of radiation during Pregnancy?
 - d) Write is short about patient protection from radiation during mammography.
 - e) Define the following terms:
 - i) Primary Beam
 - ii) Leakage Radiation
 - f) Define the following terms:
 - i) Scattered Radiation
 - ii) Stray Radiation