

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), MANDYA

Department of Biochemistry

Academic Year-2020-21

(Revised CBCS Scheme 2018-19 Onwards)

Criterion –II- Teaching - Learning and Evaluation

2.6 Teaching – Learning Process

2.6. Student Performance and Learning Outcomes

2.6.1 Programme outcomes, programme Specific outcomes and Course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide web link).

Program Outcomes (POs) for B.B.M- Biochemistry (Botany, Biochemistry, Microbiology)

- After completion of Biochemistry program students will able to get exposed to strong theoretical and practical background in fundamental concepts.
- To get insights of multiple important technical areas of Biochemistry.
- To apply contextual knowledge and modern tools of biochemical research for solving problems.
- To make them able to express ideas persuasively in written and oral form to develop their leadership qualities.
- To demonstrate professional and ethical attitude with enormous responsibility to serve the society.

Program Specific Outcomes: Biochemistry

- Comprehending fundamental concepts in modern biology to meet the emerging trends
- Handling microbial and biochemical systems
- Procuring hands on real time experience in industries.

Course Level Learning Outcomes of : Biochemistry

Year	Sem	Course	Title of the Paper	Outcomes
I	I	DSC	Chemistry of Biomolecules Practical paper 1	<ul style="list-style-type: none"> It helps the students to learn fundamentals of Biophysical, Bioinorganic and Bioorganic Chemistry
	II	DSC	Bio-organic Chemistry and Biomolecules– I Practical paper- 2	<ul style="list-style-type: none"> It helps the students to learn chemistry of natural products Students are exposed to the structures and functions of carbohydrates
II	III	DSC	Biomolecules –II and Enzymology Practical paper- 3	<p>Biomolecules</p> <ul style="list-style-type: none"> Through this course the students are exposed to importance of biological macromolecules They acquire knowledge in the quantitative and qualitative estimation of biomolecules They study the influence and role of structure in reactivity of biomolecules • At the end of the course, the students have a thorough understanding on the role of biomolecules and their functions <p>Enzymology</p> <ul style="list-style-type: none"> It helps the students to learn the significant features of the biochemical catalysts. It helps the students to learn the methodology involved in assessing the enzyme activity and mechanism of enzyme action. It illustrates the enzyme catalysis, kinetics and regulatory aspects.
	IV	DSC	Metabolism and Human Physiology Practical Paper- 4	<p>Metabolism</p> <ul style="list-style-type: none"> It helps the students in appreciating the integrated approach of interrelated pathways of catabolism and anabolism. • It also emphasizes on metabolic disorders at molecular level. • It features the regulatory aspects of metabolism for better understanding of physiology and therapeutic applications <p>Human Physiology</p> <ul style="list-style-type: none"> The paper covers the working of internal organ and system. The students will be exposed to anatomy of different organs Paper helps the students to understand the physiological functions of the biological systems
III	V	DSE – 1	DSE 1- Nutrition Practical Paper -5	<ul style="list-style-type: none"> The paper provides the structural and functional role of cell organelles and cell membrane at the biological level. Students will be exposed classification, biochemical and required quantities of nutrients in diet. It helps students to understand the nutritive roles of macro and micro nutrients.
		DSE – 2	Molecular Basis of Infectious Diseases Practical paper- 5	<ul style="list-style-type: none"> Exposure to the mechanisms of causation of diseases Develop understanding of the current concepts related to mechanism of Cancer. To get acquainted with the role of enzymes in diagnosis of various diseases.
		SEC – 1	Biochemical Techniques	<ul style="list-style-type: none"> The units of this paper are crucial for implementation of research ideas at molecular level.

			<ul style="list-style-type: none"> • It trains the students in adopting various techniques in biological research. • This significantly enhances the employability of the candidates in Biotechnological, Pharmaceutical Industries and Analytical Laboratories and research institutes.
	SEC – 2	Protein Purification Techniques	<ul style="list-style-type: none"> • It helps the students to learn about the principle and techniques involved in extraction, isolation and purification of proteins
VI	DSE – 3	Molecular Biology and Immunology Practical paper- 6	<p>Molecular Biology</p> <ul style="list-style-type: none"> • It deals with understanding the molecular aspects of the biology. • It majorly emphasizes the concepts of central dogma of molecular biology spanning from DNA Replication till Protein Synthesis and Reverse transcription. <p>Immunology</p> <ul style="list-style-type: none"> • This course provides you with knowledge and understanding of immunology and the way it is applied in diagnostic and therapeutic techniques and research. • It trains the students with essentiality of molecules, cells, tissues, and organs involved in the defense mechanism. • It's a paper which accomplishes the learning of techniques involved in understanding the immunological aspects of physiology and biological samples.
	DSE – 4	plant biochemistry Practical paper- 6	<ul style="list-style-type: none"> • The paper conglomerates the physiological processes of plant at molecular level. • It explains the biochemical and cellular aspects of photosynthesis and respiration of plants. • It enables the students to appreciate the functioning of plants by specialized molecular processes.
	SEC – 3	Clinical Biochemistry	<ul style="list-style-type: none"> • It trains the students to gain concepts of assessing the human physiology using biological fluid. • It illustrates the mechanism of metabolic disorders at molecular level. • It facilitates in employability in diagnostic and research institutes.
	SEC – 4	Bioinformatics	<ul style="list-style-type: none"> • This allied paper introduces the students to concepts in bioinformatics • The student will be able to apply basic principles of biology, computer science and mathematics to address complex biological problems