

[LI 0416]

APRIL 2016

Sub. Code: 4017

**M.Sc., MEDICAL PHYSICS DEGREE EXAMINATION
FIRST YEAR
PAPER VII – PHYSICS OF RADIATION THERAPY**

Q.P. Code : 284017

Time : Three hours

Maximum : 100 Marks

I. Elaborate on :

(2 x 20 = 40)

1. a) Describe the construction and working of Telecobalt unit.
b) Describe the various shutter mechanisms.
2. Describe the characteristics of Electron Beam and explain the application of Electron Beams in Radiotherapy.

II. Write notes on:

(10 x 6 = 60)

1. CT simulation.
2. Van De Graff generator.
3. Derive the relationship between TAR and PDD.
4. Compare and contrast physical and dynamic wedges.
5. Tissue in homogeneity correction.
6. Volume delineation as per ICRU50.
7. Electronic portal imaging device.
8. Advantages and disadvantages of manual and remote after loading techniques.
9. Quality assurance tests for HDR Brachy Therapy.
10. Different algorithms used in treatment planning systems.
