

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

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 1253

**M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR**

(Candidates admitted from 2011-2012 & 2013-2014 onwards - Paper III)

(Candidates admitted from 2020-2021 onwards - Paper IV)

PAPER III & IV – HAEMATOLOGY AND CLINICAL PATHOLOGY

Q.P. Code : 281253

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write a note on importance of bone marrow aspiration smear in haematological diagnosis and mention how it helps in anaemia, pancytopenia and leukaemia and mention few contradictions in bone marrow.
2. Classify Hypochromic microcytic anaemia with lab investigations. Explain the causes of macrocytic anaemia and their lab investigations.

II. Write notes on:

(10 x 6 = 60)

1. Describe the smear findings in pancytopenia and how will you investigate.
2. Describe the smear findings in Chronic myeloid leukaemia and how will you differentiate from leukemoid reaction.
3. How will you differentiate between hemoglobinuria and haematuria?
4. Write a note on lab investigations of Spherocytosis.
5. Classify Acute lymphoblastic leukemia and mention the criteria in bone marrow for diagnosis
6. What are the causes for isolated prolonged Prothrombin time and write about the INR.
7. Cerebrospinal fluid- Write the physical and chemical examination and few disease conditions in which it helps in diagnosis.
8. Describe lab and smear findings in Disseminated Intravascular Coagulation and mention few causes.
9. Mention the causes and lab investigations for a person having Black colour urine.
10. Write the applications of Flowcytometry.

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 1253

M.Sc. MEDICAL LABORATORY TECHNOLOGY

FIRST YEAR (Regulation 2011-2012)

(Candidates admitted from 2013-2014 onwards – Paper – III)

(Candidates admitted from 2020-2021 onwards – Paper – IV)

PAPER III & IV– HAEMATOLOGY AND CLINICAL PATHOLOGY

Q.P. Code: 281253

Time: three hours

Answer ALL Questions

Maximum:100 Marks

I. Elaborate on:

(2 x20 = 40)

1. Write a brief note on automation in hematology with their principle. Mention their advantages and disadvantages.
2. Classify anemia based on the MCV indices with respective lab investigations.

II. Write notes on:

(10X6=60)

1. Write a detail note on estimation of platelet count and mention causes of thrombocytopenia.
2. Write a note on High Performance Liquid Chromatography in detail with emphasis on diabetes and hemoglobinopathy.
3. Write a note on APLA and their diagnostic criteria.
4. Write a note on chronic granulomatous disease and laboratory investigations in detail.
5. Describe a detail note on pathogenesis and lab investigations of immune thrombocytopenia.
6. Describe a detail note on collection and examination of seminal fluid.
7. Differentiate Leukamoid reaction and CML.
8. Write a note on causes and lab investigations of Eosinophilia.
9. Write a note on PNH and their Lab investigations.
10. Write a note on pathway of hemoglobin synthesis.

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

[AHS 0523]

MAY 2023

Sub. Code: 1253

**M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR
(Candidates admitted from 2020-2021 Batch onwards)
PAPER IV– HAEMATOLOGY AND CLINICAL PATHOLOGY**

Q.P. Code: 281253

Time: three hours

Answer ALL Questions

Maximum:100 Marks

I. Elaborate on:

(2 x20 = 40)

1. Classify Qualitative platelet disorders in detail with lab investigations.
2. Write a note on physical and chemical examination of urine in detail.

II. Write notes on:

(10X6=60)

1. Write a detail note on hemoglobin electrophoresis with suitable diagrams and write the normal and abnormal patterns seen in clinical samples.
2. Write a note on procedure, principle and the clinical significance of Activated partial thromboplastic time.
3. Explain Hemophilia A and their lab investigations.
4. Define hemochromatosis and their lab investigations.
5. Write a note on preparation and examination of bone marrow smear with staining.
6. Discuss MAHA their lab investigations.
7. Write a note on steps involved in primary hemostasis and their lab investigations.
8. Write the difference between hemolytic and hepatic jaundice with their lab investigations.
9. Explain smear findings, lab investigations and the causes for Megaloblastic anemia.
10. Classify autoimmune hemolytic anemia with their lab work up.

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 1253

**M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER IV – HAEMATOLOGY AND CLINICAL PATHOLOGY**

Q.P. Code: 281253

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x20 = 40)

1. Describe the laboratory investigations and procedures used in the diagnosis and monitoring of platelet disorders, focusing on thrombocytopenia and thrombocythemia.
2. From a laboratory perspective, describe the diagnostic process used to confirm Chronic Myeloid Leukemia (CML). Discuss the role of hematologic tests, cytogenetic analysis, and molecular tests such as PCR and FISH in diagnosing CML.

II. Write notes on:

(10X6=60)

1. Leukamoid reaction.
2. Chediak higashi syndrome, clinical and lab investigations.
3. Myelodysplastic anemia, WHO criteria and lab investigations.
4. Pancytopenia, differential diagnosis and lab tests.
5. How can laboratory tests aid in the diagnosis and characterization of Beta Thalassemia?
6. Identify and investigate potential serologic discrepancies caused by autoimmune and drug-induced hemolytic anemias.
7. What is a coagulation analyzer and how does it assist in the evaluation of the coagulation process?
8. What is the role of a freezer in a hematology laboratory?
9. How is radioactivity utilized in diagnostic and therapeutic applications in Medical Laboratory Technology?
10. What is the Polymerase Chain Reaction (PCR) and how is it utilized in molecular biology and hematology laboratory tests?
