

Question Paper

Exam Date & Time: 13-Aug-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. MIT DEGREE EXAMINATION - AUGUST 2024
SUBJECT: MIT2201 - RADIATION SAFETY IN RADIO DIAGNOSIS
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Explain in detail the various Radiation quantities and units | (20) |
| 2) | Explain the construction, working, advantages and disadvantages of personnel monitoring devices | (20) |
| 3) | Outline the design and shielding requirements for diagnostic x-ray facilities | (10) |
| 4) | Explain the construction and working of a Geiger-Muller counter | (10) |
| 5A) | Summarize the basic concepts of radiation protection standards | (5) |
| 5B) | Explain the technical protective consideration in mobile radiography | (5) |
| 5C) | Illustrate radiation signages used in diagnostic X-ray facilities | (5) |
| 5D) | Outline the stochastic effects of radiation | (5) |
| 5E) | Explain the effect of beam limiting devices on radiation protection | (5) |
| 5F) | Outline the basic principles of radiation detection | (5) |
| 6A) | Define Radioactivity | (2) |
| 6B) | Define LD50/60 | (2) |
| 6C) | Define the terms LET and RBE | (2) |
| 6D) | Outline radiation exposure during pregnancy for occupational workers | (2) |
| 6E) | Define CTDI and MSAD | (2) |

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Question Paper

Exam Date & Time: 16-Aug-2024 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. MIT DEGREE EXAMINATION - AUGUST 2024
SUBJECT: MIT2241 - PROGRAM ELECTIVE - I: ADVANCED IMAGE GUIDED PROCEDURE
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1) | Discuss in detail the radiological procedure of PTBD | (10) |
| 2) | Explain in detail about the radiological procedure of TACE | (10) |
| 3A) | Define embolization. Add a note on types and classification of the embolic agent | (5) |
| 3B) | List the indication, contraindication, patient preparation, equipment used, and complication for cerebral angiography. | (5) |
| 3C) | Discuss in detail the radiological procedure of IVC filter placement. | (5) |
| 3D) | Discuss in detail the radiological procedure done to evaluate the arterial stenosis | (5) |
| 4A) | Define vertebroplasty and kyphoplasty | (2) |
| 4B) | List the indication and contraindication of lower limb angiography | (2) |
| 4C) | List the equipment used and patient preparation for nerve block procedure | (2) |
| 4D) | List the complication and aftercare for the TIPS | (2) |
| 4E) | Recall the anatomy related to PTC. | (2) |

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