

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 1936

**BACHELOR IN RADIOTHERAPY TECHNOLOGY
THIRD YEAR – (Regulation from 2014-2015)
PAPER I – RECENT ADVANCES IN RADIOTHERAPY TECHNIQUES**

Q.P. Code: 801936

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: **(3 x 10 = 30)**

1. Particle Beam Therapy.
2. Volumetric Modulated Arc Therapy (VMAT).
3. Adaptive Radiotherapy.

II. Write notes on: **(8 x 5 = 40)**

1. Realtime Tumour Tracking.
2. Bolus and its uses.
3. Information Technology and Networking in Radiotherapy.
4. Gamma knife.
5. Indications of Emergency Radiotherapy and describe any two with illustration.
6. Tomotherapy.
7. Mention Beam Modifying devices and describe any two.
8. Interstitial Brachytherapy in Carcinoma Cervix.

III. Short answers on: **(10 x 3 = 30)**

1. Merits of Proton Beam Therapy.
2. Compensators.
3. Relative biological effectiveness.
4. Mention organ at risk and dose constraints for radiotherapy planning in parotid cancer.
5. Picture Archiving and Communication Systems (PACS) in radiotherapy.
6. Merits and demerits of IMRT.
7. Uncertainties in Radiotherapy.
8. SSD technique.
9. Involved Field Radiotherapy.
10. Electronic Portal Imaging Device.
