

RADIOTHERAPY**PAPER – IV**

RTH/D/17/41/IV

Time : 3 hours

Max. Marks : 100

Important instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

- a) Principles of palliative care. 3+4+3
 - b) Management of brain metastases.
 - c) What is the role of corticosteroids and anticonvulsants in brain metastases?
- a) Respiratory dampened radiotherapy 3+4+3
 - b) Respiratory gated radiotherapy
 - c) 4 DCT
- a) Define radiocurability 2+2+3+3
 - b) Define radiosensitivity
 - c) Factors accounting for different radiosensitivities of tumours.
 - d) Factors to overcome radioresistance.
- a) Deterministic effects of radiation. 5+5
 - b) Stochastic effects of radiation.
- Write the utility of each, giving examples: 2x5
 - a) Alpha particles
 - b) Beta particles
 - c) Gamma rays
 - d) X-rays
 - e) Carbon Ion Therapy
- a) Technique of Total Body Irradiation 4+3+3
 - b) Indications of Total Body Irradiation
 - c) Acute effects of Total Body Irradiation.
- a) Proto-oncogenes 5+5
 - b) Tumour suppressor genes

8. a) Electron Arc Therapy 2+3+3+2
 b) Cone beam systems and its relevance
 c) Electron portal imaging devices
 d) QA procedures for IMRT treatments
9. Role of following in diagnosis and RT planning, giving 3+2+3+2
 suitable examples:
 a) CT Scan
 b) MRI
 c) PET-CT
 d) Conventional Imaging
10. Role of radiotherapy in: 4+3+3
 a) Chromophobe adenoma pituitary
 b) Thymoma
 c) Oligodendroglioma gr. I – II

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