

**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

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