FINAL EXAM
DECEMBER 2019

NATIONAL BOARD OF EXAMINATIONS

MEDICAL ONCOLOGY
PAPER-I

Time: 3 hours

MED.ONCO/D/19/17/I

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) 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.

P.T.O

-1-

MEDICAL ONCOLOGY
PAPER-I

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.

****