

**HEMATOLOGY**

PAPER – I

HEMAT/D/16/48/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. Regarding stem cells: 2+2+2+2+2
  - a) What is a Niche?
  - b) What are the types?
  - c) How are they regulated?
  - d) How are they mobilized?
  - e) What are the approved uses?
2.
  - a) What are HIV associated lymphomas? 2+3+5
  - b) What are the factors in consideration for treatment of HIV associated lymphomas?
  - c) How will you manage a case of primary CNS lymphoma?
3. In hemophilia: 2+2+2+4
  - a) How do you measure inhibitors?
  - b) What are the risk factors?
  - c) How do you treat inhibitors?
  - d) What are the newer treatment options?
4.
  - a) What is Pegylated G-CSF? 3+3+4
  - b) What are other Pegylated products used in Hematology?
  - c) Prolonging half life of Factor VIII and their benefit.
5.
  - a) What are the molecular subtypes of Diffuse Large B-Cell Lymphoma (DLBCL)? 3+7
  - b) How do the clinical and molecular features of lymphomas affect decision making in treatment?
6.
  - a) What changes occur in RBC on storage? 3+2+3+2
  - b) What is the Hb threshold for blood transfusion?
  - c) What are outcomes with fresh vs old blood transfusion?
  - d) What are the complications of multiple RBC transfusions?

**P.T.O.**

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7. a) What is the difference between a longitudinal and a cross sectional study with examples in Hematology? 4+2+4  
b) How do you interpret Kaplan Meier curve?  
c) What is meant by strength of evidence and quantity of evidence?
8. In personalised Hematology: 1+3+3+3  
a) What is epigenetics?  
b) Gene conversion problems.  
c) Next generation DNA sequencing  
d) Pharmacogenomics.
9. a) What is the role of all-trans retinoic acid (ATRA), arsenic trioxide & chemotherapy in the management of acute promyelocytic leukemia (APML)? (2+2+2)+4  
b) What are the risk factors of differentiation syndrome?
10. Central venous catheters used in leukemia patients: 2+3+5  
a) Types of catheters.  
b) Special precautions in inserting them.  
c) Strategies for prevention of catheter malfunction.

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