

B. Sc. MEDICAL TECHNOLOGY (RADIOGRAPHY & IMAGING) (BRIT)
SEMESTER -VI EXAMINATION, SEPTEMBER- 2026

ADVANCED EQUIPMENT AND TECHNIQUES -II

[Time allotted: Three Hours]

[Max Marks: 100]

Note: Read all the instructions carefully

Answer all questions in serial order. Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Attempt All)

(10 x 02 = 20)

(Very short/ short answer/ MCQ/ One liners/ Fill in the blanks/ True/False)

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|---|-----------|
| a. Which target material is mostly used in mammography tubes? | (PO2 CO1) |
| b. What do you understand by the mask image in DSA? | (PO2 CO2) |
| c. What is the full form of PTCA procedure? | (PO2 CO2) |
| d. What is the effect of distance on the dose of radiation worker? | (PO1 CO1) |
| e. Write the full form of DICOM. | (PO3 CO2) |
| f. What is the full form of LED in computers? | (PO4 CO2) |
| g. What is amorphous selenium and in which device it is used? | (PO4 CO2) |
| h. Name one demerit of digital radiography. | (PO4 CO2) |
| i. How much lead equivalence is there in a lead apron? | (PO1 CO1) |
| j. Which material is used to make the support plate in mammography? | (PO2 CO1) |

Q. 2. Short notes/ Short answer type questions (Attempt any Five)

(05 x 04 = 20)

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| a. Define quantum mottle. | (PO2 CO1) |
| b. Write a short not on radiation dose in mammography. | (PO1 CO1) |
| c. Write a short note on the mammography films. | (PO2 CO1) |
| d. Write a short note on compression in mammography. | (PO3 CO1) |
| e. What is photostimulable phosphor plate? | (PO2 CO2) |
| f. What is flat panel, where it is used? | (PO2 CO2) |
| g. What is the QA workstation in PACS? | (PO3 CO2) |

Q. 3. Structured questions (Attempt any Three)

(03 x 10 = 30)

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| a. Why low kV is used in mammography? What is the role of AEC in it? | (PO4 CO1) |
| b. Briefly discuss the principle and applications of interventional radiology. | (PO3 CO2) |
| c. What is the DICOM standard? Highlight its role in PACS. | (PO3 CO2) |
| d. Discuss the direct and indirect digital radiography systems. | (PO2 CO2) |

Q. 4. Long Answer/ Essay type questions (Attempt any Two)

(02 x 15 = 30)

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| a. Draw a neat diagram of a mammography tube. Why molybdenum is used as target material in mammography. | (PO5 CO1) |
| b. Discuss the principle, applications and limitations of DSA. | (PO5 CO2) |
| c. Discuss teleradiology and highlight its applications? How it is related to PACS? | (PO3 CO2) |