

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

**B.Sc. (R&IM) Sem-VI :SUMMER- 2022
SUBJECT : MODERN CT & ITS APPLICATIONS**

Day : Thursday
Date : 28-07-2022

S-22548-2022

Time : 10:00 AM-12:00 PM
Max. Marks : 20

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 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

(20)

- 1 Dual energy CT acquisition is commonly done at which two energy levels?
 - a) 40 and 80 KV
 - b) 80 and 140 KV
 - c) 20 and 60 KV
 - d) 140 and 180 KV
- 2 Which algorithm is used in HRCT Thorax study?
 - a) Soft-tissue algorithm
 - b) Brain algorithm
 - c) Bone algorithm
 - d) Organ algorithm
- 3 Which of the following investigations requires ECG-gating?
 - a) CT pulmonary angiography
 - b) CT coronary angiography
 - c) CECT abdomen
 - d) CT lower limb angiography
- 4 For CT neck study, patient is positioned :
 - a) Feet first, supine
 - b) Head first, prone
 - c) Head first, supine
 - d) Feet first, prone

PTO

- 5 For HRCT Thorax study, scan is acquired in :
- a) Suspended expiration
 - b) Suspended inspiration
 - c) During continued respiration
 - d) Any of the above
- 6 The preferred size of the IV Cannula for injecting contrast for CECT Angiography study is
- a) 18 G
 - b) 20 G
 - c) 22 G
 - d) 24 G
- 7 For Angiography study filming, images should be given :
- a) In MInIP and with decreased thickness
 - b) In MInIP and with increased thickness
 - c) In MIP and with increased thickness
 - d) In MIP and with decreased thickness
- 8 The preferred technique used for contrast injection in angiography is ?
- a) Timed injection
 - b) Non-timed injection
 - c) Bolus-tracking method
 - d) None
- 9 Before CECT study, how long should a patient be kept fasting?
- a) 1-2 hrs
 - b) 2-3 hrs
 - c) 3-6 hrs
 - d) 10-12 hrs
- 10 VRT stands for :
- a) Volume – Reconstruction Technique
 - b) Volume – Rendered Technique
 - c) Voxel – Rendered Technique
 - d) Voxel – Reconstruction Technique

Total marks obtained : _____

Signature of Invigilator : _____

Signature of Examiner : _____

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Section – A = Objective Type questions - 20 marks.
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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.

SECTION – B

Long answer (Attempt **ANY TWO**) (20)

- 1) Describe different CT artefacts.
- 2) Write in detail about components of pressure injectors, their operational features and operational issues.
- 3) How do you perform CECT Neck study? Write about patient preparation, patient position, indications, contraindications and scan technique.
- 4) How do you perform CT Aortography study? Write about patient preparation, patient position, indications, contraindications and scan technique.

SECTION – C

Short answer (Attempt **ANY FOUR**) (20)

- 1) Write in short about pitch in CT.
- 2) Write in short about maximum intensity projection.
- 3) Write in short about safety issues in pressure injector.
- 4) Write in short about how CT coronary angiography study is performed.
- 5) Write in short about slip ring technology.
- 6) Write in short about pitch in CT.
