National Board of Examinations

Question Paper Name :	DrNB CLINICAL HAEMATOLOGY Paper2
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DrNB CLINICAL HAEMATOLOGY Paper2

Group Number :	1
Group Id :	3271872922
Group Maximum Duration :	0
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DrNB CLINICAL HAEMATOLOGY Paper2

Section Id :	3271872925
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 :	3271872929
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718730614 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
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Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. Leukodepleted blood products form a major backbone in the transfusion practices.

a) Define leukodepletion. [1]

b) What are the various techniques of leukodepletion? [3]

c) Identify the patient population sets that should routinely receive leukoreduced blood products. [3]

d) Comment on the relation of leukodepletion-technique and its impact on the transfusion transmitted infection (TTI). [3]

Question Number : 2 Question Id : 32718730615 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 10-year child presented to you with repeated evaluation over 6 months, persistently showing an absolute lymphocyte count of less than 250/μL.

a) Define lymphopenia. [2]

b) How would you evaluate this child? [5]

c) Give examples of disorders with depletion in a particular lymphocyte subset, not just reduction in the total number of circulating lymphocytes. [3]

Question Number : 3 Question Id : 32718730616 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 54-year-old male was detected to have lymphocytosis with raised ADA in the pleural fluid when evaluated for rapidly reaccumulating, refractory pleural effusion.

a) What is the relation between lymphocytes and ADA? [2]

b) What are the differential diagnoses in such a case? [3]

c) Describe the diagnostic algorithm and your evaluation protocols to arrive at a diagnosis in this patient. [5]

Question Number : 4 Question Id : 32718730617 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 24-year-old male presented with an absolute neutrophil count (ANC) of 9800/μL.

a) How do you define Neutrophilia? [2]

b) What red flags (clinical symptoms or signs) if present in this patient, that will guide you in evaluation of this patient? [5]

c) Define leukemoid reaction and enumerate the causes. [3]

Question Number : 5 Question Id : 32718730618 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 10

Targeting plasma cells is rapidly evolving beyond cellular therapy (i.e., CAR-T). Briefly comment on the following armamentarium of non-cellular therapies of plasma cell dyscrasias by mentioning the mechanism of action, major side effects, and the stage of development for each:

a) CELMODs. [3]

b) Immunocytotoxin/Immunotoxin. [3]

c) NK cell activators/ engagers. [4]

Question Number : 6 Question Id : 32718730619 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 patient presented with anaphylaxis with hypotension in response to a mosquito bite and IgE-mediated causes have been ruled out.

a) Provide the differential in this case. [3]

b) Describe the specific biomarkers used to diagnose such a case. [3]

c) How/when to manage symptoms in this case? [4]

Question Number : 7 Question Id : 32718730620 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

T-lymphocytes when genetically engineered as CAR-T can be a boon in managing relapse refractory hematological malignancies. India has come a long way in the area of CAR-T therapy, from developing indigenous CAR-T therapy to starting trials with different CAR-T therapies.

a) Describe the various components of the CAR-T construct. [4]

b) Describe the process of the CAR-T therapy from patient selection to the post-infusion care. [3]

c) Comment about two major adverse events directly related to the CAR-T therapy infusion. [3]

Question Number : 8 Question Id : 32718730621 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 10

Platelet Transfusions constitute approximately 50% of the workload for any blood bank:
a) Briefly comment on the relation of the platelet components and bacterial contamination. [3]
b) Strategies to manage a severely HLA-alloimmunized patient with refractory thrombocytopenia. [3]
c) Comment on expanding the platelet inventory to mitigate the impact of severe shortages with a brief note on Novel platelet products including cold-stored platelets. [4]

Question Number : 9 Question Id : 32718730622 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Ms. X a 66-year-old lady was managed with VRd therapy for Myeloma followed by ASCT. Following this, her disease went into complete remission. She was started on maintenance therapy with lenalidomide at 10 mg/d. Three years after ASCT (70y), her disease had relapsed, with a serum M protein of 1.5 g/dL, a bone marrow biopsy with 50% clonal plasma cells, and imaging showing a new lytic lesion in the right humerus.
a) Given the findings, what is the next best treatment regimen for Ms. X with the first relapse of her MM? [3]
b) Enumerate factors involved in choosing a treatment regimen for relapsed MM. [3]
c) Give an overview of the variety of ways that fitness and frailty for antimyeloma therapy can be assessed and potentially influence treatment choice. [4]

Question Number : 10 Question Id : 32718730623 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Severe congenital neutropenias (SCNs) are rare diseases. Standard care aims to prevent infections and limit the risk of leukemic transformation; however, several subtypes may have additional organ dysfunction(s), requiring specialized care.
a) Identify the key clinical features of a patient with neutropenia which suggest a possible genetic

cause. [4]

b) What are the management options in a case of severe congenital neutropenia (SCN)? [4]

c) Write a brief note on gliflozine in the management of SCN. [2]