Indo-American College
Not just another college
Permanently Affiliated to THIRUVALLUVAR UNIVERSITY, Vellore.
Accredited by NAAC with 'B' Grade
Recognised Under Section 2 (f) & 12 (b) of UGC Act.
T.N.Govt.G.O.MS. No.172, Higher Education Dept, dt.27-4-1998

DEPARTMENT OF BIOCHEMISTRY& BIOINFORMATICS

PROGRAMME OUTCOMES (B. SC)

PO1:	**Scientific Knowledge:** Apply the knowledge of Biology of cellular chemical reaction with the aid of simulation, animation and various computer software to acknowledge the problems of unsolved Mysteries in life.
PO 2:	**Problem Analysis**: Students will able to explain the synthesis of cellular acro molecules like DNA, RNA Protein, Carbohydrates, Lipids and their catabolism and Anabolism in their metabolic Pathways and its Regulations.
PO 3:	**Development:** Students will be able to use the current bimolecular techniques for preparation and execution of their experiments and generate hypothesis using statistics data's and presented in their Laboratory.
PO 4:	**Investigations of complex problems:** Using research base communication students will analyze primary literature and apply of analytical Techniques will improve their skill in publishing original Research articles in reputed journals.
PO 5:	**Modern Usage of technology:** Students will able to understand the genomics and proteomics of an Organism and their evolutionary relationship through modern tools and software.
PO 6:	**Environment and sustainability:** Students will be able to demonstrate skill in all relevant literature Analysis, design of experiment based on current problems.
PO 7:	**Ethics:** Apply all ethics in maintaining good laboratory and manual for conducting practical.
PO 8:	**Team work:** Students work as team for organizing seminar, guest lectures, workshop and Symposium to their relevant topic and to balance with current scenario in the field of Biochemistry.
PO 9:	**Communication:** Good communication is maintained between students and faculties during lecture hours which make effective documentation and oral presentations.
PO 10:	**Society Impact:** Students will make a research thesis and interrupt that result of the thesis/research with audience their by interacting with society to make impact.

COURSE OUTCOMES

S.No	Course Code	Course Title	Course Outcomes
1.	FBC11	Cell Biology	• The course emphasize the cellular organization in prokaryotes and eukaryotes and explains the regulation of molecular trafficking and inter/intra cellular communication with the response to the external stimuli.
2.	FACH15C	Chemistry I	• The course helps students to have knowledge on stereoisomerism, chemical kinetics, polarization, photochemistry, extraction of metals, which is important in working in industry and applications extend to environment.
3.	FES10	Environmental studies	• This course studies major prepares students for careers as leaders in understanding and addressing complex environmental issues from a problem-oriented, interdisciplinary perspective.
4.	FPE10D	Professional English II	• Students would be able to create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing, speaking etc.
5.	FBC21	Biomolecules	• The course helps the students to understand the concepts basic concepts of Biomolecules that is important in understanding healthcare by practicing professional ethics.
6.	FACH25C	Chemistry II	• The course helps the students to understand the concepts basic concepts of biomolecules, medicinal chemistry, corrosion, pigments and vitamins, this can applied in research, pharma and industries.
7.	FPBC22	Biochemistry I Practical	• The course helps the students to understand the concepts basic concepts of quantifying Biomolecules, estimations and qualitative analysis of carbohydrate and amino acids, that is important in understanding volumetric practicing professional ethics.
8.	FPCH25C	Chemistry I & II Practical	• This practical's involves the analytical laboratory skills which can train the students in volumetric and organic analysis. This can applied in research, pharma and industries.

9.	FEE20	Effective English	• This course teaching makes learners learn English language with ease. It means to say that learners become able to communicate in English language effectively within a short period of time. Students demonstrate an understanding of meanings rather than just simply memorizing facts in an effective English language teaching classroom.
10.	FPE20D	Professional English II	• Students would be able to create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing, speaking etc.
11.	FGA20	Value Education	• Understand the Need and Importance of Value Education. Understand Social, Cultural, Ethical and Family Values and Cherishing the Values by Practice. Identify the Intervention Strategies for Moral Education and Conversion of Moral Learning into Moral Education for Human Values.
12.	FBC31	Analytical Biochemistry	• The course helps the students to understand the concepts for analysis and diagnosis using various analytical techniques and report the results considering ethics and human values.
13.	FABC32	General Microbiology I	• The course Describe the microbial world, Instrumentation, Growth and control of microorganisms. Study of different types and structure of viruses, Bacteria and disease causing agents widen the knowledge of students. Study of Eukaryotic organisms like fungi and algae contribute the knowledge on sustainable environment.
14.	FSBC33	First Aid	• The course helps the students to understand the detailed importance of first aid, various aches, poisoning, various wounds, symptoms and treatment of various diseases.
15.	FNBC34	Food & Nutrition	• The course highlights the different concepts of biological macro and micro molecules, carbohydrate, proteins, fats, vitamins and minerals biological functions and its importance to widen the knowledge of the students.
16.	FPBC45	Biochemistry II Practical	• This practical's involves the analytical laboratory skills which can train the students in acquiring précising techniques in

			separating Biomolecules. This can applied in research, pharma and industries.
17.	FBC41	Plant Biochemistry	• The course focuses on plant physiology. Students to gain the knowledge on photosynthesis, plant hormones, nitrogen fixation, stress tolerance and types of stress and defense mechanism in plants.
18.	FABC42	Microbiology II	• The course helps the students to understand the food-borne microorganisms, microbial production of industrial importance compounds, nitrogen fixation, microbial diseases in humans, that is important in understanding healthcare by practicing professional ethics.
19.	FPBC46	Microbiology practical	• The practical focuses on the basics knowledge microbiology procedures, media preparation, isolation, enumeration and microscopy study of microorganisms.
20.		Office Fundamentals	• The course aims to provide knowledge about basic components of a computer and their significance. Office tools course would enable the students in crafting professional word documents, excel spread sheets, power point presentations using the Microsoft suite of office tools.
21.	FNBC44	Life Style Diseases and prevention	• The course helps the students to understand the concepts for balanced diet, basic lifestyle diseases, communicable and non-communicable diseases and how to maintain good health.
22.	CBC51	Enzymes and Intermediary Metabolism	• This course gives an understanding of how enzymes could be used as drugs in medical field. Understand the metabolic pathways pertaining to the production and utilization of energy which includes anabolic and catabolic reactions.
23.	CBC52	Molecular Biology	• The course describes the concepts and process of gene regulation in prokaryotes and eukaryotes and concerns with ethical issues. It helps to understand the molecular basis and values of life.
24.	CBC53	Physiology and Nutrition	• The course helps the students to understand the human physiology such as digestion, vision, excretion, reproduction that is important in understanding healthcare by practicing professional ethics.

25.	CEBC54	Molecular Endocrinology	• The course helps students to have knowledge on types of hormones, functions, regulations. To understand the organs involved in hormonal secretions, biological action and types of signaling and disorders.
26.	CSBC55	Medical Lab Technology	• This practical's focuses on the skills pertaining to the clinical diagnosis. The evaluation of diseases and disorders improves proper diagnosis and efficient treatment strategies. Thereby enhancing the live hood.
27.	CBC61	Clinical Biochemistry	• This course highlights the metabolic disorders and diagnostics. An understanding of the concepts helps in understanding the biochemical reasoning behind many disorders and to find new therapies and thus practice human values for the up liftmen of society and to reduce the pain and sufferings through better health care through early diagnosis. It also facilitates the students to practice medical ethics in diagnosis and treatment.
28.	CBC62	Biotechnology	• This course emphasis on the basic in vitro techniques in plant tissue culture, the course highlights the different concepts of genetic engineering and its applications. • It equips the students with molecular techniques in genetic engineering.
29.	CEBC63	Immunology	• The course aims to make students aware of various applications of Immunology.
30.	CEBC64	Pharmaceutical biochemistry	• The course mainly focuses on the drug chemistry, drug mechanism, synthetic drugs for different disease systems, traditional medicine and importance of organic phytochemicals in pharmaceuticals applications and drugs used for various diseases.
31.	CSBC65	Research methodology	• The course helps students to have knowledge on metric system, atomic orbital, physical chemistry, radioactivity which is important in working in industry and applications extend to environment.
32.	CPBC66	Biochemistry Practical III	• This practical improves the basic skills on the colorimetric estimations, which in turn is used to improve the performance and research abilities.

33.	CPBC67	Medical laboratory techniques Practical IV	• The course addresses the methodology to estimate blood cell counts, blood grouping system, coagulation tests and urine analysis. It also guides the students to clinical and pathological conditions.
34.	CPBC68	Group Project	• The viva-voce is an oral examination that tests the student's understanding of the BSC project, its objectives, research methodology, findings and suggestions.