

MEDICAL ONCOLOGY

PAPER-I

MEDONCO/D/18/17/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) Enumerate the different techniques used for assessing cytogenetic abnormalities. 2+4+4
b) Illustrate using diagram the principle involved in Fluorescent in-situ hybridization(FISH).
c) How will you define HER2/neu amplification using FISH?
2. a) List the oncological emergencies that may be associated in a patient with multiple myeloma. 3+4+3
b) Enumerate the various supportive treatments that needs to be provided to a patient with multiple myeloma.
c) Outline the treatment of hypercalcemia.
3. a) Describe the principles of Brachytherapy. 4+3+3
b) List the common isotopes used for Brachytherapy treatment.
c) Enumerate the clinical applications of Brachytherapy.
4. a) Diagrammatically represent the mTOR pathway. 4+3+3
b) List the mTOR inhibitors used in the treatment of cancer.
c) Enumerate the common adverse effects and their management.
5. A 25-year-old male diagnosed as acute lymphoblastic leukemia is planned for High Dose Methotrexate (HDMTX). 3+4+3
a) Describe the mechanism of action of HDMTX with appropriate illustration.
b) Write a prescription for administration of HDMTX.
c) Enumerate the major toxicities associated with HDMTX.
6. a) Outline the WHO classification of malignant ovarian tumours. 7+3
b) How will you differentiate primary epithelial ovarian tumour from a Krukenberg tumour due to breast or colon primary using immunohistochemistry?

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7. a) Diagrammatically represent the structure of an immunoglobulin. 3+4+3
b) Write the various mechanism of action of monoclonal antibodies.
c) Enumerate three immune-conjugates with their indications that have been approved in the treatment of cancer.
8. a) Enumerate five examples of Genotype guided cancer chemotherapy. 2.5+2.5+5
b) List the techniques used in studying these genotype abnormalities.
c) Describe the principle involved in any one technique used for identifying genotype abnormality.
9. Write the indications, mechanism of action and adverse effects of the following drugs: 5+5
a) Pazopanib.
b) Ibrutinib.
10. a) Describe the response criteria used for evaluating immunotherapy drugs. 6+4
b) What is spider plot? Mention the key features in its interpretation.
