

**M.D. DEGREE EXAMINATION
BRANCH IX – RADIO THERAPY**

**PAPER II – GENERAL PRINCIPLES OF RADIOTHERAPY
INCLUDING RADIOBIOLOGY AND ONCOLOGY**

Q.P.Code: 202036

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the Time Dose Fractionation scheme in Radiotherapy and its clinical implications.
2. A 40 year old male has a $T_1N_0M_0$ lesion on the lateral aspect of the anterior 2/3 of the tongue. Describe the various treatment options available with their merits and demerits. Describe in detail the technique of interstitial implantation with reference to HDR.

II. Write notes on:

(10 x 7 = 70)

1. Use of PET CT in Radiotherapy planning.
2. Discuss Radio sensitivity and Radio resistance in radiotherapy practice.
3. Radiation protection and Due limits.
4. Involved field radiotherapy in the management of lymphoma.
5. Cell survival curves.
6. Discuss the treatment of carcinoma posterior third of tongue with a hard fixed neck node.
7. LET (Linear Energy Transfer).
8. Wedges in Radiotherapy.
9. Tolerance dose of the following with its importance
 - a) Liver
 - b) Lens
 - c) Kidney
 - d) Retina
10. Indications of Total Body Irradiation (TBI). Discuss the technique, dose and precautions to be taken while planning TBI.
