



Excel

COLLEGE FOR COMMERCE AND SCIENCE



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Pallakkapalayam, Komarapalayam, Namakkal Dt-637 303
Tamilnadu, India
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2021-22 REGULATION

DEPARTMENT OF CLINICAL LABORATORY TECHNOLOGY

Programme Outcome(POs)	
PO1	Acquire knowledge in Clinical Laboratory Technology and apply their knowledge in their day today life for betterment of self and society
PO2	Develop critical, analytical thinking and problem solving skills
PO3	Develop research related skills in defining the problem, formulate and testt the hypothesis, analyse,interpret and draw conclusion from data
PO4	Address and develop solutions for societal and environmental need so flocal,regional and national development
PO5	Work independently and engage in lifelong learning and enduring proficient progress

Programme Specific Outcome(PSOs)	
PSO1	Comprehend the knowledge in the biochemical, analytical, bio statistical and computational areas
PSO2	Ability to understand the technical aspects of existing technologies that help in addressing the biological and medical challenges faced by human kind
PSO3	Acquiring analytical and hands on skills to perform research in multidisciplinary environments
PSO4	Use library search tools and online database sand sources to locate and retrieve scientific information about a topic and techniques related to Clinical laboratory Technology
PSO5	Provoke employability and entrepreneurship among students along with ethics and communication skills



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DEPARMENT OF CLINICAL LABORATARY TECHNOLOGY

2021-22 REGULATION-COURSE OUTCOMES

Course Code	Course Title	Course Outcomes	
SEMESTER-I			
21UCT01	CORE I - GENERAL BIOCHEMISTRY	CO1	Basic structure of carbohydrates, types, forms and its biological importance
		CO2	Importance of amino acids, types, formation of proteins and types of proteins.
		CO3	Concept of ;lipids, fatty acids and lipoproteins, its formation and related functions
		CO4	Nucleic acids which are the building blocks of DNA and RNA ,its structure , types and importance
		CO5	Importance of vitamins and porphyrins, , its sources and deficiencies

Mapping with Programme Outcomes

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

S- Strong M-Medium L-Low



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21UCTA01	HUMAN ANATOMY AND PHYSIOLOGY	CO1	Understand clearly on various alimentary parts of human body.
		CO2	Learn more specific on circulatory system and exchange of respiratory gases.
		CO3	Understand more about digestive system , absorption assimilation process.
		CO4	Get more knowledge about central nervous system and renal system.
		CO5	Understand about male and female reproductive system and special senses.

Mapping with Programme Outcomes

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

S- Strong M-Medium L-Low



SEMESTER-II

21UCT02	CORE II – ANALYTICAL TECHNIQUES	CO1	clarify about the microscope handling and its types and their applications.
		CO2	Explain the principles of centrifugation techniques for the separation of components..
		CO3	Understand the basic principles of colorimeter and spectrophotometer.
		CO4	Disclose the chromatographic techniques for the separation components.
		CO5	Understand basic principles behind electrophoretic techniques.

Mapping with Programme Outcomes

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

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21UCTA02	HISTOPATHOLOGY	CO1	Get basic knowledge about histopathology lab and its maintenance,
		CO2	Understand more knowledge about localization and tissue slicing process.
		CO3	Get basic concept o fixative and its classification.
		CO4	Learn more about specimen collection and preservation.
		CO5	Get knowledge about dispatch of reports and record keeping.

Mapping with Programme Outcomes

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

S- Strong M-Medium L-Low



SEMESTER-III

21UCT03	CORE-III INTERMEDIARY METABOLISM	CO1	Understand about the role of enzymes in all metabolic pathways and its classification
		CO2	Comprehend carbohydrate metabolism and its regulation.
		CO3	Understand about the metabolism of protein and catabolism of amino acids.
		CO4	Comprehend the concepts of lipid metabolism and amino acid metabolism and urea cycle.
		CO5	Understand concepts of nucleotide metabolism nucleic acid metabolism.

Mapping with Programme Outcomes

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

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22UCTA03	GENERAL MICROBIOLOGY	CO1	To make students to get basic knowledge about microbiology and its classification
		CO2	Get knowledge about staining methods and sterilization methods
		CO3	Basic understanding about classification of bacteria and viruses
		CO4	Get outline knowledge about bacterial cell components
		CO5	Get idea about how to cultivation and preservation of microbes.

Mapping with Programme Outcomes

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

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SEMESTER-IV

21UCT04	CLINICAL BIOCHEMISTRY	CO1	Understand clinical aspects of biochemistry
		CO2	Describe about the blood components, blood coagulation system and Perform the hematology-based analysis.
		CO3	Acquire insight into disorders of carbohydrate metabolism
		CO4	Gain knowledge about various disorders of amino acids, and its classification
		CO5	Understand about disorders associate with liver and kidney.

Mapping with Programme Outcomes

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

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22 UCTA04	HAEMATOLOGY	CO1	Get basic laboratory principles and safety measures in laboratory.
		CO2	Gain knowledge about how to collect blood, and know about blood grouping and all important hematology related tests.
		CO3	Learn more about hemoglobin and its variants.
		CO4	Understand mechanism of coagulation, and assay of clotting factors.
		CO5	Gain knowledge about automation in hematology.

Mapping with Programme Outcomes

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

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21UCTS01	CELL BIOLOGY	CO1	Understand the structure and function of different types of cell.
		CO2	Succeed in understanding structural organization and role different organelles.
		CO3	Expound the chromosomal organization.
		CO4	Analyze cell cycle and types of cell division.
		CO5	Describe the role of extracellular matrix and cell interactions.

Mapping with Programme Outcomes

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

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SEMESTER-V

21UCT05	CORE-V MEDICAL MICROBIOLOGY	CO1	Provides learning opportunities in the basic principles of medical microbiology and infectious disease
		CO2	Explain mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body's normal micro flora
		CO3	Understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body
		CO4	Explain interpretation of tests in the diagnosis of infectious diseases
		CO5	Gain importance of vaccines and immunization schedules

Mapping with Programme Outcomes

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

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21UCT06	CORE- VI PARASITOLOGY	CO1	Get knowledge about interactions with host.
		CO2	Explain platyhelminthes transmission and diagnosis.
		CO3	Pathogenesis and life style of Nematoda.
		CO4	Basic characteristics of Arthropoda and its classification.
		CO5	Understand about laboratory diagnosis of pathogenesis.

Mapping with Programme Outcomes

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

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21UCT07	COREVII CLINICAL LABORATORY TECHNOLOGY	CO1	Learn about urine and body fluid analysis.
		CO2	Gain knowledge about blood bank , and its importance .
		CO3	Understand about principles and methods of blood smear.
		CO4	Gain knowledge about automated techniques and laboratory management.
		CO5	Know more about concepts of reference values in related terminology.

Mapping with Programme Outcomes

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

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21UCTE01	DRUG BIOCHEMISTRY	CO1	Understand drug dosage, routes of administration and about bioavailability of drugs.
		CO2	Understand about basic principles involved in pharmacokinetics.
		CO3	Understand about the drug receptor interactions and acute poisoning.
		CO4	Describe the general principle of adverse drug reactions and acute poisoning.
		CO5	Advance the knowledge on drug discovery process and ethical issues in drug discovery process and in preclinical toxicological studies.

Mapping with Programme Outcomes

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

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21UCTS02	CLINICAL SOCIOLOGY AND ETHICS	CO1	Explains about good laboratory practices and Accreditation.
		CO2	Gain knowledge about contagious and non-contagious disease sample.
		CO3	Explains about sample analysis and reports.
		CO4	Understand about quality management system.
		CO5	Explain about ethics in medical laboratory practice.

Mapping with Programme Outcomes

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

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SEMESTER-VI

21UCT08	MEDICAL BIOCHEMISTRY	CO1	Give basic idea about metabolic disorders.
		CO2	Explain about liver function test.
		CO3	Get knowledge about cardiac profile, diabetic profile.
		CO4	Explain about infertility profile hormonal test.
		CO5	Get knowledge about thyroid function test and disorders associated with thyroid dysfunction.

Mapping with Programme Outcomes

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

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21UCT09	IMMUNOLOGY	CO1	Understand basics of immune system and about the cells and organs of immune system.
		CO2	Describe the Antigen and Antibody structure and properties and obtain the knowledge about the hybridoma technology.
		CO3	Comprehend the antigen and antibody reactions and immunological techniques.
		CO4	Get a clear idea about the immunization and hypersensitivity reactions.
		CO5	Familiarize with complement system, autoimmunity and immunodeficiency disorders.

Mapping with Programme Outcomes

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

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21UCT10	RECENT ADVANCES IN MEDICAL PHYSIOLOGY	CO1	Gain knowledge in respiratory system and its function.
		CO2	Understand more about cardiovascular system and instruments used in cardiac and systemic disease.
		CO3	Comprehend electrophysiology and its applications.
		CO4	Know more about blotting techniques and chromosomal studies in hematological disorders.
		CO5	Understand the importance of radioisotopes and its applications.

Mapping with Programme Outcomes

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

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21UCTE02	CLINICAL NUTRITION	CO1	Describe energy content of various foods and nutritional significance of different biomolecules.
		CO2	Understand nutritional requirements and techniques to measure energy expenditure.
		CO3	Explain nutritional requirements of carbohydrate metabolism related disease diabetes mellitus .
		CO4	Comprehend autoimmune diseases and role of food in the prevention of cancer .
		CO5	Gain knowledge about kidney functions and principle dietary management of renal related diseases.

Mapping with Programme Outcomes

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

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21UCTS03	AUTOMATION AND DOCUMENTATION IN CLT	CO1	Understand the basic knowledge about quality control and safety measures in laboratory.
		CO2	Gain detailed knowledge about importance and applications of automated techniques.
		CO3	Comprehend laboratory organization management and maintenance.
		CO4	Gain knowledge about sterilization methods and modes of action of disinfectants.
		CO5	Explain about data maintenance of lab record.

Mapping with Programme Outcomes

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

S- Strong M-Medium L-Low