

[LM 116]

MAY 2018

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. Discuss in detail Allogenic Haematopoietic Stem cell transplantation, its Indications, Sources of stem cells, Donor requirement, Conditioning procedure, Early and late complications.
2. Discuss in detail Automation in Hematology. Describe the Principles of working, Parameters measured, Advantages, disadvantages and Causes of erroneous results with Hematology Analyser.

**II. Write Short Notes on:**

**(10 x 5 = 50)**

1. Paroxysmal Nocturnal Haemoglobinuria.
2. Reticulocyte Production Index.
3. Minimal Residual Disease.
4. Monoclonal Gammopathy.
5. Microarray Analysis.
6. Fibrin degradation products.
7. Myelofibrosis.
8. Hb Electrophoresis.
9. Cyto centrifuge.
10. Fanconi Anaemia.

(2)

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. 45 year old male presented with massive splenomegaly. His total count was 4 lakhs per cumm. What is the probable diagnosis? Describe the molecular pathogenesis and morphology of the disease.
2. 40 year old male presented with fever, weakness, dizziness, ataxia, siezures and purpura. Peripheral smear examination showed polychromasia, nucleated rbc's, fragmented red blood cells and thrombocytopenia. Biochemical examination revealed increased unconjugated bilirubin, lactate dehydrogenase, urea and serum creatinine levels. He had oliguria, haemoglobinuria and proteinuria. What would be the diagnosis and describe its pathogenesis?
3. 3 year old child presented with multiple erosive bony masses, diabetes insipidus and exophthalmos. FNAC of the bony lesion showed histiocytes mixed with eosinophils. What could be the diagnosis? Describe the characteristic electron microscopic picture and immunophenotype of the lesion.
4. A 30 year old male presented with fever, chills and moderate splenomegaly. He also complained of black coloured urine and bleeding gums. What is the probable diagnosis? Name all the diagnostic tools for diagnosis.

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