

MEDICAL ONCOLOGY

PAPER-I

Time: 3 hours
Max. Marks: 100

MED.ONCO/D/19/17/I

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) Clonal evolution theory. 3+4+3
b) Cancer stem cell theory.
c) Tumour heterogeneity.
2. a) Enumerate the common carcinogens in tobacco. 2+3+5
b) Which are the common cancers caused by tobacco?
c) Describe in detail carcinogenesis due to tobacco.
3. a) Radiosensitizer. 2+3+2+3
b) Fractionation of radiation therapy and its importance.
c) Image guided radiation therapy (IGRT).
d) Gamma knife.
4. a) Scientific rationale and scope of liquid biopsy in cancer. 3+4+3
b) Clinical application of liquid biopsy in management of solid tumours.
c) Potential limitation of liquid biopsy.
5. a) What is cancer genetic counselling? 2+2+3+3
b) Enumerate the hereditary cancer syndromes.
c) How do you counsel a 23-year old lady whose mother and elder sister died of breast cancer?
d) Management of BRCA carrier.
6. a) Phases of cancer drug clinical trials. 3+4+3
b) Importance of informed consent in clinical trials.
c) Role of principal investigator in clinical trials.
7. a) Define oligometastatic disease. 2+4+4
b) Role of circulating tumour cells as a predictor of metastatic disease.
c) Management of oligometastatic breast cancer.

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8. a) What is molecular tumour marker? 2+4+4
b) Molecular tumour board.
c) Predictive biomarkers for checkpoint inhibitor-based immunotherapy.
9. a) Survival analysis in cancer. 3+2+3+2
b) p-value.
c) Forest plot and its interpretation.
d) Meta-analysis.
10. a) Kinases and cancer. 2+4+4
b) Kinase amplifications as diagnostic molecular marker in cancer.
c) Kinase targeted therapy in various cancers.
