

HEMATOLOGY

PAPER-I

HEMAT/D/19/48/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. a) Classification of cell death pathways. 4+2+4
b) Difference between apoptosis and necrosis.
c) Clinical applications of apoptosis in Hematological malignancy.
2. a) Different Epigenetic Pathways. 4+3+3
b) Enumerate the cell cycles check points.
c) Stem cell niche.
3. A 35-year-old male presented in outpatient department of Hematology 3+4+3
with history of sudden onset unilateral swelling of right lower limb.
a) Clinical approach to the diagnosis of patient.
b) Different diagnostic tools used to detect thrombosis with pros and cons.
c) Differential diagnosis of thrombosis with thrombocytopenia.
4. a) Classifications of sideroblastic anemia. 3+4+3
b) Important pathways involved in its pathogenesis.
c) Treatment of clonal sideroblastic anemia.
5. a) Clinical approaches for the diagnosis of aetiology of anemia in a 65- 3+3+4
year-old male with anemia.
b) How do you differentiate between anemia of chronic disease vs iron deficiency anemia with anemia of chronic disease?
c) Newer treatment options for the treatment of low risk MDS.
6. a) Precision hematology with examples. 4+3+3
b) Role of thromboelastometry for monitoring of direct oral anticoagulant.
c) Liquid biopsy in hematological malignancy.
7. a) Different B cell receptors and signaling pathway. 4+3+3
b) Role of T cell in the development of cancer.
c) Similarities in the development of B and T Cells.

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| 8. | <ul style="list-style-type: none"> a) Effects of smoking on hematological normal reference values. b) Mention the reliabilities of electronic cell counter in clinical practice. c) Pros and cons of automated digital imaging analysis of blood cells. | 3+3+4 |
| 9. | <ul style="list-style-type: none"> a) Non transfusion therapy of Hb E Beta thalassaemia. b) Results of allogeneic SCT in Beta thalassaemia major. c) Briefly discuss the pathogenesis of sickle cell crisis. | 3+3+4 |
| 10. | <ul style="list-style-type: none"> a) Different types of research. b) Different types of methods of sampling. c) What are the different phases of clinical trial? | 4+3+3 |
