

PG Degree Supplementary Examinations in Radio-diagnosis (M.D)
July 2025

Paper I – Basic Science, Radiation Physics, Radiological Anatomy and Contrast Media

Time: 3 hrs

Max marks:100

- **Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space**
- **Answer all parts of a single question together • Leave sufficient space between answers**
- **Draw table/diagrams/flow charts wherever necessary**

Essay:

(20)

1. Classify idiosyncratic reactions resulting from iodinated contrast media administration. Describe the management of adverse reactions to contrast agents.

Short essays:

(8x10=80)

2. Briefly describe the radiological anatomy of pituitary gland and hormones synthesized by the gland.
3. Describe the positioning for various skull x-ray views.
4. Define scatter radiation. Discuss briefly the parameters which influence scatter radiation and methods to reduce scatter radiation.
5. Define principles of radiation protection. Describe various parameters which can reduce patient radiation dose in radiography and fluoroscopy.
6. Write in brief the principle and types of Digital radiography. Outline its advantages and disadvantages.
7. Briefly describe different sequence parameters used in MRI.
8. Enumerate the different types of X-ray tubes. What is the difference between a conventional X-ray tube and a mammography tube. Briefly describe various views taken during mammography. **(2+4+4)**
9. Define Doppler effect. Briefly describe color doppler and power doppler modes of imaging. Enumerate advantages of each mode. **(2+4+4)**
