

[LL 1017]

OCTOBER 2017

Sub. Code: 4017

**M.Sc. MEDICAL PHYSICS EXAMS
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. Describe the dose prescription and reporting parameters for intracavitary brachytherapy of carcinoma cervix as per ICRU 38 and give their relevance in modern brachytherapy.
2. Describe the acceptance, commissioning and quality assurance protocol of radiotherapy treatment planning system based on IAEA TRS 430 protocol.

II. Write notes on:

(10 x 6 = 60)

1. Describe the major features of the Paris dosimetry system.
2. Describe the various quality assurance tests performed in a teletherapy unit.
3. Explain standing waveguide and travelling waveguide.
4. Describe the construction and working of a cyclotron.
5. Describe CT Simulator and Virtual Simulation.
6. Derive the relationship between percentage Depth Dose and Tissue Air Ratio.
7. Explain the depth dose characteristics of clinical electron beams with neat diagram.
8. Differentiate between SSD and SAD treatment technique.
9. Describe the method to determine the source strength of a brachytherapy source using well type ionization chamber.
10. Describe the different types of wedge filters.
