BACHELOR OF SCIENCE (RADIOLOGY & IMAGING TECHNOLOGY)(CBCS-2019 COURSE) B.Sc. (R&IM) Sem III : WINTER- 2022 SUBJECT : EQUIPMENTS IN RADIOLOGY & BASIC IMAGING

Day: Tuesday

Time: 10:00 AM-12:00 PM

Date: 24-01-2023

W-25411-2022

Max. Marks: 4-0

1) There are Three sections as follows:

Section- A - Objective Type Questions

20 Marks

Section- B - Long Answer Questions

20 Marks

Section- C- Short Answer Question

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 B and C should be written in same answer book.

SECTION - B

Answer ANY TWO out of FOUR questions ($10 \times 2 = 20$)

- 1. Write about X-ray generators.
- 2. Write about electric motors.
- 3. Write in detail about CR system.
- 4. Write in detail about solid state rectifiers and construction of solid-state rectifiers.

SECTION - C

Answer ANY FOUR out of SIX questions ($5 \times 4 = 20$)

- 1. What are P- and N-type of semiconductors?
- 2. Write in short about auto-transformers.
- 3. Write in short about advantages and disadvantages of PACS.
- 4. Write a short note on detectors in DR system.
- 5. Write a short note on DICOM.
- 6. Write in short about following innovations in digital radiography:
 - A. Dual energy imaging
 - B. CAD Software programs

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1) There are Three sections as

Section- A - Objective Type Questions

20 Marks 20 Marks

Section- B - Long Answer Questions

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Section- C- Short Answer Question

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 Section A in the sheet provided and submit the sheet after answering.

SECTION - A

Multiple Choice questions have been provided. Tick the single best answer. (10 \times 2 =20)

- 1. What is the current phosphor of choice for input phosphor in fluoroscopy?
 - A. Europium Halide
 - B. Zinc- cadmium sulphide
 - C. Cesium Iodide
 - D. Gadolinium oxysulfide
- 2. Smallest complete sample of an image is
 - A. Detector
 - B. Pixel
 - C. Bit
 - D. Byte
- 3. Over-exposure is difficult to detect in CR due to:
 - A. Post-processing
 - B. Quantum mottle
 - C. Poor-image quality
 - D. Plate readout by laser beam
- 4. Characteristic curve of Photostimulable phosphors(PSP) is:
 - A. Linear wide latitude
 - B. Non-linear wide latitude
 - C. Linear narrow latitude
 - D. Non-linear narrow latitude

PTO

B. Transformer C. Motor D. Rectifier cage supply to the tube is controlled by? A. Transformer B. Motor C. Generator D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter C. Ammeter D. Circuit-breaker eloping solution contains:
D. Rectifier tage supply to the tube is controlled by? A. Transformer B. Motor C. Generator D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter C. Ammeter C. Circuit-breaker Circuit-breaker
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A. Transformer B. Motor C. Generator D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter C. Ammeter D. Circuit-breaker eeloping solution contains:
B. Motor C. Generator D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter C. Ammeter D. Circuit-breaker eeloping solution contains:
C. Generator D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter D. Circuit-breaker eeloping solution contains:
D. Rectifier in the X-ray tube is measured by? A. Voltmeter B. Milli-ammeter C. Rectifier D. Secondary coil of transformer tection against overloading the circuit of X-ray tube is provided by? A. Generator B. Voltmeter C. Ammeter D. Circuit-breaker eeloping solution contains:
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A. Generator B. Voltmeter C. Ammeter D. Circuit-breaker reloping solution contains:
B. Voltmeter C. Ammeter D. Circuit-breaker reloping solution contains:
C. Ammeter D. Circuit-breaker reloping solution contains:
D. Circuit-breaker reloping solution contains:
reloping solution contains:
A. Hydroquinone
B. Metol
C. Both
D. None
athode is a
A. Positive electrode
B. Negative electrode
C. Neutral electrode
D. None of the above
at is the current phosphor of choice for input phosphor in fluoroscopy?
E. Europium Halide
F. Zinc- cadmium sulphide
G. Cesium Iodide
H. Gadolinium oxysulfide
Chart adv
s Obtained: Signature of Invigilator
Signature of Examiner

5. AC to DC conversion is done by?