

FINAL EXAM  
JUNE 2014

NATIONAL BOARD OF EXAMINATIONS

**RADIO DIAGNOSIS****PAPER – IV**

RDG/J/14/40/IV

Time : 3 hours

Max. Marks : 100

**Important instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin-space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

- |  |       |
|--|-------|
| 1. Enumerate the different types of X-Ray tubes. What is the difference between a conventional X-Ray tube and a mammography tube? Briefly describe mammography tube with the help of a neat labeled diagram. | 2+4+4 |
| 2. What are the cardinal principles of radiation protection? What methods would you use to decrease exposure in fluoroscopy?   | 6+4   |
| 3. a) Personal Dosimeters<br>b) Tissue harmonic imaging  | 5+5   |
| 4. a) MR contrast for liver imaging<br>b) Contrast induced nephropathy and methods to prevent it.  | 5+5   |
| 5. a) Imaging of hemobilia and interventions.<br>b) Principles and applications of RF ablation   | 5+5   |
| 6. a) CT perfusion in acute stroke<br>b) Principles of functional MR imaging   | 5+5   |
| 7. a) Renal isotope scanning<br>b) Tomosynthesis in mammography  | 5+5   |
| 8. Techniques of ultrasound elastography and its applications.   | 5+5   |
| 9. Advantages and disadvantages of computed radiography and direct digital radiography.  | 10    |
| 10. Advances in CT technology to decrease the radiation dose in children. What is CT Dose Index (CTDI)?  | 8+2   |

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