

National Board of Examinations

Question Paper Name :	DrNB CLINICAL HAEMATOLOGY Paper1
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DrNB CLINICAL HAEMATOLOGY Paper1

Group Number :	1
Group Id :	3271871884
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Group Marks :	100
Is this Group for Examiner? :	No
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DrNB CLINICAL HAEMATOLOGY Paper1

Section Id :	3271871887
Section Number :	1
Section type :	Offline

Mandatory or Optional : Mandatory

Number of Questions to be attempted : 10

Section Marks : 100

Enable Mark as Answered Mark for Review and Clear Response : Yes

Maximum Instruction Time : 0

Sub-Section Number : 1

Sub-Section Id : 3271871891

Question Shuffling Allowed : No

Is Section Default? : null

Question Number : 1 Question Id : 32718718452 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Please write your answers in the answer booklet within the allotted pages as follows:-

Question Number	Answer to be attempted within	Question Number	Answer to be attempted within
Q. 1	Page 1-5	Q. 6	Page 26-30
Q. 2	Page 6-10	Q. 7	Page 31-35
Q. 3	Page 11-15	Q. 8	Page 36-40
Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. Appropriate investigations are crucial for diagnosing a disease in any subspecialty of medicine including hematology. It has become prevalent in Hematology practice nowadays to advise investigation panels rather than sequential testing. Kindly give your comments about the following:

- What are the key elements of an Ideal Diagnostic Test? [2]
- Write briefly about Bayes' Theorem and Fagan Nomogram with some examples in Hematology and how these impact testing in Hematology practice. [5]
- Enumerate the advantages and disadvantages of test panels Vis-à-vis sequential testing. [3]

Question Number : 2 Question Id : 32718718453 Question Type : SUBJECTIVE Consider As

Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Comment on the following regarding Pharmacogenomics:

- a) Define pharmacogenomics. [2]
- b) Highlight the role of pharmacogenomics in hematology with appropriate examples encompassing altered pharmacokinetics and pharmacodynamics. [4]
- c) Comment on the use of genomic biomarkers for guiding therapy. [4]

Question Number : 3 Question Id : 32718718454 Question Type : SUBJECTIVE Consider As

Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Epigenetic changes are heritable changes that alter gene expression without changing the Primary DNA sequence, with an important role in the disease causation and a major therapeutic target. Discuss epigenetics under the following headings:

- a) Role of DNA methylation and Histone modification in the Hematology. [3]
- b) Briefly discuss the role and adverse events of the hypomethylating agents. [4]
- c) Role of epigenetic targeting in treating hemoglobinopathies. [3]

Question Number : 4 Question Id : 32718718455 Question Type : SUBJECTIVE Consider As

Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Recombinant hematopoietic growth factors have a major role in the day-to-day management of hematology patients. Discuss the following:

- a) Enumerate the different hematopoietic growth factors. [3]
- b) Clinical uses of hematopoietic growth factors. [3]
- c) Toxicity of colony-stimulating factors. [2]
- d) Non-hematological effects of erythropoietin (EPO). [2]

Question Number : 5 Question Id : 32718718456 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

With the increasing usage of automated coulter in lab hematology, discuss the following:

- a) Clinical significance of the new red cell parameters reported in the automated coulter. [3]
- b) Comment on the evolving paradigm of hemocytometry - from cell counts to morphology. [3]
- c) Scientific considerations in the purchase of the automated CBC analyzers. [4]

Question Number : 6 Question Id : 32718718457 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

A 22-year-old male had generalized lymphadenopathy on clinical examination, which on PET CT was found to have Stage IV lymphoproliferative disorder. He was subjected to a lymph node biopsy. Concerning this, answer the following:

- a) Structure of the lymph node with pathological correlation. [5]
- b) Lymph node areas which you would routinely examine on bedside with clinical significance of each area. [2]
- c) Describe the role of PET/CT in the evaluation of lymphadenopathy. [3]

Question Number : 7 Question Id : 32718718458 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discovery of Cyanocobalamin is an epochal feature of clinical hematology. Please discuss:

- a) The role of cyanocobalamin in cellular pathways. [3]
- b) Clinical manifestations of Vitamin B12 deficiency. [3]
- c) Vitamin B12 levels in the diagnosis of its deficiency and also enumerate conditions causing spuriously low B12 levels. [4]

Question Number : 8 Question Id : 32718718459 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

- a) Cancer stem cell. [4]
- b) Cell cycle in cancer therapy. [4]
- c) Oncolytic viruses in the treatment of malignancies. [2]

Question Number : 9 Question Id : 32718718460 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

A 28-year-old lady, a known case of sickle cell disease (SCD), was referred to you from antenatal OPD at 10-week period of gestation (POG) for special care during pregnancy. Answer the following in relation to this patient:

- a) Prenatal diagnosis and genetic counseling. [3]
- b) Risks during the pregnancy in this patient and preventive steps you would advice. [4]
- c) Intrapartum and post-partum care specific to ladies with SCD. [3]

Question Number : 10 Question Id : 32718718461 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

An 18-year-old young female presented to the medicine OPD with anemia and thrombocytopenia:

- a) Enumerate the steps of OPD evaluation, including history/clinical examination. [5]
- b) Mention the algorithmic approach for evaluating such a case. [5]