B.Sc. Medical Lab Technology (BSCMLT)

SEMESTER I

BSCMLT-101: Microbiology

GENERAL MICROBIOLOGY
Introduction and Brief History of microbiology: Definition, History and relationship of micro-org. to man Safety measures in microbiology
Care and maintenance of laboratory equipment
Culture media:
(a) Preparation of various media (b) Standardization and use
Sterilization:
(a) Definition (b) Different methods and principles – Moist heat, dry heat, Radiation & filtration
(C) Autoclave - its structure, functioning, control & indicators
Antiseptics and disinfectants; Definition, types, mode of action & properties
Testing efficiency
Glassware: Description of glass ware, its use, handling and care, Decontamination and disposal of contaminated material
General characteristics and classification of important bacteria and fungi

VIROLOGY
Introduction to virology
Physiochemical characteristics of viruses
Diseases caused by different viruses and mode of infection

PARASITOLOGY
Introduction to medical parasitology and safety measures
General characters and classification of protozoa of Medical Importance
Morphology, Life cycle and laboratory diagnosis of Intestinal Protozoa- Amoebae and Giardia

SEMESTER I

BSCMLT-102: Anatomy & Histotechnology

Introduction to Histopathology and laboratory organization
Laboratory equipment, its uses and maintenance
Laboratory hazards and safety precautions
Anatomy and physiology of human body: General organization, synopsis of all systems
Cell organization and function: Structure & function of all cell organelles
Skeletal system: Structure and function of all individual bones and joints, movement of joints, Skeletal muscles, Cardiac muscles, smooth muscles, muscles of upper arm & anterior compartment of thigh (their name, attachments, functions and nerve supply)
Blood: Functions of blood, composition of blood, plasma & its functions; Blood clotting (mechanism, clotting factors)
Morphology of red blood cells, their function and development; Haemoglobin, anaemia; WBC: classification development & functions; platelets: morphology & functions; Blood groups, blood transfusion and transfusion reactions
Respiratory system: Structure of respiratory pathway, function of respiratory tract, cough reflex, intrapleural pressure, mechanism of breathing and respiration, muscles of respiration, vital capacity, tidal volume, inspiration, reserve volume and residual volume
Reception, recording and labeling of histology specimens
Fixation and various fixatives
Processing of histological tissues for paraffin embedding
Embedding and embedding media
Decalcification - various methods
Introduction to exfoliative cytology with special emphasis on female genital tract (PAP smear, cone biopsy)
Solvents, mordents, accelerators and accentuators

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SEMESTER I

BSCMLT-103: Haematology and Clinical Pathology

Introduction to hematology: Definition, importance, important equipment and chemicals, various tests performed, laboratory organization
Composition and function of blood: Definition of blood, composition of blood (cells, plasma/serum)
Formation of blood: Erythropoiesis, Leucopoiesis, Thrombopoiesis
Anticoagulants: Definition, uses, different types, mode of action, their merits and demerits
Morphology of normal blood cells: Normal morphology, morphology in diseases
Collection and preservation of blood: Different methods of collection, preservation, changes in stored blood
Normal and absolute values in hematology: RBC count, WBC count, Platelet count, DLC value, Hb, MCH, MCV, MCHC, ESR, PCV
Blood film: Different types, Methods of preparation, Staining
Romanwsky stains: Principle of staining, Different stains, their composition and preparation, method of staining

SEMESTER I

BSCMLT-104: Biochemistry
Introduction to medical lab technology: General introduction Role of medical lab technologists, ethics, responsibility, safety measures and first aid. Cleaning and care of general laboratory glassware and equipment.
Distilled water: Types of distilled water plants, preparation & storage
Analytical balance: Principal, Working & maintenance; Preparation of reagents: Formulation and preparation; Standard solutions: Various std. solutions used, their preparation; storage of chemicals.
Units of measurements: S.I units: Definitions, conversions; Measurement of volume: Strength, Normality, Molarity, Molality: Volumetric apparatus, calibration of volumetric apparatus Definitions: Mole, molar and normal solutions (preparation, Standardization); pH (Definition, Pka value, Example, Derivation of Henderson-Hasselbalch equation); Buffer solutions (Definition, preparation of important solutions), pH indicators (pH papers, universal & other indicators); pH measurement: different methods (pH paper, pH meter, principle of pH meter, structure, working and maintenance.

SEMESTER I

BSCMLT-105: Introductory Biology
Unit I
Living World
Biology & Its Branches; relationships with other sciences; scientific methods in Biology; historical breakthroughs; scope of biology and career options; role of Biology in dispelling myths and misbelieves; characters of living organisms, (elementary idea of metabolism, transfer of energy at molecular level, open and closed systems, omoeostasis, growth and reproduction, adaptation, survival, death).
Origin and evolution of life - theories of evolution; evidence of evolution; sources of variations (mutation, recombination, genetic drift, migration, natural selection); concept of species; specification and isolation (geographical and reproductive); origin of species.
Unit II
Diversity of Life
Variety of living organisms, Systematic; need, history and types of classification (artificial, natural, polygenetic); biosystematics; binomial nomenclature; Two kingdom system, Five PTU/DEP/Paramedical/September 2005/Detailed Syllabus Paramedical Syllabus Manual : 25 / 144 kingdom System, their merits and demerits, status of bacteria and virus; botanical gardens and herbia; zoological parks and museums.
Unit III
Cell and Cell Division
Cell as a basic unit of life - discovery of cell, cell theory, cell as a self-contained unit; procaryotic and eukaryotic cell; unicellular and multicellular organisms; tools and techniques (compound microscope, electron microscope and cell fractionation); Ultrastructure of prokaryotic and eukaryotic cell - cell wall, cell membrane - unit membrane concept (fluid mosaic model); membrane transport; cellular movement (exocytosis, endocytosis); cell organelles and their functions - nucleus, mitochondria, plastids, endoplasmic reticulum, Gogli complex, lysosomes, lysosomes, microtubules, centriole, vacuole, cytoskeleton, cilia and flagella, ribosomes.
Molecules of cell; inorganic and organic materials - water, salt, mineral ions, carbohydrates, lipids, amino acids, proteins, nucleotides, nucleic acids (DNA and RNA); Enzymes (Properties, chemical nature and mechanism of action); vitamins, hormones and
steroids.

Unit IV
Genetics
Continuity of life - heredity, variation; mendel's laws of inheritance, chromosomal basis of inheritance; other patterns of inheritance - incomplete dominance, multiple allelism, quantitative inheritance.
Chromosomes - bacterial cell and eukaryotic cell; parallelism between genes and chromosomes; genome, linkage and crossing over; gene mapping; recombination; sex chromosomes; sex determination; sex linked inheritance; mutation and chromosomal aberrations; Human genetics - methods of study, genetic disorders.
DNA as a genetic material - its structure and replication; structure of RNA and its role in protein synthesis; Gene expression - transcription and translation in prokaryotes and eukaryotes; regulation of gene expression, induction and repression - housekeeping genes; nuclear basis of differentiation and development; oncoenes.
Basics of Recombinant DNA technology; cloning; gene bank; DNA fingerprinting; genomics - principles and applications, transgenic plants, animals and microbes.

Unit V
Morphology of Plants and Animals
Morphology - root, stem and leaf, their structure and modification; Inflorescence, flower, fruit, seed and their types; Description of Poaceae, Liliaceae, Fabaceae, Solanaceae, Brassicaceae and Asteraceae.
Morphology of animals - salient features of earthworm, cockroach and rat; tissue systems, structure and function of tissues - epithelial, connective, muscular and nervous.

Practical
1. Study of parts of Compound Microscope
2. Study of mitosis in onion root tip and animal cell (grasshopper)
3. Study of meiosis in onion flower buds, and testis of grasshopper.
4. Study of cyclosis in leaf cell of Hydrilla, or Tradescantia and in Paramoecium.
5. Study of cell wall components (cellulose, lignin, suberin and mucilage).
6. Study of mitochondria by staining with a Janus Green.
7. Study of specimens and their identification with reason - Bacteria, Oscillator, Spirogyra, Rhizopus, mushroom/bracket fungi, yeast, liverwort, moss, fern, Pinus, one monocotyledon, one dicotyledon and lichens.
10. Study of external morphology of earthworm, cockroach, from and rat through models.

Semester I

BSCMLT-106: Communication & Soft Skills

Unit I
Essentials of Grammar:
- Parts of Speech
- Punctuation
- Vocabulary Building
- Phonetics

Unit II
Office Management:
- Types of Correspondence
• Receipt and Dispatch of Mail
• Filing Systems
• Classification of Mail.
• Role & Function of Correspondence
• MIS
• Managing Computer

UNIT III

Letter & Resume Writing:
• Types of Letters- Formal / Informal
• Importance and Function
• Drafting the Applications
• Elements of Structure
• Preparing the Resume
• Do’s & Don’ts of Resume
• Helpful Hints

UNIT IV

Presentation Skills:
• Importance of Presentation Skills
• Capturing Data
• Voice & Picture Integration
• Guidelines to make Presentation Interesting
• Body Language
• Voice Modulation
• Audience Awareness
• Presentation Plan

UNIT V

Interview Preparation:
• Types of Interview
• Preparing for the Interviews
• Attending the Interview
• Interview Process
• Employers Expectations
• General Etiquette
• Dressing Sense
• Postures & Gestures

UNIT VI

Group Discussion & Presentation:
• Definition
• Process
• Guidelines
• Helpful Expressions
• Evaluation

(Note: Every student shall be given 15 minutes of presentation time & 45 minutes of discussion on his/her presentation.)

The student will be evaluated on the basis of:
- his/her presentation style
- Feedback of Faculty & Students
- General Etiquette
- Proficiency in Letter Drafting / Interview Preparation
- The paper is internal and at least 3 tests will be taken. Best 2 of 3 shall account for final grades (70% Test & 30% Presentation)
SEMESTER I
BSCMLT-107: Practical
Microbiology - 15 Marks
Anatomy & Histotechnology - 15 Marks
Haematology & Clinical Pathology - 15 Marks
Biochemistry - 15 Marks
Introductory Biology - 15 Marks
Internal Assessment: 25 Marks

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SEMESTER II
BSCMLT-201: Microbiology
I GENERAL MICROBIOLOGY
Principle of staining methods and preparation of reagents
Aerobic and anaerobic culture methods
General characters and nature of antigen and antibody
Principle of antigen antibody reaction
Collection, transportation and processing of clinical samples for microbiological investigations
Principle and mode of action of antibiotics and chematherapeutic agents for bacteria and fungi
Care and handling of laboratory animals
Laboratory organisation, management, recording of results and quality control in microbiology

II Virology
Isolation of viruses in laboratory by tissue culture, Embryonated eggs and different laboratory animals, cell and tissue
culture technology, Animal cell lines
Principles of different serological tests used in Virology

III Parasitology
Morphology and diagnosis of Oral vaginal flagellates Trichomonas, E. Gingivalia
Morphology and life cycle of Haemoprotozoa Material parasite including falciparum
Laboratory diagnosis of Material infection
General characters and classification of Medical Helminthology
Morphology and life cycle of Nematodes(Intestinal) Ascaris, Enterobious, Ancylostoma, Trichuris, Strongloides
Laboratory diagnosis of intestinal nematode infection

Compound microscope optical systems,magnification and maintenance

SEMESTER II
BSCMLT-202: Anatomy & Histotechnology
Body fluids and their significance
Cardiovascular system
Alimentary system, mechanism and physiology of digestion and absorption
Liner structure and function
Urinary system
Genital system- male and female
Nervous system
Spleen, lymph node and recticuloendothelial system
Endocrine glands and their functions
Microtomes various types, their working principle and maintenance
Microtomes Knives and Knife sharpening
Practical section cutting, cutting faults and remedies
Routine staining procedures, mounting and mounting media
Dye chemistry, theory and practice of staining
Use of controls in various staining procedures
Collection, processing and staining of cytological specimen

SEMESTER II
BSCMLT-203: Haematology and Clinical Pathology
Quality assurance in hematology
Hb : Definition ,synthesis and breakdown
Haemoglobinometry- various methods of estimation of Hb, errors involved and standardization of instrument for adaptation
for Hb estimation
Haemocytometry Procedure for cell count (visual and electronic), Red cell count, leukocyte count, platelet count.
Errors involved and means to minimize such errors
Physiological variation in Hb, PCV, TLC, platelets
Erythrocyte sedimentation rate, factors influencing ESR, various methods of estimation and their significance
Haemocrit value by macro and micro methods their merits and demerits
Routine examination of urine
Examination of biological fluids such as CSF etc.
Examination of semen
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SEMESTER II
BSCMLT-204: Biochemistry
Radio isotopes and their use in biochemistry. Osmosis, dialysis, surface tension
Urine analysis (Qualitative) for sugar, proteins, bile pigments, Ketone bodies, porphobilinogen, faecal occult blood, bile salts
Collection and recording of biological specimens, separation of serum plasma preservation and disposal of biological samples/materials
Basic statistics (mean, SD, CV, normal distribution, probability)
Volumetric analysis preparation of standard acid and base solutions, chloride estimation

SEMESTER II
BSCMLT-205: Computer Application
Introduction to Computers
Block diagram of a computer & overview of its working
Interconnections of various peripherals with computers
Input/Output & Secondary storage device
Classified of programming languages
Classification of computers
Familiarization with operating system
Introduction to Computer Operating System (Dos, Windows95/XP)
Introduction to DOS structure, system files, batch files & configuration files
Booting the system from floppy and hard disk
Brief introduction to DOS, Internal and External commands
Familiarization with windows structures, its use and application
Preparation of Documents through word processing
Idea of Text Editors like Microsoft Word, write etc.
Opening a document
Preparing documents, inserting diagrams and tables
Editing documents
Character, Word and line editing
Margin setting, Paragraph alignment
Block operations
Spell checker
Saving a document
Printing a document
Information Presentation for Decision making using Spreadsheet (Excel)
Application of spreadsheet
Structure of spreadsheet
Preparing spreadsheet for simple data and numeric operations
Using formulae in spreadsheet operations
Making tables, sorting and querying
Creation of graphs, Pie charts, bar charts
Printing reports
Computer Aided Drafting (CAD)
Making simple drawings using features of CAD and conforming the drafting specifications
Saving and retrieving drawings
Dimensioning
Lettering
Plotting drawings
Practices (4 hrs/ week)
Indentification of various parts of the PC
Demonstration of dis-assembly and assembly of PC and interconnection of Input and Output devices to PC
Installation of DOS and simple exercise on TYPE, REN, CD, MD, TREE, COPY, BACKUP commands
Grouping commands with batch files
Disk diagnose, Correction of partitioning
Installation of windows 95
Familiarization with start menu, taskbar icons, windows explorer
Control panel of settings
Getting hardware recognized
Installation of MS-office
MS-Word, Basics of Letterwriting, templates, wizards, formatting documents
Creating Graphics, tables, mail merge, etc. using MS-Word
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Building a sample worksheet using MS-Excel
Formulas for calculations, sorting etc..
Creating Lotus 1-2-3 sheet
Formulas, ranges and functions of Lotus 1-2-3
simple Graphics
Importing and exporting graphics through CAD
Drawing of geometric figures

SEMESTER II

BSCMLT-206: Practical
Microbiology - 15 Marks
Anatomy & Histotechnology - 15 Marks
Haematology and Clinical Pathology - 15 Marks
Biochemistry - 15 Marks
Computer Application - 15 Marks
Internal Assessment : 25 Marks
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SEMESTER III

BSCMLT-301: Microbiology
Identification of Bacteria - Micrococci, staphylococci pneumococci, corynebacteria, Escherichia, Klebsiella, Enterobacter,
Proteus, Providencia, Salmonella, Shiqella, Arizona, Citrobactor, yesinia, Pseudomonas, Vibrio, Haemophilus,
Mycobacteria,
Buccella, Bordetella, Bacillus, Clostridia, Anaerobic cocci, Neisseria, Treponema, Borrelia, Leptospria, Mycoplasma,
Ricketessia, Chlamydia, Tric agents
Identification of Pathogenic and Non Pathogenic fungi Condida, Gyptococci, Dermato phytes, spcerotrichoums, Histoplasma,
Blastomyces, Coccidiodies, Para caccidiodes, Dematiaceous fungi, Mycetoma, Actinomyces, Nocardia and common
laboratory contains.
Biochemical tests used for identification of bacteria and fungi
Different staining techniques used in virology
Use of Embryonated eggs in clinical virology
Morphology and life cycle of haemoflagellates: leishmania, Trypansomes and their laboratory diagnosis
Morphology, life cycle and lab diagnosis of tissue and blood nematodes filaria, trichmella, sracunculus
Morphology, life cycle and laboratory diagnosis of intestinal cestodes Tanenia, Echinococcus, H. Nana, D.Latum
culture techniques for protozoa, amoeba, Giardia, Leishmania
Culture methods for Helminthis, Hookworm roundworm

SEMESTER III

BSCMLT-302: Basic Cellular Pathology & Allied Technology
Study of body tissues - Epithelial tissue, connective tissue including bone and cartilage, muscular tissue
Study of various systems - Circulatory system, alimentary system, digestive system including liver, pancreas and
gall bladder,
Respiratory system
Microscopy - Working principle, maintenance and applications of various types of microscopes - Darkground
microscope,
polarizing microscope, phase contrast microscope, Interference microscope, U.V. light microscope, micrometry
Metachromasis and Metachromatic dyes
Haematoxylin stain, its importance in histology.
Stains, cytological preparation with special emphasis on MGG, PAPANTICOLOU stains.
Special stains like PAS, Mucicarmine, Alcian blue, Schmorl, Acid phosphatase

**SEMESTER III**

**BSCMLT-303: Haematology**
History and discovery of blood group system
ABO and Rhesus blood group system
Compatibility tests in blood transfusion, complications and hazard of blood transfusion
Laboratory investigation of transfusion reactions and mismatched transfusions
Preparation of packed cells and various fractions of blood for transfusion purposes
Bone marrow aspiration, composition and functions
Staining of bone marrow smear and preparation of histological section

**SEMESTER III**

**BSCMLT-304: Biochemistry**
Colorimetry, Spectrophotometry, Flamephotometry, Atomic absorption spectroscopy, Electrometric determination of Na⁺ and K⁺, Chromatography, Electrophoresis, Radioimmunoassay (RIA) and ELISA

**SEMESTER III**

**BSCMLT-305: Practical**
Microbiology: 20 Marks
Basic Cellular Pathology & Allied Technology: 20 Marks
Haematology: 15 Marks
Biochemistry: 20 Marks
Internal Assessment: 25 Marks

**SEMESTER IV**

**BSCMLT-401: Microbiology**
Antimicrobial sensitivity testing and assay methods for body fluids
Antimicrobial susceptibility testing for mycobacteria
Preparation and standardization of antigens and antisera.
Principles of animal cell culture and their use in virology
Use of common Laboratory animals in viral diagnosis
Egg counting Technique
Preparation of stains and stain procedures of malaria
Identification of different plasmodium species
Preparation of media and maintenance of cultures of E. histolytica, Giardia, Leishmania,

**SEMESTER IV**

**BSCMLT-402: Basic Cellular Pathology & Allied Technology**
Study of body tissues-Nervous tissue, glands, epithelial and endocrine.
Study of various systems- urinary systems, system of endocrine glands, reproductive system, nerve endings and organs of special senses.
Carbohydrates and amyloid -special stains and procedures
Connective tissues, trichrome staining and other special stains for muscle fibbers, elastic, and reticule fibbers and collages fibers.
Principles of metal impregnation technique
Demonstration and identification of minerals and pigments.
Cytological screening and quality control in cytology laboratory.

**SEMESTER IV**

**BSCMLT-403: Haematology**
Hemoglobin pigments and their measurement
Abnormal hemoglobin and their means of identification and estimation
LE cell estimation, various methods of its demonstration
Homeostatic mechanism and theories of blood coagulation
Physiochemical properties of coagulation factors
Screening coagulation procedures
Quantitative assay of coagulation factors

SEMESTER IV

**BSCLMT-404: Biochemistry**
Introduction, properties and simple metabolism of carbohydrates, proteins and fats, Nucleic acids and Enzymes(introduction, General properties)

SEMESTER IV

**BSCLMT-405: Practical**
Microbiology : 20 Marks
Basic Cellular Pathology & Allied Technology : 20 Marks
Haematology : 15 Marks
Biochemistry : 20 Marks
Internal Assessment: 25 Marks

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SEMESTER V

**BSCLMT-501: Microbiology**
Preservation of microbes and lyophilization methods
Total and viable counts of bacteria
Testing of disinfectants Rideal Walker Chick Martin and In use tests.
Preparation and standardization of vaccines and immunization
Bacteriological examination of water, milk, good and air.
Nosocomial infections and sterility testing of I/V fluids and processing of various samples for hospital infections
Toxin Antitoxin assays and pathogenicity tests
Principles of serological techniques used in virology-HA, HA, Had, SRH,RPHA, IHA, CFT,CIEP.
Mode of transmission of viral agents
Morphology and life cycle of free living Amoebae, Balantidium, Toxoplasma
Diagnosis of Morphology and life cycle of trematodes- Schistosomes, Intestinal flukes, blood flukes, wing flukes
Serological and immunological techniques used in diagnosis of parasitic infections-Gel diffusion, IHA, IFA, ELISA,

SEMESTER V

**BSCLMT-502: Histopathology**
Handling of fresh histological specimen(tissues) cryo/frozen sections of fresh and fixed tissues, freeze drying.
Lipids, identification and demonstration
Micro-organisms in tissues- various staining technique for their demonstration and identification
Nucleic acids, DNA and RNA special stains and procedures
Cytoplasmic constituents and their demonstration
Cervical cytology-basis of detection of maligrant and premalignant lesions
Hormonal assessment with cytologic techniques and sex chromatis and pregnancy tests.
Cells and organs of immune system
Immunoglobulins, antibodies and humoral immune response
Allergy
Rheumatological diseases and investigations.

SEMESTER V

**BSCLMT-503: Haematology**
Definition and classifications of anaemia
Laboratory investigation for megaloblastic anaemia
Laboratory investigation for iron deficiency Anaemia
Laboratory investigation for haemolytic anaemia including classification and causes
Leukemia: definition and classification (General & FAB )
Cytachemical staining procedure in various haemopioetic disorders.

SEMESTER V

**BSCLMT-504: Biochemistry**
Principles of assay procedures for biological materials Total proteins, albumin, Glucose, Urea, Uric acid, Creatinine, Cholesterol, Bilirubin.
Sodium, Potassium, Chloride, Calcium and phosphorus.
PBI, 17- Ketosteroids, Barbiturates

SEMESTER V

**BSCLMT-505: Practical**
Microbiology : 20 Marks
SEMESTER VI

BSCMLT-601: Microbiology

Epidemiological markers of microorganism serotyping, Bacteriophage and Bacteriocine typing methods
Lab diagnosis of common bacterial infections viz:- pyogenic infections, Respiratory tract infections, Meningitis, Diphtheria, Whooping Cough, Gas gangrene, food poisoning, Enteric fever, Acute diarrhoea diseases, cholera, Urinary tract infection, Tuberculosis, Leprosy, Plague, Anthrax, Typhus fever, syphilis, Gonorrhea and other STD's
Serological tests-Widal, ASO, LFT, CRP, Rosewaller, brucella agglutination, cold agglutilation, VDRL, TPHA, PTA-ABS
Lab diagnosis of fungal infections Superficial dermatophyte fungal infections, Candidiases, cryptococcosis, Pulmonary infections, Mycetoma, other deep mycotic infections, subcutaneous fungal infections subcutaneous fungal infections spozotrichosis, chromoblastomycosis, Eye and Ear fungi infections
Serological tests for fungal infections and skin tests
Advanced techniques in microbiology ELISA, RIA, CCIEA, Co-agglutination GLC, HPLC etc.
Rapid diagnostic methods and Automation in Microbiology.
Principles of Serological techniques used in virology- ELISA, RIA, IF, Immuno peroxidase test
Prevention of viral disease
Immunity in viral infection
Introduction to Entomology Identification of Adultworms- mosquitoes, flies, ticks and fleas
Animal care, handling and uses in parasitology.
Preparation of parasitic antigens, antigens and antiserum Handling and operating of sophisticated equipment.

SEMESTER VI

BSCMLT-602: Histotechnology

Tissues requiring special treatment i.e eye ball, Bone marrow biopsy, undecalcified bones.
Neuropathologic techniques
Enzyme histochemistry demonstrations of phosphatases, dehydrogenases oxidases and peroxidases etc.
Electron microscope, working principle, components and allied techniques for electron microscopy, ultra-microtomy
Museum techniques
Aspiration cytology principles, indications and utility of the technique with special emphasis on role of cytotechnician in FNAC clinics
Infection and immune system
Cancer Immunology
Tissue typing for kidney transplant

SEMESTER VI

BSCMLT-603: Haematology

Laboratory tests for assessing bleeding disorders
Laboratory investigation for disseminated intravascular coagulation(DIC)
Mechanism of fibrinolysis test for fibrinolysis
Platelet function tests and their interpretation
Techniques available for cyogenetic studies
Use of Radioisotopes in hematology
Safety measures for handling Radioisotopes

SEMESTER VI

BSCMLT-604: Biochemistry

Glucose tolerance test, insulin tolerance test, gastric analysis, xylose absorption test, clearance test for renal function
Enzymes Acid and alkaline phosphates, AST, ALT, Amylase and lactate dehydrogenase, CPK
Analysis of calculi and CSF
Quality control of clinical investigations, Automation in clinical biochemistry laboratory, laboratory organisation management and maintenance of records.

SEMESTER VI

BSCMLT-605: Practical

Microbiology : 20 Marks
Histopathology : 20 Marks
Haematology : 20 Marks
Biochemistry : 15 Marks
Internal Assessment: 25 Marks

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