

Bhavan's Vivekananda College
Of Science, Humanities and Commerce
Autonomous College – Affiliated to Osmania University
Accredited with 'A' Grade by NAAC

B.Sc (MbBcC)

Program Outcomes:

PO1 Knowledge: Understand the basic concepts, fundamental principles and scientific theories and processes related to the fields of Chemistry, Biochemistry, Biotechnology, Genetics and Microbiology with their relevance in day-to-day life.

PO2 Skills and analysis: Apply the scientific skills in terms of designing experiments, execution of protocols and data analysis in scientific research, industry, and entrepreneurship.

PO3 Creativity and Critical thinking: Think creatively and apply the core concept of Biology and Chemistry to a chosen scientific discipline and generate and interpret scientific data using quantitative, qualitative and analytical methodologies and techniques.

PO4 Science and Society: Implement the acquired knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional scientific practice.

PO5 Communication: Communicate effectively on problems, issues, and solutions with community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO6 Ethics & Environment: Apply ethical principles and commit to professional ethics and responsibilities and norms in research and the functional areas, understand the issues of environmental context and sustainable development.

PO7 Individual and Teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO8 Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context of socio, economic and technological changes.

Program Specific Outcomes

PSO1: Capacity building to apply knowledge of biological concepts in various thrust areas of Molecular biology, Computational biology, Medical, Environmental, Agricultural, Food and Dairy microbiology considering the demand of academia, research, and industry.

PSO2: Correlate the knowledge of Biochemistry to various metabolic processes, Physiology, Endocrinology, Nutrition, Immunology, Health & disease and suggest solutions to biological problems through research and development.

PSO3: Utilise the concepts of Organic, Inorganic, General and Physical Chemistry to evaluate and develop analytical skills required for drug designing and green lab practices to safe guard the environment.

Course Outcomes:

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| Name of the Course | Introductory Microbiology |
| Course Code | MB 131 Paper I |
| CO1 | Summarize various discoveries and contributions in the history of Microbiology |
| CO2 | Apply microscopy and staining techniques |
| CO3 | Experiment different procedures of sterilization |
| CO4 | Compare various types of viruses and viral replication strategies. |

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| Name of the Course | Biomolecules - I |
| Course Code | BC134 |
| CO1 | Compare the organization of prokaryotic cell to eukaryotic cell. |
| CO2 | Differentiate the amino acids based on their side chains. |
| CO3 | Distinguish between the simple and complex sugars. |
| CO4 | Relate the different types of fats and their importance in cellular architecture. |

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| ame of the course | Inorganic And General Chemistry-I |
| Course code | CT135 |
| CO1 | Use the knowledge of Ionization energy and Electronegativity to predict types of compounds(Ionic /Covalent) & their reactivity. |
| CO2 | Compare the properties of s-& p-block elements & organometallic compounds. |
| CO3 | Familiarize the concept of VBT & MOT to differentiate physical parameters of various diatomic molecules, .Use the knowledge of quantum mechanics to explain atomic structure. |
| CO4 | Interpret organic reaction mechanisms, reactivity of a few organic compounds & examine the ions in soil, water by the semi micro analysis method. |

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| Name of the course | Inorganic Chemistry-I |
| Course code | CT135P |
| CO1 | Learn to identify the presence of anions and cations in salt mixtures using systematic semi-micro analytical method. |

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|---------------------------|---|
| Name of the Course | General Microbiology |
| Course Code | MB 231 Paper II |
| CO1 | Distinguish bacteria based on taxonomy. |
| CO2 | Compare general characters of different microorganisms. |
| CO3 | Prepare pure cultures of microorganisms. |
| CO4 | Analyze biomolecules by qualitative analysis and biochemical techniques |

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|---------------------------|---|
| Name of the Course | Biomolecules - II |
| Course Code | BC234 |
| CO1 | Distinguish the structural features and properties of nucleic acids. |
| CO2 | Relate to the structural organization of proteins to their functions. |
| CO3 | Interpret the concepts of biological oxidation and energy production. |
| CO4 | Demonstrate the organization of ETC complexes. |

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|---------------------------|--|
| Name of the course | Physical And General Chemistry-I |
| Course code | CT235 |
| CO1 | The student will know non-ideal behavior of gases, PV isotherms, van der Waal's equation and critical phenomenon. They should be familiar with methods used to liquefy gases. |
| CO2 | Implement Nernst Distribution law to relate the solubility of solute in immiscible solvents, to interpret the change in physical parameters to liquefy gases & use of Liquid crystals in LCDs. |
| CO3 | At the end of this course, the student will be able to identify whether a molecule is chiral or not by symmetry criteria; the number of stereo isomers possible for a chiral molecule; and the absolute configuration at the chiral centre(s); and the theory of optical activity and internal compensation. The students are expected to know the methods of C – C, C=C formation, reagents and respective name reactions; the difference in reactivity of single, double and triple bonds; the meaning and use of reaction mechanisms with examples. |
| CO4 | The students interpret the theory of aromaticity, aromatic compounds and their reactivity; difference from acyclic conjugated alkenes. |

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| Name of the course | Inorganic Chemistry-II |
| Course code | CT235P |
| CO1 | By the end of this course, students will be able to 1.Prepare inorganic complexes & test the presence of ions in the salt mixtures. 2. Students will be able to utilize green solvents for analyses |

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|---------------------------|---|
| Name of the Course | Microbial Physiology |
| Course Code | MB 331 Paper III |
| CO1 | List growth media ingredients based on nutritional requirement of microbes. |
| CO2 | Apply enzyme assay methods to determine the enzyme activity. |
| CO3 | Sketch and summarize metabolic pathways in microbes. |
| CO4 | Analyse fermentative abilities of various microbes. |

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| Name of the Course | Food Adulteration |
| Course Code | SEC-1: MB 301 |
| CO1 | Differentiate adulterated and unadulterated food products. |
| CO2 | Apply simple methods to detect food adulterants. |

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|---------------------------|---|
| Name of the Course | Enzymology And Metabolism Of Carbohydrates And Lipids |
| Course Code | BC334 |
| CO1 | Interpret the significance and role of enzymes in a living cell. |
| CO2 | Correlate the function of enzymes with cellular homeostasis. |
| CO3 | Relate the metabolic events of carbohydrates in conversion of food to energy to run cellular processes. |
| CO4 | Illustrate the pathways of lipid metabolism and their significance in energy production. |

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|---------------------------|---|
| Name of the Course | Medical Diagnostics |
| Course Code | SE334 |
| CO1 | Differentiate different types of tests done with blood and urine |
| CO2 | Compare the results of tests done with blood for DLC, PCV, ESR, HbA1c and urine analysis. |

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|---------------------------|--|
| Name of the course | Organic And General Chemistry-II |
| Course code | CT335 |
| CO1 | Differentiate between SN^1 and SN^2 reactions and identify different alcohols. Apply these reactions in organic synthesis |
| CO2 | Write mechanisms of organic reactions involving reactive intermediates. |
| CO3 | Solve problems based on various analytical tools. Design experiments with improved sample preparation and new measurement procedures. |
| CO4 | Appreciate the application of nuclear reactions in the field of Agriculture, medicine etc. Determine the symmetry operations of simple molecules. Apply Woodward Hoffman's rules for different molecular systems |

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| Name of the course | Inorganic Chemistry-III |
| Course code | CT335P |
| CO1 | Acquire quantitative skills in volumetric analysis and gain knowledge about the neutralization, redox and complexometric titrations. 1. Able to prepare standard solutions. 2. Find the concentrations of unknown solutions |

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| Name of the course | Safety Rules In Chemistry Laboratory & Preparing Lab Reagent |
| Course code | SE335 |
| CO1 | To improve the skills of students in the application of theory and practical knowledge. |
| CO2 | To fill the gap between theory and experimental procedures. |
| CO3 | To train the students in understanding laboratory safety rules and to improve the skills in preparation of laboratory reagents. |
| CO4 | To make students aware about best lab practices |

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|---------------------------|---|
| Name of the Course | Molecular Biology |
| Course Code | MB 431 Paper IV |
| CO1 | Solve problems related to DNA basing on Chargaff's rule and Determine the concentration of DNA and RNA. |
| CO2 | Prepare a mind map of types of Mutagens and their mechanism of action. |
| CO3 | Extract DNA from bacteria and estimate the molecular weight of isolated DNA. |
| CO4 | Prepare a pictorial representation of various steps involved in Recombinant DNA. technology and present applications of Recombinant DNA technology in various fields. |

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| Name of the Course | Fundamentals Of Bioinformatics |
| Course Code | SEC-2: MB 401 |
| CO1 | Sketch phylogenetic tree using NCBI. |
| CO2 | Perform pairwise alignment and multiple sequence alignment. |

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| Name of the Course | Biochemical Techniques And Metabolism Of Amino Acids And Nucleotides |
| Course Code | BC434 |
| CO1 | Relate the metabolic pathways of amino acids to various cellular functions. |
| CO2 | Correlate metabolic pathways of nucleotides to various cellular functions. |
| CO3 | Analyze and apply different techniques according to the sample and design the experiments. |
| CO4 | Apply their analytical skills gained in the course to research projects. |

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|---------------------------|---|
| Name of the Course | Basics Of Food And Nutrition |
| Course Code | SE434 |
| CO1 | Differentiate the various food groups with their nutritive values. |
| CO2 | Relate to the effect of different BMI values and check for various nutrients in food sources. |

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| Name of the course | Inorganic And Physical Chemistry-II |
| Course code | CT435 |
| CO1 | Identify the basic principles related to structure and properties of lanthanides and Actinides. Apply the concept of lanthanide contraction for separation techniques. |
| CO2 | Identify the structure and bonding in simple metals .Apply the 18- electron rule to simple and bridged metal carbonyls. |
| CO3 | Use the phase rule to determine the number of components, phases and degrees of freedom of different systems. Calculate the molecular weights of solutes using colligative properties |
| CO4 | Write equations representing electrochemical cell and calculate electrochemical parameters |

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| Name of the course | Inorganic Chemistry-IV |
| Course code | CT435P |
| CO1 | Acquire quantitative skills in volumetric analysis and gain knowledge about the neutralization, redox and complexometric titrations. <ol style="list-style-type: none"> 1. Able to prepare standard solutions. 2. Find the concentrations of unknown solutions |

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| Name of the course | Green Methods In Chemistry |
| Course code | SE435 |
| CO1 | Know about green lab practices. Improving reaction efficiency by changing certain parameters and making it more environment friendly. |
| CO2 | Learning about green reagents and their mode of action in making chemistry less hazardous. |
| CO3 | Atom economy and its usefulness i.e. utilizing 100% of the reactants |
| CO4 | Acquaint with different green reactions. |

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|---------------------------|--|
| Name of the Course | Agricultural and Environmental Microbiology |
| Course Code | MB 531 Paper V |
| CO1 | Summarize the role of plant growth promoting rhizobacteria. |
| CO2 | Compare different plant diseases and measures to prevent them. |
| CO3 | List the environment friendly methods in agriculture using microorganisms. |
| CO4 | Review on methods of solid and liquid waste disposal using microorganisms. |

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| Name of the Course | Immunology |
| Course Code | MB 532/A Paper VI |
| CO1 | Classify the different types of immunity and correlate the role of vaccines in conferring immunity in an individual. |
| CO2 | Review on functions of cells and organs in immune responses. |
| CO3 | Illustrate the structure of antibody and antigen highlighting their specific properties and functions. |
| CO4 | Differentiate between Hypersensitivity and Autoimmunity and will also be able to practically demonstrate the principles involved in antigen antibody reactions. |

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| Name of the Course | Clinical Microbiology |
| Course Code | SEC-3: MB 501 |
| CO1 | Comprehend about various microbial diseases caused to human beings |
| CO2 | Acquaint knowledge on methods of clinical specimen collection, processing and culturing |
| CO3 | Understand various serological and molecular techniques to detect pathogenic infections |
| CO4 | Learn about antibiotic sensitivity |

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| Name of the Course | Microbes For Human Welfare |
| Course Code | GE-1: MB 502 |
| CO1 | Basic Knowledge about microbiology and role of microbes in daily life |
| CO2 | Conceptual understanding of role of microbiology in production of industrially important products. |
| CO3 | Acquaint with prevention and control strategies of microbial diseases |
| CO4 | Acquire basic knowledge on Cosmetic microbiology |

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|---------------------------|---|
| Name of the Course | Physiology And Clinical Biochemistry |
| Course Code | BC534 |
| CO1 | Compare the secretion and functions of various endocrine glands. |
| CO2 | Relate physiology of heart beat, muscle contraction, nervous system and vision. |
| CO3 | Correlate the relationship of clinical biochemistry in health and disease. |
| CO4 | To relate the structure of organs and the associated function tests. |

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| Name of the Course | Microbiology, Genetics And rDNA Technology |
| Course Code | BC534A |
| CO1 | Apply suitable methods in cultivation, identification and characterization of microorganisms. |
| CO2 | Relate the significance of heredity and variation and link with genetic diseases. |
| CO3 | Apply the basic knowledge of tools and techniques in gene cloning experiments. |
| CO4 | Implement the various rDNA methods in production of biotechnological products. |

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| Name of the Course | Automation And Clinical Laboratory Informatics |
| Course Code | SE534 |
| CO1 | Relate the working of auto analyzers and their significance in clinical diagnostics. |
| CO2 | Apply the knowledge of computers in coordinating lab information and hospital information systems |

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| Name of the Course | Nutrition And Health |
| Course Code | GE534 |
| CO1 | Relate the importance of nutrients present in their diet necessary for maintenance of good health. |
| CO2 | Correlate the relation between the calorie intake and physical activity for a good health. |

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| Name of the course | Organic, General And Physical Chemistry-III |
| Course code | CT535 |
| CO1 | Analyze different nitrogen compounds by conducting simple experiments. |
| CO2 | Identify the principles, structure and reactivity of selected coordination complexes. Utilize the principles of coordination complexes in understanding the functions of biological systems. |
| CO3 | Identify the heterocyclic structure in metalloproteinase or enzymes. synthesise them through green chemistry approach. Interpret electronic spectra and magnetic properties |
| CO4 | Calculate change in thermodynamic properties. Calculate the absolute value of thermodynamic quantities (U, H, S, A, G). |

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| Name of the course | Organic Chemistry- V |
| Course code | CT535P |
| CO1 | Develops a skill in organic synthesis and re-crystallization |

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| Name of the course | Physico-Chemical Methods Of Analysis, Spectroscopy And Analysis |
| Course code | CT535A |
| CO1 | Acquires a basic knowledge in solvent extraction and all chromatographic techniques |
| CO2 | Acquaint with spectroscopic techniques and colorimetric estimations. Students identify organic compounds using mass spectroscopy. |
| CO3 | Identify organic molecules using spectroscopic tools such as UV, IR, Raman and H^1 NMR spectroscopy. |
| CO4 | Apply the knowledge of catalysis to carry out atom economy organic synthesis. Acquires the knowledge of how alcohol dehydrogenase catalysis is different in Asians and Europeans |

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| Name of the course | Physical Chemistry- VI |
| Course code | CT535AP |
| CO1 | Develops a skill to use conductometers, potentiometers, PH meters and colorimeters that are required for the industry |

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| Name of the course | Basic Analytical Chemistry |
| Course code | SE535 |
| CO1 | It enhances the knowledge and skills required for attaining analytical and critical abilities, logical thinking, and ability to apply knowledge learnt to solve issues and problems related to chemical analysis. |
| CO2 | Improve the use of statistical tools. |
| CO3 | Used in determining the water quality refers to the chemical, physical, biological, and radiological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and or to any human need or purpose. |

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| Name of the course | Organic Farming |
| Course code | GE535 |
| CO1 | Upon successful completion of this course, students will: Have a better understanding of the basic principles of organic farming. Recognize that organic farming systems, if practiced in an environmentally sound manner, can constitute a larger philosophy of sustainable agriculture. |
| CO2 | Be able to devise an organic farm management plan. |
| CO3 | Have improved their ability to think critically about the opportunities and challenges faced by organic growers. |

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| Name of the Course | Medical Microbiology |
| Course Code | MB 631 Paper VII |
| CO1 | Summarize the role and distribution of normal flora and describe the host pathogen interactions. |
| CO2 | Compute on causal organisms and pathogenesis of food borne air, water and sexually transmitted diseases. |
| CO3 | Differentiate various viral borne diseases, causal organisms, modes of transmission and pathogenesis. |
| CO4 | Practically demonstrate the antibiotic sensitivity tests. |

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| Name of the Course | Food And Industrial Microbiology |
| Course Code | MB 632/A Paper VIII |
| CO1 | Classify various microbes involved in the food spoilage and properties of spoiled foods. |
| CO2 | Summarize food borne diseases, food poisoning and their detection. |
| CO3 | Restate the general methods food preservation. |
| CO4 | Illustrate the steps of various microbial fermentation procedures involved in production of yoghurt, bread, cheese, ethyl alcohol, glutamic acid, Beer, penicillin, citric acid, Vitamin B12, Biogas and insulin. |

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| Name of the Course | Mushroom Cultivation |
| Course Code | SEC-4: MB 601 |
| CO1 | Summarize mushroom cultivation in methods |
| CO2 | Tabulate the nutritional value of mushrooms |
| CO3 | List the mushroom preservation procedures. |

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| Name of the Course | Contagious Diseases And Immunization |
| Course Code | GE-2: MB 602 |
| CO1 | Awareness on bacterial and viral diseases |
| CO2 | Understand about mode of infections |
| CO3 | Acquaint Knowledge on types of immunity |
| CO4 | Knowledge on vaccination schedule |

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| Name of the Course | Molecular Biology |
| Course Code | BC634 |
| CO1 | Relate the importance of proteins involved in replication and maintaining its fidelity. |
| CO2 | Appreciate the flow of genetic information from DNA to RNA. |
| CO3 | Correlate the significance of genetic material to the synthesis of normal proteins. |
| CO4 | Appreciate the adaptability of microorganisms to the changed environment. |

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|---------------------------|---|
| Name of the Course | Immunology And Nutrition |
| Course Code | BC634A |
| CO1 | Compare the basic mechanisms and functional interplay of innate and adaptive immunity. |
| CO2 | Relate to the basic immunological principles involved in clinical and applied science. |
| CO3 | Differentiate between malnutrition and over nutrition. |
| CO4 | Distinguish between the micro and macronutrients with respect to their biochemical role and deficiency disorders. |

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| Name of the Course | Computational Biochemistry |
| Course Code | SE634 |
| CO1 | Apply the knowledge to analyse the data and draw structures using various software tools. |
| CO2 | Apply the knowledge to use various data bases and molecular modelling methods in studies of proteins, nucleic acids and metabolic events. |

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| Name of the Course | Human Physiology |
| Course Code | GE634 |
| CO1 | Relate to various body organs and their functions in health and diseased conditions. |
| CO2 | Differentiate the various endocrine secretions and their physiological functions. |

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| Name of the course | Organic, General And Physical Chemistry-IV |
| Course code | CT635 |
| CO1 | Identify the carbohydrates and explain its role in living organisms. |
| CO2 | Apply HSAB principle for stability and occurrence of simple salts in nature. |
| CO3 | Apply various synthetic strategies in the field of synthesis. Use retro synthesis and disconnection approach for synthesis of drugs. |
| CO4 | Solve problems on rate and rate constants. Calculate the age of rocks, carbon dating etc |

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| Name of the course | Organic Chemistry- VII |
| Course code | CT635P |
| CO1 | Organic Analysis-Apply principles of identification techniques in organic analysis Identify organic compounds Identify the presence of organic compounds in vegetables and fruits |

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| Name of the course | Drugs, Pesticides, Macromolecules |
| Course code | CT 635A |
| CO1 | Apply the knowledge of drugs & formulation chemistry to the pharmaceutical industry. |
| CO2 | Acquaint with green pesticides and harmful effect of other organic pesticides. |
| CO3 | Acquire knowledge in Material science, super conductance and nanotechnology- the allied subjects in chemistry, which find a great place in modern research. |
| CO4 | Students can synthesize different polymers based on their tacticity and different mechanisms of polymerization. |

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| Name of the course | Physical Chemistry- VI |
| Course code | CT635AP |
| CO1 | Familiarized with calculation of rate constant for first and second order kinetic reactions Utilise the technique of solvent extraction to separate different solutes in a compound or extract medicinal components from herbs. |

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| Name of the course | Cheminformatics |
| Course code | SE635 |
| CO1 | Learn about drawing chemical structures on PC Using the tools to search the chemicals in the database to help in research. |
| CO2 | Identification of protein targets. Spectral predictions of various drugs. Molecular modeling Hands on experiment on drug development using cheminformatics. |
| CO3 | Hands on MOLINSPIRATION |

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| Name of the course | Chemistry Of Cosmetics & Perfumes |
| Course code | GE635 |
| CO1 | Describe fundamentals of chemistry and the scientific basis for cosmetic formulation and the function of the active ingredients. |
| CO2 | Comprehend the efforts of scientists in cosmetic product design and developments. |

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|--|------------------|-----|-----|------|------|-------------------------------|-----|------|---------------------------|------|------|
| Name of the Program : MbBcC | | | | | | Batch :2017-20 | | | | | |
| Name of the Course: Introductory Microbiology | | | | | | Academic Year: 2017-18 | | | | | |
| Semester: I | | | | | | Corse Code: MB 131 | | | | | |
| Course/POs | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| CO1 | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO2 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 |
| CO3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 1 |
| CO4 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 1 |
| AVERAGE | 3 | 2.5 | 1.5 | 2.25 | 1.75 | 2 | 2 | 1.75 | 3 | 2 | 1 |

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|---|------------------|------|-----|-----|-----|---------------------------|-----|------|---------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Biomolecules I | | | | | | Course Code: BC134 | | | | | |
| Semester: I | | | | | | Year: First year | | | | | |
| Academic Year: 2017-18 | | | | | | Batch: 2017- 2020 | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 3 | 1 |
| CO2 | 3 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 3 | 3 | 2 |
| CO3 | 3 | 3 | 3 | 2 | 1 | 0 | 1 | 1 | 3 | 3 | 2 |
| CO4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 1 |
| BC: 134 | 3 | 2.25 | 2 | 1.5 | 0.5 | 0.75 | 0.5 | 0.75 | 3 | 3 | 1.5 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Chemistry | | | | | | Corse Code:471 | | | | | |
| Semester: I | | | | | | Year:1st year | | | | | |
| Academic Year:2017-18 | | | | | | Batch:2017-20 | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT135.CO1 | 3 | 2 | 1 | 2 | 2 | 0 | 1 | 2 | 0 | 0 | 3 |
| CT135.CO2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 0 | 3 |
| CT135.CO3 | 3 | 3 | 3 | 1 | 3 | 1 | 2 | 3 | 0 | 0 | 3 |
| CT135.CO4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 |
| AVERAGE | 3 | 2.5 | 2 | 2 | 2.5 | 1.5 | 2 | 2.75 | 1.25 | 0 | 3 |
| CT135P.CO | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 0 | 3 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: General Microbiology | | | | | | Corse Code: MB 231 | | | | | |
| Semester: II, Academic Year: 2017-18 | | | | | | Batch:2017-20 | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| Course/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 1 | 1 |
| CO2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 1 |
| CO3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 |
| CO4 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 1 |
| AVERAGE | 3 | 2.75 | 2 | 2.25 | 2 | 2 | 2 | 2 | 3 | 1.5 | 1 |

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| Name of the Program: MBBCC | | | | | | | | | | | |
| Name of the Course: Biomolecules II | | | | | | | | Course Code: BC234 | | | |
| Semester: II | | | | | | | | Year: First year | | | |
| Academic Year: 2017-18 | | | | | | | | Batch: 2017 - 20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 2 |
| CO2 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 0 | 3 | 3 | 2 |
| CO3 | 3 | 3 | 3 | 2 | 1 | 0 | 0 | 1 | 3 | 3 | 2 |
| CO4 | 3 | 3 | 3 | 2 | 1 | 0 | 0 | 1 | 3 | 3 | 2 |
| AVERAGE | 3 | 3 | 2.75 | 2 | 1 | 0.5 | 0.5 | 0.75 | 3 | 3 | 2 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Chemistry | | | | | | | | Course Code:471 | | | |
| Semester: II | | | | | | | | Year:1st year | | | |
| Academic Year:2017-18 | | | | | | | | Batch:2017- 20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT235.CO1 | 3 | 3 | 1 | 3 | 2 | 2 | 1 | 3 | 1 | 0 | 3 |
| CT235.CO2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 3 |
| CT235.CO3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 3 |
| CT235.CO4 | 3 | 3 | 3 | 1 | 3 | 1 | 2 | 1 | 0 | 0 | 3 |
| AVERAGE | 3 | 3 | 2.5 | 2.5 | 2.25 | 1.75 | 1.75 | 2.5 | 0.75 | 0.5 | 3 |
| CT235P.CO | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 0 | 3 |

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|---|------------------|-----|------|-----|-----|------|-----|----------------------------|---------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Microbial physiology | | | | | | | | Course Code: MB 331 | | | |
| Semester: III | | | | | | | | Batch :2017-20 | | | |
| Academic Year: 2018-19 | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| Course/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 1 | 1 |
| CO2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 |
| CO3 | 3 | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 |
| CO4 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 1 | 1 |
| AVERAGE | 3 | 2 | 2.75 | 2 | 2 | 2.25 | 2 | 2.5 | 3 | 1.5 | 1 |

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|--|-------------------------|------------|------------|------------|------------|------------|------------|-----------------------------------|-------------|-------------|-------------|
| Name of the Course: Food Adulteration | | | | | | | | Course Code: SEC-1: MB 301 | | | |
| Semester: III | | | | | | | | | | | |
| | Program Outcomes | | | | | | | Program Specific Outcomes | | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 |
| CO2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 |
| AVERAGE | 3 | 2.5 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 |

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|---|-------------------------|------------|------------|------------|------------|------------|------------|------------|----------------------------------|-------------|-------------|--|
| Name of the Program: MbBcC | | | | | | | | | | | | |
| Name of the Course: Enzymes and Metabolism of carbohydrates and lipids | | | | | | | | | Course Code: BC334 | | | |
| Semester: III | | | | | | | | | Year: Second year | | | |
| Academic Year: 2018-2019 | | | | | | | | | Batch: 2017- 2020 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 | |
| CO1 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | |
| CO2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 0 | 3 | 3 | 2 | |
| CO3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 1 | |
| CO4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 1 | |
| AVERAGE | 3 | 3 | 2.75 | 2.5 | 1.25 | 1 | 1 | 1.5 | 3 | 3 | 1.5 | |

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|--|-------------------------|------------|------------|------------|------------|------------|------------|----------------------------------|-------------|-------------|-------------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Medical Diagnostics | | | | | | | | Course Code: SE334 | | | |
| Semester: III | | | | | | | | Year: Second year | | | |
| Academic Year: 2018- 19 | | | | | | | | Batch: 2017-20 | | | |
| | Program Outcomes | | | | | | | Program Specific Outcomes | | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 3 |
| CO2 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 3 |
| SE334 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 3 | 3 | 3 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: General and Organic Chemistry | | | | | | | | | Course Code:471 | | |
| Semester: III | | | | | | | | | Year:2nd year | | |
| Academic Year:2018-19 | | | | | | | | | Batch:2017-20 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT335.CO1 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | 0 | 3 |
| CT335.CO2 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | 0 | 3 |
| CT335.CO3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 1 | 1 | 3 |
| CT335.CO4 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 2 | 2 | 3 |
| AVERAGE | 3 | 3 | 3 | 2 | 1.5 | 2.5 | 2 | 2.5 | 1.25 | 0.75 | 3 |
| CT335P.CO | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| SE335 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |

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|---|------------------|-------------|----------|------------|------------|------------|-------------|----------|----------------------------|-------------|----------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Program: Molecular biology | | | | | | | | | Course Code: MB 431 | | |
| Semester: IV | | | | | | | | | | | |
| Academic Year: 2018-19 | | | | | | | | | Batch:2017-20 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| Course/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 |
| CO2 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 1 |
| CO3 | 3 | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 1 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 |
| AVERAGE | 3 | 1.75 | 3 | 2.5 | 2.5 | 2.5 | 2.75 | 3 | 3 | 1.25 | 1 |

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|---|------------------|----------|----------|----------|----------|----------|----------|----------|-----------------------------------|----------|----------|
| Name of the Course: Fundamentals of Bioinformatics | | | | | | | | | Course Code: SEC-2: MB 401 | | |
| Semester: IV | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 1 |
| CO2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 1 |
| AVERAGE | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 1 |

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|---|------------------|-----|------|------|-----|------|-----|------|---------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Biochemical Techniques and Metabolism of amino acids and Nucleotides | | | | | | | | | Course Code: BC434 | | |
| Semester: IV | | | | | | | | | Year: Second year | | |
| Academic Year: 2018-19 | | | | | | | | | Batch: 2017-20 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 2 |
| CO2 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 2 |
| CO3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 3 | 3 | 3 |
| CO4 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 2 |
| BC: 434 | 3 | 3 | 2.75 | 2.75 | 1.5 | 1.25 | 1 | 1.25 | 3 | 3 | 2.25 |

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|---|------------------|-----|-----|-----|-----|-----|-----|-----|---------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Basics of Food and Nutrition | | | | | | | | | Course Code: SE434 | | |
| Semester: IV | | | | | | | | | Year: Second year | | |
| Academic Year: 2018-2019 | | | | | | | | | Batch: 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 1 |
| CO2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 1 |
| SE: 434 | 3 | 2.5 | 2.5 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 1 |

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|--|------------------|-------------|----------|------------|------------|-------------|----------|------------|---------------------------|------------|----------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: In Organic Chemistry and Physical Chemistry | | | | | | | | | Course Code:471 | | |
| Semester: IV | | | | | | | | | Year:2nd year | | |
| Academic Year:2018-19 | | | | | | | | | Batch:2017-20 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT435.CO1 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| CT435.CO2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| CT435.CO3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 3 |
| CT435.CO4 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 3 |
| AVERAGE | 2.75 | 2.25 | 2 | 1.5 | 1.5 | 0.75 | 1 | 1.5 | 0.5 | 0.5 | 2 |
| CT435P.CO | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| SE435 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

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|--|------------------|-----|------|-------------------------------|------|------|------|-----------------------|----------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Agricultural and Environmental Microbiology | | | | | | | | | Course Code: MB 531 | | |
| Semester: V | | | | Academic Year: 2019-20 | | | | Batch: 2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 3 | 2 | 3 |
| CO2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 1 |
| CO3 | 3 | 2 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 3 | 2 |
| CO4 | 3 | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 3 | 1 | 3 |
| AVERAGE | 3 | 2.5 | 2.75 | 3 | 1.75 | 2.75 | 1.25 | 3 | 3 | 1.75 | 2.25 |

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|---------------------------------------|------------------|------|------|------------------------------|-----|------|-----|-----------------------|------------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Immunology | | | | | | | | | Course Code: MB 532/A | | |
| Semester: V | | | | Academic Year:2019-20 | | | | Batch: 2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 1 |
| CO2 | 3 | 1 | 1 | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 1 |
| CO3 | 3 | 2 | 3 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 1 |
| CO4 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 1 |
| AVERAGE | 3 | 1.75 | 2.25 | 2 | 3 | 1.25 | 2 | 2.75 | 3 | 2 | 1 |

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|--|------------------|------|------|-----|-----|------|-----|-----|----------------------------------|------|------|
| Name of the Course: Clinical Microbiology | | | | | | | | | Course Code:SEC-3: MB 501 | | |
| Semester: V | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 1 |
| CO2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 1 |
| CO3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 1 |
| AVERAGE | 3 | 2.75 | 2.75 | 3 | 3 | 2.25 | 2.5 | 3 | 3 | 3 | 1 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Microbes For Human Welfare | | | | | | | | | Course Code:GE-1: MB 502 | | |
| Semester: V | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 0 |
| CO2 | 3 | 1 | 2 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 0 |
| CO3 | 3 | 1 | 2 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 0 |
| CO4 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 0 |
| AVERAGE | 3 | 1 | 1.5 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 0 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Physiology and Clinical Biochemistry | | | | | | | | | Course Code: BC534 | | |
| Semester: V | | | | | | | | | Year: Third year | | |
| Academic Year: 2019-2020 | | | | | | | | | Batch: 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 3 | 3 | 1 | 1 | 0 | 2 | 3 | 3 | 1 |
| CO2 | 3 | 3 | 3 | 3 | 2 | 1 | 0 | 2 | 3 | 3 | 1 |
| CO3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 1 |
| AVERAGE | 3 | 3 | 3 | 3 | 1.75 | 1.5 | 0.5 | 2 | 3 | 3 | 1 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Microbiology, Genetics and rDNA Technology | | | | | | | | | Course Code: BC534A | | |
| Semester: V | | | | | | | | | Year: Third year | | |
| Academic Year: 2019-2020 | | | | | | | | | Batch: 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 3 | 3 | 1 |
| CO2 | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 3 | 3 | 1 |
| CO3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 3 | 3 | 2 |
| AVERAGE | 3 | 2.5 | 2.5 | 1.75 | 1 | 1 | 0.75 | 0.5 | 3 | 3 | 1.25 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Automation and Laboratory Informatics | | | | | | | | Course Code: SE534 | | | |
| Semester: V | | | | | | | | Year: Third year | | | |
| Academic Year: 2019-2020 | | | | | | | | Batch: 2017-2020 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 1 | 2 | 1 | 2 | 0 | 1 | 3 | 3 | 1 |
| CO2 | 3 | 3 | 1 | 2 | 1 | 2 | 1 | 1 | 3 | 3 | 1 |
| AVERAGE | 3 | 3 | 1 | 2 | 1 | 2 | 0.5 | 1 | 3 | 3 | 1 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Nutrition and Health | | | | | | | | Course Code: GE534 | | | |
| Semester: V | | | | | | | | Year: Third year | | | |
| Academic Year: 2019-2020 | | | | | | | | Batch: 2017-2020 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 3 | 3 | 0 |
| CO2 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | 1 |
| AVERAGE | 3 | 2.5 | 2 | 3 | 1.5 | 1 | 1 | 1 | 3 | 3 | 0.5 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Organic, General And Physical Chemistry-III | | | | | | | | Course Code: CT535 | | | |
| Semester: V | | | | | | | | Year: 3rd year | | | |
| Academic Year: 2019-20 | | | | | | | | Batch: 2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT535.CO1 | 2 | 3 | 1 | 2 | 1 | 2 | 2 | 3 | 1 | 1 | 3 |
| CT535.CO2 | 3 | 3 | 3 | 3 | 1 | 2 | 2 | 3 | 1 | 1 | 3 |
| CT535.CO3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 |
| CT535.CO4 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 1 | 0 | 3 |
| AVERAGE | 2.75 | 3 | 2 | 2.25 | 1.25 | 2 | 1.75 | 2.75 | 1.25 | 1 | 3 |
| CT535P.CO | 3 | 3 | 3 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | 3 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course :Physico-Chemical Methods Of Analysis, Spectroscopy And Analysis | | | | | | | | | Corse Code:CT535A | | |
| Semester: V | | | | | | Year:3rd year | | | | | |
| Academic Year:2019-20 | | | | | | Batch:2017-20 | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT535A.CO1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT535A.CO2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT535A.CO3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT535A.CO4 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 3 |
| AVERAGE | 3 | 3 | 3 | 3 | 2.75 | 3 | 3 | 3 | 2.5 | 2.75 | 3 |
| CT535AP.CO | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| SE535 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| GE535 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course :Medical Microbiology | | | | | | | | | Course Code: MB 631 Paper VII | | |
| Semester: VI | | | | Academic Year:2019-20 | | | | Batch:2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 2 | 1 |
| CO2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 1 |
| CO3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 1 |
| AVERAGE | 3 | 2.25 | 2.75 | 3 | 2.75 | 1.75 | 2.5 | 2.75 | 3 | 2 | 1 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Food And Industrial Microbiology | | | | | | | | | Course Code: MB 632/A Paper VIII | | |
| Semester: VI | | | | Academic Year:2019-20 | | | | Batch:2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 3 | 2 | 1 |
| CO2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 1 |
| CO3 | 3 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | 3 | 1 | 1 |
| CO4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 |
| AVERAGE | 3 | 2.25 | 2.25 | 3 | 3 | 2.75 | 1.5 | 3 | 3 | 2 | 1.5 |

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| Name of the Course: Mushroom Cultivation | | | | | | | | | Course Code:SEC-4: MB 601 | | |
| Semester: VI | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 0 |
| CO2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 0 | 0 |
| AVERAGE | 3 | 3 | 3 | 3 | 3 | 2.5 | 3 | 3 | 3 | 0 | 0 |

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| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Contagious Diseases And Immunization | | | | | | | | | Course Code:GE-2: MB 602 | | |
| Semester: VI | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 2 | 0 |
| CO2 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 2 | 0 |
| CO3 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 2 | 0 |
| CO4 | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 2 | 0 |
| AVERAGE | 3 | 1 | 1 | 3 | 3 | 3 | 2 | 1 | 3 | 2 | 0 |

| | | | | | | | | | | | | |
|--|------------------|------|-----|-----|-----|------|-----|---------------------------|---------------------------|------|------|--|
| Name of the Program: MbBcC | | | | | | | | | | | | |
| Name of the Course: Molecular Biology | | | | | | | | Course Code: BC634 | | | | |
| Semester: VI | | | | | | | | Year: Third year | | | | |
| Academic Year: 2019-2020 | | | | | | | | Batch: 2017-2020 | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 | |
| CO1 | 3 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 3 | 3 | 2 | |
| CO2 | 3 | 3 | 2 | 1 | 1 | 1 | 0 | 0 | 3 | 3 | 2 | |
| CO3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | |
| CO4 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 1 | |
| AVERAGE | 3 | 2.75 | 2 | 1 | 1 | 0.75 | 0.5 | 0.75 | 3 | 3 | 1.75 | |

| | | | | | | | | | | | |
|---|-------------------------|-----|-----|-----|------|------|-----|-----|----------------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Immunology and Nutrition | | | | | | | | | Course Code: BC634A | | |
| Semester: VI | | | | | | | | | Year: Third year | | |
| Academic Year: 2019-2020 | | | | | | | | | Batch: 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 3 | 3 | 2 | 1 | 1 | 0 | 1 | 3 | 3 | 1 |
| CO2 | 3 | 3 | 3 | 2 | 1 | 1 | 0 | 1 | 3 | 3 | 1 |
| CO3 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 1 |
| CO4 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 3 | 3 | 1 |
| AVERAGE | 3 | 3 | 2.5 | 2.5 | 1.25 | 1.25 | 0.5 | 1.5 | 3 | 3 | 1 |

| | | | | | | | | | | | |
|---|-------------------------|-----|-----|-----|-----|-----|-----|-----|----------------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Computational Biochemistry | | | | | | | | | Course Code: SE634 | | |
| Semester: VI | | | | | | | | | Year: Third year | | |
| Academic Year: 2019-2020 | | | | | | | | | Batch: 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 2 | 2 |
| CO2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 3 | 2 |
| AVERAGE | 3 | 2 | 1 | 1 | 1 | 0.5 | 1 | 0.5 | 3 | 2.5 | 2 |

| | | | | | | | | | | | |
|---|-------------------------|-----|-----|-----|-----|-----|-----|-----|----------------------------------|------|------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course: Human Physiology | | | | | | | | | Course Code: GE634 | | |
| Semester: VI | | | | | | | | | Year: Third year | | |
| Academic Year: 2019-2020 | | | | | | | | | Batch : 2017-2020 | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| COs/POs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 1 |
| CO2 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 1 | 3 | 3 | 1 |
| AVERAGE | 3 | 1.5 | 2 | 2 | 1 | 1 | 0.5 | 1 | 3 | 3 | 1 |

| | | | | | | | | | | | |
|---|------------------|-------------|-------------|----------|------------|------------|----------|-------------------------|---------------------------|-------------|----------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course :Organic, General And Physical Chemistry-IV | | | | | | | | Corse Code:CT635 | | | |
| Semester: VI | | | | | | | | Year:3rd year | | | |
| Academic Year:2019-20 | | | | | | | | Batch:2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT635.CO1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT635.CO2 | 3 | 3 | 2 | 3 | 1 | 2 | 1 | 2 | 1 | 0 | 3 |
| CT635.CO3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT635.CO4 | 3 | 2 | 1 | 3 | 1 | 2 | 1 | 3 | 1 | 1 | 3 |
| AVERAGE | 3 | 2.75 | 2.25 | 3 | 1.5 | 2.5 | 2 | 2.75 | 2 | 1.75 | 3 |
| CT635P.CO | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 1 | 1 | 3 |

| | | | | | | | | | | | |
|---|------------------|----------|----------|----------|----------|----------|------------|--------------------------|---------------------------|-------------|----------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Name of the Course : Drugs, Pesticides, Macromolecules | | | | | | | | Corse Code:CT635A | | | |
| Semester: VI | | | | | | | | Year:3rd year | | | |
| Academic Year:2019-20 | | | | | | | | Batch:2017-20 | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| CT635A.CO1 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT635A.CO2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT635A.CO3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| CT635A.CO4 | 3 | 3 | 3 | 3 | 1 | 3 | 1 | 3 | 1 | 0 | 3 |
| AVERAGE | 3 | 3 | 3 | 3 | 2 | 3 | 2.5 | 3 | 2.5 | 2.25 | 3 |
| CT635AP.CO | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 3 | 2 | 2 | 3 |
| SE635 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| GE635 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

Program Target Matrix

| Name of the Program: MbBcC | | | | | | | | | | | |
|-----------------------------|------------------|------|------|------|------|------|------|------|---------------------------|------|------|
| Batch: 2017-20 | | | | | | | | | | | |
| COURSE | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| BIOMOLECULES I | 2.00 | 1.50 | 1.33 | 1.00 | 0.33 | 0.50 | 0.33 | 0.50 | 2.00 | 2.00 | 1.00 |
| BIOMOLECULES I P | 3.00 | 2.25 | 2.00 | 1.50 | 0.50 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.50 |
| INTRODUCTORY MICROBIOLOGY | 3.00 | 2.50 | 1.50 | 2.25 | 1.75 | 2.00 | 2.00 | 1.75 | 3.00 | 1.00 | 1.00 |
| INTRODUCTORY MICROBIOLOGY P | 3.00 | 2.50 | 1.50 | 2.25 | 1.75 | 2.00 | 2.00 | 1.75 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 0.85 | 0.69 | 0.66 | 0.53 | 0.42 | 0.36 | 0.44 | 0.69 | 0.86 | 0.78 | 0.11 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 0.00 | 3.00 |
| AECC-1 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.50 | 2.50 | 2.00 |
| AVERAGE | | | | | | | | | | | |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.50 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.04 | 1.19 | 0.04 | 1.92 | 1.83 | 0.04 | 0.00 | 0.04 |
| BIOMOLECULES II | 2.00 | 2.00 | 1.83 | 1.33 | 1.00 | 0.33 | 0.33 | 0.50 | 2.00 | 2.00 | 1.33 |
| BIOMOLECULES II | 3.00 | 3.00 | 2.75 | 2.00 | 1.00 | 0.50 | 0.50 | 0.75 | 3.00 | 3.00 | 2.00 |
| GENERAL MICROBIOLOGY | 3.00 | 2.75 | 2.00 | 2.25 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 1.00 |
| GENERAL MICROBIOLOGY P | 3.00 | 2.75 | 2.00 | 2.25 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.66 | 0.33 | 1.00 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 0.00 | 3.00 |
| AECC-2 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |

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|--|------|------|------|------|------|------|------|------|------|------|------|
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.05 | 3.00 | 1.00 | 2.88 | 2.75 | 0.00 | 0.00 | 0.00 |
| ENZYMES AND METABOLISM OF CARBODYDRATES AND LIPIDSHE COURSE | 3.00 | 3.00 | 2.75 | 2.50 | 1.25 | 1.00 | 1.00 | 1.50 | 3.00 | 3.00 | 1.50 |
| ENZYMES AND METABOLISM OF CARBODYDRATES AND LIPIDSHE COURSE | 3.00 | 3.00 | 2.75 | 2.50 | 1.25 | 1.00 | 1.00 | 1.50 | 3.00 | 3.00 | 1.50 |
| MICROBIAL PHYSIOLOGY | 3.00 | 2.00 | 2.75 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 3.00 | 1.00 | 1.00 |
| MICROBIAL PHYSIOLOGY p | 3.00 | 2.00 | 2.75 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 1.00 | 1.00 | 1.00 | 0.66 | 0.50 | 0.88 | 0.66 | 0.83 | 0.17 | 0.25 | 1.00 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 3.00 | 1.90 | 2.40 | 2.60 | 1.80 | 2.50 | 2.60 | 2.80 | 2.80 | 2.60 | 2.00 |
| AVERAGE | | | | | | | | | | | |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 1.00 | 2.88 | 2.75 | 0.00 | 0.05 | 0.00 |
| BIOCHEMICAL TECHNIQUES AND METABOLISM OF AMINO ACIDS AND NUCLEOTIDESE COURSE | 2.00 | 2.00 | 1.83 | 1.83 | 1.00 | 0.83 | 0.66 | 0.83 | 2.00 | 2.00 | 1.50 |
| BIOCHEMICAL TECHNIQUES AND METABOLISM OF AMINO ACIDS AND NUCLEOTIDESE COURSE P | 3.00 | 3.00 | 2.75 | 2.75 | 1.50 | 1.25 | 1.00 | 1.25 | 3.00 | 3.00 | 2.25 |
| MOLECULAR BIOLOGY | 3.00 | 1.75 | 3.00 | 2.50 | 2.50 | 2.50 | 2.75 | 3.00 | 3.00 | 2.00 | 1.00 |
| MOLECULAR BIOLOGY p | 3.00 | 1.75 | 3.00 | 2.50 | 2.50 | 2.50 | 2.75 | 3.00 | 3.00 | 2.00 | 1.00 |
| CHEMISTRY | 0.92 | 0.75 | 0.66 | 0.50 | 0.50 | 0.25 | 0.33 | 0.50 | 0.17 | 0.17 | 0.66 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 2.25 | 2.25 | 2.15 | 1.80 | 1.65 | 1.80 | 1.65 | 1.85 | 1.80 | 1.75 | 1.90 |
| AVERAGE | | | | | | | | | | | |
| PHYSIOLOGY AND CLINICAL BIOCHEMISTRY | 1.00 | 1.00 | 1.00 | 1.00 | 0.59 | 0.50 | 0.16 | 0.66 | 1.00 | 1.00 | 0.33 |
| PHYSIOLOGY AND CLINICAL BIOCHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.75 | 1.50 | 0.50 | 2.00 | 3.00 | 3.00 | 1.00 |
| MICROBIOLOGY, GENETICS AND RDNA TECHNOLOGY | 2.00 | 1.66 | 1.66 | 1.17 | 0.66 | 0.66 | 0.50 | 0.33 | 2.00 | 2.00 | 0.83 |

| | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|
| MICROBIOLOGY, GENETICS AND RDNA TECHNOLOGY P | 3.00 | 2.50 | 2.50 | 1.75 | 1.00 | 1.00 | 0.75 | 0.50 | 3.00 | 3.00 | 1.25 |
| AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGYE: | 3.00 | 2.50 | 2.75 | 3.00 | 1.75 | 2.75 | 1.25 | 3.00 | 3.00 | 1.75 | 2.25 |
| AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGYE:P | 3.00 | 2.50 | 2.75 | 3.00 | 1.75 | 2.75 | 1.25 | 3.00 | 3.00 | 1.75 | 2.25 |
| MMUNOLOGY | 1.00 | 0.58 | 0.75 | 0.66 | 1.00 | 0.42 | 0.66 | 0.91 | 1.00 | 0.42 | 0.33 |
| MMUNOLOGY P | 3.00 | 1.75 | 2.25 | 2.00 | 3.00 | 1.25 | 2.00 | 2.75 | 3.00 | 1.25 | 1.00 |
| CHEM V | 0.92 | 1.00 | 0.66 | 0.75 | 0.42 | 0.66 | 0.58 | 0.92 | 0.41 | 0.25 | 1.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 2.00 | 3.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| CHEM V A | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 1.00 | 1.00 | 1.00 | 0.83 | 0.92 | 1.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 2.90 | 3.15 | 2.55 | 2.30 | 2.80 | 2.35 | 2.60 | 2.40 | 3.10 | 2.00 | 1.70 |
| GE | 2.88 | 2.38 | 2.13 | 3.00 | 2.50 | 2.25 | 2.13 | 1.88 | 2.63 | 1.75 | 1.13 |
| MOLECULAR BIOLOGY | 3.00 | 2.75 | 2.00 | 1.00 | 1.00 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.75 |
| MOLECULAR BIOLOGY P | 3.00 | 2.75 | 2.00 | 1.00 | 1.00 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.75 |
| IMMUNOLOGY AND NUTRITION | 3.00 | 3.00 | 2.50 | 2.50 | 1.25 | 1.25 | 0.50 | 1.50 | 3.00 | 3.00 | 1.00 |
| IMMUNOLOGY AND NUTRITION P | 3.00 | 3.00 | 2.50 | 2.50 | 1.25 | 1.25 | 0.50 | 1.50 | 3.00 | 3.00 | 1.00 |
| MEDICAL MICROBIOLOGY | 3.00 | 2.25 | 2.75 | 3.00 | 2.75 | 1.75 | 2.50 | 2.75 | 3.00 | 1.00 | 1.00 |
| MEDICAL MICROBIOLOGY P | 3.00 | 2.25 | 2.75 | 3.00 | 2.75 | 1.75 | 2.50 | 2.75 | 3.00 | 1.00 | 1.00 |
| FOOD AND INDUSTRIAL MICROBIOLOGY | 3.00 | 2.25 | 2.25 | 3.00 | 3.00 | 2.75 | 1.50 | 3.00 | 3.00 | 1.50 | 1.50 |
| FOOD AND INDUSTRIAL MICROBIOLOGY P | 3.00 | 2.25 | 2.25 | 3.00 | 3.00 | 2.75 | 1.50 | 3.00 | 3.00 | 1.50 | 1.50 |
| CHEM VI | 3.00 | 2.75 | 2.25 | 3.00 | 1.50 | 2.50 | 2.00 | 2.75 | 2.00 | 1.75 | 3.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| CHEM VI A | 2.00 | 2.00 | 2.00 | 2.00 | 1.33 | 2.00 | 1.66 | 2.00 | 1.66 | 1.50 | 2.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| SEC | 3.00 | 2.88 | 2.77 | 2.72 | 1.72 | 2.44 | 2.44 | 2.90 | 2.70 | 1.23 | 2.68 |

| | | | | | | | | | | | |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| GE | 3.00 | 2.88 | 2.84 | 2.83 | 1.46 | 2.29 | 2.66 | 2.91 | 2.49 | 1.41 | 2.77 |
| AVERAGE | 2.53 | 2.25 | 2.18 | 2.15 | 1.92 | 1.90 | 1.94 | 2.28 | 2.27 | 1.67 | 1.60 |

Attainment Matrix

| COURSE | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
|-----------------------------|------------------|------|------|------|------|------|------|------|---------------------------|------|------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| BIOMOLECULES I | 2.00 | 1.50 | 1.33 | 1.00 | 0.33 | 0.50 | 0.33 | 0.50 | 2.00 | 2.00 | 1.00 |
| BIOMOLECULES I P | 3.00 | 2.25 | 2.00 | 1.50 | 0.50 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.50 |
| INTRODUCTORY MICROBIOLOGY | 3.00 | 2.50 | 1.50 | 2.25 | 1.75 | 2.00 | 2.00 | 1.75 | 3.00 | 1.00 | 1.00 |
| INTRODUCTORY MICROBIOLOGY P | 3.00 | 2.50 | 1.50 | 2.25 | 1.75 | 2.00 | 2.00 | 1.75 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 0.85 | 0.69 | 0.66 | 0.53 | 0.42 | 0.36 | 0.44 | 0.69 | 0.86 | 0.78 | 0.11 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 0.00 | 3.00 |
| AECC-1 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.50 | 2.50 | 2.00 |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.50 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.04 | 1.19 | 0.04 | 1.92 | 1.83 | 0.04 | 0.00 | 0.04 |
| BIOMOLECULES II | 2.00 | 2.00 | 1.83 | 1.33 | 1.00 | 0.33 | 0.33 | 0.50 | 2.00 | 2.00 | 1.33 |
| BIOMOLECULES II | 3.00 | 3.00 | 2.75 | 2.00 | 1.00 | 0.50 | 0.50 | 0.75 | 3.00 | 3.00 | 2.00 |
| GENERAL MICROBIOLOGY | 3.00 | 2.75 | 2.00 | 2.25 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 1.00 |
| GENERAL MICROBIOLOGY p | 3.00 | 2.75 | 2.00 | 2.25 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.66 | 0.33 | 1.00 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 0.00 | 3.00 |
| AECC-2 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.05 | 3.00 | 1.00 | 2.88 | 2.75 | 0.00 | 0.00 | 0.00 |
| ENZYMES AND METABOLISM OF CARBODYDRATES AND LIPIDSHE COURSE | 3.00 | 3.00 | 2.75 | 2.50 | 1.25 | 1.00 | 1.00 | 1.50 | 3.00 | 3.00 | 1.50 |
| ENZYMES AND METABOLISM OF CARBODYDRATES AND LIPIDSHE COURSE | 3.00 | 3.00 | 2.75 | 2.50 | 1.25 | 1.00 | 1.00 | 1.50 | 3.00 | 3.00 | 1.50 |
| MICROBIAL PHYSIOLOGY | 3.00 | 2.00 | 2.75 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 3.00 | 1.00 | 1.00 |
| MICROBIAL PHYSIOLOGY p | 3.00 | 2.00 | 2.75 | 2.00 | 2.00 | 2.25 | 2.00 | 2.50 | 3.00 | 1.00 | 1.00 |
| CHEMISTRY | 1.00 | 1.00 | 1.00 | 0.66 | 0.50 | 0.88 | 0.66 | 0.83 | 0.17 | 0.25 | 1.00 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 3.00 | 1.90 | 2.40 | 2.60 | 1.80 | 2.50 | 2.60 | 2.80 | 2.80 | 2.60 | 2.00 |
| ENGLISH | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 |
| SECOND LANGUAGE | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 1.00 | 2.88 | 2.75 | 0.00 | 0.05 | 0.00 |
| BIOCHEMICAL TECHNIQUES AND METABOLISM OF AMINO ACIDS AND NUCLEOTIDESE COURSE | 2.00 | 2.00 | 1.83 | 1.83 | 1.00 | 0.83 | 0.66 | 0.83 | 2.00 | 2.00 | 1.50 |
| BIOCHEMICAL TECHNIQUES AND METABOLISM OF AMINO ACIDS AND NUCLEOTIDESE COURSE P | 3.00 | 3.00 | 2.75 | 2.75 | 1.50 | 1.25 | 1.00 | 1.25 | 3.00 | 3.00 | 2.25 |
| MOLECULAR BIOLOGY | 3.00 | 1.75 | 3.00 | 2.50 | 2.50 | 2.50 | 2.75 | 3.00 | 3.00 | 2.00 | 1.00 |

| | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|
| MOLECULAR BIOLOGY p | 3.00 | 1.75 | 3.00 | 2.50 | 2.50 | 2.50 | 2.75 | 3.00 | 3.00 | 2.00 | 1.00 |
| CHEMISTRY | 0.92 | 0.75 | 0.66 | 0.50 | 0.50 | 0.25 | 0.33 | 0.50 | 0.17 | 0.17 | 0.66 |
| CHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 2.25 | 2.25 | 2.15 | 1.80 | 1.65 | 1.80 | 1.65 | 1.85 | 1.80 | 1.75 | 1.90 |
| COURSE | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| PHYSIOLOGY AND CLINICAL BIOCHEMISTRY | 1.00 | 1.00 | 1.00 | 1.00 | 0.59 | 0.50 | 0.16 | 0.66 | 1.00 | 1.00 | 0.33 |
| PHYSIOLOGY AND CLINICAL BIOCHEMISTRY P | 3.00 | 3.00 | 3.00 | 3.00 | 1.75 | 1.50 | 0.50 | 2.00 | 3.00 | 3.00 | 1.00 |
| MICROBIOLOGY, GENETICS AND RDNA TECHNOLOGY | 2.00 | 1.66 | 1.66 | 1.17 | 0.66 | 0.66 | 0.50 | 0.33 | 2.00 | 2.00 | 0.83 |
| MICROBIOLOGY, GENETICS AND RDNA TECHNOLOGY P | 3.00 | 2.50 | 2.50 | 1.75 | 1.00 | 1.00 | 0.75 | 0.50 | 3.00 | 3.00 | 1.25 |
| AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGYE: | 3.00 | 2.50 | 2.75 | 3.00 | 1.75 | 2.75 | 1.25 | 3.00 | 3.00 | 1.75 | 2.25 |
| AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGYE:P | 3.00 | 2.50 | 2.75 | 3.00 | 1.75 | 2.75 | 1.25 | 3.00 | 3.00 | 1.75 | 2.25 |
| MMUNOLOGY | 1.00 | 0.58 | 0.75 | 0.66 | 1.00 | 0.42 | 0.66 | 0.91 | 1.00 | 0.42 | 0.33 |
| MMUNOLOGY P | 3.00 | 1.75 | 2.25 | 2.00 | 3.00 | 1.25 | 2.00 | 2.75 | 3.00 | 1.25 | 1.00 |
| CHEM V | 0.92 | 1.00 | 0.66 | 0.75 | 0.42 | 0.66 | 0.58 | 0.92 | 0.41 | 0.25 | 1.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 2.00 | 3.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| CHEM V A | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 1.00 | 1.00 | 1.00 | 0.83 | 0.92 | 1.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| SEC | 2.90 | 3.15 | 2.55 | 2.30 | 2.80 | 2.35 | 2.60 | 2.40 | 3.10 | 2.00 | 1.70 |

| | | | | | | | | | | | |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| GE | 2.88 | 2.38 | 2.13 | 3.00 | 2.50 | 2.25 | 2.13 | 1.88 | 2.63 | 1.75 | 1.13 |
| COURSE | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| MOLECULAR BIOLOGY | 3.00 | 2.75 | 2.00 | 1.00 | 1.00 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.75 |
| MOLECULAR BIOLOGY P | 3.00 | 2.75 | 2.00 | 1.00 | 1.00 | 0.75 | 0.50 | 0.75 | 3.00 | 3.00 | 1.75 |
| IMMUNOLOGY AND NUTRITION | 3.00 | 3.00 | 2.50 | 2.50 | 1.25 | 1.25 | 0.50 | 1.50 | 3.00 | 3.00 | 1.00 |
| IMMUNOLOGY AND NUTRITION P | 3.00 | 3.00 | 2.50 | 2.50 | 1.25 | 1.25 | 0.50 | 1.50 | 3.00 | 3.00 | 1.00 |
| MEDICAL MICROBIOLOGY | 3.00 | 2.25 | 2.75 | 3.00 | 2.75 | 1.75 | 2.50 | 2.75 | 3.00 | 1.00 | 1.00 |
| MEDICAL MICROBIOLOGY P | 3.00 | 2.25 | 2.75 | 3.00 | 2.75 | 1.75 | 2.50 | 2.75 | 3.00 | 1.00 | 1.00 |
| FOOD AND INDUSTRIAL MICROBIOLOGY | 3.00 | 2.25 | 2.25 | 3.00 | 3.00 | 2.75 | 1.50 | 3.00 | 3.00 | 1.50 | 1.50 |
| FOOD AND INDUSTRIAL MICROBIOLOGY P | 3.00 | 2.25 | 2.25 | 3.00 | 3.00 | 2.75 | 1.50 | 3.00 | 3.00 | 1.50 | 1.50 |
| CHEM VI | 3.00 | 2.75 | 2.25 | 3.00 | 1.50 | 2.50 | 2.00 | 2.75 | 2.00 | 1.75 | 3.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| CHEM VI A | 2.00 | 2.00 | 2.00 | 2.00 | 1.33 | 2.00 | 1.66 | 2.00 | 1.66 | 1.50 | 2.00 |
| CHEM P | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| SEC | 3.00 | 2.88 | 2.77 | 2.72 | 1.72 | 2.44 | 2.44 | 2.90 | 2.70 | 1.23 | 2.68 |
| GE | 3.00 | 2.88 | 2.84 | 2.83 | 1.46 | 2.29 | 2.66 | 2.91 | 2.49 | 1.41 | 2.77 |
| AVERAGE | 2.22 | 1.96 | 1.91 | 1.90 | 1.71 | 1.69 | 1.75 | 2.03 | 2.04 | 1.47 | 1.38 |

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|-----------------------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------------|-------------|-------------|
| Name of the Program: MbBcC | | | | | | | | | | | |
| Semester: I/II/III/IV/V/VI | | | | | | | | | | | |
| Batch: 2017-20 | | | | | | | | | | | |
| | Program Outcomes | | | | | | | | Program Specific Outcomes | | |
| PROGRAM | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
| MbBcC program attainment | 2.53 | 2.25 | 2.19 | 2.15 | 1.93 | 1.91 | 1.95 | 2.28 | 2.28 | 1.68 | 1.60 |
| MbBcCcourse attainment | 2.22 | 1.96 | 1.91 | 1.90 | 1.71 | 1.69 | 1.75 | 2.03 | 2.04 | 1.47 | 1.38 |
| GAP | 0.32 | 0.29 | 0.28 | 0.28 | 0.22 | 0.22 | 0.20 | 0.25 | 0.36 | 0.20 | 0.22 |