

Question Paper

Exam Date & Time: 04-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BMIT 301 - IMAGING PHYSICS AND DARKROOM TECHNIQUES (PART I)
(2016 SCHEME)

Tuesday, December 04, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- 1) Explain Radioactivity. Write in detail about the modes of decay. (10)
- 2) Write a note on radiographic image characteristics. (10)
- 3) **Discuss the following:**
- 3A) Latent Image formation (5)
- 3B) Spectra of X-ray (5)
- 3C) Fuse (5)
- 3D) GM counter (5)
- 4) **Discuss the following:**
- 4A) Difference between AC and DC power supply (2)
- 4B) Difference between Subject contrast and Subjective contrast (2)
- 4C) Pair Production (2)
- 4D) Photographic effect (2)
- 4E) Properties of electromagnetic energy (2)

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Question Paper

Exam Date & Time: 07-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BMIT 303 - RADIOLOGICAL PROCEDURES AND PATIENT CARE (PART I)
(2016 SCHEME)

Friday, December 07, 2018 (14.00 - 16.00)

Answer all questions.

Draw diagrams wherever necessary.

Marks: 50

Duration: 120 mins.

Explain in detail:

- 1) Anatomical Quadrants and regions of Abdomen. Add a note on Acute Abdomen Series. (10)
- 2) Various Techniques to demonstrate specific conditions in Barium Swallow. (10)

3) Write short notes on the following:

- 3A) Siphon Test (5)
- 3B) Radiographic views obtained to demonstrate Perthe's Disease (5)
- 3C) Radiographic positioning for Waters View (5)
- 3D) Norgaard's Method (5)

4) Discuss the following :

- 4A) Standard views for Single and double contrast barium meal (2)
- 4B) Characteristics influencing Mucosal Coating of Bowel (2)
- 4C) Complications of Hypotonic Duodenography (2)
- 4D) Indications and Patient Positioning for Chest Lordotic View (2)
- 4E) Patient Management for Extravasation of Contrast Media (2)

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Question Paper

Exam Date & Time: 11-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BMIT 305 - RECENT TRENDS IN ULTRASONOGRAPHY
(2016 SCHEME)

Tuesday, December 11, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

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|-----|---|------|
| 1) | Explain Instrumentation of ultrasound. | (10) |
| 2) | Explain Doppler principle. Describe briefly continuous wave doppler. | (10) |
| 3A) | Explain piezoelectric effect. | (5) |
| 3B) | TM Mode of USG display | (5) |
| 3C) | Explain spectral analysis. | (5) |
| 3D) | Explain focusing and steering of ultrasound beam. | (5) |
| 4A) | Name the contrast agents used in ultrasound imaging. | (2) |
| 4B) | Name the types and applications transducers used in ultrasound imaging. | (2) |
| 4C) | Define comet tail artifact. | (2) |
| 4D) | Define Acoustic impedance. | (2) |
| 4E) | Define curie temperature. | (2) |

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Question Paper

Exam Date & Time: 14-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BMIT 307 - RECENT TRENDS IN DIGITAL IMAGING
(2016 SCHEME)
Friday, December 14, 2018 (14.00 - 16.00)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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|-----|---|------|
| 1) | Describe in detail about types of DSA techniques. | (10) |
| 2) | Discuss in detail about Digital Image processing. | (10) |
| 3A) | Pressure injector | (5) |
| 3B) | PACS | (5) |
| 3C) | Indirect DR | (5) |
| 3D) | Dry view processor | (5) |
| 4A) | Target combinations in Mammography | (2) |
| 4B) | DQE | (2) |
| 4C) | DICOM | (2) |
| 4D) | Bitewing radiography | (2) |
| 4E) | Unsharpness | (2) |

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