

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?
