

HEMATOLOGY
PAPER-I

HEM/D/17/48/I

Time: 3 hours
Max. Marks: 100

- 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 question 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) Vitamin B₁₂ metabolism 4+3+3
b) Role of Vitamin B₁₂ levels in diagnosis of B₁₂ deficiency and pitfalls
c) Clinical manifestations of vitamin B₁₂ deficiency
d) Non-megaloblastic macrocytic anemia and its causes
2. Hemophilia: 3+4+3
a) Causes of acquired hemophilia
b) Eliciting joint abnormalities
c) Prenatal diagnosis of hemophilia
3. Angiogenesis: 3+4+3
a) Its role in hematologic malignancies
b) Anti-angiogenic drugs in treatment of hematologic malignancies
c) Markers of angiogenesis
4. AML: 4+3+3
a) Molecular markers affecting prognosis of AML
b) FLT3 Inhibitors
c) AML with related myelodysplasia
5. CART cells in Pediatric ALL: 4+3+3
a) Role of therapy in Pediatric ALL
b) How are they formed?
c) What lab facilities are required for generating and using CART cells in patients?
6. Autoimmune hemolytic anemia (AIHA): 4+3+3
a) Management of warm type of AIHA.
b) Methods of detection of auto-antibodies against RBC
c) Coomb's negative auto immune hemolytic anemia

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| 7. | a) Compensation in clinical trials
b) Role of sponsors in clinical trial
c) Salient features of Phase I, II and III clinical trials. | 4+3+3 |
| 8. | a) Growth factors in normal hematopoiesis
b) Microenvironment in acquired aplastic anemia
c) Hematopoietic stem cell | 3+4+3 |
| 9. | Minimal residual disease in ALL:
a) What is minimal residual disease?
b) How is it detected?
c) How does treatment alter based on MRD? | 3+4+3 |
| 10. | a) What are T-reg cells and how are they picked up?
b) What is their role in ITP?
c) Describe in brief dendritic cells | 4+3+3 |
