HEMATOLOGY

PAPER – I

HEMAT/J/17/48/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. Iron homeostasis in human body: 4+3+3
   a) How is normal iron homeostasis maintained?
   b) Role of mutations affecting iron metabolism.
   c) Clinical and laboratory diagnosis of iron deficiency.

2. Imatinib resistance in CML: 4+3+3
   a) How is it diagnosed?
   b) What are the causes?
   c) What treatment options exist?

3. Febrile neutropenia: 2+3+5
   a) What is febrile neutropenia?
   b) How is it risk stratified?
   c) How is it managed?

4. CART cells: 4+6
   a) What are CART cells and how are they generated?
   b) What is their therapeutic use in management of hematological disorders

5. Anemia of chronic disease: 2+4+4
   a) What are the causes?
   b) How is it diagnosed?
   c) How is it managed?

6. Amyloidosis: 3+2+5
   a) What are the causes?
   b) How is it diagnosed?
   c) What is the management of light chain amyloidosis?

7. Research methodology: 4+3+3
   a) Calculation of sample size in a research proposal.
   b) Declaration of Helsinki.
   c) Informed consent.

P.T.O.

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8. JAK STAT signaling pathways: 3+4+3
   a) What are the normal roles of JAK STAT pathways?
   b) How are they altered and their role in CMPD?
   c) How are patients with JAK mutation managed?

9. Hemophagocytic lymphohistiocytosis: 2+3+3+2
   a) How does the patient present?
   b) What are the causes?
   c) Diagnostic criteria
   d) Management

10. Bleeding disorders: 4+3+3
    a) Laboratory evaluation of a patient suspected to have a bleeding disorder.
    b) Role of thromboelastography.
    c) Modifiers of bleeding in Hemophilia A.

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