

Program Nam **Bachelor of Medical Lab Technology**

Course Name **Human Anatomy I**

Course Code **RD3101**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to learn about Terminology, General Planes, Body Cavities and Their Membranes. | 1 | S |
| CO2 | Students will be able to study about cells, tissue, and the integumentary system of human body. | 2 | S |
| CO3 | Students will be able to know about Introduction of Musculoskeletal System: Basic anatomy of muscles and bones. | 2 | S |
| CO4 | Students will be able to study the basic anatomy of respiratory system and its clinical disorders. | 2 | S |
| CO5 | Students will be able to learn basic anatomy of esophagus, stomach, small & large intestine, liver, Gall bladder, pancreas. | 1 | S |

Course Name **Basics of Human Physiology- I**

Course Code **RD3106**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students should be able to learn about basic physiology of cells & tissues and their distribution in human body | 1 | Emp |
| CO2 | Students should be able to learn about digestive system and their disorders | 2 | Emp |
| CO3 | Students should be able to learn about circulatory system and its working | 2 | Emp |
| CO4 | Students should be able to learn about basic physiology of excretory system | 2 | Emp |
| CO5 | Students should be able to learn about the mechanism of respiratory system in the human | 2 | Emp |

Course Name **Biochemistry**

Course Code **ND3105**



| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students should be able to understand the biological oxidation processes and role of enzymes in metabolism | 2 | Emp |
| CO2 | Students should be able to learn the various molecular aspects of transport in body. | 1 | Emp |
| CO3 | Students should be able to learn the structure and metabolism process related to carbohydrates | 2 | Emp |
| CO4 | Students should be able to learn the structure and metabolism process related to lipids | 2 | Emp |
| CO5 | Students should be able to learn the structure and metabolism process related to proteins. | 2 | Emp |

Course Name **Basic Hematology & Clinical Pathology- I**
Course Code **BL3101**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand the formation of blood & its composition | 2 | Emp |
| CO2 | Students will be able to learn different stage of cells development. | 1 | Emp |
| CO3 | Students will be able to understand the concept of hemopoiesis, biomedical waste management, & microscopy | 2 | Emp |
| CO4 | Students will be able to apply the specific technique for sample collection, its preservation & biomedical waste management | 3 | Emp |
| CO5 | Students will be able to analyze infected blood samples and sites for hematological investigations | 4 | Emp |

Course Name **Fundamentals of Microbiology -I**
Course Code **BL3102**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--------------|----------|---|
|--------------------------|--------------|----------|---|

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|------------|--|---|-----|
| CO1 | Students will be able to understand theories and concepts of microorganisms. | 2 | Emp |
| CO2 | Students will be able to understand microscope, its components and maintenance. | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of eukaryotic and prokaryotic cells. | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of microorganisms | 3 | Emp |
| CO5 | Students will be able to analyze different stains and staining techniques | 4 | Emp |

Preventive Medicine & Community Healthcare-

Course Name I

Course Code **BL3103**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students are able to understand the Concept of Community Health, preventive Medicine & Family Welfare. | 2 | Emp |
| CO2 | Students are able to understand the Nutrition and major Nutritional disorders and their prevention | 2 | Emp |
| CO3 | Students are able to describe epidemiology and etiology of communicable disease. | 1 | Emp |
| CO4 | Students are able to apply National health policy programmers, Universal Immunization and Vaccines schedule. | 3 | Emp |
| CO5 | Students are able to analyze population related problems and its effect on growth and development | 4 | Emp |

Course Name **Environmental Studies**

Course Code **CY3105**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to understand about issues related to the environment and their impact on human life. | 2 | S |
| CO2 | Students will be able to understand about the solutions related to the environmental problems. | 2 | S |

| | | | |
|------------|---|---|---|
| CO3 | Students will be able to understand about different components of the environment and their function and sustainable development. | 2 | S |
| CO4 | Students will be able to comprehend the importance of ecosystem and biodiversity | 1 | S |
| CO5 | Students will be able to correlate the human population growth and its trend to the environmental degradation. | 1 | S |

Course Name **Human Anatomy- I Lab**
Course Code **RD3140**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students will be able to learn about Major organs through models and permanent slides | 1 | Emp |
| CO2 | Students will be able to learn about Parts of circulatory system and respiratory system from models. | 2 | Emp |
| CO3 | Students will be able to learn about Digestive system and excretory system from models | 2 | Emp |

Course Name **Basics of Human Physiology- I Lab**
Course Code **RD3143**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Student should be able to learn about | 2 | Emp |
| CO2 | Student should be able to learn about microscopic studies of different types of tissues | 2 | Emp |
| CO3 | Student should be able to learn about monitoring heart rate, pulse rate, blood pressure, temperature, and BMI. | 1 | Emp |

Course Name **Biochemistry Lab**
Course Code **ND3144**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---------------------|-----------------|--|
|---------------------------------|---------------------|-----------------|--|

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|------------|--|---|-----|
| CO1 | Students should be able to learn the preparation methods of starch. | 2 | Emp |
| CO2 | Students should be able to learn to determine the acid value, iodine value and Saponification value of fats to check their purity. | 2 | Emp |
| CO3 | Students should be able to learn to estimate the various vitamins and minerals through food sources | 2 | Emp |

Course Name **Basic Hematology and Clinical Pathology-I Lab**
Course Code **BL3140**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students should be able to learn Safety rules, glass wares, anticoagulants and Vacutainer. | 2 | Emp |
| CO2 | Students should be able to apply Blood collection, separate serum & plasma, microscopy & hemoglobin. | 3 | Emp |
| CO3 | Students should be able to determine TLC, DLC, RBC & platelet count. | 2 | Emp |

Course Name **Fundamentals of Microbiology- I Lab**
Course Code **BL3141**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students should be able to learn general safety in microbiology, glass wares, & microscopy. | 2 | Emp |
| CO2 | Students should be able to learn to determine the autoclaving, hot air oven & gram staining. | 2 | Emp |
| CO3 | Students should be able to apply AFB, India ink method & Albert's staining. | 3 | Emp |

Course Name **Human Anatomy- II**
Course Code **RD3201**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---------------------|-----------------|--|
|---------------------------------|---------------------|-----------------|--|

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|------------|---|---|-----|
| CO1 | Students will be able to learn the basic anatomy of cardiovascular system and clinical disorders | 3 | Emp |
| CO2 | Students will be able to study the basic anatomy of brain and spinal cord, meninges, and cerebrospinal fluid. | 2 | Emp |
| CO3 | Students will be able to know about the Endocrine System: Anatomy of Pituitary, Thyroid, Parathyroid, Pancreas, Adrenal glands. | 2 | Emp |
| CO4 | Students will be able to study the basic anatomy of special senses. | 3 | Emp |
| CO5 | Students will be able to study the basic anatomy of Genitourinary organs and reproductive system. | 2 | Emp |

Course Name **Basics of Human Physiology- II**

Course Code **RD3206**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Student should be able to understand about the different mechanism of nervous system in human body | 3 | Emp |
| CO2 | Student should be able to understand about physiology, structure and function of different sense organs. | 2 | Emp |
| CO3 | Student should be able to understand about hormones and their role in human body. | 1 | Emp |
| CO4 | Student should be able to understand about various physiologies of male and female reproductive organs. | 1 | Emp |
| CO5 | Student should be able to understand about the musculoskeletal system of human body. | 2 | Emp |

Course Name **Basic Hematology & Clinical Pathology- II**

Course Code **BL3201**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students will be able to understand the blood banking techniques & the principle on which these are based. | 2 | Ent |

| | | | |
|------------|---|---|-----|
| CO2 | Students will be able to understand of basic mechanism of coagulation & its related disorders. | 2 | Ent |
| CO3 | Students will be able to describe immune-hematology and blood banking technology. | 2 | Emp |
| CO4 | Students will be able to apply of technique for routine investigations in clinical hematology laboratory. | 3 | Emp |
| CO5 | Students will be able to analyze the cause of disease by examining CSF, Sputum, Semen, Stool | 4 | Emp |

Course Name **Fundamentals of Microbiology- II**
Course Code **BL3202**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to understand the concept of infections and its transmission. | 2 | Emp |
| CO2 | Students will be able to understand the types and properties of disinfectant and sterilization. | 2 | Emp |
| CO3 | Students will be able to describe Segregation, Treatment, Disposal of biomedical waste. | 2 | Emp |
| CO4 | Students will be able to apply safety measures used in laboratory. | 3 | Emp |
| CO5 | Students will be able to analyze specimen collection sites for epidemiological investigations. | 4 | Emp |

Course Name **Fundamentals of Computer Applications**
Course Code **CS3102**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to learn the architecture of computer. | 1 | Emp |
| CO2 | Students will be able to study the arithmetic of computer. | 2 | Emp |
| CO3 | Students will be able to study the algorithms and flow chart of computer. | 3 | Emp |
| CO4 | Students will be able to study about disk operating study and its Dos commands. | 3 | Emp |

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| CO5 | Students will be able to learn about hardware of windows concepts. | 2 | Emp |
|------------|--|---|-----|

Course Name **Human Anatomy-II Lab**
Course Code **RD3240**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students will be able to learn about Nervous system, bones, and joints from models. | 1 | Emp |
| CO2 | Students will be able to understand about Structure of eye and ear, various parts of male & female reproductive system from model. | 2 | Emp |
| CO3 | Students will be able to know about Structural differences between skeletal, smooth, and cardiac muscles. | 3 | Emp |

Course Name **Basics of Human Physiology- II Lab**
Course Code **RD3243**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students should be able to learn the microscopic view of various glands & reproductive organs | 2 | Emp |
| CO2 | Students should be able to learn the various test related to blood like RBC count, WBC count, coagulation time and blood grouping | 3 | Emp |
| CO3 | Student should be able to learn about estimation of HB level in human body and to study wave pattern of ECG. | 1 | Emp |

Course Name **Basic Hematology & Clinical Pathology- II Lab**
Course Code **BL3240**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students will be able to learn how to perform ESR, PCV & Red Cell Indices. | 3 | Emp |
| CO2 | Students will be able to perform routine Stool examinations, BT & CT. | 2 | Emp |

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|------------|--|---|-----|
| CO3 | Students will be able to learn about Blood grouping, Coagulometer, & Cell Counter. | 3 | Emp |
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Course Name **Fundamentals of Microbiology- II Lab**
Course Code **BL3241**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to learn Cleaning of glass wares, LAF & preparation of culture medias. | 3 | Emp |
| CO2 | Students will be able to learn about Biomedical waste, Hot air oven & Disinfectants. | 2 | Emp |
| CO3 | Students will be able to learn about Sterilization methods, & Various Microbiology testing's. | 3 | Emp |

Course Name **Fundamentals of Computer Applications -Lab**
Course Code **CS 3141**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to learn about Dos Commands Internal - DIR, MD, CD, RD, | 1 | Emp |
| CO2 | Students will be able to learn about Dos Commands Internal COPY, DEL, REN, CHKDSK, XCOPY, PRINT | 2 | Emp |
| CO3 | Students will be able to learn about Dos Commands Internal VOL, DATE, TIME, CLS, PATH, TYPE | 3 | Emp |

Course Name **Indian Knowledge System**
Course Code **HU3201**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | The students will be able to understand the Indian Knowledge System such as historical development, sources and scope. | 2 | S |

| | | | |
|------------|---|---|---|
| CO2 | The students will be able to understand the vocabulary system of Indian knowledge system. | 2 | S |
| CO3 | The students will be able to understand and apply the philosophical foundations and methods of IKS. | 3 | N |
| CO4 | The students will be able to execute the case studies based on the Indian knowledge system. | 3 | N |
| CO5 | The students will be able to understand the influence of Indian Knowledge System on world. | 2 | S |

Pathology and Allied Course –I (Hematology & Clinical Pathology)

Course Name
Course Code

BL3301

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand about coagulation & Bleeding disorders | 2 | Emp |
| CO2 | Students will be able to learn different kinds of Anemia's | 1 | Emp |
| CO3 | Students will be able to understand various Hematological Malignancies | 2 | Emp |
| CO4 | Students will be able to apply of technique for routine investigations in clinical hematology laboratory. | 3 | Emp |
| CO5 | Students will be able to describe Blood bank Technology. | 2 | Emp |

Clinical Biochemistry –I (Separative and Instrumental Techniques)

Course Name
Course Code

BL3302

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Student will be able to understand about Chromatography & Electrophoresis. | 2 | Emp |
| CO2 | Student will be able to learn about Photometry Analysis. | 1 | Emp |
| CO3 | Student will be able to understand about Immuno Assay techniques. | 2 | Emp |
| CO4 | Student will be able to Learn about Bioanalyzers. | 1 | Emp |

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|------------|---|---|-----|
| CO5 | Student will be able to understand about Advance Immuno Assay Techniques. | 2 | Emp |
|------------|---|---|-----|

Medical Microbiology -I (Bacterial Pathogens & Associated Diseases)

Course Name
Course Code

BL3303

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand theories and concepts of microorganisms. | 2 | Emp |
| CO2 | Students will be able to understand microscope, its components and maintenance | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of eukaryotic and prokaryotic cells. | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of microorganisms | 3 | Emp |
| CO5 | Students will be able to analyze different stains and staining techniques | 4 | Emp |

Course Name **Immunology and Serology Techniques-I**
Course Code **BL3304**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand theories and concepts of Immunology Techniques | 2 | Emp |
| CO2 | Students will be able to understand tissue typing techniques. | 2 | Emp |
| CO3 | Students will be able to learn various Auto immune Disorders. | 1 | Emp |
| CO4 | Students will be able to apply Vaccines. | 3 | Emp |
| CO5 | Students will be able to analyze different types of tumors | 4 | Emp |

Pathology & Allied Course-I (Hematology &

Course Name **Clinical Pathology) Lab**
Course Code **BL 3340**



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| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to perform Hb, platelet count & Prothrombin time. | 3 | Emp |
| CO2 | Students will be able to learn about BT, CT & Blood grouping. | 2 | Emp |
| CO3 | Students will be able to perform Leishman staining, Microscopy. | 3 | Emp |

Course Name **Clinical Biochemistry –I Lab**
Course Code **BL 3341**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students should be able to learn about Qualitative testing's | 2 | Emp |
| CO2 | Students should be able to learn about Photometry | 2 | Emp |
| CO3 | Students should be able to Identify Carbohydrates | 4 | Emp |

Course Name **Medical Microbiology I Lab**
Course Code **BL3342**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students should be able to learn about LAF, Microscopy & Autoclaving. | 2 | Emp |
| CO2 | Students should be able to perform sterilization, Culture media. | 3 | Emp |
| CO3 | Students should be able to perform Staining procedures. | 3 | Emp |

Course Name **Immunology and Serology Techniques-I Lab**
Course Code **BL3343**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
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| CO1 | Students should be able to perform HIV Tridot test, RIA, Immunoprecipitation, HBsAg rapid test. | 3 | Emp |
| CO2 | Students should be able to perform ASO test, ELISA, TB IgG & IgM test, and Dengue IgG & IgM test | 3 | Emp |
| CO3 | Students should be able to learn Typhi dot test, Allergy panel, & Mantoux test | 2 | Emp |

Course Name **United Nations Development Programme**
Course Code **HU3202**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|--|-----------------|--|
| CO1 | Students will learn about the Structure, Mission, Vision and Goals of UNDP | 2 | S |
| CO2 | Equip the students with the knowledge of sustainable livelihoods for inclusive economic growth. | 2 | S |
| CO3 | Students will learn and explore about the Human Development index to promote well being at all ages. | 2 | S |
| CO4 | To impart better education on SDGs goals focusing on Gender Equality and Provide Access to Justice to All and Build Effective. | 3 | N |
| CO5 | Students will develop knowledge regarding environment sustainability. | 3 | N |

Pathology and Allied Course –II

Course Name **(Histopathology and Cytology Techniques)**
Course Code **BL3401**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to understand about Histology of Specimens. | 2 | Emp |
| CO2 | Students will be able to learn different Procedures of Tissue Staining. | 2 | Emp |
| CO3 | Students will be able to understand Histological tissue processing procedures | 2 | Emp |
| CO4 | Students will be able to understand Microtomes. | 2 | Emp |
| CO5 | Students will be able to describe Dyes used in Cytology procedures. | 3 | Emp |

Clinical Biochemistry –II (Metabolic and Blood Chemistry)

Course Name

BL3402

Course Code

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students may be able to learn about Carbohydrate metabolism. | 1 | Emp |
| CO2 | Students may be able to learn about Protein metabolism. | 1 | Emp |
| CO3 | Students may be able to understand about Principle assay procedures of various Biochemistry parameters. | 2 | Emp |
| CO4 | Students may be able to learn about Advance testing procedures in Metabolic Biochemistry | 2 | Emp |
| CO5 | Students may be able to learn about HbA1C, LFT. | 2 | Emp |

Medical Microbiology II (Technical methods of medical microbiology)

Course Name

BL3403

Course Code

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand theories and concepts of microorganisms | 2 | Emp |
| CO2 | Students will be able to understand microscope, its components and maintenance. | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of eukaryotic and prokaryotic cells. | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of microorganisms. | 3 | Emp |
| CO5 | Students will be able to analyze different stains and staining techniques | 4 | Emp |

Course Name **Immunology and Serology Techniques-II**

Course Code

BL3404



| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand Immune system. | 2 | Emp |
| CO2 | Students will be able to understand Antigens and Antibody | 2 | Emp |
| CO3 | Students will be able to learn to Body Immune Responses | 2 | Emp |
| CO4 | Students will be able to apply Laboratory serology tests. | 3 | Emp |
| CO5 | Students will be able to learn different rheumatological diseases | 1 | Emp |

Pathology & Allied Course-II (Histopathology & Cytology Techniques) Lab

Course Name
Course Code

BL 3440

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to learn about Microtome, Tissue processing & handling of tissue specimens. | 2 | Emp |
| CO2 | Students will be able to learn about Tissue grossing & embedding. | 2 | Emp |
| CO3 | Students will be able to perform H&E staining and PAP staining. | 3 | Emp |

Course Name **Clinical Biochemistry –II Lab**
Course Code **BL3441**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students should be able to perform Glucose, Uric acid proteins. | 3 | Emp |
| CO2 | Students should be able to perform urea, Ketone bodies. | 3 | Emp |
| CO3 | Students should be able to perform Calcium, Serum protein. | 3 | Emp |

Course Name **Medical Microbiology -II Lab**
Course Code **BL3442**



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| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students should be able to learn about Hot air oven Microscopy and Autoclaving. | 2 | Emp |
| CO2 | Students should be able to perform catalase test as well as prepare Blood agar media & Chocolate agar media. | 3 | Emp |
| CO3 | Students should be able to perform ASO titre and gram staining. | 3 | Emp |

Course Name **Immunology and Serology-II Lab**

Course Code **BL3443**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students should be able to perform Gram staining, AFB India Ink & Hanging drop method. | 3 | Emp |
| CO2 | Students should be able to learn capsule, Bacterial spores & Agglutination reactions. | 2 | Emp |
| CO3 | Students should be able to perform RA, WIDAL, RPR & CRP tests. | 3 | Emp |

Course Name **Immuno-hematology & Blood Bank Technology**

Course Code **BL3501**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand Blood bank | 2 | Emp |
| CO2 | Students will be able to understand Antigens and Antibody | 2 | Emp |
| CO3 | Students will be able to learn to Body Immune Responses | 1 | Emp |
| CO4 | Students will be able to apply Laboratory serology tests. | 3 | Emp |
| CO5 | Students will be able to learn Blood Components. | 1 | Emp |

**Clinical Biochemistry –I (Biostatistics,
Automation & Endocrinology)**

Course Name
Course Code

BL3502

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand about biostatistics | 2 | Emp |
| CO2 | Students will be able to learn quality control | 1 | Emp |
| CO3 | Students will be able to understand automation in biochemistry. | 2 | Emp |
| CO4 | Students will be able to apply normal values of various biometabolites | 3 | Emp |
| CO5 | Students will be able to describe toxicology and endocrinology | 2 | Emp |

**Medical Microbiology-I(Pathogenic Viruses
and Miscellaneous Microbes)**

Course Name
Course Code

BL3503

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand theories and concepts of microorganisms | 2 | Emp |
| CO2 | Students will be able to understand microscope, its components and maintenance | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of viruses | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of viruses | 3 | Emp |
| CO5 | Students will be able to identify different viruses. | 4 | Emp |

**Clinical Biochemistry –II (Diagnostic
Enzymology)**

Course Name
Course Code

BL3504

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--------------|----------|---|
|--------------------------|--------------|----------|---|

| | | | |
|------------|---|---|-----|
| CO1 | Students will be able to understand about enzyme activities. | 2 | Emp |
| CO2 | Students will be able to learn different kinds of isoenzymes. | 1 | Emp |
| CO3 | Students will be able to understand various kinds of Lithiasis. | 2 | Emp |
| CO4 | Students will be able to apply of technique for gastric analysis. | 3 | Emp |
| CO5 | Students will be able to describe thyroid function test as well as Infertility profile. | 2 | Emp |

Course Name **Diagnostic Cytology**
Course Code **BL3505**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to understand about cell. | 2 | Emp |
| CO2 | Students will be able to learn different kinds of instruments. | 1 | Emp |
| CO3 | Students will be able to understand various kinds of cytology techniques. | 2 | Emp |
| CO4 | Students will be able to apply of technique staining's in cytology. | 3 | Emp |
| CO5 | Students will be able to describe FNAC. | 2 | Emp |

Immuno-hematology & Blood Bank Technology

Course Name **Lab**
Course Code **BL3540**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|---------------------------------|---|-----------------|--|
| CO1 | Students will be able to learn about Equipment's, Cell suspension, & Blood grouping. | 2 | Emp |
| CO2 | Students will be able to perform Reverse grouping, cross match & Comb's test, | 3 | Emp |
| CO3 | Students will be able to perform Rh titre, transfusible marker & preparation of various Blood components in Blood bank. | 3 | Emp |

Clinical Biochemistry –I(Clinical Enzymology & Automation Lab)

Course Name **Automation Lab**
Course Code **BL3541**



| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students may be able to perform LFT, Troponin I & Cardiac profile. | 3 | Emp |
| CO2 | Students may be able to perform KFT, Protein & Glucose | 3 | Emp |
| CO3 | Students may be able to perform ABG, Calcium & Urea clearance test. | 3 | Emp |

Course Name **Medical Microbiology -I Lab**
Course Code **BL3542**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students may be able to understand about specimen collection, culture media, isolation of pure culture. | 2 | Emp |
| CO2 | Students may be able to learn about Antibiotic sensitivity test, bacterial cultivation. | 1 | Emp |
| CO3 | Students may be able to perform Biochemical tests for identification of organisms. | 3 | Emp |

Pathology and Allied Course –II

Course Name **(Histopathology & Cytopathology)**
Course Code **BL3601**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand about Histology of Specimens. | 2 | S |
| CO2 | Students will be able to learn different Procedures of Tissue Staining. | 1 | S |
| CO3 | Students will be able to understand Histological tissue processing procedures | 2 | S |
| CO4 | Students will be able to understand Microtomes. | 2 | S |

| | | | |
|------------|---|---|---|
| CO5 | Students will be able to describe Dyes used in Cytology procedures. | 3 | S |
|------------|---|---|---|

Medical Microbiology-II(Applied Microbiology and Advance Techniques)

Course Name
Course Code

BL3602

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand theories and concepts of microorganisms. | 2 | Emp |
| CO2 | Students will be able to understand microscope, its components and maintenance. | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of viruses | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of viruses. | 3 | Emp |
| CO5 | Students will be able to identify different viruses. | 4 | Emp |

Course Name
Course Code

Clinical Virology
BL3603

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students will be able to understand Viruses | 2 | Emp |
| CO2 | Students will be able to understand Isolation, cultivation of viruses. | 2 | Emp |
| CO3 | Students will be able to learn to describe the morphology of viruses | 1 | Emp |
| CO4 | Students will be able to apply microscopy to study basic features of viruses. | 3 | Emp |
| CO5 | Students will be able to identify different viruses. | 4 | Emp |

Course Name
Course Code

Seminars
BL3605

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--------------|----------|---|
|--------------------------|--------------|----------|---|

| | | | |
|------------|---|---|---|
| CO1 | A student will be able to present seminar under concerned topic in places like conferences, workshops, meets etc. | 3 | S |
|------------|---|---|---|

Pathology & Allied Course-II (Histopathology & Cytopathology) Lab

Course Name
Course Code

BL3640

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to understand Microtomy, handling of tissues specimen and Tissue processing. | 2 | Emp |
| CO2 | Students will be able to perform tissue grossing & embedding. | 3 | Emp |
| CO3 | Students will be able to perform H&E staining and PAP staining. | 3 | S |

Course Name **Medical Microbiology- II Lab**
Course Code **BL3641**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|--|----------|---|
| CO1 | Students will be able to perform staining procedures in microbiology | 3 | Emp |
| CO2 | Students will be able to perform preparation of Culture media. | 3 | Emp |
| CO3 | Students will be able to perform Biochemical testing's | 3 | S |

Course Name **Clinical Biochemistry Lab**
Course Code **BL3642**

| Unit-wise Course Outcome | Descriptions | BL Level | Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One) |
|--------------------------|---|----------|---|
| CO1 | Students may be able to perform Thyroid estimations. | 3 | Emp |
| CO2 | Students may be able to understand LH, FSH & Prolactin. | 2 | Emp |
| CO3 | Students may be able to learn about the Triple test & Infertility test. | 1 | S |