

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 1022]

OCTOBER 2022

Sub. Code: 2013

M.D. DEGREE EXAMINATION

BRANCH III – PATHOLOGY

**PAPER IV – IMMUNOPATHOLOGY, HAEMATOLOGY, PRINCIPLES
AND APPLICATION TO TECHNOLOGICAL ADVANCES
IN LABORATORY SERVICES**

Q.P. Code: 202013

Time : Three Hours

Maximum : 100 Marks

I. Essay:

(2 x 15 = 30)

1. Functional Classification of Hemoglobin variants and describe about Hb S.
2. Immunodeficiency syndrome associated with systemic diseases.

II. Write Short Notes on:

(10 x 5 = 50)

1. Reticulocyte Production Index.
2. Safety in Hematology Laboratory.
3. Cytochemical stains in leukemia and interpretations.
4. Write about platelet receptors and ligand interaction.
5. Laboratory detection and types of Von Willebrand disease.
6. Immunology of leprosy.
7. Write briefly about Congenital Coagulopathies.
8. Myelophthisic anemia.
9. Classify acute leukemia of Ambiguous lineage and describe briefly about them.
10. Automation in urine analysis.

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III. Reasoning Out:

(4 x 5 = 20)

1. A 76 year old male had difficulty in walking and his children suspected stroke and brought to physician. Physician diagnosed it as peripheral neuropathy. Routine hematological investigations showed, WBC's 3.2×10^9 , RBC's 2.22 million, HB 8.5 gms%, HCT 27%, MCV 121.6fL, MCH 38.3 pg, MCHC 31.5g/dl, RDW 18%, Platelets 115×10^9 , Reticulocytes 1.8%.
 - a. Discuss about possible diagnosis.
 - b. Which CBC findings help the physician to get diagnosis?
 - c. What are the other tests can be done?

2. A 68 year old man presented with back pain, weakness, anemia and features of renal failure. He had history of fracture of big toe 2months back due to slip.
 - a. Write possible diagnosis.
 - b. Discuss about the features associated with this condition
 - c. What are the other investigations to be done?
 - d. Enumerate Blood and BM picture.

3. A 25 year woman born out of consanguineous marriage, presented with ulcer, discoloration, itching of lower leg. On examination she had splenomegaly with features of anemia.
 - a. What's the diagnosis?
 - b. Pathogenesis and Morphological Changes.
 - c. What are the changes you expect in RBC's?
 - d. What are the other tests to confirm the diagnosis?

4. A 25-year-old male presented with multiple nodes in neck. H/O fever with night sweats present.
 - a. What's the diagnosis?
 - b. Detail about types and morphology.
 - c. Write briefly about differential diagnosis.
 - d. Possible investigations required to substantiate your diagnosis.

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