

QP CODE: 303018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
October 2024**

Radiation Physics II

Time: 3 Hours

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*

Essays:

(3x10=30)

1. Explain the various dosimetric systems in brachytherapy
2. Discuss in detail the structure and working of a Co 60 teletherapy unit
3. Beam modifying devices

Short notes:

(8x5=40)

4. Betatron
5. Total Skin Electron Therapy (TSET)
6. Intra cavitory simulation procedure
7. Role of TPR in dosimetry
8. IGRT
9. SRS and SRT treatment techniques
10. Characteristics of ideal brachytherapy source
11. Types of penumbra

Answer briefly:

(10x3=30)

12. Define Roentgen and what is its limitation
13. Phantom scatter factor
14. Properties of Ir-192 source
15. Advantages and Disadvantages of treating patient in SSD and SAD techniques
16. Treatment Planning System (TPS)
17. Bolus
18. ITV
19. Virtual simulation
20. DRR
21. Explain briefly therapeutic range and practical range of an electron beam
