

Reg. No.

MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014

SUBJECT: MANAGEMENT OF HEALTHCARE ORGANIZATION

Monday, June 02, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

Answer ALL the questions.

1. Define 'Quality'. Discuss the various Quality assurance methods adopted in healthcare.
(3+17 = 20 marks)

2. **Write short notes on the following questions:**
 - 2A. ABC analysis
 - 2B. Hospital Budget
 - 2C. ICU services in the hospital
 - 2D. Maslow's Hierarchy of needs
 - 2E. Radiology Information System (RIS)
 - 2F. Steps in coordination

(10 marks × 6 = 60 marks)



MANIPAL UNIVERSITY**SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014****SUBJECT: ADVANCED TECHNIQUE AND INSTRUMENTATION OF MRI**

Wednesday, June 04, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ Answer ALL the questions.**✍ Draw suitable diagrams wherever required.**

1. Write a note on flow phenomena. Explain the compensation techniques for different flow phenomena.

(20 marks)

2. Short Answers:

- 2A. Explain the process of T1 and T2 contrast mechanism. Add the scanning parameters of T1 and T2 contrast imaging.
- 2B. Explain the process of keyhole filling and spiral k space filling methods. Add clinical use.
- 2C. Explain the process of steady state formation in gradient echo.
- 2D. Write a note on use and disadvantages of fast spin echo.
- 2E. Write a note on RF coil selection and placement considering scan time, image quality and patient comfort.
- 2F. Define magnetic susceptibility. Explain in short how magnetic susceptibility can enhance and or degrade information during MRI examination with clinical examples.

(10 marks × 6 = 60 marks)



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SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014

SUBJECT: INTERVENTIONAL RADIOLOGY TECHNIQUES

Friday, June 06, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ Answer ALL the questions.

✍ Major Question:

1. Explain the role of an imaging technologist during interventional procedure. Add a note on activated clotting time (ACT) equipment.

(20 marks)

2. Short answers:

- 2A. Write short notes on gastrostomy tube placement.
- 2B. Mention different types of contrast agents that can be used for various interventional procedures and compare the advantages and disadvantages.
- 2C. Elaborate endoscopic retrograde cholangiopancreatography.
- 2D. Explain the principle, technique and equipment for RF ablation.
- 2E. Write a note on angiographic equipment.
- 2F. Discuss the steps involved in conventional subtraction technique.

(10 marks × 6 = 60 marks)



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SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014

SUBJECT: CARE OF PATIENTS IN DIAGNOSTIC RADIOLOGY

Monday, June 09, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL the questions:**

✍ **Major Question:**

1. Discuss the techniques for safe patients transfer using the basic principles of body mechanics.
(20 marks)

2. **Write short notes on:**

2A. Pediatrics restrains and immobilization technique during radiography.

2B. State the law and legal consideration for medical Radio-technologist.

2C. Medical Emergencies with drug reactions.

2D. State the standard principle of surgical asepsis.

2E. Electronic patient monitoring devices.

2F. Patient care for Seizure disorder during radiographic procedures and safety precautions and observation to be recorded.

(10 marks × 6 = 60 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014

SUBJECT: RADIATION EVALUATION & PROTECTION IN DIAGNOSTIC RADIOLOGY

Wednesday, June 11, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ Answer ALL the questions.

✍ Major question.

1. What is the need to detect and measure radiation? List and explain the working of various instruments that are used to monitor the radiation level in radiology department.

(20 marks)

2. Write short notes on:

2A. Describe the effects of ionizing radiation on DNA.

2B. Define and explain the factors that are necessary to determine effective dose.

2C. Radiation protection measures employed during routine radiography.

2D. Patient dose in computed tomography.

2E. What measures are employed in order to warn the public about the presence of ionizing radiation in radiology department?

2F. Principles of radiation protection.

(10 mark × 6 = 60 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2014

SUBJECT: NUCLEAR MEDICINE IMAGING TECHNIQUE

Friday, June 13, 2014

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

Answer all the questions.

Major Question:

1. Discuss briefly factors determine image quality in nuclear medicine.

(20 marks)

2. Write short notes on:

2A. Tracer kinetic and compartmental technique

2B. Scintillation detectors

2C. Reconstruction algorithm in SPECT

2D. Safe handling of radioactive materials

2E. Isomeric transition and internal conversion

2F. Radioactivity and decay constant

(10 marks × 6 = 60 marks)

