

JANTA COLLEGE OF PHARMACY, BUTANA (SONE)

LESSON PLAN

Name of the Faculty : Mrs. PARMILA DEVI
Discipline : DMLT
Semester : First
Subject : INTRODUCTION TO HEMATOLOGY -I
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-04(hr)

Week	Theory		Practical Day
	Lecture Day	Topic (including assignment/test)	
1st	1st	Introduction to haematology	1st
	2nd	Various glassware/plasticware used in haematology labs Various glassware/plasticware used in haematology labs Introduction to blood	
	3rd	Definition & Composition	
2nd	1st	Cells-WBC (Granulocytes-Neutrophils, Eosinophils & Basophils), (Agranulocytes-Lymphocytes & Monocytes)	2nd
	2nd		
	3rd		
3rd	1st	Plasma & its components	3rd
	2nd	Function-cell functions & plasma functions	
	3rd	Formation of blood (Erythropoiesis, Leukopoiesis & Thrombopoiesis)	
4th	1st	Formation of blood (Erythropoiesis, Leukopoiesis & Thrombopoiesis)	4th
	2nd	Formation of blood (Erythropoiesis, Leukopoiesis & Thrombopoiesis)	
	3rd	Anticoagulants, (2nd Unit)	
5th	1st	Definition, various types of anticoagulants	5th
	2nd	Definition, various types of anticoagulants	
	3rd	their mode of action	
6th	1st	Anticoagulants preparation	6th
	2nd	merits and demerits	
	3rd	Difference between Plasma and serum	
7th	1st	Collection of blood; venous and capillary (3rd Unit)	7th
	2nd	Venipuncture : materials and equipment required for venipuncture	
	3rd	Preparation of patients for venipuncture, Applying tourniquet	
8th	1st	Selection and preparing the venipuncture site	8th
	2nd	Performing venipuncture	
	3rd	Care of venipuncture site	
9th	1st	Disposable of blood, syringes, needle and lancets.	9th
	2nd	Capillary puncture site (4th Unit)	
	3rd	Materials and equipment required for capillary puncture site	

10th	1st	Selecting and preparing the puncture site	10th
	2nd	Techniques performing the puncture site	
	3rd	Collection of blood sample	
11th	1st	Care of the capillary puncture site	11th
	2nd	Vacutainer system for blood collection	
	3rd	Romanowsky stains (Leishman, Giemsa)	
12th	1st	: 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)	: 16 weeks(from 04 August 2025 to
	2nd	Choice of slide and spreader	
	3rd	Preparation of blood film	
13th	1st	Characteristics of good blood smear	13th
	2nd	Examination of blood smear	
	3rd	Identification of blood cell	
14th	1st	Assignment	14th
	2nd	Assignment	
	3rd	Assignment	
15th	1st	Test	15th
	2nd	Test	
	3rd	Test	
16th	1st	Theory Sessional	16th
	2nd	Theory Sessional	
	3rd	Theory Sessional	

Estimation of Differential Leukocyte count.

Preparation of various anticoagulants.

Collection of blood sample by venipuncture

Collection of blood sample by capillary puncture

Preparation of peripheral blood film (PBF).

Preparation of stain.

Practical Assignment Preparation

JANTA COLLEGE OF PHARMACY, BUTA

LESSON PLAN

Name of the Faculty	: Mr.Amit Kumar
Discipline	: DMLT
Semester	: First
Subject	: Cl.Microbiology - I
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-04(hr)			
Week	Theory		Practical Day
	Lecture Day	Topic(including assignment/test)	
1st	1st	Definition, history, relationship of microorganisms to man (1st Unit)	1st
	2nd	Safety guideline in a microbiology laboratory. Universal precautions	
	3rd	Bio-safety cabinets: principle,	
2nd	1st	types of bio-safety cabinets and their applications	2nd
	2nd	Classification of micro-organisms (2nd Unit)	
	3rd	Morphology of Bacteria	
3rd	1st	Bacterial cell wall	3rd
	2nd	Cell wall structures	
	3rd	Physiology of bacteria	
4th	1st	Bacterial growth and nutrition	4th
	2nd	Sterilization,Introduction,types of sterilization (3rd Unit)	
	3rd	Sterilization,Introduction,types of sterilization	
5th	1st	operation of autoclave , sterilization control and sterilization indicators	5th
	2nd	operation of hot air oven , sterilization control and sterilization indicators	
	3rd	Sterilization by radiation	
6th	1st	filtration (membrane)	6th
	2nd	Chemical methods of Sterilization	
	3rd	Antiseptics and disinfectants	
7th	1st	Definition, types, properties and uses of common Antiseptics and disinfectants	7th
	2nd	Formaldehyde, Ethylene oxide, phenol compounds, Alcohol, hypochlorite	
	3rd	Definition of Phenol coefficient	
8th	1st	determination Phenol coefficient by Rideal Walker method	8th
	2nd	Handling of a compound microscope (4th Unit)	
	3rd	Care and maintenance of different parts of a compound microscope.	
9th	1st	Principle of working of fluorescent microscope	9th
	2nd	Staining techniques: Method of smear preparation	
	3rd	Differential staining methods: Gram staining	

ANA(SONEPAT)

Practical
Topic
Demonstration of safety rules in a microbiology laboratory
cleaning agents and techniques of cleaning of glass and plastic ware.
Sterilization by autoclave and hot air oven
Sterilization by autoclave and hot air oven
Sterilization by filtration (Seitz)
Handling and use of compound microscope
Staining techniques: Gram, Albert's, Ziehl – Neelson's
Staining techniques: Gram, Albert's, Ziehl – Neelson's
Staining techniques: Gram, Albert's, Ziehl – Neelson's

10th	1st	AFB staining, Albert's staining	10th
	2nd	staining of capsule	
	3rd	Preparation of staining solutions and their storage	
11th	1st	Definition, synthetic and non-synthetic media (5th)	11th
	2nd	Types of culture media: liquid, and solid media	
	3rd	routine laboratory media (Basal. Enriched,	
12th	1st	: 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)	: 16 weeks(fr om 04
	2nd	routine laboratory media (Basal. Enriched, selective, enrichment	
	3rd	indicator, transport, and storage) with two examples of each type	
13th	1st	Different types of inoculating loops	13th
	2nd	different types of swabs and their uses	
	3rd	Types of bacterial culture	
14th	1st	broth culture, stab culture, slant culture	14th
	2nd	Culture techniques: streak plate, pour plate	
	3rd	spreading/ lawn culture	
15th	1st	Aerobic and anaerobic culture	15th
	2nd	Isolation of pure cultures and disposal of cultures	
	3rd	Isolation of pure cultures and disposal of cultures	
16th	1st	Theory Sessional	16th
	2nd	Assignment/Test	
	3rd	Assignment/Test	

Demonstration of motility (Hanging drop method)

Preparation and sterilization of various culture media

Preparation and sterilization of various culture media

Isolation of organisms in pure culture, study of colony characteristics and demonstration of haemolysis on blood agar.

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Isolation of organisms in pure culture, study of colony characteristics and demonstration of haemolysis on blood agar.

Isolation of organisms in pure culture, study of colony characteristics and demonstration of haemolysis on blood agar.

Name of the Faculty : Mrs.Reena
 Discipline : DMLT
 Semester : First
 Subject : Basic Chemistry
 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-02(hr),Practicals-02(hr)

Week	Theory		Practical Day
	Lecture Day	Topic(including assignment/test)	
1st	1st	Biologically important elements, study of their atomic number, mass number, atomic mass	1st
	2nd	equivalent weight & molecular weight. Importance of Basic chemistry in medical laboratory technology	
	3rd	Importance of Water quality and Glasswares in clinical laboratory: different types of glassware's, use, cleaning,	
2nd	1st	standardization of volumetric glassware & maintenance. Pipettes - various types and different pipetting techniques	2nd
	2nd	Biochemical importance of distilled water and deionised water in clinical analysis	
	3rd	Solution and colloids – importance of colloids in biological system	
3rd	1st	Surface tension, osmosis and viscosity their importance in biological system	3rd
	2nd	Definition of organic and inorganic compounds. Importance of organic compounds – in Biological system	
	3rd	Basic chemistry of carbohydrates,their nutritional effect in humans	
4th	1st	Basic chemistry of proteins ,their nutritional effect in humans	4th
	2nd	Basic chemistry of lipids ,their nutritional effect in humans	
	3rd	Physiological importance of Acid & Bases and role of pH in human system	
5th	1st	Oxidation and Reduction reactions –Definition	5th
	2nd	Preparation of various standard solutions – definition of primary & secondary standards, SI units and their uses.	
	3rd	Preparation of various standard solutions – definition of primary & secondary standards, SI units and their uses.	
6th	1st	Principles of photometry, Laws of photometry	6th
	2nd	its importance - quantification of biomolecules in micro concentration	
	3rd	Principles used in determining concentration of molecules with no known weight	
7th	1st	preparation of standard graph	7th
	2nd	Blood collection for biochemical analysis	
	3rd	changes occurring in blood after collection	
8th	1st	management of its disposal	8th
	2nd	Different types of Hazards- Biological, Chemical, fire, apparatus	
	3rd	Safety measures needed in Basic chemistry and clinical biochemistry laboratory	
9th	1st	Safety measures needed in Basic chemistry and clinical biochemistry laboratory	9th
	2nd	Assuring Good Laboratory Practices (GLP) in Basic chemistry.	
	3rd	Revision Syllabus	

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Practical
Topic
Glassware Identification - different types, cleaning and preparation of cleaning solution.
Standardization, rechecking of volumetric glasswares
Determination of pH of different solutions
Titration of Acid and Base.
Performing confirmatory tests for Carbohydrate –Molisch
Performing confirmatory tests for Protein- Biuret
Identification of Parts of Colorimeter
Identification of Parts of Spectrophotometer
Preparation of different types of standards solution.

10th	1st	Revision Syllabus	10th
	2nd	Test	
	3rd	Test	
11th	1st	Theory Sessional	11th
	2nd	Theory Sessional	
	3rd		
	1st	2026)(According to Syllabus Scheme)	: 16 weeks(f
	2nd		
	3rd		
	1st		13th
	2nd		
	3rd		
	1st		14th
	2nd		
	3rd		
	1st		15th
	2nd		
	3rd		
	1st		16th
	2nd		
	3rd		

JANTA COLLEGE OF PHARMACY, BUTA

LESSON PLAN

Name of the Faculty : Mr. Amit Kumar

Discipline : DMLT

Semester : First

Subject : Anatomy & Physiology -I

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

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

Week	Theory		Practical Day
	Lecture Day	Topic(including assignm/test)	
1st	General Anatomy		1st
	1st	Introduction to Anatomy & Physiology	
	2nd	Levels of organization, parts of human body	
2nd	3rd	Major body divisions and sectional divisions	2nd
	1st	Basic tissues of the body (Gross structure and functions)	
	2nd	Epithelial tissue	
3rd	3rd	Connective tissue	3rd
	1st	Muscular tissue	
	2nd	Nervous tissue	
4th	Skeletal System		4th
	3rd	Gross structure	
	1st	function and classification	
5th	2nd	Bones of appendicular and axial skeleton	5th
	3rd	Bones of Pectoral girdle and upper limbs	
	1st	Bones of Pelvic girdle and lower limbs	
6th	2nd	Joints & Articulations	6th
	3rd	Types of joints (Structural and functional classification)	
	1st	Bones forming major synovial joints	
7th	2nd	Shoulder, Elbow, wrist, hip	7th
	3rd	knee, ankle and intervertebral joints	
	Muscular System		
8th	1st	Muscular System	8th
	2nd	Properties of muscular tissue	
	3rd	Classification, structure and functions of muscles	
9th	1st	Skeletal muscle	9th
	2nd	Smooth muscle	
	3rd	Cardiac muscle	
10th	Cardiovascular System		10th
	1st	Anatomy of heart: External& Internal features of heart,	
	2nd	Chambers of heart	
11th	3rd	Blood vessels attached to various chambers of heart	11th
	1st	Coronary vessels & Major arteries and Veins of body	
	2nd	Circulation of Blood: Pulmonary, Coronary and Portal circulation	
11th	3rd	Blood Pressure: Definition of blood pressure, various terms used in Blood	11th
	1st	Factors affecting& controlling Blood pressure	
11th	2nd	Methods and Apparatus for recording blood pressure	11th

ANA(SONEPAT)

Practical

Topic

Demonstration of different parts of body(Cranial cavity (Brain),Thoracic cavity (Heart and lungs)
Demonstration of different parts of body(Abdominal cavity),Pelvic cavity
Demonstration of basic tissues of the body
Demonstration of basic tissues of the body
Demonstration of various parts of bones
Demonstration of various parts of bones
Demonstration of major joints of the body
Demonstration of major joints of the body
Demonstration of structural differences between: - Skeletal muscle - Smooth muscle and - Cardiac muscle
Demonstration of heart
Demonstration of Radial pulse examination

	3rd	Introduction to ECG: Basic principles, normal electrocardiogram & grids of	
12th	1st	electrographic leads, cardiac cycle and Junctional tissues	12th
	2nd	Patient preparation for ECG recording & care and maintenance of ECG	
		Respiratory System	
	3rd	Respiratory System	13th
13th	1st	Organs of respiration: Upper and lower respiratory tract	
	2nd	: 16 weeks (from 30 July 2026 to 23 November 2026) (According to Syllabus Scheme)	
	3rd	Nasopharynx and larynx	
14th	1st	Trachea, bronchi and lungs	14th
	2nd	Functions and mechanism of Respiratory system	
	3rd	Gas exchange in lungs	
15th	1st	Control of respiration	15th
	2nd	Basal Metabolic Rate (BMR)	
	3rd	Respirometry: Procedure, clinical applications & Importance	
16th	1st	Theory Sessional	16th
	2nd	assignment/test	
	3rd	assignment/test	

Demonstration of Blood pressure Estimation

Demonstration of ECG recording

Demonstration of various parts of respiratory system

Demonstration of various parts of respiratory system

Demonstration of various parts of respiratory system

JANTA COLLEGE OF PHARMACY, B

LESSON PLAN

Name of the Faculty : Mrs. Sanehlata

Discipline : DMLT

Semester : First

Subject : ENGLISH & COMMUNICATION SKILLS – I

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-02(hr),Practicals-02(hr)

Week	Theory		Practical Day
	Lecture Day	Topic(including assigment/test)	
1st	1st	Reading (1st Unit)	1st
	2nd	Techniques of reading: Skimming and Scanning	
	3rd	Extensive and Intensive Reading: Textual Study	
2nd	1st	Homecoming – R.N. Tagore	2nd
	2nd	Life Sketch of Sir MokshagundamVisvesvarayya	
	3rd	Life Sketch of Sir MokshagundamVisvesvarayya	
3rd	1st	Life Sketch of Dr. Abdul Kalam	3rd
	2nd	Life Sketch of Dr. Abdul Kalam	
	3rd	Narayan Murthy's speech at LBSNA, Dehradun	
4th	1st	Narayan Murthy's speech at LBSNA, Dehradun	4th
	2nd	Fundamentals of Communication (2nd Unit)	
	3rd	Concept and Process of Communication	
5th	1st	Types of Communication (Verbal Communication)	5th
	2nd	Barriers to Communication	
	3rd	Barriers to Communication	
6th	1st	Speaking Skill: Significance and essentials of Spoken Communication	6th
	2nd	Listening Skill: Significance and essentials of Listening	
	3rd	Grammar and Usage (3rd Unit)	
7th	1st	Nouns	7th
	2nd	Pronouns	
	3rd	Articles	
8th	1st	Verbs(Main and Auxiliary)	8th
	2nd	Verbs(Main and Auxiliary)	
	3rd	Tenses	
9th	1st	Tenses	9th
	2nd	Writing Skills (4th Unit)	
	3rd	Significance, essentials and effectiveness of Written Communication	

10th	1st	Netiquettes	10th
	2nd	Official Letters and E-mails	
	3rd	Frequently-used Abbreviations used in Letter-Writing	
11th	1st	Paragraph Writing	11th
	2nd	Netiquettes	
	3rd		
12th	1st	: 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)	: 16 weeks(fro m 04
	2nd		
	3rd		
13th	1st		13th
	2nd		
	3rd		
14th	1st		14th
	2nd		
	3rd		
15th	1st		15th
	2nd		
	3rd		
16th	1st		16th
	2nd		
	3rd		

Exercises on the prescribed grammar topics.

Exercises on the prescribed grammar topics.

Exercises on the prescribed grammar topics.

Exercises on the prescribed grammar topics.

Students should be given Written Practice in groups so as to inculcate team-spirit and collaborative learning

Group exercises on writing paragraphs on given topics

Opening an e-mail account, receiving and sending emails

JANTA COLLEGE OF PHARMACY, BUTAI

LESSON PLAN

Name of the Faculty : Mrs. Poonam Rani

Discipline : DMLT

Semester : First

Subject : FUNDAMENTALS OF MLT

Lesson Plan Duration : 16 weeks (from 30 July 2026 to 23 November 2026)

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

Week	Theory		Practical Day
	Lecture Day	Topic(including assignment/test)	
	Basic Training of laboratory technicians		
1st	1st	Basic ethics of Medical laboratory Technology	1st
	2nd	Training of clinical laboratory technicians	
	3rd	Medical laboratory professional - professionalism in laboratory workers	
2nd	1st	Code of conduct and communication between physician and lab	2nd
	2nd	First aid in the clinical laboratory	
	3rd	Storage and handling of dangerous chemicals	
3rd	1st	Common Laboratory hazards	3rd
	2nd	Color coding of various Waste disposal containers in the labs	
		Introduction to Instrumentation in a Medical Laboratory	
	3rd	Introduction to Basic Equipments in MLT	
4th	1st	Different types of syringes used for blood collection.	4th
	2nd	Basic requirements of blood collection.	
		Principle, Care, Procedure and Application of the Basic Instruments	
	3rd	Centrifuge (routine - low and high speed -table top)	
5th	1st	Centrifuge (routine - low and high speed -table top)	5th
	2nd	Water Bath	
	3rd	Hot Air Oven	
6th	1st	Incubator	6th
	2nd	Colorimeter	
	3rd	Compound Microscope (Monocular and Binocular)	
7th	1st	Compound Microscope (Monocular and Binocular)	7th
		Principle, Care & Safe Operating Procedure and Application of	
	2nd	pH Meter	

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Practical

Topic

The Principal and procedure of autoclave and identify their parts–water bath, hot air oven, incubator

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The Principal and procedure of autoclave and identify their parts–water bath, hot air oven, incubator

The Principal and procedure of autoclave and identify their parts–water bath, hot air oven, incubator

To demonstrate basic internal organization & identify their parts.
Centrifuge colorimeter

To demonstrate basic internal organization & identify their parts.
Centrifuge colorimeter

To demonstrate basic internal organization of compound microscope & identify their parts.

	3rd	Distillation unit	
8th	1st	Balance (Physical and chemical)	8th
	2nd	Balance (Physical and chemical)	
	3rd	Micro tome	
9th	1st	Micro tome	9th
	2nd	Microbe filters (Seitz, Glass Scintered & Membrane)	
	3rd	: 16 weeks(from 30 July 2026 to 23 November 2026)(According to Syllabus Scheme)	
10th	1st	Microbe filters (Seitz, Glass Scintered & Membrane)	10th
		Principle, Care, Procedure and Application of the	
	2nd	Refrigerated Centrifuge	
	3rd	Ultra Centrifuge	
11th	1st	Specialised Incubator	11th
	2nd	B.O.D. Incubator	
	3rd	Special Microscopes	
12th	1st	Dark Field Microscope	12th
		Phase Contrast Microscope	
	2nd	Florescence Microscope	
	3rd	Electron Microscope	
13th	1st	Tissue Processing Unit	13th
	2nd	Tissue Processing Unit	
	3rd	Biochemistry Analyzer	
14th	1st	Biochemistry Analyzer	14th
	2nd	Laminar Air Flow Hood& their Different Types	
	3rd	Laminar Air Flow Hood& their Different Types	
15th	1st	Haematology Cell Counter	15th
	2nd	Haematology Cell Counter	
		Test	
	3rd	Test	
16th	1st	Theory Sessional	16th
	2nd	Theory Sessional	
	3rd	Practical Assignments	

To demonstrate basic internal organization of compound microscope & identify their parts.
To demonstrate basic internal organization of identify their parts. pH meter chemical balance
To demonstrate basic internal organization of identify their parts. pH meter chemical balance
To demonstrate basic internal organization & identify their parts. Microtome Tissue Processing Unit Hematology Cell Counter
To demonstrate basic internal organization & identify their parts. Microtome Tissue Processing Unit Hematology Cell Counter
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To demonstrate basic internal organization & identify their parts. Microtome Tissue Processing Unit Hematology Cell Counter
Practical Assignments preparation
Practical Assignments preparation