April-2001

[KD 065] **Sub. Code : 1402**

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch X — Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss methods to detect minimal residual disease in acute leukaemias together with its clinical and biological significance. (20)

2. Discuss laboratory diagnosis of anti–phospholipid antibody syndrome. (20)

3. Discuss laboratory techniques to study functional disorders of platelets – both inherited and acquired. (20)

4. Write short notes on : (4 × 10 = 40)
   (a) Diagnosis of AML–M7
   (b) NTBI (Non–transferrin bound iron)
   (c) Electron microscopy of hairy cell
   (d) Automated differential WBC count.

September-2002

[KH 065] **Sub. Code : 1402**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch X — Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions

1. Enumerate the causes of thrombophilia in young adults. Discuss the laboratory tests that enable to define the underlying defect. (20)

2. Antibody screening in transfusion medicine (20)

3. Laboratory tests that establish accelerated haemolysis. (20)

4. Write short notes on : (4 × 10 = 40)

(a) Automated reticulocyte counts. What new information does it provide?

(b) FISH.

(c) Pre-analytical errors in haematology.

(d) Flow cytometry.

[KK 065] Sub. Code : 1402

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch X — Clinical Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

A. Essays : (2 × 15 = 30)

(1) Discuss the approaches used in a Diagnostic Haematology laboratory to ensure that the results obtained are accurate and reproducible.

(2) You are asked to set up a comprehensive and prospective audit of blood/blood product usage and transfusion safety in your hospital. Discuss your approach to establishment and management of this program.

B. Short notes : (10 × 5 = 50)

(1) Automated methodologies for determination of platelet counts, including the advantages and disadvantages of each.

(2) D–Dimer testing for VT/VTE.

(3) The laboratory diagnosis of 'sickle cell' disorders.

(4) Laboratory evaluation of G6PD deficiency.

(5) Haemorrhagic disease of the newborn.

(6) Analysis of chimerism post bone marrow transplant.

(7) The flow cytometric analysis of chronic lymphoproliferative disorders.

(8) Laboratory evaluation of hereditary spherocytosis.

(9) The principles and utility of the anti Xa assay.

(10) Coomb's (direct antiglobulin) test reagents.

April 2004

[KM 065] **Sub. Code : 1402**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch X — Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours **Maximum : 100 marks**

Theory : Two hours and forty minutes **Theory : 80 marks**

M.C.Q. : Twenty minutes **M.C.Q. : 20 marks**

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

(1) Give the principles of flow cytometry and its application in diagnostic haematology.

(2) Discuss the role of automation in blood banking.

II. Short notes : (10 × 5 = 50)

(a) Screening tests for G6PD deficiency

(b) M–FISH

(c) Reticulocyte count

(d) PFA–100

(e) APC–resistance

(f) Tests for detecting iron deficiency

(g) Antiglobulin test

(h) Non–specific esterase

(i) D–Dimer testing

(j) Prenatal diagnosis of thalassemia.

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[KO 065] **Sub. Code : 1402**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch X — Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

(1) Discuss Laboratory techniques in characterising monoclonal gammopathy.

(2) Role of PET scan in haematological malignancy.

II. Short notes : (10 × 5 = 50)

(a) Role of Bone marrow trephine Biopsy in myelodysplastic syndrome.

(b) Transferrin Receptors.

(c) Laboratory diagnosis of von-willebrands disease.

(d) Laboratory assays for antiphopholipid syndrome.

(e) Immunophenotype of Mantle cell lymphoma.

(f) Electronic cell counter-merits and demerits.

(g) Serum immunofixation electrophoresis.

(h) Laboratory monitoring of anticoagulation.

(i) Detection of minimal residual disease.

(j) Alpha thalassemia trait.

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[KP 065] **Sub. Code : 1402**

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch X — Clinical Haematology

Paper II — LABORATORY HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions :

(1) Principles of working of flow cytometer with its application in diagnosis of haematological disorders. (20)

(2) Discuss the principles of the techniques used to detect atypical antibodies in a blood bank. (15)

(3) How will you process a lymph node biopsy specimen to get maximum relevant information from the haematopathologist? (15)

II. Short notes : (6 × 5 = 30)

(a) Laboratory criteria to diagnose the aplastic anaemia.

(b) The marrow fibrosis.

(c) Principles of getting a standard karyotype in the laboratory.

(d) Iron status of a patient.

(e) PFA–100

(f) Lupus Inhibitor.

August 2008

[KT 065] **Sub. Code: 1402**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch X – Clinical Haematology

(Revised Regulations)

Paper II – LABORATORY HAEMATOLOGY

Q.P. Code: 161402

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Describe the laboratory approach for the diagrams of haematological causes of central cyanosis.
2. What are the principles of measuring an important analyte by ELISA technique. What are the different types of ELISA used in haematological laboratory.

II. Write short notes on: **10 x 6 = 60**

1. Laboratory diagnosis of platelet refractoriness.
2. Laboratory diagnosis of DCT negative immune haemolytic anaemia.
3. Application of lectins in haematology laboratory.
4. JAK 2 mutation in haemotological disorder.
5. Separation of cells by density gradient.
6. Principles of staining a standard periphnal smear by Romanowsky based panchromatic stain.
7. Laboratory diagnosis of foeto maternal haemorrhage.
8. Principles of assuring platelet function in the laboratory.
9. FISH in diagnosis of haematological disorders.
10. How do you demonstrate ring sideroblasts? Describe the principles of staining for ring sideroblasts.

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August 2009

[KV 065] **Sub. Code: 1402**

D.M. DEGREE EXAMINATION

(Higher Specialities)

Branch X – Clinical Haematology

(Revised Regulations)

Paper II – LABORATORY HAEMATOLOGY

Q.P. Code: 161402

Time: Three hours **Maximum: 100 Marks**

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays: **2 x 20 = 40**

1. Describe investigations for the diagnosis of multiple myeloma; mention in brief their principle, methods and significance.
2. Describe the peripheral blood smear in health and disease.

II. Write short notes on: **10 x 6 = 60**

1. Lupus anticoagulant.
2. PFA 100.
3. Automated reticulocyte count.
4. Flowcytometry in the diagnosis of chronic lymphoproliferative disorders.
5. Soluble transferring receptors (STIR).
6. Vitamin B12 and folate assay.
7. TPMT.
8. Cytogenetic in Fanconi's anemia.
9. MRD detection in acute leukemia.
10. PH Chromosome.

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August 2011

[KZ 065] **Sub. Code: 1402**

DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION (SUPER SPECIALITIES)

BRANCH X – CLINICAL HAEMATOLOGY

LABORATORY HAEMATOLOGY

Q.P. Code: 161402

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Discuss the tests used in the laboratory evaluation of a 28 year old lady with 1 week old femoral venous thrombosis. What precautions would you take in performing these tests in relation to this patient?	11	35	15
2. What measures would you adopt to evaluate and select a cell counter? How will you develop and validate your decision rules for slide review on the cell count samples sent to the lab?	11	35	15
II. Write notes on :			
1. The flow cytometric analysis of chronic lymphoproliferative disorders.	4	10	7
2. Congenital non-spherocytic haemolytic anemia.	4	10	7
3. Transfusion associated graft versus host disease (TA-GVHD).	4	10	7
4. Laboratory basis of neonatal alloimmune thrombocytopenia.	4	10	7
5. Hb A2 – measurement and interpretation of results.	4	10	7
6. Laboratory diagnosis of malaria.	4	10	7
7. Measurement of ADAMTS-13 and its significance.	4	10	7
8. Laboratory methods to document the bcr-abl translocation.	4	10	7
9. Romanowsky – Giemsa effect.	4	10	7
10. Laboratory diagnosis of heparin induced thrombocytopenia thrombosis.	4	10	7

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[LB 065] **AUGUST 2012** **Sub. Code: 1402**

D.M – CLINICAL HAEMATOLOGY

Paper – II LABORATORY HAEMATOLOGY

Q.P. Code: 161402

Time: 3 hours **Maximum: 100 marks**

(180 Min) Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Describe in detail the laboratory evaluation of a patient with suspected von Willebrand disease.	16	35	15
2. A 50 year old man presents with weakness and pancytopenia. There are features of dysplasia in the white cells. Describe in detail the laboratory evaluation of this patient.	16	35	15

II. Write Notes on:

1. Etiology and laboratory diagnosis of megaloblastic anemia.	4	10	7
2. Hereditary pyropoikilocytosis.	4	10	7
3. Autohemolysis test.	4	10	7
4. Stress cytogenetics.	4	10	7
5. Chimerism analysis following stem cell transplant.	4	10	7
6. Coomb’s test.	4	10	7
7. Romanowsky stains.	4	10	7
8. Cytogenetic abnormalities in multiple myeloma.	4	10	7
9. Detection of minimal residual disease in leukemia.	4	10	7
10. Utility of flow cytometry in platelet disorders.	4	10	7

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(LD 065) **AUGUST 2013** **Sub. Code:1402**

D.M. – CLINICAL HAEMATOLOGY
Paper – II LABORATORY HAEMATOLOGY
Q.P.Code: 161402

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Describe the laboratory evaluation of a patient with suspected platelet function disorder.
2. Describe in detail the laboratory evaluation of a patient with aplastic anaemia.

II. Write notes on: **(10X7=70)**

1. Methods of HLA typing.
2. Diagnosis of methaemoglobinemias.
3. Diagnosis of heparin induced thrombocytopenia.
4. Flowcytometry in red cell disorders.
5. Molecular markers in AML.
6. Free light chain assay.
7. Sequencing.
8. Perl's stain.
9. Evaluation of platelet refractoriness.
10. Diagnosis of leukocyte adhesion defects.

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[LF 065] **AUGUST 2014** **Sub. Code: 1402**

D.M. – CLINICAL HAEMATOLOGY

Paper II – LABORATORY HAEMATOLOGY

Q. P. Code: 161402

Time: Three Hours **Maximum: 100 Marks**

Answer ALL questions in the same order.

I. Elaborate on: **(2 x 15 = 30)**

1. Enumerate methods of CD34 quantification, its relevance and the quality control measures used for these assays.

2. Discuss the diagnosis and classification of Von Willebrand disease.

II. Write notes on: **(10 x 7 = 70)**

1. Laboratory methods to classify diffuse large B cell lymphoma.
2. T315 I mutation in CML.
3. Diagnostic tests and their limitations in Paroxysmal Nocturnal Haemoglobinuria.
4. Write briefly on methods used, their advantages and disadvantages, in 'Minimal Residual Disease' (MRD) detection of ALL.
5. Write a brief note on tests used in the diagnosis of Thrombotic Thrombocytopenic Purpura.
6. Write a brief note on evaluation of a suspected red cell enzymopathy.
7. Discuss the mutation profile of myeloproliferative neoplasms.
8. Discuss the role of molecular monitoring in the management of chronic myeloid leukemia.
9. Write a short note on laboratory investigations in a suspected case of anemia of chronic disease.
10. Write a short note on FLAER.

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