

Course Overview

Hematology

Course code :	LMT307
Course title:	Hematology
Level/semester:	Third Semester
Preceding Courses & Main Subjects	- Biology , Chemistry - Human Anatomy & Physiology
Credit hours: 3	Theoretical: 2
	Practical: 2

Course Title: Introduction to Haematology (Theory)

UNIT	CONTENTS	HOURS
UNIT 1	Haemopoiesis -Erythropoiesis -Leukopoiesis -Thrombopoiesis	3
UNIT 2	Red Blood cells -Iron Metoboism -Structure & functions of Haemoglobin, normal values, significance -Structure, functions and normal values of RBC -Hamatocritt and red cell indices (Absolute values) and its application -ESR and its significance -Reticulocyte count and its significance -Normal and abnormal RBC morphology	12
UNIT 3	White Blood Cells -Structure , Types and functions -Normal and abnormal morphology -Leukocytosis and Leukopenia	4
UNIT 4	Haemostasis and Platelets -Definition & mechanism of haemostasis -Structure and functions of Platelets -Thrombocytosis & thrombocytopenia, its causes and significance	5

	Platelet function tests -	
UNIT 5	Coagulation Mechanism & Pathways of coagulation - Disorders & deficiency of coagulation factors - Laboratory methods for diagnosis of factors - deficiency	6
	TOTAL	30

Course Title:-Introduction to Haematology (Practical)

EXERCISE	CONTENTS	HOURS
Exercise 1	- Safety Measures in Laboratory - Collection of blood : capillary and venous blood - Anticoagulants and their usage	4
Exercise 2	Methaemoglobin method for estimation of Haemoglobin	2
Exercise 3	- Visual method for total RBC & WBC counting	4
Exercise 4	- Introduction to haematology cell counters - Automated methods for counting of Hb., Hct, TRBC, Red cell indices, WBC and Platelets	4
Exercise 5	- Romanowsky stains - Spreading , fixing and staining of blood films	6
Exercise 6	- Identification of normal and abnormal forms of RBC	4
Exercise 7	- ESR and its estimation	4
Exercise 8	- Reticulocyte counting	4
Exercise 9	- Differential WBC count	6
Exercise10	- Bleeding and clotting time	6
Exercise11	- Estimation of prothrombin time (PT)	4
Exercise12	- Estimation of activated partial thromboplastin (APTT)	4
Exercise13	- Estimation of thrombin and thrombin generation test	4
Exercise14	- Use of automated coagulation	4

	counters and assay of Factor VIII & fibrinogen	
	TOTAL =	60