RADIOTHERAPY

PAPER – I

RTH/J/17/41/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:

1. a) Anatomy and lymphatic drainage of larynx.   6+4
   b) How does this influence radiation planning?

2. a) How are ovarian tumours classified by WHO?   6+4
   b) What are the tumours with good prognosis?

3. Explain the importance of Prostate Specific Antigen in diagnosis and treatment of carcinoma prostate.   5+5

4. a) Tabulate differences between Compton effect, pair production and photoelectric effect.   5+5
   b) What factors affect the attenuation of radiation as it traverses matter?

5. Describe the way of evaluating radiotherapy treatment plans with dose volume histogram and biological indices.   5+5

6. a) Define percentage depth dose.   5+5
   b) What are the factors influencing percentage depth dose?

7. Biological basis of metastasis and various modes of metastasis.   5+5

8. What are oncogenes? Give examples along with their importance.   4+6

9. a) Why are tumor registries useful?   3+2+5
   b) What is the main difference between the two major types in India?
   c) Using one cancer as an example, can you list the variability of cancer incidence in India?

10. a) What is meta-analysis?   2+2+(3+3)
    b) List the components of a Forest plot.
    c) Take any two examples of meta-analysis and describe how the results of a meta-analysis serve to change clinical practice.

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