

[LD 1013]

OCTOBER 2013

Sub. Code: 4031

M.Sc (MEDICAL PHYSICS) - DEGREE EXAMINATION

SECOND YEAR

PAPER I - ADVANCED TECHNIQUES OF RADIOTHERAPY

*Q.P. Code: 284031*

**Time: 3 hours**

**Maximum: 100 marks**

**I. Elaborate on:**

**(2X20=40)**

1. Discuss the various modalities of imaging in intensity modulated radiation therapy, MLC based treatment delivery, planning and verification processes and quality assurance protocols.
2. Describe HDR brachytherapy source calibration, treatment simulation, planning processes, dosimetry and quality assurance program

**II. Write notes on:**

**(10X6=60)**

1. Radioactive sources of prostate implants and compare merits and demerits
2. Types of immobilization and its significance in radiotherapy
3. Cyber knife therapy
4. TBI treatment techniques
5. Image segmentation and registration
6. Treatment plan verification and delivery
7. Intra operative radiotherapy
8. Catheter based intra vascular brachytherapy
9. Beta source ocular therapy
10. Stereotactic body radiotherapy

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