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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (RADIO-DIAGNOSIS) DEGREE EXAMINATION – NOVEMBER 2025
PAPER I

Monday, November 10, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

☞ **Answer ALL the questions.**

1. Discuss the CT anatomy of the middle ear.
2. Describe the principles, scanning techniques, image interpretation and clinical applications of PET-CT imaging.
3. Discuss the principles of Doppler ultrasound. Discuss various Doppler controls and operating modes used in clinical Doppler imaging.
4. Describe the principles, techniques and clinical applications of MR angiography.
5. Describe in brief components & their function of a rotating X-ray tube. Draw its neat diagram & label its components.
6. Classify intravenous contrast media. What are the advantages of newer generation of contrast media?
7. Discuss anatomy of sella and parasellar region.
8. Describe fetal circulation.
9. Describe anatomy of mediastinum and bronchopulmonary segments.
10. Describe the methods of radiation protection to the patient and staff in diagnostic radiology. Add a note on Personnel dosimetry systems.

(10 marks × 10 = 100 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (RADIO-DIAGNOSIS) DEGREE EXAMINATION – NOVEMBER 2025
PAPER II

Tuesday, November 11, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

☞ Answer ALL the questions.

1. Tabulate differentiating features of intra-axial & extra-axial masses on imaging? Discuss extra-axial tumors in adults.
2. Role of fetal echocardiography in early detection of heart disease.
3. Discuss the anatomy of secondary pulmonary lobule. Discuss the pattern of interstitial lung diseases on HRCT and briefly discuss their differential diagnosis.
4. Discuss the imaging of features of solitary bone tumors of vertebral column.
5. Discuss the TIRADS Classification of imaging thyroid gland and enumerate its application in thyroid disease.
6. Discuss the role of imaging in temporal bone pathologies.
7. Imaging of Cardiac and Pericardiac calcification.
8. Imaging of the chest wall pathologies.
9. What are the different types of periosteal reactions? Discuss the imaging features of osteomyelitis.
10. Describe the role of imaging in seizures in pediatric age group.

(10 marks × 10 = 100 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (RADIO-DIAGNOSIS) DEGREE EXAMINATION – NOVEMBER 2025
PAPER III

Wednesday, November 12, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

1. Enumerate the causes of obstructive jaundice. Describe technique of MRCP and its role in obstructive jaundice.
(3+5+2 = 10 marks)
2. Describe technique of double contrast barium enema. Enumerate differential diagnosis and imaging features in a hepatic flexor mass.
(10 marks)
3. Enumerate various ovarian tumors of stromal origin. Briefly discuss imaging features of serous & mucinous cystadenocarcinoma and cystadenoma.
(3+2+2+3 = 10 marks)
4. Describe technique of TRUS guided biopsy of prostate. Briefly mention role of imaging in investigation of a prostatic lesion.
(10 marks)
5. Enumerate the indications of foetal MRI. Comment on its limitations.
(10 marks)
6. Classification & Imaging of Neuroendocrine tumors of pancreas.
(10 marks)
7. Mullerian duct anomalies.
(10 marks)
8. Describe CT features of liver trauma and discuss role of intervention in this.
(10 marks)
9. Discuss Portal Hypertension: its radiological diagnosis & interventional therapy.
(10 marks)
10. Enumerate various complications of Renal transplant and discuss their imaging findings.
(10 marks)



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PAPER IV

Thursday, November 13, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

1. Use of Radiomics in medical imaging for improved diagnosis and treatment planning.
2. MRI in pelvic floor imaging.
3. TRUS guided interventions.
4. Ultrasound contrast media.
5. Post processing techniques in HRCT lung.
6. Pharmacological agents used in cardiac CT & MRI.
7. Describe principle of ultrasound elastography and its clinical applications. Briefly discuss its usefulness in evaluation of BIRAD 3 lesions.
8. a) MR spectroscopy in breast.
b) MR spectroscopy in prostate.
9. Advances in ultrasound transducer technology.
10. Digital Tomosynthesis in breast imaging.

(10 marks × 10 = 100 marks)

