



**RAE-5122**

Seat No. \_\_\_\_\_

**M. D. (Branch. XV) Examination**

**March / April – 2019**

**Radiotherapy : Paper - I**

**(Radio-Physics & Applied Basic Science)**

Time : 3 Hours]

[Total Marks : 100

- Instructions :** (1) Write legibly, no marks are given for unreadable material.  
(2) Figures to the right indicate full marks.  
(3) Answer to the point.  
(4) All questions carry equal marks.

- 1 What is Beam modification ? Describe its methods in detail. **20**
- 2 Describe dose prescription, reporting parameters and its relevance in intracavitary brachytherapy of carcinoma cervix as per ICRU-38. **20**
- 3 Describe principles of Radiation protection. How will you observe and apply them in Radiotherapy Department ? **20**
- 4 Attempt both (a) and (b). **20**  
(a) Photoelectric effect- its physics and clinical implication  
(b) Repair of Radiation induced DNA damage.
- 5 Write short notes on : **20**  
(a) Radioactive decay  
(b) Radio sensitivity and Radiocurability  
(c) Ideal brachytherapy source  
(d) Boron neutron capture theory.