

Lesson Plan

Name of the Faculty : Vinod Kumar
Discipline : DMLT
Semester : 3rd
Subject : Clinical microbiology-3
Lesson Plan Duration : 15 weeks (from July-18 to Nov-18)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	Introduction to medical parasitology
	2 nd	Introduction to medical parasitology
	3 rd	
	4 th	General characteristics, morphology, classification
	5 th	
2 nd	1 st	Protozoa , Helminthes
	2 nd	Laboratory Samples for detection of parasites, Collection, transportation, processing
	3 rd	
	4 th	preservation of samples for routine investigations – Blood, stool
	5 th	
3 rd	1 st	Concentration techniques:- Principle
	2 nd	application of concentration techniques of stool for demonstration of ova
	3 rd	
	4 th	application of concentration techniques of stool for demonstration of ova
	5 th	
4 th	1 st	Cysts
	2 nd	Giardia and Entamoeba histolytica:- Morphology
	3 rd	
	4 th	Morphology
	5 th	
5 th	1 st	Life cycle
	2 nd	Lab diagnosis
	3 rd	
	4 th	Lab diagnosis
	5 th	
6 th	1 st	Ancylostoma and Ascaris lumbricoides:- Morphology
	2 nd	Morphology
	3 rd	
	4 th	Life cycle
	5 th	
7 th	1 st	Life cycle

	2 nd	Lab diagnosis
	3 rd	
	4 th	Lab diagnosis
	5 th	
8 th	1 st	T solium, T saginata:- Morphology
	2 nd	Morphology
	3 rd	
	4 th	Life cycle
	5 th	
9 th	1 st	Lab diagnosis
	2 nd	Lab diagnosis
	3 rd	
	4 th	Malarial Parasite (P. Vivax and P. Falciparum):- Morphology
	5 th	
10 th	1 st	Morphology
	2 nd	Life cycle
	3 rd	
	4 th	Life cycle
	5 th	
11 th	1 st	Lab diagnosis
	2 nd	Lab diagnosis
	3 rd	
	4 th	Virology:- Introduction
	5 th	
12 th	1 st	General Characteristics
	2 nd	Classification Structure of viruses
	3 rd	
	4 th	Classification Structure of viruses
	5 th	
13 th	1 st	Medically important viruses:- Pathogenicity,
	2 nd	Lab diagnosis and prevention of – Rabies - Polio - HIV - HBV (Hepatitis ‘B’ virus
	3 rd	
	4 th	– Rabies
	5 th	
14 th	1 st	Polio
	2 nd	- HIV
	3 rd	
	4 th	HBV (Hepatitis ‘B’ virus
	5 th	
15 th	1 st	Virological Samples:- Collection
	2 nd	Transportation
	3 rd	
	4 th	Storage
	5 th	

Lesson Plan

Name of the Faculty : Vinod Kumar
Discipline : DMLT
Semester : 3rd
Subject : Hematology-3
Lesson Plan Duration : 15 weeks (from July-18 to Nov-18)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	Erythrocyte sedimentation rate (ESR)
	2 nd	packed cell volume (PCV)
	3 rd	Introduction
	4 th	
	5 th	
2 nd	1 st	Various methods of estimation of ESR and PCV
	2 nd	ESR and PCV their merits and demerits
	3 rd	Factors involved in ESR
	4 th	
	5 th	
3 rd	1 st	Factors involved in ESR
	2 nd	Interpretation of results
	3 rd	Interpretation of results
	4 th	
	5 th	
4 th	1 st	Red Cell Indices – MCV, MCH, MCHC
	2 nd	Definition
	3 rd	reference range
	4 th	
	5 th	
5 th	1 st	calculation
	2 nd	interpretation
	3 rd	Supravital stain and reticulocyte counting
	4 th	
	5 th	
6 th	1 st	Introduction
	2 nd	Principle and procedure of staining
	3 rd	calculation
	4 th	
	5 th	
7 th	1 st	Reference values and interpretation
	2 nd	Variation in Physiological Values such as Hb, PCV

	3 rd	T.L.C. and Platelet count
	4 th	
	5 th	
8 th	1 st	Anemias
	2 nd	Definition
	3 rd	Definition and classification
	4 th	
	5 th	
9 th	1 st	Laboratory diagnosis of: (a) Iron deficiency anaemia (b) Megaloblastic anaemia (c) Haemolytic anaemias including sickle cell anaemia thalassaemia (d) Aplastic anaemia
	2 nd	Iron deficiency anaemia
	3 rd	Iron deficiency anaemia
	4 th	
	5 th	
10 th	1 st	Megaloblastic anaemia
	2 nd	Megaloblastic anaemia
	3 rd	Megaloblastic anaemia
	4 th	
	5 th	
11 th	1 st	Haemolytic anaemias including sickle cell anaemia thalassaemia
	2 nd	Haemolytic anaemias including sickle cell anaemia thalassaemia
	3 rd	Haemolytic anaemias including sickle cell anaemia thalassaemia
	4 th	
	5 th	
12 th	1 st	Aplastic anaemia
	2 nd	Aplastic anaemia
	3 rd	Red cell fragility test
	4 th	
	5 th	
13 th	1 st	Principle
	2 nd	procedure
	3 rd	Clinical significance
	4 th	
	5 th	
14 th	1 st	Clinical significance
	2 nd	Clinical significance
	3 rd	
	4 th	
	5 th	
15 th	1 st	
	2 nd	
	3 rd	
	4 th	
	5 th	

Lesson Plan

Name of the Faculty : Partibha
Discipline : DMLT
Semester : 3RD
Subject : CLINICAL BIOCHEMISTRY-3
Lesson Plan Duration : 15 weeks (from July-18 to Nov-18)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	
	2 nd	
	3 rd	Serum Bilirubin :- Formation of bile pigments
	4 th	Formation and excretion of bilirubin
	5 th	Conjugated and unconjugated bilirubin
2 nd	1 st	
	2 nd	
	3 rd	Principle and procedures of serum bilirubin estimation (Direct & Indirect)
	4 th	Reference values
	5 th	Clinical significance
3 rd	1 st	
	2 nd	
	3 rd	SGOT and SGPT
	4 th	Principle
	5 th	procedures of estimation
4 th	1 st	
	2 nd	
	3 rd	Reference values
	4 th	Clinical significance
	5 th	Clinical significance
5 th	1 st	
	2 nd	
	3 rd	ALP and ACP
	4 th	Principle
	5 th	procedures of estimation
6 th	1 st	
	2 nd	
	3 rd	Reference values
	4 th	Clinical significance
	5 th	Clinical significance
7 th	1 st	
	2 nd	
	3 rd	Serum Amylase:- Principle and procedures of estimation

	4 th	Reference values
	5 th	Clinical significance
8 th	1 st	
	2 nd	
	3 rd	Serum Calcium and Phosphorus:- Principle
	4 th	procedures of estimation
	5 th	Reference values
9 th	1 st	
	2 nd	
	3 rd	Clinical significance
	4 th	Lipid Profile:- Formation of cholesterol
	5 th	High density and low density cholesterol
10 th	1 st	
	2 nd	
	3 rd	Principles
	4 th	procedures of estimation
	5 th	Reference value
11 th	1 st	
	2 nd	
	3 rd	Clinical significance
	4 th	Triglycerides,
	5 th	principle and procedure of estimation
12 th	1 st	
	2 nd	
	3 rd	Importance of various ratios of HDL, LDL
	4 th	Importance of various ratios of VLDL
	5 th	Urinary Proteins and Creatinine:- 24 hr. urinary proteins
13 th	1 st	
	2 nd	
	3 rd	creatinine estimation
	4 th	Reference values
	5 th	Clinical significance
14 th	1 st	
	2 nd	
	3 rd	Renal Function Tests (Renal clearance Tests):- Urea clearance Test
	4 th	Urea clearance Test
	5 th	Creatinine clearance test
15 th	1 st	
	2 nd	
	3 rd	Creatinine clearance test
	4 th	Their Clinical significance
	5 th	Their Clinical significance

Lesson Plan

Name of the Faculty : Partibha
Discipline : DMLT
Semester : 3RD
Subject : HISTOPATHOLOGY AND CYTOLOGY-1
Lesson Plan Duration : 15 weeks (from July-18 to Nov-18)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	Introduction and definition of: 1.1 Histology 1.2 Histopathology 1.3 Biopsy 1.4 Autopsy 1.5 Autolysis 1.6 Putrefaction
	2 nd	Preparation of Tissue (Different Methods of Preparation of Tissue) 2.1 Unfixed Tissue preparations 2.1.1. Imprint methods – Impression Smears 2.1.2 Teased preparation 2.1.3 Squashed preparation 2.1.4 Frozen section
	3 rd	Fixed Tissue preparations (introduction only) 2.2.1 Paraffin embedding 2.2.2 Celloidin embedding 2.2.3 Gelatin embedding
	4 th	
	5 th	
2 nd	1 st	Reception of Specimen 3.1 Reception, recording, labeling and preservation of histological specimen
	2 nd	Fixation (Histological Specimens) 4.1 Classification of fixatives
	3 rd	Classification of fixatives
	4 th	
	5 th	
3 rd	1 st	Composition of various fixatives
	2 nd	Composition of various fixatives
	3 rd	Advantages and disadvantages
	4 th	
	5 th	
4 th	1 st	Processing (by Paraffin Technique):- Dehydration
	2 nd	Clearing/Dealcoholization

	3 rd	Infiltration and impregnation
	4 th	
	5 th	
5 th	1 st	Paraffin embedding
	2 nd	Automation: Histokinete (automatic tissue processor)
	3 rd	its types, working, care and maintenance
	4 th	
	5 th	
6 th	1 st	Microtomy:- Various types of knives
	2 nd	Sharpening of knives - Honing technique - Stropping technique
	3 rd	- Automation: Automatic knife sharpener – uses, care and maintenance - Uses of abrasives and lubricants
	4 th	
	5 th	
7 th	1 st	Introduction to disposable blades - their advantages and disadvantages.
	2 nd	Section Cutting Rough cutting Fine cutting
	3 rd	Use of tissue floatation bath Use of various adhesive media and lifting of sections to the slide
	4 th	
	5 th	
8 th	1 st	
	2 nd	Errors /cutting faults in sections and their remedies
	3 rd	Theory of staining (Routine):- Principle and mechanism of routine stain (Haematoxylin and Eosin)
	4 th	
	5 th	
9 th	1 st	Various steps of staining (Haematoxylin and Eosin) - Deparaffinization - Hydration
	2 nd	- Nuclear Staining - Differentiation - Blueing
	3 rd	- Counterstaining - Dehydration - Clearing and Mounting - Results
	4 th	
	5 th	
10 th	1 st	Automation: Use of automatic stainer and coverslipper
	2 nd	Mountants Various types of mounting media (aqueous, resinous)
	3 rd	Advantages and Disadvantages

	4 th	
	5 th	
11 th	1 st	Various Terms associated with staining:- Solvents Mordants
	2 nd	Metachromasia Accelerators
	3 rd	Progressive and regressive staining
	4 th	
	5 th	
12 th	1 st	Use of controls in staining and their significance
	2 nd	Cell Defination and function
	3 rd	Structure Multiplication (Mitosis and Meiosis)
	4 th	
	5 th	
13 th	1 st	Exfoliative Cytology Introduction Preparation of vaginal & cervical smears
	2 nd	
	3 rd	Collection and Processing of specimen for cytology - Urine - Sputum - CSF (Cerebro Spinal Fluid) - Other fluids
	4 th	
	5 th	
14 th	1 st	Fixation (Cytological Specimen) Definition Various types of Cytological fixatives
	2 nd	Advantages and Disadvantages
	3 rd	Cytological Staining Principle, Technique and interpretation of results
	4 th	
	5 th	
15 th	1 st	- Papanicalaou staining - May Grunwald & Giemsa staining
	2 nd	- Haematoxylin and Eosin staining
	3 rd	Role of Laminar airflow and cytotechnician in cytology
	4 th	
	5 th	

Lesson Plan

Name of the Faculty : Sanjay
Discipline : DMLT
Semester : 3rd
Subject : TRANSFUSION MEDICINE
Lesson Plan Duration : 15 weeks (from July-18 to Nov-18)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	
	2 nd	Historical introduction to Transfusion medicine (blood banking)
	3 rd	Historical introduction to Transfusion medicine (blood banking)
	4 th	
	5 th	Antigen and Antibody
2 nd	1 st	
	2 nd	Definition of antigen and antibody
	3 rd	Classification of antigens and antibodies.
	4 th	
	5 th	ABO Blood Group System
3 rd	1 st	
	2 nd	Antigens and antibodies involved
	3 rd	Principle and procedure of ABO blood grouping
	4 th	
	5 th	Various blood sub groups (A ₁ ,A ₂ , A ₁ B, A ₂ B)
4 th	1 st	
	2 nd	The Rh Blood Group System
	3 rd	Antigen and antibody involved
	4 th	
	5 th	Principle and procedure of Rh grouping
5 th	1 st	
	2 nd	Variant of D antigen (Du)
	3 rd	Anticoagulants used in blood bank Types and composition of various anticoagulants
	4 th	
	5 th	Advantages and disadvantages of various anticoagulants
6 th	1 st	
	2 nd	Criteria for selection of Donor
	3 rd	Blood Collection and storage Screening of blood donor and characteristics of ideal blood donor.
	4 th	
	5 th	Blood collection procedure
7 th	1 st	
	2 nd	Transportation and storage
	3 rd	Screening of blood donors for:- MP
	4 th	
	5 th	MP

8th	1st	
	2nd	VDRL
	3rd	VDRL
	4th	
	5th	HIV
9th	1st	
	2nd	HIV
	3rd	HbsAg
	4th	
	5th	HbsAg
10th	1st	
	2nd	HCV
	3rd	HCV
	4th	
	5th	Cross Matching Types of cross matching
11th	1st	
	2nd	Various methods and their procedures
	3rd	Coombs Test Direct coombs test (principle, procedure, importance and application)
	4th	
	5th	Direct coombs test (principle, procedure, importance and application)
12th	1st	
	2nd	Indirect coombs test (principle, procedure, importance and application)
	3rd	Various blood components (Packed cells, Fresh frozen plasma, Cryoprecipitate, PRP(Platelet rich plasma))
	4th	
	5th	Preparation
13th	1st	
	2nd	Preservation
	3rd	Uses
	4th	
	5th	Blood Transfusion reactions
14th	1st	
	2nd	Blood Transfusion reactions
	3rd	Blood Transfusion reactions
	4th	
	5th	Blood Transfusion reactions
15th	1st	
	2nd	Blood Transfusion reactions
	3rd	Blood Transfusion reactions
	4th	
	5th	

