

RADIOTHERAPY

PAPER – III

RTH/APRIL/16/41/III

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.

1. a) What is therapeutic ratio? 6+4
b) What is its clinical significance in radiation oncology?
2. a) What are the deterministic and stochastic effects in radiotherapy? 4+6
b) Radiation induced carcinogenesis.
3. Acute radiation syndrome encountered in an accidental exposure of the whole body to radiations in terms of dose range, clinical effects and outcome. 10
4. a) What are functional subunits? 2+3+5
b) What is serial and parallel architecture?
c) How does it impact upon the normal tissues responses towards radiation?
5. a) Principle of ALARA. 3+7
b) Enumerate the dose limits for exposure to occupational workers.
6. a) What is the mechanism of action of taxanes? 3+4+3
b) Enumerate the sites where they have an established role, as per literature.
c) What are their toxic side effects?
7. a) Enumerate the viruses causing cancer. 4+6
b) Role of Human Papilloma Virus in human carcinogenesis and the vaccine to prevent this infection.
8. a) How would you assess cancer pain? 3+7
b) Steps of management of pain in advanced malignancy of head and neck region.
9. a) Process of angiogenesis. 4+6
b) What are the agents that are being used as anti-angiogenic therapy- enumerate along with the sites they are used in?
10. a) Enumerate the ways in which you can palliate bone metastasis. 4+6
b) Indications, technique and results of Strontium-89 therapy in bone metastasis.
