

Proforma of the Lesson plan

Name of the Faculty : Pardeep Kumar

Discipline : DMLT

Semester : 1st

Subject : Haematology-I Lesson Plan

Duration : 15 weeks (From October 2022)

Work load (Lecture / practical) per week (hours) = Lecture=3, Practical=4

WORK	THEORY		PRACTICAL	
	Lecture Day	Topic (Including assignment/test}	Practical Day	Topic
1	1	Introduction to haematology	L1	Demonstration of various parts of centrifuge
		Various glassware used in haematology labs		
	2	Various plasticware used in haematology labs	L2	Functioning and care of Centrifuge
		Hb tube, Hb pipette, RBC pipette, WBC pipette)		
	3	Introduction to Apparatus and Instruments used in hematology lab		
Introduction to Water bath				
2	4	Introduction to Blood cell counter	L3	Demonstration of various parts of microscope
		Various types of Blood cell counter		
	5	Blood Mixer	L4	Functioning and care of microscope
		Introduction to Centrifuge		
	6	Various types of centrifuge		
Assignment				
3	7	Introduction to Haemopoiesis	L5	Preparation of ACD (Acid Citrate Dextrose)
		Introduction of Erythropoiesis		
	8	Different Stages of Erythropoiesis	L6	Preparation of CPD (Citrate Phosphate Dextrose)
		Introduction to leucopoiesis		
	9	Different Stages of leucopoiesis		
Introduction to thrombopoiesis				
4	10	Different Stages of thrombopoiesis	L7	Preparation of CPDA (Citrate Phosphate Dextrose Adenine)
		Definition, composition of Blood		
	11	functions of blood	L8	Collection of venous and
		Assignment		

	12	Definition and various types of anticoagulants Mode of action and preparation of Anticoagulants		capillary blood
5	13	Merits and demerits of anticoagulants	L9	Preparation of Giemsa stain
		Collection and preservation of blood		
	14	Collection of blood; by venous method	L10	Preparation of Leishman's stain
		Collection of blood by capillary method		
	15	Various equipment used for collection of blood samples		
Safety measures at the time of sampling and collection				
6	16	Preservation of processed blood samples in hematology	L11	Preparation of Wright stain
		Introduction to Diluting fluid		
	17	Uses, preparation and composition of Hb Diluting fluid	L12	Preparation of peripheral blood film
		Uses, preparation and composition of TLC Diluting fluid		
	18	Uses, preparation and composition of Platelets Diluting fluid		
Uses, preparation and composition of RBC Diluting fluid				
7	19	Introduction to Romanowsky stains	L13	To stain a peripheral blood film by Giemsa stain
		Theory and preparation of leishman stain		
	20	Theory and preparation of Giemsa stain	L14	To stain a peripheral blood film by Leishman's stain
		Theory and preparation of Wright stain		
	21	Choice of slide and spreader and preparation of blood film		
Characteristics of good film preparation				
8	22	Staining procedure of Romanowsky stains	L15	To stain a peripheral blood film by Wright stain
		Effects of pH on staining		
		Assignment		
	23	Introduction to Haemoglobinometry	1 st	L1 : Preparation of peripheral blood film
		Formation of Haemoglobin		L2 : Preparation of Leishman stain
24	Function of Hb	2 nd	L3 : Preparation of Giemsa stain	
9	25	Degradation of Hb	3 rd	L4 : Preparation of thin smear
		Types of Hb		L5 : : Preparation of thick smear
	26	Complexes of Hb		L6 : Hb Estimation by Sahli's method

		Principles & procedure of Hb estimation by Sahli's Method	4 th	L7 : Hb Estimation by Oxy-haemoglobin method
	27	Specific reference & clinical significance Sahli's Method		L8 : Hb Estimation by cyanmethaemoglobin method
		Principles & procedure of Hb estimation by cyanmethaemoglobin Method	5 th	L9 : Counting of RBC by cell counter
10	28	Specific reference & clinical significance of cyanmethaemoglobin method		L10 : Counting of WBC by cell counter
		Assignment	6 th	L11 : Counting of Platelets by cell counter
	29	Test		L12 : Counting of RBC by Neubauer hamber
		Introduction to Haempcytometry		L13 : Counting of WBC by naubauer chamber
	30	Introduction to Neubauer Chamber	7 th	L14 : Counting of Platelets by naubauer chamber
		Introduction to rosenthal Chamber	8 th	L15 : Absolute eosinophil Counting
11	31	Introduction to Buerker counting Chamber		L16 : Study the morphology of normal RBC by Leishman stain
		Principles & procedure of RBC Counting	9 th	L17 : Study the morphology of normal WBC by Leishman stain
	32	Calculations, Reference values of RBC		L18 : Study the morphology of normal RBC by Giemsa stain
		Principles & procedure of WBC counting	10 th	L19 : Study the morphology of normal WBC by Giemsa stain
	33	Calculations, Reference values of WBC counting		L20 : Study the morphology of abnormal RBC by Leishman stain
		Principles & procedure of Platelets counting	11 th	L21 : Study the morphology of abnormal RBC by Giemsa stain
12	34	Calculations, Reference values of Platelets counting		L22 : Study the morphology of abnormal WBC by Leishman stain
		Errors involved in the Haemocytometry	12 th	L23 : Study the morphology of abnormal WBC by Giemsa stain
	35	Errors minimize involved in Haemocytometry		L24 : Study the morphology of normal Platelets by Leishman stain
		Clinical significance of RBC, WBC, Platelets counting	13 th	L25 : Study the morphology of normal Platelets by Giemsa stain
	36	Assignment		L26 : Study the morphology of normal RBC by Field stain
		Test	14 th	L27 : Study the morphology of normal WBC by Field stain
13	38	Introduction to differential Leucocytes		L28 : Study the morphology of normal Platelets by Field stain
		Preparation of thin & thick film	15 th	L29 : Study the morphology of abnormal RBC by Field stain

	39	Staining of blood film by Leishman stain		L30 : Study the morphology of abnormal WBC by Field stain
		Staining of blood film by Giemsa stain		
	40	Staining of blood film by Field stain		
		Calculation & performance of DLC		
14	41	Normal Values & significance of DLC counting		
		Assignment		
	42	Test		
		Study the morphology of normal RBC&WBC		
	43	Study the morphology of abnormal RBC&WBC		
		Study the morphology of normal & abnormal Platelets		
15	44	Introduction to Quality Assurance in Haematology		
		Accuracy & precision in Quality Assurance		
		Various types of blood cell counters		
	45	Principle & operations of automated blood cell counter		
		Principle & operation of coulter counter		
		Assignment of unit 5 th & 6 th		

