

MEDICAL ONCOLOGY

PAPER – I

Time : 3 hours

MED.ONCO./D/17/17/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. Enumerate breakthrough hallmarks of cancer 3+3+4
b. List of tumours and indications where anti-angiogenic approach has shown positive results
c. List three anti-angiogenic agents in clinical practice and their side effects.
2. a. What is minimal residual disease (MRD) with respect to acute lymphoblastic leukemia? 3+5+2
b. Enumerate methods of MRD detection and their advantages and disadvantages.
c. How is MRD detection different in B- ALL Vs T-ALL?
3. a. Enumerate the steps in performing Polymerase Chain Reaction (PCR). 5+2+3
b. Name two methods of performing real time PCR.
c. Mention three applications of PCR in oncology.
4. a. Mechanism of action of cisplatin. 2+4+4
b. Mechanism and markers of platinum resistance in various cancers.
c. Pharmacogenomics of cisplatin induced ototoxicity.
5. a. Principles of extra corporeal radiotherapy (ECRT) 4+3+3
b. Mention specific condition where ECRT may be used.
c. What are the problems associated with ECRT?
6. a. What are chimeric Antigen Receptor (CAR)-T cells? 4+4+2
b. How are CAR-T cells different from Blinatumomab with respect to use in acute lymphoblastic leukemia (ALL)?
c. Beside ALL, name two other conditions where CAR-T cells are being used.

P.T.O.

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7. a. What is Hedgehog pathway? 4+2+4
b. Name the cancers where this pathway is relevant.
c. Utility of Hedgehog pathway inhibitors.
8. a. Mechanism of action and method of administration of 4+3+3
trabectedin.
b. Side effects of trabectedin
c. Therapeutic uses of trabectedin
9. a. What are end points for a Trial pertaining to newer 5+5
therapies in palliative care setting and why?
b. What is Basket Trial? Explain with example.
10. a. Explain next generation and whole genome 5+5
sequencing.
b. Explain with an example how the above may be useful
in oncologic therapeutics.
