

[LK 0517]

MAY 2017

Sub. Code: 4031

**M.Sc. MEDICAL PHYSICS EXAMS
SECOND YEAR
PAPER I – ADVANCED TECHNIQUES OF RADIOTHERAPY**

Q.P. Code: 284031

Time : Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Write in detail about the machine and patient specific quality assurance procedures for Intensity Modulated Radiotherapy (IMRT).
2. Write in detail about the physical aspects of Image Guided Radiotherapy (IGRT).

II. Write notes on: **(10 x 6 = 60)**

1. Techniques in Total Skin Electron Therapy (TSET).
2. Compare and contrast X-Knife and Gamma knife.
3. Write in detail about the calibration of HDR source.
4. Write about Cyber Knife.
5. Discuss about the various types of applicators in HDR brachytherapy.
6. Four Dimensional CT (4DCT).
7. Write about immobilization and acquisition of image data for 3DCRT planning.
8. Temporary and Permanent prostate implants.
9. Write about the necessity of IVBT and discuss about the sources used for IVBT.
10. Write briefly about ocular brachytherapy.
