[LH 0415] **OCTOBER 2015** **Sub. Code: 1263**

M.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION

SECOND YEAR

(From 2013-2014 Batch onwards)

PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code : 281263

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

Answer ALL questions

I. Elaborate on: **(2 x 20 = 40)**

1. Types of blood bags, its anticoagulant and preservative solution.
2. What is Leukemia? How is it classified broadly? Explain briefly the causes of leukemia.

II. Write Notes on: **(10 x 6 = 60)**

1. Peripheral smear – Preparation and Interpretation.
2. Hemophilia.
3. Criteria's for autologous transfusion.
4. Test for presence of bile in urine with its clinical significance.
5. Define Apheresis, Indication and method of Apheresis.
6. Significance of fibrinogen and D Dimer testing.
7. Types of blood donors.
8. Basics of HLA typing and HLA antibody detection.
9. Megaloblastic Anemia.
10. Protein in urine.

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[LJ 1016] OCTOBER 2016 **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
SECOND YEAR
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Classify disorders of the platelets. Discuss the laboratory diagnosis of bleeding disorders.

2. What are the different blood components prepared in the department of Transfusion Medicine? Describe the procedure of platelet concentration preparation.

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

1. Bombay phenotype antigen.
2. Protocol for compatibility test procedure.
3. Cryo precipitate.
4. Quality control used in blood grouping.
5. Osmotic fragility.
6. INR.
7. Intra uterine transfusion.
8. Peripheral smear in CML.
9. Importance of microscopic examination of urine.
10. Reticulocyte count.

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[LL 1017] OCTOBER 2017 **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
SECOND YEAR
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Classify disorders of platelets. Discuss the laboratory diagnosis of bleeding disorders.

2. Elaborate on complete urine analysis and microscopic examination of urine.

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

1. Megaloblastic anemia.
2. Rh blood group system.
3. Anticoagulants used in blood banking.
4. Parasites in blood.
5. PT and APTT.
6. Polycythemia.
7. Leukemia.
8. Coombs test.
9. Autologous transfusion.
10. PCR.

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[LN 1018] OCTOBER 2018 **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
SECOND YEAR
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Discuss in detail the laboratory workup of thrombotic disorders.

2. Explain in detail about the types of blood bags, its anticoagulant and preservative solution.

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

1. Issue of blood to patients with multiple transfusion.
2. Screening of donors.
3. Reticulocyte count.
4. Iron deficiency anaemia.
5. Coomb's test.
6. Bombay phenotype antigen.
7. Test for presence of bile pigments in urine with its principle and clinical significance.
8. Plasmapharesis.
9. Importance of microscopic examination of stool.
10. Leukemoid reaction.

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[LO 0519] MAY 2019 **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
SECOND YEAR
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Discuss in detail, about peripheral smear preparation, staining and its interpretation.

2. Explain in detail, types of donors, donor selection and post donation management of donors.

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

1. Reticulocyte count.
2. Bleeding Time.
3. Principle and clinical significance of Ketone bodies testing in urine.
4. Significance of fibrinogen and D-dimer testing.
5. Chronic Myeloid Leukemia.
6. Autologous Transfusion.
7. Define Apheresis. Indication and method of Apheresis.
8. Types and advantages of blood bags.
9. Basic principle involved in automated cell counter.
10. Microscopic examination of stool.

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[LP 1019] OCTOBER 2019 **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
SECOND YEAR
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. What are myeloproliferative disorders? Classify them and write in detail about chronic myeloid leukemia.

2. What are the different types of blood transfusion? Explain in details about exchange transfusion and autologous transfusion.

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

1. APTT & PT.
2. Define Apheresis, indications and method of Apheresis.
3. Megaloblastic Anemia.
4. Coomb's test.
5. Test of presence of bile salts and bile pigments in Urine – name them, write the principle of one test for each and give the clinical significance.
6. Compare and contrast leukemia and leukemoid reaction.
7. ABO Blood group system.
8. Hemoparasites.
9. Western blot – How it is done and its significance?
10. Flow cytometry.

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

[LQ 1220] DECEMBER 2020 Sub. Code: 1263
(MAY 2020 EXAM SESSION)

M.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR – (Regulation 2011 – 2012 & 2013-2014)

PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. CODE: 281263

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

Answer ALL Questions

I. Elaborate on: **(2 x 20 = 40)**

1. Define Anemia, give the classification of Anaemia and write in detail about Hemolytic Anaemia.

2. Write in detail about history of Blood Transfusion, type of Donors, Donor selection criteria and Transfusion mediated diseases.

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

1. Absolute Eosinophil count.
2. Principle of detection of Ketone bodies in Urine and its significance.
3. How are Platelet function disorders analysed?
4. How Haemoglobin estimation by Cyan meth Haemoglobin method done? Explain.
5. What are Romanowsky stains? Give a note on each.
6. Genetics of Blood group Antigens.
7. What is the basics of HLA typing? How it is done?
8. What are Anticoagulants? How are they classified and explain each of them briefly?
9. What is a Compatibility test and its types? Where are they applied?
10. Microscopic examination of Stool.

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

[AHS 0321] MARCH 2021 Sub. Code: 1263

(OCTOBER 2020 EXAM SESSION)

M.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR (2011-2012 Regulation - From 2013-2014 onwards)

PAPER III – ADVANCE HAEMATOLOGY AND IMMUNO HAEMATOLOGY

Q.P. Code : 281263

Time: Three hours Answer ALL Questions Maximum: 100 Marks

I. Elaborate on: (2 x 20 = 40)

1. Discuss in detail about blood bags, anticoagulants and preservatives used in blood banking. Discuss about types of blood donors and transfusion reaction. (10+10)
2. What is thrombocytopenia? Causes of Thrombocytopenia. Describe in detail about Disseminated intravascular coagulation and its laboratory findings. (2+6+12)

II. Write notes on: (10 x 6 = 60)

1. Automated cell counters in hematology
2. Peripheral smear findings in nutritional anemia
3. D dimer and its significance
4. Platelet separation in blood bank
5. Polymerase chain reaction
6. Coomb's test
7. Quality control in hematology lab
8. Rh incompatibility
9. Autologous transfusion
10. Lymphocytosis and its causes

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

[AHS 0122] **JANUARY 2022** **Sub. Code: 1263**
(OCTOBER 2021 EXAM SESSION)

M.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulation 2011-2012 & from 2013-2014 onwards)
PAPER III – ADVANCE HAEMATOLOGY AND IMMUNO HAEMATOLOGY
Q.P. Code : 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Describe about component separation in blood bank. Discuss in detail about apheresis. Quality control in blood banking.
2. Describe about neutrophilia and its causes. What is leukemoid reaction? Difference between leukemia and leukemoid reaction. Discuss the peripheral smear findings of Acute lymphoblastic leukemia.

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

1. Transfusion transmitted diseases
2. Describe about Blood bags
3. Cryoprecipitate
4. Donor screening in blood bank
5. Anticoagulants used in blood bank
6. Erythrocyte sedimentation rate- Methods and uses
7. Manual platelet count and causes for false high and low platelet count
8. ProthrombinTime and Activated Partial ThromboplastinTime
9. Pre and post analytical errors in hematology
10. Laboratory findings in Megaloblastic anemia.

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

[AHS 0522] **MAY 2022** **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulation 2011-2012 & from 2013-2014 onwards)
PAPER III – ADVANCE HAEMATOLOGY AND IMMUNO HAEMATOLOGY
Q.P. Code : 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. What are the types of blood transfusion? How will you do donor selection? Types of bags used in bag collection? Describe about separation of blood components. Discuss the adverse reaction of blood transfusion.

2. Classify anemias. Describe in details about nutritional anemia. Discuss the laboratory findings in nutritional anemia.

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

1. Describe about stains used in peripheral smear and staining technique.
2. Explain about Hematocrit (PCV) measurement by micro method and sources of error.
3. What is leukemia? Peripheral smear findings in chronic phase of Chronic myeloid leukemia.
4. Automation in hematology.
5. Describe about Levey-Jennings chart.
6. Apheresis.
7. Erythroblastosis fetalis.
8. Coomb's test.
9. Describe about major blood group System.
10. How will you do pre transfusion compatibility testing?

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

[AHS 1022] **OCTOBER 2022** **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulation 2011-2012)
(Candidates admitted from 2013-2014 & 2020-2021 onwards)
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code : 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. Discuss in detail about the ABO blood group system.

2. Discuss the principle, types and applications of Coombs test.

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

1. Types of ELISA (Enzyme linked Immunosorbent assay).
2. Principle of flowcytometry.
3. Indications for Cryoprecipitate use.
4. Platelet rich plasma preparation and applications.
5. Anticoagulants in blood banking.
6. Blood donor selection criteria.
7. Principle of Therapeutic Apheresis.
8. Polymerase chain reaction.
9. Transfusion related acute lung injury.
10. Peripheral blood smear preparation.

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

[AHS 1023] **OCTOBER 2023** **Sub. Code: 1263**

M.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (From 2020-2021 onwards)
PAPER III – ADVANCE HAEMATOLOGY & IMMUNO HAEMATOLOGY

Q.P. Code: 281263

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

I. Elaborate on: **(2 x 20 = 40)**

1. How does effective infectious screening in blood banking impact public health and patient safety? Explain how comprehensive screening programs reduce the transmission of blood-borne infections, improve transfusion outcomes and ensure the safety of the blood supply?

2. What are the common laboratory tests used to diagnose and monitor coagulation disorders? Specifically, discuss the importance of testing for Factor 8 inhibitors and how these tests help evaluate and manage coagulation disorders?

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

1. Why are Factor VIII assays available in two forms - One-Stage Assays (OSAs) and two-stage Chromogenic Substrate Assays (CSAs)? Can you explain the differences between these two types of assays and why they are used?
2. Can you explain the Rh blood group system, including the importance of Rh antigens (such as D, C, E) in blood transfusion and during pregnancy?
3. How does flow cytometry help in the diagnosis and classification of leukemia?
4. Can you explain the principles and techniques used in automated cell counting, including impedance-based methods and flow cytometry?
5. What is the usefulness and limitations of HPLC in diagnosing Thalassemia?
6. Can you discuss the principles behind coagulation analyzers, including optical and mechanical methods?
7. What is disseminated intravascular coagulation (DIC)? Can you describe the underlying mechanisms of DIC, which involve both excessive clotting and bleeding?
8. How are histograms significant in interpreting blood cell disorders?
9. What are the Bombay and para Bombay blood groups and why are they important?
10. What is stool calprotectin and what information does it provide in clinical practice?

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