

B.Sc. (Radiology & Imaging Technology) SEM VI (CBCS – 2019 COURSE) : SUMMER 2022
SUBJECT: DIGITAL IMAGING

Day: Monday
Date: 01-08-2022

Time: -
Max Marks. 20

S-22550-2022

N.B.

- 1) There are three sections as
Section – A – Objectives Type questions – 20 marks.
Section – B – Long Answer questions – 20 marks.
Section – C – Short answer questions – 20 marks.
- 2) Section A is given in separate sheet and has to be answered on same sheet. This sheet should be completed with 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** questions have to be answered.
- 4) Section C has six short questions and **ANY FOUR** questions have to be answered.
- 5) You have to make \surd such kind of mark in the box of the appropriate answers.

Seat No. _____

SECTION – A

M.C.Q.'s

- 1 Which of the following is the primary element used for MRI imaging?
 - a) 23 Na
 - b) 13 C
 - c) 31 P
 - d) Hydrogen Nuclei
- 2 Which of the following organs has the lowest Hounsfield unit?
 - a) Fat
 - b) Lungs
 - c) Water
 - d) Muscle
- 3 Noise on CT image or film is
 - a) Variation on the pixel reading
 - b) Incorrect levelling
 - c) Thickness of CT image
 - d) Incorrect field of view
- 4 Hounsfield numbers range from
 - a) 1 to 100
 - b) -100 to 500
 - c) -1000 to 3000
 - d) 0 to 1000

P.T.O.

- 5 Field of view refers to
- a) Size of pixel
 - b) Matrix
 - c) Diameter of image
 - d) Volume of voxel
- 6 Which of the following statements is false?
- a) Anode is made of tungsten
 - b) Cathode is made of tungsten
 - c) Electrons are accelerated towards cathode
 - d) X ray emerges through thin glass beryllium window
- 7 Two types of filtration on an X ray machine are
- a) Added and flattening
 - b) Added and magnetron
 - c) Added and inherent
 - d) Inherent and HVL
- 8 X ray was discovered by
- a) Henry Becquerel
 - b) Marie curie
 - c) Willhelm Roentgen
 - d) Albert Einstein
- 9 Nuclear magnetic resonance signal is induced
- a) When south and north poles are aligned
 - b) When proton spin is increased
 - c) When radiofrequency field is turned on
 - d) When relaxation occurs
- 10 Radiofrequency field is applied
- a) Horizontal to magnetic field
 - b) Perpendicular to magnetic field
 - c) Longitudinal to magnetic field
 - d) Same direction

Total marks Obtained: _____

Signature of Invigilator: _____

Signature of Examiner : _____

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BACHELOR OF SCIENCE (RADIOLOGY & IMAGING TECHNOLOGY) (CBCS-2019 COURSE)
B.Sc. (R&IM) Sem-VI :SUMMER- 2022
SUBJECT : DIGITAL IMAGING

Day : Monday
Date : 1/8/2022

S-22550-2022

Time : 10:00 AM-12:00 PM
Max. Marks : **40**

N.B.

- 1) There are three sections as
Section – A – Objectives 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** questions have to be answered.
 - 3) Section **C** has six short questions and **ANY FOUR** questions have to be answered.
 - 4) Answer to both the sections should be written in **SAME** answer book.
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SECTION – B

Long answer (Attempt ANY TWO) (20)

- 1) Write in Detail about DR system with diagrams.
- 2) Detailed anatomy of thorax and mediastinum with diagrams.
- 3) Difference between conventional radiography, CR and DR
- 4) Discuss PACS in detail

SECTION - C

Short answer (Attempt ANY FOUR) (20)

- 1) DICOM
- 2) Dry films
- 3) Wireless flat panel detectors
- 4) Dual energy imaging
- 5) Mobile DR
- 6) Automatic image stitching

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