

Q.P.CODE:164-NR

DR NTR UNIVERSITY OF HEALTH SCIENCES:: VIJAYAWADA
M.D. DEGREE EXAMINATION – APRIL, 2019
RADIOTHERAPY

PAPER-I : BASIC SCIENCES

Time: 3 Hours

Max. Marks:100

Note: Answer all questions
All questions carry equal marks
Draw neat diagrams wherever necessary

WRITE SHORT ESSAYS ON THE FOLLOWING:

- 1) Characteristics of electron beam radiation
- 2) Describe the physical basis of the following radionuclide decay processes:
 - a) Positron decay
 - b) Electron capture
 - c) Internal conversion
- 3) Describe the characteristics of an ideal brachytherapy source
- 4) Hyperthermia
- 5) Boron neutron capture
- 6) Mechanisms of DNA repair
- 7) What is Recursive Partition Analysis (RPA) and briefly describe RPA for glioblastoma multiforme?
- 8) Anatomy and lymphatic drainage of carcinoma cervix and its relevance to radiotherapy planning
- 9) Define relative risks and odds ratio. How will you calculate number needed to treat?
- 10) Describe the molecular classification of medulloblastoma
