

Question Paper

Exam Date & Time: 28-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. (MEDICAL IMAGING TECHNOLOGY) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MIT 702- ADVANCED TECH. AND INSTRUMENTATION OF MRI
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss in detail the various artefacts encountered in clinical MRI. (20)
- 2) Discuss in detail the various fat suppression techniques used in MRI. (20)
- 3A) Explain in detail the principle of Functional MRI and its clinical application. (10)
- 3B) Discuss briefly the various MRI pulse sequences used for brain imaging. (10)
- 3C) Discuss in detail image weighting and contrast in fast spin echo. (10)
- 3D) List the various quality assurance tests done during the installation of MRI. Add a note on quenching of MRI. (10)

4. Short notes:

- 4A) Black blood imaging technique. (5)
- 4B) Significance of homogeneity of main magnetic field and shimming. (5)
- 4C) Spatial resolution in MRI. (5)
- 4D) Radio-frequency coils. (5)

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Question Paper

Exam Date & Time: 30-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. (MEDICAL IMAGING TECHNOLOGY) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MIT 704 - INTERVENTIONAL RADIOLOGY TECHNIQUES
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe in detail about the advancements and future directions of angiographic equipment. (20)
- 2) Describe in detail about indications, technique for four vessel angiogram. Add a note on anatomy of circle of Willis. (20)
- 3A) Write in detail about indications, technique for vertebroplasty. (10)
- 3B) Write in detail about indications, technique for uterine artery embolization. (10)
- 3C) Write in detail about quality assurance tests done for DSA X-ray Unit. (10)
- 3D) Write in detail about radiation safety considerations for angiographic room design. (10)
- 4A) Write a short note on types of embolic agents. (5)
- 4B) Write a short note on Dual energy subtraction. (5)
- 4C) Write a short note on indications, technique for Aortogram. (5)
- 4D) Write a short note on emergency drugs. (5)

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