



# SACRED HEART COLLEGE (AUTONOMOUS)

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A Don Bosco Institution of Higher Education, Founded in 1951 \* Affiliated to Thiruvalluvar University, Vellore \* Autonomous since 1987

Accredited by NAAC (4<sup>th</sup> Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Course	Course Code	Name of the Program	Activities with direct bearing on Employability/ Entrepreneurship/ Skill development	Year of introduction
Cell Dynamics	BC709	M.Sc. Biochemistry	<b>Employability</b> Contents: Cell types, Cellular organelles, Histopathological Studies, Cell Aging and Death. Activities: Seminar, Lecture Method, Group discussion, Interactive Presentation and Assignments	2021-22
Biomolecules	BC710	M.Sc. Biochemistry	<b>Employability</b> Contents: Polysaccharides, Classification of Proteins, Watson - Crick Model of DNA structure, Lipids– Classification & Vitamins. Activities: Lecture Method, Seminar, Interactive Presentation and Assignments	2021-22

Human Physiology and Nutrition	BC711	M.Sc. Biochemistry	<b>Employability</b> Contents: Composition and functions of Blood & physiology of various human systems. Activities: Lecture Method & Seminar, Presentation.	2021-22
Bioinformatics	BC712 A	M.Sc. Biochemistry	<b>Employability</b> Contents: Introduction to Computers, Operating systems, Database- types, RNA Structure Prediction–mFold, Vienna RNA Package and Circles. . Activities: Interactive Presentation, Assignments, Group discussion, Seminar and Lecture Method.	2021-22
Industrial Microbiology	BC712 B	M.Sc. Biochemistry	<b>Employability</b> Contents: Microbial fermentation and its types, Inoculum development, Microbial products of industrial value, Principles of food preservation & Waste management. Activities: Seminars, Interactive Presentation, Assignments, Group discussion and Lecture Method.	2021-22

Stem Cell Technology	BC712 C	M.Sc. Biochemistry	<b>Employability</b> Contents: Stem cells- Sources, classification and Types, Applications of Stem cells, Therapeutic Cloning Strategies, Embryonic and Adult stem cells Therapy & Skeletal Muscle Stem cells. Activities: Lecture Method, Interactive Presentation and Assignments	2021-22
Instrumentation Biochemistry	BC809	M.Sc. Biochemistry	<b>Employability</b> Contents: Various techniques such as Electrophoresis, Microscopy, spectroscopy, Chromatography. Activities: Seminar, Interactive Presentation, Assignments, Group discussion and Lecture Method.	2021-22
Advanced Enzymology	BC810	M.Sc. Biochemistry	<b>Employability</b> Contents: Nomenclature and IUBMB classification of enzymes, Theories of enzyme substrate complex, Mechanism of Enzymic Action, Isolation and Purification of enzymes & Industrial Uses of Enzymes. Activities: Lecture Method, Seminar,	2021-22

			Group discussion, Assignments.	
Intermediary Metabolism	BC811	M.Sc. Biochemistry	<b>Employability</b> Contents: Introduction to Metabolism of Cells, Energy Transformation, Biosynthesis of aromatic amino acids & Interrelationship of carbohydrates, Proteins and Fat metabolism. Activities: Lecture Method, Structural Practice, Seminar, Assignments.	2021-22
Advanced Endocrinology	BC812A	M.Sc. Biochemistry	<b>Employability</b> Contents: Hormones- Introduction and Chemical nature. Endocrine hypothalamus- Structure, hypophysiotropic hormones, Thyroid & Pancreatic hormones, Reproductive Endocrinology. Activities: Lecture Method, Interactive Presentation, Group discussion and Assignments	2021-22
Pharmaceutical Biochemistry	BC812 B	M.Sc. Biochemistry	<b>Employability</b> Contents: Adverse response to drugs, Biotechnology and pharmacy,	2021-22

			Mechanism of action of drugs & Role of natural products in drug development. Activities: Lecture Method, Seminars, Interactive Presentation and Assignments	
Environmental Toxicology	BC812 C	M.Sc. Biochemistry	<b>Employability</b> Contents: Ecotoxicology. Toxicology of major pesticides, Toxicity testing Pulmonary toxicity Nephrotoxicity & Hepatotoxicity. Activities: Lecture Method, Interactive Presentation and Assignments	2021-22
Molecular Biology	BC911	M.Sc. Biochemistry	<b>Employability</b> Contents: Mendelian Laws of inheritance, replication, Transcription & translation process Activities: Seminar, Interactive Presentation, Assignments, Group discussion and Lecture Method.	2021-22
Immunology	BC912	M.Sc. Biochemistry	<b>Employability</b> Contents: Lymphoid system, Types of Immunity, Vaccines, MHC Complex & Transplantation. Activities: Lecture Method, Interactive	2021-22

			Presentation and Assignments & Seminars.	
Research Methodology	BC913	M.Sc. Biochemistry	<b>Employability</b> Contents: Ethics in Scientific research, Collection and Classification of Data, Introduction and Scope of Bioinformatics, Ethics in animal experimentation & Composition of institutional Ethical Committee. Activities: Lecture Method, Seminar, Interactive Presentation and Assignments	2021-22
Ecology, evolution & biodiversity	BC914A	M.Sc. Biochemistry	<b>Employability</b> Contents: Evolutionary Thoughts & Theories, Origin of genetic variation, Ecology & Ecomanagement. Activities: Lecture Method, Presentations, seminars, Group Discussions.	2021-22
Food Biochemistry	BC914B	M.Sc. Biochemistry	<b>Employability</b> Contents: Cereal, Role of spices in food science, Nuts and oil seeds, Flesh foods, Sugar and Sugar products.	2021-22

			Activities: Demonstrations, Lecture Method, Seminar, Interactive Presentation and Assignments.	
Bionanotechnology	BC914 C	M.Sc. Biochemistry	<b>Employability</b> Contents: Biomaterials, Nanoparticle synthesis using Plants, Bacteria, Fungi and Virus, Techniques to construct nanostructures & Nanomedicines. Activities: Group discussion, Lecture Method, Interactive Presentation and Assignments, Seminars.	2021-22
Advanced Clinical Biochemistry	BC1009	M.Sc. Biochemistry	<b>Employability</b> Contents: Collection of specimens, metabolism and abnormalities of Lipoproteins, Disorders of protein metabolism, Liver & renal function tests, Free radicals in health and disease. Activities: Interactive Presentation, Assignments, Group discussion and Lecture Method.	2021-22
Project/Dissertation with Viva-Voce	PBC1012 J	M.Sc. Biochemistry	<b>Employability</b> Contents: Reseach Activities. Activities:	2021-22

			Interactive explanation, Discussion.	
Plant :Biochemistry and Molecular Biology	BC1011 A	M.Sc. Biochemistry	<b>Employability</b> Contents: Structure & synthesis of chlorophyll, phycobilins and carotenoids, Nitrogen metabolism and plant hormones. Activities: Interactive Presentation, Assignments, Group discussion, Seminar and Lecture Method.	2021-22
Medical Diagnostic Technology	BC1011 C	M.Sc. Biochemistry	<b>Employability</b> Contents: Collection and preservation of Blood, Urine, Faeces, Sputum, Semen, Throat swab and CSF. Activities: Interactive Presentation, Assignments, Group discussion and Lecture Method.	2021-22