APRIL 2001

[KD 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Define anaemia. Discuss the classification of anaemias. Add a note on red cell indices. (25)

2. Discuss semen analysis in detail. (25)

3. Write short notes on : (5 × 10 = 50)

   (a) ESR.

   (b) LE cell preparation.

   (c) Ketone bodies in urine.

   (d) Differences between transudate and exudate.

   (e) Absolute eosiniphil count.

DECEMBER 2001

[KE 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL the questions.

1. What is thrombocytopenia? Name some disorders where thrombocytopenia is marked. Discuss in detail the Laboratory Diagnosis of Thrombocytopenia. (25)

2. Discuss in detail about the sediments found in the urine (with suitable diagrams). (25)

3. Write short notes on : (5 × 10 = 50)

(a) Importance of a thick blood smear

(b) C.S.F. Analysis

(c) Seminal analysis

(d) What are ketone bodies? How do you test for them?

(e) Importance of Motion Examination.

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APRIL 2003

[KI 877]

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. What are the various platelet disorders. Describe the laboratory tests useful in their diagnosis? (25)

2. Describe the value of microscopic examination of urine in various renal diseases. (25)

3. Write short notes on : (5 × 10 = 50)

(a) Supra vital stains

(b) Erythrocyte sedimentation rate

(c) Red cell indices

(d) Stool examination

(e) Electronic cell counter.

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NOVEMBER 2003

[KJ 877] **Sub. Code : 5018**

B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Two hours and forty minutes
Sec. A and Sec. B Sec. A and Sec. B : 80 marks

Twenty minutes for Sec. C Section C : 20 marks

Section C must be answered **SEPARATELY** on the Answer sheet provided as per the instructions on the first page of M.C.Q. Book let.

Answer Sections A and B in the **SAME** Answer Book.

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. Write on the preparation and staining of heral smear. (15)

2. Write on the quality control in haematology story. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :
   (a) Platelet count.
   (b) Sickle cell preparation.
   (c) Urinary sediments.
   (d) Osmotic fragility.
   (e) Collection of urine.
   (f) Calculation of red cell indices.
   (g) Iron stain.
   (h) Staining of reticulocytes.
   (i) Acid haemolysis test.
   (j) Cerebrospinal fluid cell count.

AUGUST 2004

[KL 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. Classify Anaemias

Describe the laboratory investigation of a case of anaemia. (15)

2. Describe the importance of examining the cerebro–spinal fluid in central nervous system disorders. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) Hb. electrophoresis

(b) E.S.R.

(c) Supra–Vital staining

(d) L.E. Cell

(e) Megaloblast

(f) Platelet count

(g) Absolute eosinophil count

(h) Semen analysis

(i) Physical examination of urine

(j) Sputum examination.

FEBRUARY 2005

[KM 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology)
DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. Enumerate the laboratory investigations and their findings for a Bleeding disorder. (15)

2. Enumerate the diseases transmitted through blood transfusion and their laboratory diagnosis. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) P C V

(b) Absolute eosinophil count

(c) Lab tests for blood parasites

(d) Reticulocyte count

(e) Peroxidase stain

(f) Romanowsky stains

(g) Coombs test

(h) Blood collection and preservation for blood bank

(i) Cross matching

(j) Peripheral blood picture of chronic myeloid leukaemia

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AUGUST 2005

[KN 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Sec. C : Twenty minutes Sec. C : 20 marks

Answer Sections A and B in the **SAME** answer book.

Answer Section C in the answer sheet provided.

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. Describe the uses of microscopic examination of urine. (15)

2. What are the methods and uses of doing a Bone-Marrow examination? (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) Test for reducing sugars in urine.

(b) Bence Jones protein.

(c) Osmotic Fragility test.

(d) Casts in urine.

(e) Bleeding time and clotting time.

(f) Cytochemical stains for lukaemia.

(g) Concentration test for ova in stools.

(h) Ehrlichs test for urobilinogen.

(i) Cerebrospinal fluid changes in meningitis.

(j) Coombs test.

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AUGUST 2006

[KP 877] Sub. Code : 5018

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Descriptive: Two hours and forty minutes Descriptive : 80 marks

Objective : Twenty minutes Objective : 20 marks

Answer ALL questions.

Write essay on :

1. (a) Write in detail about the staining procedure of peripheral smear and discuss the various morphological abnormalities of the cells.

(b) LE cell Test. (20)

2. Discuss in detail about collection, preservation and the various tests in semen analysis. (15)

3. Write on automation in Haematology. (15)

4. Write short notes on : (6 × 5 = 30)

(a) Urinary deposits.

(b) Supra vital staining.

(c) CSF analysis.

(d) Iron deficiency Anaemia.

(e) Bleeding Time.

(f) Proteinuria.

AUGUST 2007

[KR 877] **Sub. Code : 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Time : Three hours Maximum : 100 marks

Descriptive : Two hours and forty minutes Descriptive : 80 marks

Objective : Twenty minutes Objective : 20 marks

Answer ALL questions.

I. Write essay on : (2 × 15 = 30)

(1) Classify anaemia with examples and enumerate the abnormal morphology of red blood cells with suitable diagrams.

(2) Discuss in detail about the screening of blood donors.

II. Short notes : (10 × 5 = 50)

(a) LE cell test

(b) ESR

(c) Platelet count

(d) Laboratory diagnosis of leukaemia

(e) Cross matching

(f) Anticoagulants

(g) Benedicts test

(h) Urine sediment

(i) Reticulocyte count

(j) Rhesus blood group system.

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[KT 877] **Sub. Code : 5018**

B.Sc. (Mecical Laboratory Technology) DEGREE EXAMINATION.

Second Year

Paper III — CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code : 725018

Time : Three hours Maximum : 100 marks

Answer ALL questions.

I. Essays : (2 × 15 = 30)

1. Describe the method of collection of C.S.F. and the alteration in various diseases. (15)

2. Enumerate the methods of measuring haemoglobin and describe the cyanmethhaemoglobin estimation method. (15)

II. Write short notes on : (10 × 5 = 50)

1. Packed cell volume
2. Urinometer
3. Semen Analysis
4. Romanowsky stains
5. L.E. cell preparation
6. Anticoagulants
7. Reticulocyte count
8. Partial Thromboplastin Time
9. Differential WBC count
10. Automation in Haematology.

III. Short answer questions : (10 × 2 = 20)

1. Name four commonly used anticoagulants in haematologic investigations.

2. Name four abnormal morphologic types of red blood cells seen in peripheral smear.

3. What is the normal reticulocyte count? Name two stains used for reticulocyte count.

4. What is neutrophilia? Name two causes of neutrophilia.

5. What are the constituents of Drabkin's solution?

6. Name the different types of parasites which can be identified in peripheral blood.

7. Give two uses of buffy coat preparation.

8. What are the preservatives used for 24 hour urine collection?

9. What is haematuria? Name the test for haematuria.

10. Name the ketone bodies seen in urine and the test for their detection in urine.

August - 2009

[JKV 877] **Sub. Code: 5018**

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION

SECOND YEAR

Paper III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code : 725018

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

Answer All questions.

I. Essays : **(2X15=30)**

1. Classify anaemia. Enumerate the laboratory investigations in Nutritional anaemias.

2. Define polyuria. Enumerate the laboratory tests that you will do in a urine sample from a patient with diabetes mellitus.

II. Write Short Notes on : **(10X5=50)**

1. ESR.
2. Perls stain.
3. Reticulocyte count.
4. Urinary casts.
5. Cross -matching.
6. Differential WBC count.
7. Thrombocytopenia.
8. Sperm count.
9. Total count in CSF.
10. Abnormal haemoglobins.

III. Short Answer Questions: **(10X2=20)**

1. Name two cytochemical special stains useful in classification of leukemia.
2. Name two diseases for which screening tests are to be done before blood transfusion.
3. What are red cell indices and their normal values?
4. Give four examples of Romanowsky stain.
5. Give two differences between transudate and exudates.
6. Name four common crystals seen in urine.
7. Name the test for urobilinogen in urine. What is the level of urobilinogen in a case of obstructive jaundice?
8. What are the sites for bone marrow aspiration?
9. Name two causes for cloudy urine.
10. What is Bence-Jones protein? How is it detected in urine?

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[KX 877] **AUGUST 2010** **Sub. Code: 5018**

B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code: 725018

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

Answer ALL questions

I. Essays: **(2 x 15 = 30)**

1. Describe the value of urine analysis in the diagnosis of various diseases.
2. Classify Leukemias. Describe in detail the laboratory diagnosis of various Leukemias.

II. Write Short Notes on : **(10 x 5 = 50)**

1. Red cell indices.
2. Rothera's test.
3. Bleeding time and clotting time.
4. Sickle cell preparation.
5. Haemoglobin Electrophoresis.
6. Leishman's stain.
7. Megaloblastic Anaemia.
8. Absolute Eosinophil count.
9. Osmotic Fragility.
10. Electronic cell counter.

III. Short Answer Questions: **(10 x 2 = 20)**

1. What are the various stages of maturation of myeloid cells seen in the bone marrow?
2. Name the abnormal forms of sperm seen in semen analysis.
3. Name four casts seen in urine.
4. What is the site for collection of Cerebrospinal fluid and name the needle used for it.
5. Name four sugars which can be detected in abnormal urine.
6. Name four methods of estimating haemoglobin.
7. Name the anticoagulants used in blood transfusion.
8. What are the four types of malarial parasite?
9. Name four conditions in which total white blood cell count increases.
10. Give normal values of
    a) Platelet count.
    b) Total white blood cell count.

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[KZ 0811] **AUGUST 2011** **Sub. Code: 5018**

B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code: 725018

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

Answer ALL questions

I. Elaborate on: **(3 x 10 = 30)**

1. Classify anamias and discuss etiology, salient clinical features and lab investigations of Megaloblastic anamia.
2. Discuss factors useful for haematopoisis. Enumerate WBC production along with diagrams.
3. What is the method of semen collection and discuss various lab tests on semen.

II. Write notes on: **(8 x 5 = 40)**

1. Leukemias.
2. Romanovsky stains.
3. Blood parasites.
4. Dip sticks.
5. Erythrocyte Sedimentation Rate.
6. Thrombocytopenia.
7. Reticulocyt count.
8. Blood collection and anticoagulants.

III. Short Answers on: **(10 x 3 = 30)**

1. Drabkin's solution.
2. Eosinophilia.
3. Ketone bodies.
4. Quality assurance.
5. Giemasa staining procedure.
6. Iron stain.
7. CSF.
8. PCV.
9. Composition of urine.
10. Test for stool occult blood.

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[LB 0212] **AUGUST 2012** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code : 725018

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

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

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Urine examination in health and disease.	7	20	10
2. Quality assurance in lab practice.	7	20	10
3. Classify and approach to diagnosis of anaemia.	7	20	10
II. Write Notes on:			
1. Romanowsky stains.	4	10	5
2. Collection and preservation of urine.	4	10	5
3. Examination of cerebrospinal fluid.	4	10	5
4. LE cell preparation.	4	10	5
5. Differences between transudate and exudates.	4	10	5
6. Hemoglobin estimation.	4	10	5
7. Osmotic fragility test.	4	10	5
8. Automation in haematology.	4	10	5
III. Short Answers on:			
1. Absolute eosinophil count.	2	4	3
2. Recognition of blood parasites.	2	4	3
3. Peroxides stain.	2	4	3
4. Crystals in urine.	2	4	3
5. Stool occult blood test.	2	4	3
6. Indications for semen analysis.	2	4	3
7. Thick and thin blood smears.	2	4	3
8. Supravital staining.	2	4	3
9. Techniques in molecular diagnostics.	2	4	3
10. Non neoplastic disorders of WBC.	2	4	3

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[LC 0212] FEBRUARY 2013 Sub. Code: 5018

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code : 725018

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

I. Elaborate on: **(3 X 10 = 30)**

1. Explain the structure and functions of erythrocytes. Describe the kinetics of Haemoglobin synthesis.
2. Explain automation in haematology
3. Explain the classification of leukemias

II.Write Notes on: **(8 X 5 = 40)**

1. Myelopoiesis
2. Sickle Cell anaemia
3. Bone Marrow Picture in megaloblastic anaemia
4. Flourescent In Situ Hybridisation
5. Polycythemia
6. Cerebrospinal fluid analysis
7. Internal quality control measures in haematology
8. Erythrocyte indices

III. Short Answers on: **(10 X 3 = 30)**

1. Giemsa Stain
2. Eosinophilia
3. Peripheral smear in haemolysis
4. Quantitative Buffy Coat
5. Peripheral Smear in chronic myeloid leukemia
6. Pseudothrombocytopenia
7. Haemoglobin electrophoresis
8. Auer rod
9. Bone marrow picture in acute myeloid leukemia
10. Leukocyte Alkaline Phosphatase score.

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[LD 0212] **AUGUST 2013** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER III – CLINICAL PATHOLOGY & BASIC HAEMATOLOGY

Q.P. Code : 725018

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

Answer ALL questions.

I. Elaborate on: **(3x10 = 30)**

1. Explain the laboratory approach to the diagnosis of leukemia
2. Write in detail thalassemia
3. Explain in detail the collection, processing and analysis of semen

II .Write Notes on: **(8x5 = 40)**

1. Explain the investigations of iron deficiency anemia
2. Peripheral smear and bone marrow picture of acute myeloid leukemia – M5
3. Value of sudan black in WBC disorders
4. Laboratory approach to diagnosis of malaria
5. Causes and laboratory approach of pancytopenia
6. Automation in complete blood count
7. Automated urine analysis and quality control measures
8. Red cell membrane

III. Short Answers on: **(10x3 = 30)**

1. Blood picture of chronic lymphocytic leukemia
2. Cytogenetic and molecular sub types of AML
3. Needle stick injury
4. Vacutainers used in the clinical pathology laboratory
5. Merits and demerits of automated ESR
6. Heiniz body
7. Types and significance of fragmented RBCs
8. Target cell and their significance
9. Z score
10. M : E ratio

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[LE 0212] **FEBRUARY 2014** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER III – CLINICAL PATHOLOGY & BASIC HAEMATOLOGY

Q.P. Code : 725018

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

Answer ALL questions.

I. Elaborate on: **(3x10 = 30)**

1. The development of thrombocytes and mechanism of stoppage of bleeding by thrombocytes.
2. The microscopic appearance of erythrocytes in deficiency anemia's and diagnostic tests required to confirm the deficiency.
3. Classifications of Acute Leukemia's and describe the diagnostic cell (with diagrams) in each type of leukemia.

II .Write Notes on: **(8x5 = 40)**

1. Specimen collection for blood cell counting and possible artifacts
2. Advantages & Defects of Automatic Blood Cell Counters
3. Foetal Hb (HbF) in adult blood.
4. Principle of Romanosky's Stains and mention the various different types of Romanowsky's Stains
5. Quality Control of platelet count
6. Difference between exudate and transudate
7. Oligo and Asthenozoospermia
8. Mean Platelet volume and its importance

III. Short Answers on: **(10x3 = 30)**

1. Toxic granules in polymorphs - appearance and clinical importance.
2. Atypical Lymphocytes - appearance and clinical importance.
3. Causes of Macrocytic anemia.
4. Anisocytosis – definition and clinical importance
5. Meaning of Asthenozoospermia
6. Megaloblast - appearance and causes
7. Define Thrombocytosis and mention two clinical conditions in which it occurs
8. Peripheral blood appearance in Chronic Myeloid Leukemia.
9. Microcyte - appearance and causes
10. Crystals in Urine- Method of examination and microscopic appearance of any four crystals.

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[LF 0212] **AUGUST 2014** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER III – CLINICAL PATHOLOGY & BASIC HAEMATOLOGY

Q.P. Code : 725018

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

Answer ALL questions.

I. Elaborate on: **(3 x 10 = 30)**

1. What is anaemia? Classify anaemias. Describe the investigations for microcytic hypochromic anaemias.
2. Classify leukemias.
3. CSF analysis.

II. Write Notes on: **(8 x 5 = 40)**

1. Haemoglobin estimation by cyanmethhaemoglobin method.
2. Leukemoid reaction.
3. Blood and bone marrow picture of chronic lymphocytic leukemia.
4. Immune thrombocytopenic purpura.
5. Red cell indices.
6. Automated ESR.
7. Internal quality control in haematology lab.
8. Polycythemia.

III. Short Answers on: **(10 x 3 = 30)**

1. Pseudothrombocytopenia.
2. Significance of nucleated RBC.
3. Auer rod.
4. Detection of bile pigments in urine by manual and automated method.
5. Histogram for RBC.
6. Target cell.
7. Sudan Black in haematology.
8. Blood picture of acute monoblastic leukemia.
9. Thick smear.
10. Occult blood in stool.

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[LG 0215] **FEBRUARY 2015** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER III – CLINICAL PATHOLOGY AND BASIC HAEMATOLOGY

Q.P. Code : 725018

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

Answer ALL questions.

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the epidemiology, molecular pathology and laboratory findings in sickle cell anaemia.
2. Describe the types of acute lymphoblastic leukemia.
3. Urinalysis.

II. Write Notes on: **(8 x 5 = 40)**

1. Haemoglobin estimation by automation.
2. External quality assurance program for haematology.
3. Histogram for RBC in health and disease.
4. Megakaryocyte.
5. Molecular basis of leukemias.
6. Types of vacutainers and the order of blood draw.
7. Cytochemistry in the diagnosis of leukemias.
8. How transudate in differentiated from exudates?

III. Short Answers on: **(10 x 3 = 30)**

1. Bence Jones protein.
2. Reasons for low platelet count in automation.
3. Quality control for urinalysis.
4. Principle of detection of glucose in urine by manual and automated method.
5. Fetal haemoglobin.
6. Esterases in haematology.
7. Personal protective equipments.
8. Reticulocyte count.
9. Perls stain.
10. Eosinophilia.

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[LH 0815] **AUGUST 2015** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write briefly about collection and preservation of urine for examination? Write in detail about the tests done for various reducing substances in urine.
2. Classify anemia. Enumerate the laboratory investigations in Nutritional anemia.
3. Write briefly about Automation in hematology principle of automation, advantages and disadvantages.

II. Write notes on: **(8 x 5 = 40)**

1. Quality control in hematology laboratory.
2. L.E cell preparation.
3. Erythrocyte sedimation Rate (ESR).
4. Stool examination for occult blood.
5. Urinary casts.
6. Sperm count.
7. Reticulocyte count.
8. Cerebrospinal fluid.

III. Short answers on: **(10 x 3 = 30)**

1. Drabkin’s solution.
2. Ketone bodies.
3. Iron stain.
4. Recognition of blood parasites.
5. Techniques in molecular diagnostics.
6. Quantitative buffy coat.
7. Blood picture of chronic myeloid leukaemia.
8. Heinz bodies.
9. Name the anticoagulants used in Clinical pathology lab.
10. What are the red cell indices and their normal values?

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[LI 0216] FEBRUARY 2016 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Classify Leukaemia? Describe the laboratory diagnostic tests for leukaemia.
2. Write the difference between exudates and transduates. How will you proceed to examine a specimen of cerebrospinal fluid?
3. Write in detail about the staining procedure of peripheral smear and discuss the various morphological abnormalities of the cells.

II. Write notes on: **(8 x 5 = 40)**

1. Semen analysis.
2. Automation in hematology.
3. Stool examination for occult blood.
4. Blood parasites.
5. Platelet count.
6. Packed cell volume (PCV).
7. Bence jones proteins.
8. Various methods of hemoglobin estimation.

III. Short answers on: **(10 x 3 = 30)**

1. Urinary deposits.
2. Name the ketone bodies seen in urine and the tests for their detection in urine.
3. Commonly used anticoagulants in hematology lab.
4. Any 3 causes for eosinophilia.
5. Vacutainers used in the clinical pathology lab.
6. Leukocyte alkaline phosphatase score (LAP).
7. Tests for sickle cell anemia.
8. Four types of malarial parasites.
9. Red cell indices.
10. Peroxidase stain and its significance.

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[LJ 0816] AUGUST 2016 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Classify leukemia. Discuss about the lab diagnosis of acute leukemia.
2. Quality control in haematology laboratory.
3. Write in detail about microscopic examination of urine with illustrative diagrams.

II. Write notes on: **(8 x 5 = 40)**

1. Various methods of haemoglobin estimation.
2. Bone marrow findings in megaloblastic anemia.
3. Automated cell counter.
4. Cerebro Spinal Fluid (CSF) cell count.
5. Micro-haematocrit.
6. Differences between exudate and transudate.
7. PCR (Polymerase Chain Reaction).
8. Platelet count.

III. Short answers on: **(10 x 3 = 30)**

1. Name any three parasites found in urine.
2. Give two uses of buffy coat preparation.
3. Name three abnormal morphologic forms of Red blood cells in peripheral smear.
4. Name any three sites of bone marrow aspiration.
5. Name the stages of malarial parasites found in peripheral blood for *Plasmodium vivax* species.
6. Define pancytopenia.
7. How will you do Ehrlich's test for urobilinogen in urine?
8. Name four anticoagulants used in haematology lab.
9. MCV (Mean Corpuscular Volume).
10. Benedicts's Test.

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[LK 0217] FEBRUARY 2017 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Discuss Cerebro Spinal Fluid (CSF) analysis in detail.
2. Classify anemia. Discuss about the laboratory diagnosis of Iron deficiency.
3. Describe in detail about the development of white blood cells (WBCs) with suitable diagrams.

II. Write notes on: **(8 x 5 = 40)**

1. Coulter Principle and its applications in haematology.
2. Haemoglobin electrophoresis.
3. Peripheral blood picture of chronic myeloid leukemia.
4. Preservatives used in urine examination.
5. Tests done for ketone bodies in urine.
6. Thrombocytopenia.
7. Synovial fluid examination.
8. Absolute eosinophil count.

III. Short answers on: **(10 x 3 = 30)**

1. Define quality control.
2. Name three parasites found in peripheral blood.
3. Name any three stains used in bone marrow smear examination.
4. Crystals found in urine.
5. Supravital stains.
6. Define polycythemia and name any two causes.
7. Name any three molecular diagnostic techniques in haematology.
8. Target cell.
9. Thick blood smear.
10. Name any four tests used in the investigation of haemolytic anemia.

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[LL 0817] AUGUST 2017 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write briefly about collection and preservation of urine for examination? Write in detail about the tests done for various reducing substances in urine.
2. What is anaemia? Classify anaemias. Describe the investigations for microcytic hypochromic anaemia.
3. CSF analysis.

II. Write notes on: **(8 x 5 = 40)**

1. Prothrombin time.
2. HBs.
3. Fibrin degradation products.
4. Erythrocyte Sedimentation Rate (ESR).
5. Urine preservatives.
6. Cerebrospinal fluid.
7. Sperm Count and its significance.
8. Polycythemia.

III. Short answers on: **(10 x 3 = 30)**

1. Sickling test.
2. Ham’s test.
3. Iron stain.
4. Heinz bodies.
5. P.C.V tubes uses.
6. Blood and bone marrow picture of chronic lymphocytic leukemia.
7. Thick Smear.
8. Ketone bodies.
9. Techniques in molecular diagnostics.
10. What are the red cell indices and their normal values?

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[LM 0218] FEBRUARY 2018 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define Leukemia. Classify it. Explain the blood and bone marrow findings in CML.
2. a) What is HCG?
   b) Mention HCG levels at various stages of pregnancy.
   c) Explain different card tests used for the detection of pregnancy.
3. Write brief about automation in hematology, principle of automation, advantages and disadvantages.

II. Write notes on: **(8 x 5 = 40)**

1. Leukaemiod reactions.
2. Polycythemia.
3. ESR (Erythrocyte Sedimentation Rate).
4. Urine preservatives.
5. Semen analysis.
6. Importance of blood grouping and cross matching.
7. Laboratory diagnosis of Iron deficiency anaemia.
8. Internal quality control in haematology lab.

III. Short answers on: **(10 x 3 = 30)**

1. Ham's test.
2. Significance of nucleated RBC.
3. Ketone bodies.
4. Hemoglobin estimation values in different ages.
5. Recognition of blood parasites.
6. How do you obtain plasma and serum?
7. Bleeding time.
8. Measurement of faecal fat.
9. Organized sediments of urine.
10. Fouchet's test.

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[LN 0818] AUGUST 2018 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Neoplastic and non-neoplastic disorders of WBC and their lab findings.
2. Write an essay on Automation in Haematology.
3. Classify anemia. Enumerate the laboratory investigations in Nutritional anaemia.

II. Write notes on: **(8 x 5 = 40)**

1. Mention different methods of hemoglobin estimation.
2. Red cell indices.
3. Examination of blood for parasites.
4. Different types of dipsticks and their advantages and disadvantages.
5. Semen analysis.
6. Hemoglobin estimation values in different ages.
7. Cerebrospinal fluid.
8. L.E cell preparation.

III. Short answers on: **(10 x 3 = 30)**

1. Bleeding time.
2. Measurement of faecal fat.
3. Name the anticoagulants used in clinical pathology lab.
4. What is molecular diagnostics? Mention two disease conditions when it is used.
5. Significance of nucleated RBC.
6. Sudan Black in haematology.
7. Thick Smear.
8. Ketone bodies.
9. Laboratory diagnosis of iron deficiency anaemia.
10. Ham’s test.

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[LO 0219] FEBRUARY 2019 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Describe in detail about the indications, collection and examination of Seminal fluid.
2. Classify hemolytic anemias. Describe in detail the pathogenesis, clinical features and lab diagnosis of Sickle cell anemia.
3. Write the differences between transudate and exudate. Describe in detail about the indications, processing and examination of Pleural fluid.

II. Write notes on: **(8 x 5 = 40)**

1. Pandy's test in CSF.
2. Stool examination.
3. Primary Myelofibrosis.
4. Hematocrit.
5. Urinary sediments.
6. Disseminated Intravascular Coagulation.
7. Hereditary spherocytosis.
8. Eosinophilia.

III. Short answers on: **(10 x 3 = 30)**

1. Drabkin's reagent.
2. Bernard-Soulier syndrome.
3. Classify polycythemia.
4. Fibrin degradation products.
5. Heinz bodies.
6. Benzidine test.
7. Three Romanowsky stains.
8. Three methods of hemoglobin estimation.
9. Bence jones proteins.
10. Rothera's test.

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[LP 0819] AUGUST 2019 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write briefly about collection and preservation of urine for examination. Write in detail about the tests done for various reducing substances in urine.
2. Classify hemolytic anemias. Describe in detail the pathogenesis, clinical features and lab diagnosis of Beta thalassemia.
3. List the causes of thrombocytopenia. Describe in detail the pathogenesis, clinical features and lab diagnosis of Immune Thrombocytopenic Purpura (ITP).

II. Write notes on: **(8 x 5 = 40)**

1. Neutrophilia.
2. Tests for proteinuria.
3. Primary Myelofibrosis.
4. Stool examination.
5. Prothrombin time.
6. Qualitative platelet disorders.
7. Semen analysis.
8. Sputum examination.

III. Short answers on: **(10 x 3 = 30)**

1. Quantitative Buffy Coat (QBC).
2. Indications for 24 hour urine specimen.
3. Four causes for increased reticulocyte count.
4. Four causes for increased ESR.
5. Fetal hemoglobin.
6. Howell jolly bodies.
7. Four anticoagulants.
8. Fibrin degradation products.
9. Guaiac test.
10. Four indications for Bone marrow aspiration.

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[LQ 0220] FEBRUARY 2020 **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code: 725018

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

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write the differences between transudate and exudate. Describe in detail about the indications, processing and examination of Ascitic fluid.
2. Classify anemias. Describe in detail the pathogenesis, clinical features and lab diagnosis of megaloblastic anemia.
3. Classify bleeding disorders. Describe in detail the etiopathogenesis, clinical features and lab diagnosis of Disseminated Intravascular Coagulation (DIC).

II. Write notes on: **(8 x 5 = 40)**

1. Tests for reducing sugars in urine.
2. Reticulocyte count.
3. Hemoparasites.
4. Coomb's test.
5. Urinary casts.
6. Chronic Lymphocytic Leukemia (CLL).
7. Red cell indices.
8. Neutropenia.

III. Short answers on: **(10 x 3 = 30)**

1. Four anticoagulants.
2. Christmas disease.
3. Screening tests in blood bags.
4. Sickling test.
5. Causes of lymphocytosis.
6. Four RBC inclusions.
7. Occult blood in stool.
8. Sperm viability test.
9. Drabkin's reagent.
10. LE cell.

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

[AHS 0321] MARCH 2021 Sub. Code: 5018

(AUGUST 2020 EXAM SESSION)

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR (From 2010-2011 onwards)

PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY

Q.P. Code : 725018

Time: Three hours Answer ALL Questions Maximum: 100 Marks

I. Elaborate on: (3 x 10 = 30)

1. What is Hematopoiesis? Write about the development of blood cells.
2. Write in detail about the physical and chemical examination of urine.
3. Automation in Hematology.

II. Write notes on: (8 x 5 = 40)

1. Sickling test.
2. Bone marrow findings in Megaloblastic anemia.
3. Packed cell volume.
4. Morphological abnormalities of RBCs in peripheral smear.
5. Coombs test.
6. Chemical analysis of pleural fluid.
7. Morphological abnormalities of sperms.
8. Lab diagnosis of Leukemia.

III. Short answers on: (10 x 3 = 30)

1. Bence Jones proteins.
2. Casts in urine.
3. Perl’s stain.
4. Occult blood in stool.
5. Quantitative Buffy Coat (QBC).
6. LE cell.
7. Drabkin’s reagent.
8. Blood grouping.
9. Screening tests in blood bags.
10. Causes of Lymphocytosis.

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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 5018**
(AUGUST 2021 EXAM SESSION)

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (From 2010-2011 onwards)
PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY
Q.P. Code : 725018

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Discuss the physical and chemical examination of urine sample?
2. Discuss quantitative and qualitative platelet disorders in detail with lab investigations?
3. Write a detail note on hematopoiesis?

II. Write notes on: **(8 x 5 = 40)**

1. Write a note on Pseudo thrombocytopenia?
2. Classify anemia on RBC indices?
3. Write a note on microangiopathic hemolytic anemia?
4. Classify alpha thalassemia with lab investigations?
5. Discuss 3 qualitative WBC disorders?
6. Write a note on RBC inclusions?
7. Write a note on Blood smear preparation and the staining techniques?
8. Explain pancytopenia and their causes and mention some lab investigations?

III. Short answers on: **(10 x 3 = 30)**

1. What are the test for reducing sugar in urine?
2. Write 4 causes for Increased ESR and 1 cause for low ESR?
3. Write the indications for bone marrow aspiration?
4. Define Bleeding and clotting time?
5. Write the order of draw in blood collection?
6. Write the four causes of increased reticulocyte count?
7. Lab investigations in sickle cell anemia?
8. What are the test for Ketone bodies in urine?
9. Define Anticoagulants and their uses?
10. What are the uses of Thick and Thin blood smear in diagnosis?

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

[AHS 0922] SEPTEMBER 2022 Sub. Code: 5018
(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulation from 2010-2011)
PAPER III – CLINICAL PATHOLOGY & BASIC HEMATOLOGY
Q.P. Code : 725018

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the etiology, pathogenesis, and laboratory diagnosis of Sickle cell anemia.
2. Define and Classify Anaemia. Write in detail about Megaloblastic Anaemia.
3. Classify Leukemia. Write in detail about etiopathogenesis and laboratory investigations and peripheral smear findings in Chronic Myeloid Leukemia.

II. Write notes on: **(8 x 5 = 40)**

1. Method of investigation of osmotic fragility.
2. Examination of Quantitative Buffy Coat technique.
3. Classification of proteinuria with any one investigation method in urine.
4. Method of reticulocyte count. Calculation of corrected reticulocyte.
5. Interpret the histogram of complete blood count parameters.
6. Principles of dry chemistry in urine analysis.
7. Pregnancy tests in urine.
8. Laboratory finding of RBC abnormality in peripheral blood smear.

III. Short answers on: **(10 x 3 = 30)**

1. Paroxysmal Nocturnal Hemoglobinuria.
2. Semen Analysis.
3. Clinical significance of urine nitrite.
4. Too acid stain in blood smears causes and corrections.
5. Significances of CSF Examination.
6. Crystals associated with liver disorders.
7. Differentiate exudate from transudate.
8. Write about uses of Dipsticks in urine analysis.
9. Myelodysplastic syndrome disorders.
10. Significance of synovial fluid examination.

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

[AHS 0423] **APRIL 2023** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulations 2010-2011& 2018-2019 onwards)
PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY
Q.P. Code: 725018

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Define Anemia. Write the classification of Anemias and an approach to Diagnosis of Anemia with emphasis on the Diagnostic Tests.
2. Write in detail about the Methods of Collection of Urine and the Urine preservatives. Include a note about the Microscopic Examination of Urine.
3. Semen Analysis.

II. Write notes on: **(8 x 5 = 40)**

1. Methods of Hemoglobin Estimation.
2. Thrombocytopenia.
3. Prothrombin time.
4. Anticoagulants and its applications.
5. Hemoparasites.
6. Packed Cell Volume.
7. Tests for Ketone bodies in Urine.
8. Osmotic Fragility Test.

III. Short answers on: **(10 x 3 = 30)**

1. Leishman Stain.
2. Basophilic Stippling.
3. Thick Smear.
4. Schilling's Test.
5. Benedict's Test.
6. Vacutainers used in Clinical Pathology Lab.
7. Blood picture in Chronic Lymphoid Leukemia.
8. Causes of Neutrophilia.
9. Myeloid:Erythroid ration (M:E ratio).
10. Neubauer Chamber.

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

[AHS 1123] **NOVEMBER 2023** **Sub. Code: 5018**

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulations 2010-2011& 2018-2019 onwards)
PAPER III – CLINICAL PATHOLOGY AND BASIC HEMATOLOGY
Q.P. Code: 725018

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the procedure of Urinary Sedimentation. Give a detailed note on Organized and Non-organized elements in Urine with suitable diagrams.
2. Define Iron Absorption and Storage in Body Cells. Discuss in detail about lab diagnosis of Microcytic Hypochromic Anemia.
3. Discus in detail about Special and Routine stains used in Hematology.

II. Write notes on: **(8 x 5 = 40)**

1. Role of Urine Examination in case of Jaundice.
2. Investigation and cause of Haemoglobinuria and Haematuria in Urine.
3. Discuss Pathogenesis and Lab diagnosis of Neutrophil Disorders.
4. Importance of Microenvironment in Hematopoiesis.
5. Sickle Cell Anaemia.
6. Examination of Inborn errors Amino acid in Urine.
7. Polycythemia and types.
8. Kleihauer Preparation.

III. Short answers on: **(10 x 3 = 30)**

1. Microalbuminuria.
2. RBC Inclusions.
3. G6PD Deficiency.
4. Megaloblastic Anaemia.
5. Molecular diagnostic methods in Hematology.
6. Types of collection of urine specimen.
7. Methemoglobinemia.
8. Function and Structure of Platelet.
9. Carbohydrate disorders detected in Urine.
10. Write about supravital stains with examples.

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