

**Department of Biochemistry**  
**B.Sc Biochemistry(17-18 Regulation)**

**Program Outcomes:**

<u>S.No</u>	<u>OUTCOMES</u>
<b>PO1</b>	The students achieved for best computational performance in a specific context.
<b>PO2</b>	They cultivate the highest level of learning and technological key.
<b>PO3</b>	We were choose social welfare oriented skill based subject and its applications in biology, helps to the students & social welfare.
<b>PO4</b>	ese competences of a course possess upon achieved for course specific goals.
<b>PO5</b>	able to design and contact scientific experiments and analyzing the data

**Program specific Outcomes:**

<u>S.No</u>	<u>OUTCOMES</u>
<b>PSO 1</b>	Acquire knowledge and skills to undertake a career in Higher Studies in an academic setup
<b>PSO 2</b>	ply the knowledge of experimental approaches to save problems of a chemical nature & ability to enter that knowledge to the solution
<b>PSO 3</b>	nderstand and apply the concepts of life sources, empower the technical knowledge know &practical hands-on Training in the field.
<b>PSO 4</b>	Its academic, research, industrial & pharmaceutical applications.
<b>PSO 5</b>	ug development and synthesize the knowledge & apply the same for multitude of laboratory applications

**SEMESTER-I****PAPER-1****CELL BIOLOGY****SEMESTER-1****CREDITS-4****CATEGORY-CORE PAPER****NO.OF. HOUR/WEEK-15****TOTAL HOURS-75****COURSE CODE: BBC11**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER I	Cell Biology	04	<p>CO1- Students gain the Knowledge on Structure and Functions of Prokaryotic and Eukaryotic cells.</p> <p>CO 2-Composition of cell, Phases of cell Cycle and Biological role of extracellular matrix.</p> <p>CO3-Understanding types of microfilaments and mitochondria.</p> <p>CO4-Describe the nucleus and nucleolus.</p> <p>CO5- Relate the structure and biological role of cell.</p> <p>CO6- Cell -Cell junction with physiological Processes.</p>

<b>COs</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	M	S	S	M
<b>CO2</b>	M	S	S	S	S
<b>CO3</b>	S	S	S	S	M
<b>CO4</b>	M	M	S	S	M
<b>CO5</b>	S	S	S	S	M
<b>CO6</b>	S	S	S	S	M

**PO- Programme outcome, CO- Course outcome S- Strong, M- Medium, L- Low ( may be avoided).**

**PAPER-2****BIOMOLECULES****SEMESTER-2****CREDITS-4****CATEGORY-CORE****NO.OF. HOUR/WEEK-6****TOTAL HOURS-75****COURSE CODE: BBC21**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER II	Biomolecules	04	<p>CO1- Students gain the knowledge on structure and functions of carbohydrates.</p> <p>CO2- Students gain the knowledge on structure and functions of Amino acid.</p> <p>CO3- Understanding the importance and classification of Proteins.</p> <p>CO4-To gain insights about the types, structure and properties nucleic acids.</p> <p>CO5-To understand the structural organization of Proteins and its properties.</p> <p>CO6- To Acquire Knowledge about the Classification, structure and Properties of different types of lipids.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	M	M	M	M	M
<b>CO2</b>	M	M	M	M	M
<b>CO3</b>	M	M	M	M	M
<b>CO4</b>	M	M	M	M	M
<b>CO5</b>	M	M	M	M	M

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**PAPER-3****CORE PRACTICAL-1****SEMESTER-2****CREDITS-4****CATEGORY-CORE****NO.OF. HOUR/WEEK-6****TOTAL HOURS-78****COURSE CODE: BPBC22**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER II	Titrimetric and Qualitative analysis	02	<p>CO1-To Qualitatively Analyze the carbohydrates and Amino acids Based on Specific tests.</p> <p>CO2-Differentiate the carbohydrates based on Microscopic Examination.</p> <p>CO3- Quantify Glucose By Benedicts' Method.</p> <p>CO4- Quantify Glycine by Sorenson's Formol Titration Method.</p>

<b>COs</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
CO1	S	S	M	M	M
CO2	S	S	M	M	M
CO3	S	S	M	M	M
CO4	S	S	M	M	M

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**PAPER-4**

**SEMESTER III**

**CORE PAPER - 3 BIOCHEMICALS TECHNIQUES I**

**SEMESTER-3**

**CREDITS-3**

**CATEGORY-CORE**

**NO.OF. HOUR/WEEK-6**

**TOTAL HOURS-75**

**COURSE CODE: BBC31**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER III	CORE PAPER - 3 Biochemical Techniques I	03	CO1 -Students can able to understand the preparation and separation of biological sample. CO 2- separation of sub cellular organelles. CO 3-Assay of Biomolecules using spectroscopy and spectrofluorimetry. CO 4-A practical knowledge on the preparation of solutions. CO 5- Separate biological sample by centrifugation.

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	M	S	S	M
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	M	S	S	S	M
<b>CO4</b>	M	M	S	S	M
<b>CO5</b>	S	S	S	S	M

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**

**NON-MAJOR ELECTIVE PAPER - 1****HEALTH AND NUTRITION****SEMESTER-III****CREDITS-2****CATEGORY-CORE ELECTIVE****NO.OF. HOUR/WEEK-2****TOTAL HOURS-30****COURSE CODEE: BNBC34**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTERIII	Non major Health and nutrition	02	<p>CO1- Realizing the fact “Food as medicine” Classify carbohydrates and analyzes their sources and function in the body.</p> <p>CO2- Classify fats and analyzes their sources and functions in the body.</p> <p>CO3- Identify and explain Proteins in Foods and the specific functions in maintaining health.</p> <p>CO4-Identify the types of Vitamins and their biomedical significance of vitamins present in food.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	S	M
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	M	S	S	S	M
<b>CO4</b>	M	M	S	S	M

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

## CORE PAPER – BIOCHEMICAL TECHNIQUES II

**SEMESTER-4**

**CREDITS-3**

**CATEGORY-**

**NO.OF. HOUR/WEEK-3**

**TOTAL HOURS-39**

**COURSE CODE: BBC41**

SEMESTER	COURSE NAME	COURSE CREDITS	COURSE OUTCOMES
SEMESTER IV	Core Paper Biochemical Techniques II	03	CO1 -Students can understand the Electrophoresis and its applications. CO 2-Obtaining analytical skills to separate samples using paper chromatography. CO 3-Acquire fundamental knowledge in Radio isotope techniques and its application in medical field. CO 4-Gain knowledge on separation of subcellular organells by differential centrifugation. CO5 To learn about autoradiography

Cos	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	M
CO2	S	S	S	S	S
CO3	M	S	S	S	M
CO4	M	M	S	S	M
CO5	S	S	S	S	M

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**

**CORE PRACTICAL-II  
SEMESTER-4**

**CREDITS-4**

**CATEGORY-**

**NO.OF. HOUR/WEEK-3**

**TOTAL HOURS-39**

**COURSE CODEE: BPBC45**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTERIV	Core practical-II Major practical-II	04	CO 1-Students can use analytical balance and weigh, calculate and prepare normal, molar and percentage solutions.  CO 2-Estimate phosphorus and protein using colorimetric method.  CO 3- Learn the working of colorimeter device.  CO 4-Concept of Stock Solution and Working standard solution.  CO5 – Gain the knowledge on isolation of Biomolecules like starch ,casein and albumin.

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	<b>S</b>	<b>M</b>	<b>S</b>	<b>S</b>	<b>M</b>
<b>CO2</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>S</b>
<b>CO3</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
<b>CO4</b>	<b>M</b>	<b>M</b>	<b>S</b>	<b>S</b>	<b>M</b>
<b>CO5</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>M</b>

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**



**PAPER - 1  
Computer Applications****SEMESTER-4****CREDITS-2****CATEGORY-Skill based****NO.OF. HOUR/WEEK-3****TOTAL HOURS-30****COURSE CODE: BSBC44**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER IV	Computer Applications	02	CO1- Summarize the importance of operating system CO2 – Analyze the Unix features and commands CO3- Illustrate the internet and it's importance CO4- Identify the causes of failure and components of failure

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	M	S	M	M
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	S	S	S	S	M
<b>CO4</b>	M	S	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**SEMESTER V****CORE PAPER - 5 ENZYMES AND INTERMEDIARY METABOLISM****SEMESTER-V****CREDITS-4****CATEGORY-CORE****NO.OF. HOUR/WEEK-8****TOTAL HOURS-75****COURSE CODEE: BBC51**

SEMESTER	COURSE NAME	COURSE CREDITS	COURSE OUTCOMES
SEMESTER V	Core Paper – 5 Enzymes and Intermediary Metabolism	06	<p>CO1- Acquire Fundamental knowledge in relevant principles of enzyme.</p> <p>CO2- Mechanism of enzyme kinetics, enzyme catalysis emphasizes on capability of the students to work in a group and gather the information.</p> <p>CO3- Illustrate the reactions of carbohydrate metabolism. Summarize the steps involved in ATP formation</p> <p>CO4 -Identify the steps involved in oxidation o fatty acids.</p> <p>CO5 -Obtain knowledge on the metabolism of amino acids.</p> <p>CO6- Formation of urea Summarize the steps involved in purine and pyrimidine synthesis</p> <p>CO7 -Biosynthesis and degradation of triacyl glycerol and phospholipids.</p> <p>CO8-Biosynthesis and degradation of Cholesterol.</p>

Cos	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	S	M
CO2	S	S	S	M	S
CO3	M	S	M	M	M
CO4	M	M	M	S	M
CO5	S	S	M	S	M
CO6	S	S	S	M	S
CO7	M	M	S	S	M
CO8	S	S	M	S	M

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**CORE PAPER - 6 MOLECULAR BIOLOGY****SEMESTER-V****CREDITS-3****CATEGORY-CORE****NO.OF. HOUR/WEEK-6****TOTAL HOURS-75****COURSE CODEE: BBC52**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDIT S</b>	<b>COURSE OUTCOMES</b>
SEMESTER V	Core Paper – 6 Genetics and Molecular Biology	03	CO1 -Infer the central dogma of molecular biology.  CO2- show how DNA acts as vehicle of inheritance through experimental evidences  CO3- Outline the steps involved in replication and explain the events, enzymology, fidelity and inhibitors of replication in prokaryotes.  CO4 - Summarize the process of prokaryotic transcription Define genetic code and show how it can be deciphered.  CO5 Relate genetic code to translation process and explain protein biosynthesis  CO6 -Illustrate the regulation of gene expression in prokaryotes using lac and trp operon Gain knowledge on gene mutation.  CO7 - DNA Repair mechanisms

<b>COs</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	<b>S</b>	<b>M</b>	<b>M</b>	<b>S</b>	<b>M</b>
<b>CO2</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>S</b>
<b>CO3</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>M</b>	<b>M</b>
<b>CO4</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>M</b>	<b>M</b>
<b>CO5</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>M</b>	<b>M</b>
<b>CO6</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>M</b>
<b>CO7</b>	<b>M</b>	<b>M</b>	<b>S</b>	<b>S</b>	<b>S</b>

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**

**CORE PAPER - 7 PHYSIOLOGY AND NUTRITION****SEMESTER-V CREDITS-4****CATEGORY-CORE****NO.OF. HOUR/WEEK-6****TOTAL HOURS-78****COURSE CODEE: CBC53**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER V	Core Paper – 7 Human Physiology and Nutritional Biochemistry	04	<p>CO1- Gain knowledge about the various types of RBC and WBC cells.</p> <p>CO2- Different types of blood groups and basic structure and functions of heart.</p> <p>CO3 -Illustrate the Mechanism of digestion and absorption of macromolecules.</p> <p>CO4-To acquire the knowledge about the structure and functions of kidney, nephron and mechanism of urine formation.</p> <p>CO5- Realizing the fact that “Food as medicine”, describe the significance of carbohydrates, lipids and proteins and analyze their sources and functions in the body.</p> <p>CO6- Identify the types of vitamins and their biomedical significance of vitamins present in food.</p> <p>CO7 - Analyze the biological importance of major and minor trace elements (Minerals) in the food</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	M	M	M	M
<b>CO2</b>	S	M	M	S	M
<b>CO3</b>	S	M	M	S	M
<b>CO4</b>	S	M	M	M	M
<b>CO5</b>	S	M	M	M	M
<b>CO6</b>	M	M	M	S	S
<b>CO7</b>	S	S	M	S	M

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**

**Medical lab technology****SEMESTER-V****CREDITS-3****CATEGORY-skill based****NO.OF. HOUR/WEEK-5****TOTAL HOURS-65****COURSE CODE: BEBC54**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER V	Elective Paper -1 Medical lab technology	03	CO1 -Follow good laboratory practices . CO2- Prepare reagents for experiments. CO3-Examine urine and stool sample for normal and abnormal constituents CO4-Estimate Hemoglobin and other hematological parameters. perform blood grouping. CO 5 Acquire knowledge on culturing microorganisms.

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	S	L
<b>CO2</b>	S	S	S	S	M
<b>CO3</b>	S	S	S	S	M
<b>CO4</b>	S	S	S	S	S
<b>CO5</b>	S	S	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**SKILL BASED SUBJECT PAPER - 2****BIOSTATISTICS****SEMESTER-V****CREDITS-3****CATEGORY-Skill based subject****NO.OF. HOUR/WEEK-3****TOTAL HOURS-75****COURSE CODEE: BSBC55**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDIT S</b>	<b>COURSE OUTCOMES</b>
SEMESTER V	Biostatistics	03	<p>CO1 Examine the usage of statistical tools like measure of central tendency and measure of dispersion.</p> <p>CO 2 Understand the definition of biostatistics and its scope.</p> <p>CO 3 Ascertain the methods and importance of data collection and presentation.</p> <p>CO4 Gain the types of correlation Positive and Negative.</p> <p>CO5 Gain the Knowledge of Standard deviation.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	M	S
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	L	M	M	S	S
<b>CO4</b>	S	S	S	S	S
<b>CO5</b>	S	S	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**



# Clinical Biochemistry

**SEMESTER-VI**

**CREDITS-6**

**CATEGORY-CORE**

**NO.OF. HOUR/WEEK-5**

**TOTAL HOURS-65**

**COURSE CODE: BBC61**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
Semester VI	Core Paper – 8 Clinical Biochemistry	06	<p>CO1 Understand the blood glucose regulation.</p> <p>CO2 Describe the pathophysiology and molecular basis of Diabetes mellitus.</p> <p>CO3 Acquire knowledge on the clinical features on Glycosuria, Ketosis, Fructosuria&amp;Galactosemia.</p> <p>CO4 Analyze the genetic diseases like phenyl ketonuria, cystinuria, albinism, hypo and hyperuricemias, obesity and fatty liver.</p> <p>CO5 Explain the physiopathological and biochemical markers of the liver function tests.</p> <p>CO6- Examine the gastric contents. Practical knowledge on FTM analysis.</p> <p>CO7 -Categorize the use of enzymes and Isozymes in assessment of liver damage, bone disorders and myocardial infarction damage, bone disorders and myocardial infarction.</p> <p>CO8 - Discuss the basic requirements and tools employed in Clinical Biochemistry.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	S	S
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	S	S	S	S	S
<b>CO4</b>	M	S	S	S	S
<b>CO5</b>	S	S	S	S	S
<b>CO6</b>	M	S	S	S	S
<b>CO7</b>	M	S	M	S	S
<b>CO8</b>	S	M	S	M	S

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided)**

# Biotechnology

**SEMESTER-VI**

**CATEGORY-core**

**TOTAL HOURS-65**

**CREDITS-6**

**NO.OF. HOUR/WEEK-5**

**COURSE CODE: BBC62**

SEMESTER	COURSE NAME	COURSE CREDITS	COURSE OUTCOMES
SEMESTER VI	Core Paper – 9 Biotechnology	06	CO1- Methods, their application in pharmaceutical industry. CO2 -Apply the basic rDNA technique to produce transgenic animal. CO3- Discuss gene transfer methods, their application in pharmaceutical industry, cloning and its importance. CO4 - Design plants based on rDNA techniques. CO5 -Describe the methods employed for DNA amplification, gene therapy and antisense RNA therapy. CO 6 -Discuss the basic requirements and tools employed in genetic engineering process.

Cos	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	M	S
CO2	S	S	S	S	S
CO3	L	M	M	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	S
CO6	M	S	S	M	S

**PO- Programme outcome, CO- Course outcome**

**S- Strong, M- Medium, L- Low ( may be avoided) Immunology**

**SEMESTER-VI****CREDITS-3****CATEGORY-ELECTIVE****NO.OF. HOUR/WEEK-5****TOTAL HOURS-65****COURSE CODE: BEBC64**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER VI	Internal Elective Paper - 2 Immunology	03	<p>CO1 A wide knowledge on the immunity, cells and organs of immune system.</p> <p>CO2 Illustrate the structure and classification of antibodies.</p> <p>CO3 Enlightenment of antigen and antibody interaction during infection.</p> <p>CO4 Exposure to mechanisms involved during allergic reactions.</p> <p>CO5 Acquire knowledge on the principles, methodology involved in immunological techniques.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	M	S
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	S	S	S	S	S
<b>CO4</b>	S	S	S	S	M
<b>CO5</b>	S	S	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**Practical -III****SEMESTER-VI****CREDITS-5****CATEGORY-CORE****NO.OF. HOUR/WEEK-5****TOTAL HOURS-65****COURSE CODE: BPBC66**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDIT S</b>	<b>COURSE OUTCOMES</b>
SEMESTER VI	Core Practical –III Practical-III Enzymology and Biomolecules	05	<p>CO1- Identify and enumerate the total count of erythrocytes and leukocytes.</p> <p>CO2-Differentiate leukocytes and calculate their total count.</p> <p>CO3-Define and determine the erythrocyte sedimentation rate, packed cell volume.</p> <p>CO4-Mean corpuscular volume and relate their clinical implications.</p> <p>CO5- Utilize sphygmomanometer to determine the blood pressure.</p> <p>CO6 -To learn about assay of activity of alkaline phosphatase in serum.</p> <p>CO7-To gain knowledge of preparation of media liquid,solid and slant.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	S	S	M	S
<b>CO2</b>	S	S	S	S	S
<b>CO3</b>	S	S	S	S	M
<b>CO4</b>	M	M	S	S	S
<b>CO5</b>	S	S	S	S	S
<b>CO6</b>	S	S	S	M	S
<b>CO7</b>	M	M	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**

**Practical -IV****SEMESTER-VI****CREDITS-3****CATEGORY-CORE****NO.OF. HOUR/WEEK-5****TOTAL HOURS-65****COURSE CODE: BPBC67**

<b>SEMESTER</b>	<b>COURSE NAME</b>	<b>COURSE CREDITS</b>	<b>COURSE OUTCOMES</b>
SEMESTER VI	Core Practical - IV Hematology, Microbiology and Urinalysis	03	<p>CO1 -Identify and enumerate the total count of erythrocytes and leukocytes.</p> <p>CO2- Differentiate leukocytes and calculate their total count.</p> <p>CO3- Define and determine the erythrocyte sedimentation rate, packed cell volume and mean corpuscular volume and relate their clinical implications</p> <p>CO4 -Utilize sphygmomanometer to determine the blood pressure</p> <p>CO5-Qualitatively analyze the normal and abnormal constituents of urine sample.</p>

<b>Cos</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
<b>CO1</b>	S	M	M	M	M
<b>CO2</b>	S	S	S	S	L
<b>CO3</b>	S	S	S	S	S
<b>CO4</b>	S	S	S	S	S
<b>CO5</b>	S	S	S	S	S

**PO- Programme outcome, CO- Course outcome****S- Strong, M- Medium, L- Low ( may be avoided)**