

RADIOTHERAPY

PAPER-I

RTH/D/18/41/I

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:

- Current 8th AJCC staging system for oropharyngeal cancer. 6+4
 - Discuss the reasons and evidence for modification of the staging system for oropharyngeal cancer.
- Define radiotherapy volumes as per ICRU 62. 7+3
 - Define "dose homogeneity", "hot spot" and "Internal Margin".
- Methodology, advantages and pitfalls of "Meta-analysis". 5+5
 - What is a "Forest Plot"? Describe with a diagram.
- Discuss "ICRU 89" for image guided brachytherapy. 7+3
 - Define various dose rates used in brachytherapy.
- Interactions of photons with matter and the factors on which they depend. 7+3
 - What are "Characteristic X-rays" and "Bremsstrahlung X-rays"?
- Depth dose profile of electron beams. 3+3+2+2
 - Energy selection in electron therapy.
 - Shielding in electron therapy.
 - Practical range of electrons.
- Define and explain the following terms in photon therapy: 2+2+2+2+2
 - Wedge angle.
 - Hinge angle.
 - Tissue Air Ratio (TAR).
 - SSD and SAD.
 - Dmax.
- Methodology of Phase-III clinical trials. 6+4
 - Kaplan Meier Survival Curve.
- Cancer Registry in India. 5+5
 - What are the screening recommendations and methods for cervical cancer?
- Lymphatic drainage of stomach. 6+4
 - What is meant by D1 and D2 dissection in gastric cancer?
