

# Rajiv Gandhi University of Health Sciences

## Second Year M.Sc [Radiation Physics] Degree Examination – OCT-2019

[Time: 3 Hours]

[Max. Marks: 100]

### RADIATION BIOLOGY

### **Q.P. CODE: 9807**

Your answers should be specific to the questions asked.  
Draw neat, labeled diagrams wherever necessary.

#### **LONG ESSAY**

**2 X 20 = 40 Marks**

1. Explain direct and indirect action of Radiation with a neat diagram.
2. Discuss cell cycle and biological effects of radiation on cell structure.

#### **SHORT ESSAY**

**6 X 10 = 60 Marks**

3. Discuss various R's of radiotherapy.
4. Hyperthermia principle
5. Linear Quadratic model in radiotherapy
6. Explain radio sensitive and radio resistant tumors.
7. Mention the effect of radiation for various doses for the following.
  - a) Reproductive organs and Eye
  - b) Immediate effects on whole body.
8. Discuss about the following:
  - a) Single and double strand breaks
  - b) Doubling dose

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