

# JANTA COLLEGE OF PHARMACY, BUTAN

## LESSON PLAN

<b>Name of the Faculty</b>	:	Mr.Amit Kumar	
<b>Discipline</b>	:	DMLT	
<b>Semester</b>	:	3rd(2nd Year)	
<b>Subject</b>	:	HISTOPATHOLOGY	
<b>Lesson Plan Duration</b>	:	16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Sc)	
<b>Work load(Lecture/Practical)per week(in hours) : Lectures-03(hr),Practicals-04(hr)</b>			

Week	Theory		Practical Day
	Lecture Day	Topic(including assigment/test)	
<b>1st</b>	1st	Introduction and definition <span style="float: right;"><b>(1st</b></span>	1st
	2nd	Reception of Specimen	
	3rd	Various Terms associated with staining	
<b>2nd</b>	1st	Metachromasia,Accelerators	2nd
	2nd	Progressive and regressive staining	
	3rd	Use of controls in staining and their significance	
<b>3rd</b>	1st	Haematoxylin and Eosin staining	3rd
	2nd	Haematoxylin and Eosin staining	
	3rd	Deparaffinization, Hydration, Nuclear Staining	
<b>4th</b>	1st	Differentiation, Blueing, Counterstaining,	4th
	2nd	Dehydration	
	3rd	Clearing/Dealcoholization	
<b>5th</b>	1st	Automation: Use of automatic stainer	5th
	2nd	automatic coverslipper	
	3rd	Preparation of Tissue (Different Methods) <span style="float: right;"><b>(2nd</b></span>	
<b>6th</b>	1st	Unfixed Tissue preparations	6th
	2nd	Fixed Tissue preparations	
	3rd	Classification of fixatives	
<b>7th</b>	1st	Classification of fixatives	7th
	2nd	Composition of various fixatives	
	3rd	Processing of Tissue (by Paraffin Technique)	
<b>8th</b>	1st	Dehydration,Clearing/Dealcoholization	8th
	2nd	Infiltration and impregnation	
	3rd	Paraffin embedding	
<b>9th</b>	1st	Various types of mounting media	9th
	2nd	Advantages and Disadvantages	
	3rd	Microtome,Types,Advantages and disadvantages <span style="float: right;"><b>(4th</b></span>	
<b>10th</b>	1st	Automation: Automatic knife sharpener	10th
	2nd	Various types of knives	
	3rd	Sharpening of knives	
<b>11th</b>	1st	Automation: Automatic knife sharpener	11th
	2nd	Uses of abrasives and lubricants	
	3rd	Section Cutting	
<b>12th</b>	1st	Use of tissue floatation bath	12th
	2nd	Use of various adhesive media and lifting of sections to the	
	3rd	Errors /cutting faults in sections and their remedies	
<b>13th</b>	1st	Exfoliative Cytology <span style="float: right;"><b>(5th</b></span>	13th
	2nd	Preparation of vaginal & cervical smears	

	3rd	Collection and Processing of specimen for cytology	
<b>14th</b>	1st	Collection and Processing of specimen for cytology	14th
	2nd	Role of cytotechnician in cytology	
	3rd	Role of cytotechnician in cytology	
<b>15th</b>	1st	Papanicalaou staining	15th
	2nd	Papanicalaou staining	
	3rd	May Grunwald & Giemsa staining	
<b>16th</b>	1st	May Grunwald & Giemsa staining	16th
	2nd	Sessional, Test	
	3rd	Sessional, Test	

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**Practical**

**Topic**

Reception of specimen, labeling and preserving the specimen

Preparation of various smears by unfixed methods

Preparation of different fixatives with special emphasis

Preparation of paraffin blocks from various tissue pieces and labeling

Handling of microtome

Sharpening of microtome knives

Preparation of blocks for fine cutting

Practice of fine section cutting

Performing H&E staining on sections and mounting of tissue sections

Demonstration of cell using buccal smear/urine sample

Processing of urine samples for malignant cells

Processing of sputum sample for malignant cytology

To perform PAP stain on given smear

To perform MGG stain on given smear

To perform H&E on given smear

Practical assignment

# JANTA COLLEGE OF PHARMACY, BU

## LESSON PLAN

<b>Name of the Faculty</b>	:	Mrs. PARMILA Devi
<b>Discipline</b>	:	DMLT
<b>Semester</b>	:	3rd(2nd year)
<b>Subject</b>	:	PARASITOLOGY AND VIROLOGY
<b>Lesson Plan Duration</b>	:	16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus S

**Work load(Lecture/Practical)per week(in hours) :** Lectures-03(hr),Practicals-04(hr)

Week	Theory	
	Lecture Day	Topic(including assigment/test)
<b>1st</b>	1st	<b>Introduction to medical parasitology</b>
	2nd	Introduction to medical parasitology
	3rd	<b>General characteristics, morphology, classification</b>
<b>2nd</b>	1st	General characteristics, morphology, classification
	2nd	<b>Laboratory Samples for detection of parasites</b>
	3rd	Laboratory Samples for detection of parasites
<b>3rd</b>	1st	<b>Concentration techniques</b>
	2nd	Concentration techniques
	3rd	Concentration techniques
<b>4th</b>	1st	Concentration techniques
	2nd	Concentration techniques
	3rd	Concentration techniques
<b>5th</b>	1st	<b>Giardia and Entamoeba histolytica</b>
	2nd	Giardia and Entamoeba histolytica
	3rd	Giardia and Entamoeba histolytica
<b>6th</b>	1st	Giardia and Entamoeba histolytica
	2nd	Giardia and Entamoeba histolytica
	3rd	<b>Ancylostoma and Ascaris lumbricoides</b>
<b>7th</b>	1st	Ancylostoma and Ascaris lumbricoides
	2nd	Ancylostoma and Ascaris lumbricoides
	3rd	Ancylostoma and Ascaris lumbricoides
<b>8th</b>	1st	Ancylostoma and Ascaris lumbricoides
	2nd	Ancylostoma and Ascaris lumbricoides
	3rd	<b>T solium, T saginata</b>
<b>9th</b>	1st	T solium, T saginata
	2nd	T solium, T saginata
	3rd	T solium, T saginata
<b>10th</b>	3rd	T solium, T saginata
	1st	Malarial Parasite (P. Vivax and P. Falciparum)
	2nd	Malarial Parasite (P. Vivax and P. Falciparum)
<b>11th</b>	3rd	Malarial Parasite (P. Vivax and P. Falciparum)
	1st	Malarial Parasite (P. Vivax and P. Falciparum)

	2nd	<b>Malarial Parasite (P. Vivax and P. Falciparum)</b>
<b>12th</b>	3rd	Malarial Parasite (P. Vivax and P. Falciparum)
	1st	<b>Virology</b>
	2nd	Virology
<b>13th</b>	1st	Virology
	2nd	Virology
	3rd	<b>Medically important viruses</b>
<b>14th</b>	3rd	<b>Medically important viruses</b>
	1st	Medically important viruses
	2nd	Medically important viruses
<b>15th</b>	3rd	Virological Samples
	1st	Virological Samples
	2nd	Sessional, Test
<b>16th</b>	3rd	
	1st	
	2nd	

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<b>Practical</b>	
<b>Practical Day</b>	<b>Topic</b>
1st	Collection and routine stool examination for detection of intestinal parasites using Saline preparation.
2nd	Collection and routine stool examination for detection of intestinal parasites using Lugol's Iodine preparation.
3rd	Concentration methods of stool examination by Floatation method
4th	Concentration methods of stool examination by Sedimentation methods
5th	Identification of following adult worms/cyst from preserved specimen/slides
6th	Identification of following adult worms/cyst from preserved specimen/slides
7th	Identification of following adult worms/cyst from preserved specimen/slides
8th	Identification of following adult worms/cyst from preserved specimen/slides
9th	Identification of following adult worms/cyst from preserved specimen/slides
10th	Preparation of smear and identification of blood parasites
11th	Preparation of Leishman stain

12th	Preparation of Giemsa stain
13th	Preparation of Field stain
14th	Preparation of thin and thick smears
15th	Staining of smears by Leishman, Giemsa, and Field stain.
16th	Examination of smears for malarial parasite ( <i>P. vivax</i> and <i>P. falciparum</i> )

# JANTA COLLEGE OF PHARMACY, BUTAN

## LESSON PLAN

**Name of the Faculty** : Mrs. PARMILA Devi

**Discipline** : DMLT

**Semester** : 3rd(2nd year)

**Subject** : TRANSFUSION MEDICINE(Blood Bank)

**Lesson Plan Duration** : 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)

**Work load(Lecture/Practical)per week(in hours)** : Lectures-03(hr),Practicals-02(hr)

Week	Theory	
	Lecture Day	Topic(including assignmnet/test)
1st	1st	<b>Historical introduction to Transfusion medicine (blood banking) (1st</b>
	2nd	Historical introduction to Transfusion medicine (blood banking )
	3rd	<b>Antigen and Antibody</b>
2nd	1st	Antigen and Antibody
	2nd	<b>Antigen and Antibody</b>
	3rd	<b>ABO Blood Group System</b>
3rd	1st	ABO Blood Group System
	2nd	ABO Blood Group System
	3rd	ABO Blood Group System
4th	1st	<b>The Rh Blood Group System</b>
	2nd	The Rh Blood Group System
	3rd	The Rh Blood Group System
5th	1st	<b>The Rh Blood Group System</b>
	2nd	<b>Anticoagulants used in blood bank</b>
	3rd	Anticoagulants used in blood bank
6th	1st	Anticoagulants used in blood bank
	2nd	Anticoagulants used in blood bank
	3rd	<b>Criteria for selection of Donor</b>
7th	1st	Criteria for selection of Donor
	2nd	<b>Blood Collection and storage</b>
	3rd	Blood Collection and storage
8th	1st	Blood Collection and storage
	2nd	Blood Collection and storage
	3rd	Various blood components (Packed cells, Fresh frozen plasma
9th	1st	Various blood components (Packed cells, Fresh frozen plasma
	2nd	Various blood components (Packed cells, Fresh frozen plasma
	3rd	Various blood components (Packed cells, Fresh frozen plasma
10th	1st	Test for blood transfusion
	2nd	Cross Matching
	3rd	Cross Matching
11th	1st	Cross Matching
	2nd	Coombs Test

	3rd	<b>Coombs Test</b>
<b>12th</b>	1st	Coombs Test
	2nd	<b>Coombs Test</b>
	3rd	Blood Transfusion reactions
<b>13th</b>	1st	Blood Transfusion reactions
	2nd	Blood Transfusion reactions
	3rd	<b>Blood Transfusion reactions</b>
<b>14th</b>	1st	Blood Transfusion reactions
	2nd	Blood Transfusion reactions
	3rd	Sessional,Test
<b>15th</b>	1st	<b>Sessional,Test</b>
	2nd	Sessional,Test
	3rd	Sessional,Test
<b>16th</b>	1st	
	2nd	
	3rd	

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<b>Practical</b>	
<b>Practical Day</b>	<b>Topic</b>
1st	Performing ABO blood grouping by following method
2nd	Performing ABO blood grouping by following method
3rd	Performing ABO blood grouping by following method
4th	Performing-Rh grouping by following techniques
5th	Performing-Rh grouping by following techniques
6th	Performance of Coombs Test
7th	Performance of Coombs Test
8th	Cross Matching (compatibility testing)
9th	Cross Matching (compatibility testing)
10th	Preparation of anticoagulants
11th	Malarial Parasite test by Thick and Thin smear preparation

12th	VDRL Test
13th	HIV Test
14th	HbsAg Test
15th	HCV Test
16th	Preparation of platelet rich plasma and platelet poor plasma

<b>Name of the Faculty</b> :
<b>Discipline</b> :
<b>Semester</b> :
<b>Subject</b> :
<b>Lesson Plan Duration</b> : :

**Work load(Lecture/Practical)per week(**

Week	Lecture Day	
<b>1st</b>	1st	Introduction
	2nd	Various met
	3rd	Various met
<b>2nd</b>	1st	Various met
	2nd	Various met
	3rd	Various met
<b>3rd</b>	1st	Various met
	2nd	Factors invol
	3rd	Factors invol
<b>4th</b>	1st	Interpretatic
	2nd	Interpretatic
	3rd	All Unit Revi
<b>5th</b>	1st	Definition, re
	2nd	Definition, re
	3rd	Definition, re

# JANTA COLLEGE OF PHARMACY, BUTANA (SONEPAT)

## LESSON PLAN

Mrs. Poonam

DMLT

3rd(2nd year)

Clinical Haematology-I

16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)

**in hours**) : Lectures-03(hr), Practicals-04(hr)

<b>Theory</b>	
<b>Topic(including assignment/test)</b>	<b>Practical Day</b>
<b>ESR and PCV</b>	
	1st
Methods of estimation of ESR and their merits and demerits	
Methods of estimation of ESR and their merits and demerits	
Methods of estimation of ESR and their merits and demerits	2nd
Methods of estimation of PCV and their merits and demerits	
Methods of estimation of PCV and their merits and demerits	
Methods of estimation of PCV and their merits and demerits	3rd
Applied in ESR	
Applied in ESR	
Interpretation of results	4th
Interpretation of results	
Interpretation of results	
<b>Red Cell Indices- MCV, MCH, MCHC</b>	
Reference range, calculation and interpretation of MCV	5th
Reference range, calculation and interpretation of MCV	
Reference range, calculation and interpretation of MCH	


**Practical**

<b>Topic</b>
Estimation of ESR by wintrobe method
Estimation of ESR by wintrobe method
Estimation of ESR by westergren method
Estimation of ESR by westergren method
Estimation of PCV by wintrobe method

<b>6th</b>	1st
	2nd
	3rd
<b>7th</b>	1st
	2nd
	3rd
<b>8th</b>	1st
	2nd
	3rd
<b>9th</b>	1st
	2nd
	3rd
<b>10th</b>	1st
	2nd
	3rd
<b>11th</b>	1st
	2nd
	3rd
<b>12th</b>	1st
	2nd
	3rd
<b>13th</b>	1st
	2nd
	3rd
<b>14th</b>	1st
	2nd
<b>15th</b>	3rd
	1st
	2nd
<b>16th</b>	3rd
	2nd
	1st

Definition, reference range, calculation and interpretation of MCH	6th
Definition, reference range, calculation and interpretation of MCHC	
<b>Supravital stain and reticulocyte counting</b>	
Introduction	7th
Principle and procedure of staining and calculation	
Principle and procedure of staining and calculation : 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)	
Reference values & interpretation	8th
Variation in Physiological Values such as Hb, PCV	
Variation in Physiological Values such as T.L.C and Platelet count	
<b>Anemias</b>	
Definition and classification	9th
Definition and classification	
Definition and classification	
Laboratory diagnosis of: Iron deficiency anaemia	10th
Laboratory diagnosis of: Iron deficiency anaemia	
Laboratory diagnosis of: Iron deficiency anaemia	
Laboratory diagnosis of: Megaloblastic anaemia	11th
Laboratory diagnosis of: Megaloblastic anaemia	
Laboratory diagnosis of: Haemolytic anaemia	
Laboratory diagnosis of: Haemolytic anaemia	12th
Laboratory diagnosis of: Sickle cell anaemia	
Laboratory diagnosis of: Sickle cell anaemia	
Laboratory diagnosis of: Thallasseamia	13th
Laboratory diagnosis of: Thallasseamia	
Aplastic anaemia	
Aplastic anaemia	14th
<b>Red Cell fragility test</b>	
Principle and procedure	
Principle and procedure	15th
Principle and procedure	
Principle and procedure	
Principle and procedure	16th
Principle and procedure	
Clinical significance	

Estimation of PCV by Capillary method
Calculate Red Cell Indices – MCV, MCH, MCHC
Counting of Reticulocyte in blood
To perform red cell fragility test on blood
To perform Sickling test on blood
Estimation of foetal haemoglobin by alkali denaturation test
Estimation of plasma haemoglobin
Estimation of and G6PDby Methylene Blue Reduction Test
To perform red cell fragility test on blood.

# JANTA COLLEGE OF PHARMACY, BUTANA (SC)

## LESSON PLAN

<b>Name of the</b>	:	Mrs. Poonam Rani
<b>Discipline</b>	:	DMLT
<b>Semester</b>	:	3rd(2nd year)
<b>Subject</b>	:	APPLIED CLINICAL BIOCHEMISTRY
<b>Lesson Plan Duration</b>	16	: 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus)

**Work load(Lecture/Practical)per week(in hours) :** Lectures-03(hr),Practicals-02(hr)

Week	Theory	
	Lecture Day	Topic(including assignment/test)
		<b>Serum Bilirubin</b>
<b>1st</b>	1st	Formation of bile pigments
	2nd	Formation and excretion of bilirubin
	3rd	Formation and excretion of bilirubin
<b>2nd</b>	1st	Conjugated and unconjugated bilirubin
	2nd	Principle and procedures of serum bilirubin estimation (Direct & Indirect)
	3rd	Reference values & Clinical significance
		<b>SGOT and SGPT</b>
<b>3rd</b>	1st	Principle and procedures of estimation
	2nd	Principle and procedures of estimation
	3rd	Principle and procedures of estimation
<b>4th</b>	1st	Principle and procedures of estimation
	2nd	Reference values & Clinical significance
	3rd	Reference values & Clinical significance
		<b>ALP and ACP</b>
<b>5th</b>	1st	Principle and procedures of estimation
	2nd	Principle and procedures of estimation
	3rd	Principle and procedures of estimation
<b>6th</b>	1st	Principle and procedures of estimation
	2nd	Reference values & Clinical significance
	3rd	Reference values & Clinical significance
<b>7th</b>	1st	Principle and procedures of estimation Serum Amylase
	2nd	Principle and procedures of estimation
	3rd	Reference values & Clinical significance
		<b>Serum Calcium and Potassium</b>
<b>8th</b>	1st	Principle and procedures of estimation
	2nd	Principle and procedures of estimation
	3rd	Principle and procedures of estimation
<b>9th</b>	1st	Principle and procedures of estimation
		<b>Principle and procedures of estimation</b>

	2nd	Principle and procedures of estimation
	3rd	Reference values & Clinical significance
<b>10th</b>	1st	Reference values & Clinical significance
	2nd	Reference values & Clinical significance
	3rd	<b>Lipid Profile</b>
<b>11th</b>	1st	Formation of cholesterol
	2nd	High density and low density cholesterol
	3rd	Principles and procedures of estimation
<b>12th</b>	1st	Principles and procedures of estimation
	2nd	Reference values & Clinical significance
	3rd	Triglycerides, principle and procedure of estimation
<b>13th</b>	1st	Importance of various ratios of HDL., LDL and VLDL
	2nd	Importance of various ratios of HDL., LDL and VLDL
	3rd	Importance of various ratios of HDL., LDL and VLDL
<b>14th</b>	1st	Importance of various ratios of HDL., LDL and VLDL
	2nd	Importance of various ratios of HDL., LDL and VLDL
	3rd	Sessional, Test
<b>15th</b>	1st	Sessional, Test
	2nd	Sessional, Test
	3rd	Sessional, Test
<b>16th</b>	1st	Sessional, Test



10th	Serum calcium estimation
11th	Serum potassium estimation
12th	Serum total cholesterol estimation
13th	Serum triglyceride estimation
14th	Estimation of HDL
15th	Estimation of LDL and VLDL
16th	Estimation of LDL and VLDL

# JANTA COLLEGE OF PHARMACY, BL

## LESSON PLAN

<b>Name of the Faculty</b>	:	Mrs. SANEHLATA
<b>Discipline</b>	:	DMLT
<b>Semester</b>	:	3rd
<b>Subject</b>	:	INDUSTRIAL / IN-HOUSE TRAINING-I
<b>Lesson Plan Duration</b>	:	16 weeks(from 30 July 2026 to 23 November 2026)(Accor
<b>Work load(Lecture/Practical)per week(in hours) : Practicals-02(hr)</b>		

Week	Theory		Practical Day
	Lecture Day	Topic(including assigment/test)	
<b>1st</b>	1st		1st
	2nd		
	3rd		
<b>2nd</b>	1st		2nd
	2nd		
	3rd		
<b>3rd</b>	1st		3rd
	2nd		
	3rd		
<b>4th</b>	1st		4th
	2nd		
	3rd		
<b>5th</b>	1st		5th
	2nd		
	3rd		
<b>6th</b>	1st		6th
	2nd		
	3rd		
<b>7th</b>	1st		7th
	2nd		

# JTANA(SONEPAT)

ding to Syllabus Scheme)

## Practical

### Topic

Report writing based on industrial training.

Report writing based on industrial training.

Preparation of Power Point Slides based on industrial training and presentation by the candidate.

Preparation of Power Point Slides based on industrial training and presentation by the candidate.

Preparation of Power Point Slides based on industrial training and presentation by the candidate.

Internal Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries

Internal Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries

	3rd		
<b>8th</b>	1st		8th
	2nd		
	3rd		
<b>9th</b>	1st		9th
	2nd		
	3rd	2026)(According to Syllabus Scheme)	
<b>10th</b>	1st		10th
	2nd		
	3rd		
<b>11th</b>	1st		11th
	2nd		
	3rd		
<b>12th</b>	1st		12th
	2nd		
	3rd		
<b>13th</b>	1st		13th
	2nd		
	3rd		
<b>14th</b>	1st		14th
	2nd		
	3rd		
<b>15th</b>	1st		15th
	2nd		
	3rd		
<b>16th</b>	1st		16th
	2nd		
	3rd		

Internal Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries
External Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries.
External Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries.
External Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries.
External Evaluation based on quality of Report, PPT preparation, PPT presentation and answer to queries.