

Mohamed Sathak college of Arts and Science

University of Madras Syllabus

(Choice Based Credit Grading System)

Course Outcomes (2020-2021)

PG & Research Department of Biotechnology

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	SAC1A	Core	Cell Biology	The students will learn different areas of cellular biology including the structure and functions of cell in prokaryotic and eukaryotic.
	SAC21	Practical	Cell Biology	The course will make the student understand & develop skill and hands on training in basics of cell biology
	SBANA	Allied	Microbiology	This course will facilitate the students to gain expertise in diversity of microbial lifestyles, growth and to study the structure of animal viruses and methods involved in control of microorganisms.
	SAC21	Allied Practical	Microbiology	It's give an understand the basic techniques in microbiology
II	SAC2B	Core	Molecular Development Biology	The students will learn about cell signaling pathways, Types of cells, cancer studies and Neurogenesis.
		Practical	Molecular Development Biology	Students will learn different stage of cell cycle-Mitosis and Meiosis
	SBADE	Allied	Chemistry	The students will learn atomic structure, isotopes and to study properties of acids, liquid , gas and various types of chemical reaction and different types of organic compounds and physical-chemical properties of macromolecule.
		Practical	Chemistry	The course will learn volumetric analysis and analysis of organic compounds with their functional group
III	SAC3A	Core	Genetics	The student will be able to genetic material and Mendelian's

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				principles in genetics, chromosome structure
		Practical	Genetics	The Students will learn about identification of blood group and Mitosis and Meiosis stage of plant and animal
	SBC3A	Allied	Biochemistry	The course will learn about structure and chemical properties of macromolecules its bioenergetics signal molecule, pigments and analytical techniques
		Practical	Biochemistry	The student will gain hands on experience on estimation, qualitative and quantitative analysis of sugars and aminoacids
IV	SAC4A	Core	Plant Biotechnology	Students will learn the genomic organization of plants, plant viruses, vaccine and role of plant hormones and artificial cultivation methods
		Practical	Plant Biotechnology	The student will gain hands on experience on maintain and propagation of plant tissue in artificial culture.
	SBACB	Allied	Biophysics and Biostatstics	Students will have a strong foundation in structures and organization of macro molecules and their interaction. basic and application of data analysis in biological science
V	SAC5A	Core	Animal and Medical Biotechnology	The course will learn artificial reproduction technology, disease and modern diagnosis of animal and preventive measure by types of vaccine and cloning technology
		Practical	Animal and Medical Biotechnology	The student will gain hands on experience on preparation and maintenance of animal cell in tissue culture and its analysis and preservation.
	SAC5B	Core	Bioinformatics	The students will learn the analysis of whole genomics and the structure by software package.

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	SAC5C	Core	Immunology	The student will learn the structure, types of antigen and antibody-hypersensitive action and types of vaccines
		Practical	Immunology	The student will learn about the different types of serological test like ELISA and Hypertensive reaction.
	SEC5A	Elective	Pharmaceutical Biotechnology	The course will learn about the formation of biological its delivery systems and metabolism of drugs
VI	SAC6A	Core	Genetic Engineering	The students will learn analysis and application of various tools in genetic engineering technology
		Practical	Genetic Engineering	The student will gain hands on experience on analysis of various macro molecules using different techniques
	SAC6B	Core	Bioprocess technology	The students will learn basic of fermentation technology, its types in large scale production.
		Practical	Bioprocess technology	Students will gain hands in isolation and application of industrial important microorganism .
	SEC6A	Elective	Microbial Biotechnology	The course will learn about the identification, mass cultivation and application of important microbes
	SEC6B	Elective	Environmental Biotechnology	The course will learn about the biodegradation of various pollutants in both natural and artificial conditions
MSC	MDK1A	Core	Biochemistry	The course will learn about structure and chemical properties of macromolecules its bioenergetics signal molecule, pigments and analytical techniques .
SEM I	MDK1B	Core	Molecular Genetics	Gene concept and organization and their implications. Plasmid and its types. Molecular aspects of viruses infecting bacteria and plants.
	MDK1C	Core	Molecular Cell Biology	The student would be able to comprehend the cell organelle, cell membrane .The student would be able to signal

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				transduction and its implications. The student would be able to cell cycle and its relevance.
	MDKAA	Elective	Bioinstrumentation	The student will be able to handle the equipment available and identify the suitable and appropriate experiments for their research. The student would have gained sufficient knowledge about the assays and analyzing data.
	MDKAB	Elective	Biostatistics	Understand simple calculations. How to plan and execute research designs. Analyse data, interpret, and present information. Publishing research data. Calculate; analyse and compare observed data; perform simple sums in proportions and algebraic function
SEM II	MDK2A	Core	Microbiology	The student will be able to understand microbial diversity; physiology and nutrition. The student will be able to identify microbes using modern techniques
	MDK2B	Core	Plant & Animal Biotech	Students will learn the genomic organization of plants, plant viruses, vaccine and Animal role of plant hormones and artificial cultivation methods.
	MDK2C	Core	Genetic Engineering	Comprehend the cloning principles and strategies. Analysis of the clones
	MDKAD	Elective	Tissue Engineering	To understand the significance and gain experience in using the tools of tissue engineering in human health-care. To understand the implications of tissue engineering from the subject area concepts, theory, experimental, research, drug discovery and health-care perspectives.
	MDKAE	Elective	Pharmaceutical Biotech	To understand the significance of industrial application of pharmaceutical biotechnology in human health-care. To understand the implications of

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				epidemiology from the subject area concepts, theory, experimental, research, drug discovery and health-care perspectives.
SEM III	MDK3A	Core	Bioinformatics	Get to know the public database and use them effectively Able to annotate the sequences with software tools. Have understanding of the algorithm employed and its outcome
	MDK3B	Core	Immunology	To understand the implications of human immune system functioning from the subject area concepts, theory, experimental, research and health-care perspectives.
	MDK3C	Core	Bioprocess Tech	To understand bioprocesses for industrial applications and ways in which industrial productivity can be enhanced. To gain a hands-on experience in techniques used in bioprocess technology and their applications.
	MDKAH	Elective	Nanotechnology	Apply engineering and physics concepts to the nano-scale and non-continuum domain. Identify and compare state-of-the-art nanofabrication methods and perform a critical analysis of the research literature. Design processing conditions to engineer functional nanomaterials.
	MDTBB	Elective	Environmental Biotech	The basic concepts of ecology. Microbial association and functions
SEM IV	MDK4A		Research Methodology	To understand the importance of the methodological approach to research. To acquire the required skills to approach a research project in a scientifically sound manner, from forming the hypothesis to publication of the research findings
	MDK4L		Bioethics	Explain how socioeconomic circumstances and lifestyle have an effect on human health show awareness of research ethics

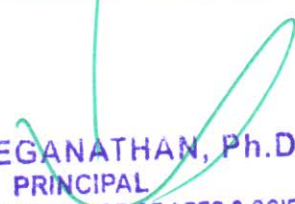
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			necessary in the conduct of research and willingness to abide by the latest bioethics principles throughout their research career
	MDK4Q		Project To understand the importance of research methodology concepts and to put them in practice while working on dissertation projects. To acquire the technical writing skills and presentation skills apart from practically utilizing all aspects of research methodology that they had learnt earlier. To be able to integrate all aspects of the research project into a dissertation of print form as can be evaluated by internal and external experts.

Course Learning Outcomes – M.Phil Biotechnology

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
1	NTA	Research methodology-I	Conventional Tech	Understand the different types or formats of scientific communications. Practice and learn through case studies the right form of communication
2	NTA	Research methodology-II	Recent Techniques	Modern tools in diagnosis. The wide range of techniques used
3	Background	General biotechnology	Biotechnology	To understand the significance of biotechnology in human health-care. To understand the significance of Molecular Biology in human health-cares
4	Dissertation			Learn how to collect, read and manage research information. Plan experiments, conduct and observe results. Write and publish results effectively


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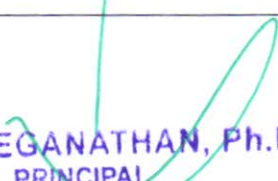
PG & Research Department of Biochemistry

Semester	Course Component	Subject	Subject Code	Objective
I	Core paper I	Nutritional Biochemistry	TAP1A	To understand the dietary patterns, nutritive value of functional foods and its importance
	Allied paper I	Chemistry I	TBTAA	To know the structural and functional details of important chemical compounds used un our daily life.
	NME	Health and Nutrition	TNP1A	To understand the relationship between the Nutrition and health in the different stages of life.
II	Core paper II	Cell Biology	TAP2A	To know the structure and functions of cell and cellular components.
	Allied paper II	Chemistry II	TBTAB	To get the basics of the chemical properties of different compounds.
	NME	Human diseases and preventive aspects	TNP2A	To understand the causes and handling of human diseases.
	Core paper III	Biochemistry Practical I	TAP21	To get hands on training in biochemical preparations
	Allied Practical	Chemistry Practical I	TBTA1	To get hands on training in qualitative analysis of organic compounds.
III	Core paper IV	Chemistry of Bio molecules I	TAP3A	To understand the structural and functional relationship of bio molecules.
	Allied paper III	Biostatistics I	SBAOH	To get the theoretical knowledge on simple mathematical calculations
		Environmental studies	ENV4A	To know the facts and issues related with our environment
IV	Core paper V	Chemistry of Bio molecules II	TAP4A	To understand the structural and functional relationship of bio molecules.
	Allied IV	Biostatistics II	SBAOJ	To get the theoretical knowledge on simple mathematical calculations used for biological samples.
	Core paper VI	Biochemistry Practical II	TAP41	To get hands on training in quantitative analysis.
	Allied Practical	Biostatistics Practical I	SBA04	To practice the mathematical calculations, statistical analysis using biological data.
V	Core paper VII	Enzymes	TAP5A	To gain knowledge about enzymes, involvement in reaction and its importance.
	Core paper VIII	Metabolism	TAP5B	To understand about biosynthetic, breaking down reactions, energy production of living organism.
	Core paper IX	Analytical Biochemistry	TAP5C	To gain theoretical knowledge in various Biochemical techniques.
	Elective I	Physiology	TEP5A	To gain knowledge about the structure and working methodology of human organ and organ system.
		Value Education	VAE5Q	To understand the human values and individual rights.
VI	Core paper X	Clinical Biochemistry	TAP6A	To understand the details and pathophysiology of metabolic disorders.

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	Core paper XI	Molecular Biology	TAP6B	To gain the knowledge on molecular processing of a cell.
	Elective II	Immunology	TEP6A	To aware about the immunity, immunochemical techniques and immune disorders.
	Elective III	Biotechnology	TEP6B	To understand the basic of principles and techniques of biotechnology
	Core paper XII	Biochemistry Practical III	TAP61	To gain hands on practical knowledge in various biochemical estimations and urine analysis
	Core paper XIII	Biochemistry Practical IV	TAP62	To gain hands on practical knowledge in enzyme assays and haematological techniques


Semester	Course Component	Subject	Subject Code	
I	Core paper I	Biomolecules	MEN1A	To understand the structural and functional relationship of bio molecules.
	Core paper II	Biochemical Techniques	MEN1B	To gain theoretical knowledge in various Biochemical techniques.
	Core paper III	Physiology and Cell Biology	MEN1C	To gain knowledge about the structure and functions of cell and cellular components and working methodology of human organ and organ system.
	Elective paper I	Microbiology	MENAA	To understand the structural and functional importance of various microorganisms in the environment.
II	Core paper IV	Enzyme and Enzyme Technology	MEN2A	To gain knowledge about enzymes, involvement in reaction and its importance.
	Core paper V	Intermediary metabolism I	MEN2B	To understand about biosynthetic, breaking down reactions, energy production of living organism.
	Core paper VI	Intermediary metabolism II	MEN2C	To understand about biosynthetic, breaking down reactions, energy production of living organism.
	Core paper VII	Practical I	MEN21	To gain hands on practical knowledge in various biochemical estimations and organelle separation techniques.
	Core paper VIII	Practical II	MEN22	To gain hands on practical knowledge in enzyme assays and kinetics of enzymes assays.
	Elective paper II	Energy and Drug Metabolism	MENAB	To understand about the energy production and drug metabolic and detoxification pathways.
	Extra Disciplinary paper I	Bioinformatics and drug design	MDPBA	To get theoretical knowledge on various computational tools used in biological data analysis.
	Internship	Summer training	PSSEQ	To get hands on practical knowledge in sample collection, sample processing, data analysis and result interpretation.
III	Core paper IX	Biotechnology	MEN3A	To understand the basic of principles and techniques of biotechnology.
	Core paper X	Clinical Biochemistry I	MEN3B	To understand the details and pathophysiology of metabolic disorders.
	Core paper XI	Molecular Biology	MEN3C	To gain the knowledge on molecular processing of a cell.


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	Elective paper III	Biostatistics	MENAC	To get the theoretical knowledge on simple mathematical calculations used for biological samples.
	Extra Disciplinary paper II	Environmental Biotechnology	MDTBB	To understand the basic of principles and techniques of biotechnology in related with the environment.
IV	Core paper XII	Hormones	MEN4A	To get knowledge on structure, biosynthesis and regulatory role of hormones.
	Core paper XIII	Clinical Biochemistry II	MEN4B	To understand the details and pathophysiology of metabolic disorders.
	Core paper XIV	Practical III	MEN4I	To get hands on practical knowledge on various biochemical assays using blood and urine samples.
	Core paper XV	Project and Viva	MEN4Q	To get hands on practical knowledge in the field of research work, literature collection, project writing and result interpretation.
	Elective paper IV	Signal Transduction	MENAD	To understand the knowledge on signal transferring mechanism of cell.
	Elective paper V	Immunochemistry	MENAE	To aware about the immunity, immunochemical techniques and immune disorders.

Course Learning Outcomes – M.Phil

Semester	Course Component	Subject	Subject Code	
I	Paper I	Research Methodology	PDA	To understand the theoretical knowledge in the field of research work, literature collection, project writing and result interpretation.
	Paper II	Advanced Biochemistry	PDB	To gain theoretical knowledge in various fields of biochemistry, biochemical techniques, and its importance.
	Specialization paper III	Advanced Clinical Biochemistry	PDZ	To understand the details and pathophysiology of metabolic disorders.
		Biotechnology	PDZ	To understand the basic of principles and techniques of biotechnology.
		Cancer Biochemistry	PDZ	To understand the details of cancer causing agents, types, effects and treatment.
		Enzyme technology	PDZ	To gain knowledge about enzymes, involvement in reaction and its importance.
		Immunochemistry	PDZ	To aware about the immunity, immunochemical techniques and immune disorders.
	Clinical Toxicology	PDZ	To get the information about the toxicity and its clinical importance on toxicology.	
Project		PDQ	To get hands on practical knowledge in the field of research work, literature collection, project writing and result interpretation.	


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PG & Research Department of Microbiology
BSc Microbiology
Course Learning

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	TAN1A	Core 1	General Microbiology and Microbial Physiology	The students will become skilled at learning history of microbiology, principles of instrumentation, sterilization, culture techniques and growth conditions of microbes
	TAN21	Core II Practical 1	General Microbiology and Microbial Physiology	The course will build the student to understand & develop skills and hands on training in basic sterilization techniques, culture techniques, microscopy, handling of cultures and staining to see the morphology of eukaryotes and prokaryotes.
	TBPBA	Allied 1 Paper I	Biochemistry 1	This course will facilitate the students to gain knowledge about biochemical properties of important molecules such as carbohydrates, amino acids, proteins, lipids and nucleic acids.
	TBPB1	Allied 1 Paper II Practical	Biochemistry	It gives an understanding about volumetric and qualitative analysis of sugars and aminoacids
II	TAN2A	Core III	Immunology and Microbial Genetics	The students will gain knowledge of history and detailed concept of immunology and also the molecular concept of genes and gene transfer mechanisms

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	TAN22	Core IV Practical	Immunology and Microbial Genetics	Students will be trained in diagnosis by immune reactions analysis of lymphocytes, anaphylactic reactions and assays
	TBPBB	Allied I Paper III	Biochemistry II	The subject gives an idea about metabolic pathways, disorders, structure and functions of microbial enzymes, DNA replication, transcription and translation.
	TBPB1	Allied I Paper IV Practical	Biochemistry	The course elaborates qualitative analysis of important molecules such as carbohydrates, amino acids and estimation of proteins, and ascorbic acid
III	TAN3A	Core V	Molecular Biology	The student will be able to Learn about structure, synthesis and processing of DNA, RNA and proteins as well as control of gene expression
	TAN41	Core VI Practical III	Molecular Biology	The Students will be trained about estimation of genetic material following different methods and also preparation of competent cells and transformation techniques.
	TBN3A	Allied III Paper I	Bioinstrumentation	The subject gives the working principle and structure of instruments, chromatographic techniques, electrophoretic techniques and spectroscopy and radio isotopic techniques.
	TBN41	Practical III Paper II	Bioinstrumentation	The student will gain hands on experience on identification, separation and quantitative estimation of different

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				macromolecules using suitable techniques.
IV	TAN4A	Core VII	Soil and agricultural Microbiology	The subject will offer knowledge about the microbiology of soil, biogeochemical cycles, interactions of microbes, different crop infections and their remedial measures.
	TAN41	Core VIII Practical	Soil and agricultural Microbiology	The student will gain hands on training on isolation and enumeration of soil microbes, demonstration of enzymes, study of nitrogen fixing bacteria and demonstration of various bacterial diseases of plants.
	TBN4A	Allied IV Paper III	Biostatistics	Students will receive a strong foundation in statistical management of biological data through different models.
	TBN42	Allied Practical IV	Biostatistics	This course offers knowledge about common bio statistical methods such as distribution, dispersion, significance and ANOVA.
V	TAN5A	Core IX	Medical Bacteriology	Students will learn about different medically important bacteria, their classification, characteristics, pathogenicity, epidemiology, treatment and prevention.
	TAN5B	Core X	Medical Mycology and Parasitology	Students will learn about fungal classification, characteristics, pathogenicity, epidemiology, treatment and prevention of fungal diseases and other parasitic protozoans.
	TAN5C	Core XI	Medical Virology	The students will learn cultivation, classification,

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				characteristics, pathogenicity, epidemiology, treatment and prevention of all viral diseases and zoonotic diseases.
	TAN61	Core XII Practical	Medical Bacteriology, Mycology, Parasitology and Virology	This course gives a complete understanding of isolation of pathogens from various clinical specimens and their identification through biochemical characteristics.
	TEN 5A	Elective 1	Genetic engineering	This course will offer a detailed knowledge about different genetic engineering techniques including gene cloning, recombinant DNA, sequencing and vectors.
VI	TAN6A	Core XIII	Environmental Microbiology	The students will find out prevalence, growth pattern and application of microbes present in air, aquatic environments and extreme environments.
	TAN 6B	Core XIV	Food and Dairy Microbiology	The student will gain knowledge about important bacteria in food and dairy industry and about food borne diseases and control measures.
	TAN62	Core XV Practical	Environmental, Food and Dairy Microbiology	This subject provides idea on isolation and identification of bacteria and molds from food and dairy samples, water analysis methods and quantification of microbes in air.
	TEN6A	Elective II	Industrial and pharmaceutical Microbiology	The course will deliver information about fermentation process, microbial products, downstream processing and ecology, spoilage of pharmaceutical products and

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				good pharmaceutical manufacturing process.
	TEN6B	Elective III	Biotechnology	The subject offers knowledge about the production of enzymes by microbes, strain improvement, production of pharmaceuticals, crop improvement, cell cycles and transgenic animals.

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PG & Research Department of Microbiology
MSc Microbiology
Course Learning Outcomes (CLO) 2018-2019

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	MDT1A	Core 1	Microbial Taxonomy	The subject offers information about microbial taxonomy, detailed classification of prokaryotes and eukaryotes.
	MDT1B	Core II	General Microbiology and Laboratory Animal Science	The subject deals with the instrumentations of microbiology lab, growth kinetics, pure culture techniques, life cycle of algae, maintenance of laboratory animals and transgenic animal models.
	MDT1C	Core III	Immunology	This subject facilitates the students to gain expertise in history, immune responses, immunoglobulin study, antigen-antibody reactions and transplantation immunology.
	MDT11	Core IV Practical	General Microbiology,	The course delivers hands on training in handling instruments,

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			Physiology and Immunology	staining of microbes, pure culture techniques, diagnostic immunology by diffusion, and precipitation reactions, electrophoretic techniques
	MDTAA	Elective I	Metabolic Pathways	This course offers a detailed view of enzymes, metabolism of macromolecules and different energy pathways of bacteria.
	MDTAB	Elective II	Microbial Diversity	This course offers knowledge on diversity and classification of microbes in extreme environments, microbes present in space and Martian environments.
II	MDT2A	Core V	Virology	The subject proposes general properties of viruses, bacterial viruses, plant viruses, DNA and RNA viruses, epidemiology, diagnosis and treatment of viral diseases.
	MDT2B	Core VI	Systematic Medical Bacteriology	The subject gives knowledge in normal microbial flora, collection and dispatch of clinical specimens, pathogenicity, diagnosis and prevention of bacterial diseases.
	MDT2C	Core VII	Mycology and Parasitology	The subject delivers classification and life cycle of disease causing fungi and protozoan parasites.
	MDT21	Core VIII Practical	Systematic Medical Bacteriology, Mycology, Parasitology and Virology	The subject gives hands on training on processing of clinical specimens, isolation of bacteria and fungi from clinical specimens, examination of parasites.
	MDTAC	Elective III	Industrial and Pharmaceutical Microbiology	The subject delivers knowledge on different industrially important bacteria and fungi, production processes of primary and secondary metabolites.

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	MDTBA	Extra Disciplinary Elective 1	Biostatistics and Bioinformatics	This subject offers knowledge about bio statistical and bioinformatics methods and its applications.
III	MDT3A	Core IX	Microbial Genetics	This subject delivers structure and properties of DNA, gene expression concepts, plasmids and gene transfer mechanisms, mutations and molecular recombination.
	MDT3B	Core X	Genetic Engineering	This course will offer students a detailed knowledge about different genetic engineering techniques including gene cloning, recombinant DNA, sequencing and vectors.
	MDT3C	Core XI	Molecular Biology	The Students will learn about structure, functions, synthesis of DNA, RNA and proteins and their expression.
	MDT31	Core XII Practical	Microbial Genetics, Molecular Biology and Genetic Engineering	The subject delivers hands on expertise on isolation and estimation of DNA, RNA, estimation and separation of proteins and competent cell techniques.
	MDTAD	Elective IV	Soil and Agricultural Microbiology	The subject will offer knowledge about the microbiology of soil, biogeochemical cycles, interactions of microbes, different crop infections and their remedial measures.
	MDTBB	Extra Disciplinary Elective 2	Environmental biotechnology	The Students will acquire knowledge about Characteristic features of biofilm, principles of designing of bioreactors, waste water treatment, study of recalcitrant and bioremediation strategies.

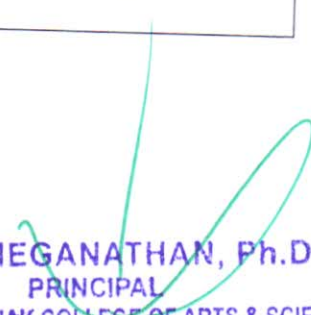
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IV	MDT4A	Core XIII	Food, dairy and Environmental Microbiology	This course will deliver the contents of Methods of food preservations, fermented food products, air borne microbes and assessment, waste treatment and degradation of xenobiotic compounds.
	MDT4I	Core XIV Practical	Soil, Agricultural, Food and Environmental Microbiology	The subject delivers Isolation and enumeration of soil microbes, study on plant diseases, quality checking of milk, isolation of spoilage organisms and physical, chemical and microbial assessment of water.
	MDT4Q	Core XV	Project	The project involves selection of a topic, protocol, collection of literature, experimental part of the project and writing.
	MDTAE	Elective V	Research Methodology	The subject gives ideas on defining the research problems, fundamentals of bioethics, writing the research report, mutagenesis, histochemical, immuno and radiolabeling techniques.


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**M.Phil Microbiology
Course Learning**

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
	NBA	Part I Paper I	Research Methodology	The subject gives ideas on defining the research problems, fundamentals of bioethics, writing the research report, mutagenesis, histochemical, immuno and radiolabeling techniques.
	NBB	Part I Paper II	Advanced Paper in Microbiology	This course will deliver the contents of Microbial techniques, food and environmental microbiology, microbes and health, microbes in nanotechnology and pharmaceutical microbiology.
	NBZ	Part I Paper III	Background paper of proposed Dissertation	The course will deliver knowledge in the respective fields of Dissertation
I	NBQ	Paper IV	Project	Research work involves selection of a topic, protocol, collection of literature, experimental part of the project and writing.


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Department of B.Com. BANK MANAGEMENT

PROGRAMME/ COURSE OUTCOME

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	CPW1A	Core	Financial Accounting	Students will learn the Principles of Accounting in General, and the System of Keeping Accounting Records.
	CPW1B	Core	Business Communication	This subject will make the students to understand the Concept of Communication, and the Basic Techniques of the Modern forms of Communication.
	CDW1A	Allied	Business Economics	It prepares students about the method to analyze goods or services and make <i>business</i> decisions from the analysis.
II	CPW2A	Core	Principles of Management	This Subject will help the Student to Understand the basic concepts on Managements, and to know about the significance of the Management in Business.
	CPW2B	Core	Practical Auditing	It will make students to learn the concept of present day Auditing Practices, and the knowledge of various techniques of Auditing.
	CDW2A	Allied	International Economics	It makes students to understand the differences in productive resources and consumer preferences and the international institutions that affect them.
III	CPW3A	Core	Corporate Accounting	The subject will make the students to learn the Preparation of the Company accounts, and the Various Provisions of the Companies Act.
	CPW3B	Core	Business Laws	This Subject will help the Student to Understand the provisions of Law governing the General Contract and Special Contract, and to Understand the Legal Remedies are available in the law to the Business and other people.
	CPW3C	Core	Banking Theory, Law & Practice	The course will make the students to understand the origins and the growth of the Indian Banking System, and the Modern Day Developments in Indian Banking Sector.
	CPW3D	Core	Entrepreneurial Development	It makes the students to understand the concept of Entrepreneurship and enable

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				the students to know the effectiveness of the Manpower in Entrepreneurship.
	CDW3A	Allied	Indian Economy-I	It cultivates students with problem-solving, analytical, communication and persuasion skills that are critical for success in today's job market.
IV	CPW4A	Core	Advanced Corporate Accounting	The course will make the students to understand the applications of Accounting Transactions, and the Provision of the Indian Companies Act.
	CPW4B	Core	Financial Services	This Subject will help the Student to Understand the World of Financial Service, and the various Financial Service.
	CPW4C	Core	Business Taxation	Students will gain Knowledge of the Principle of Indirect Tax, and to highlight the students about the Customs duty, Excise duty, VAT etc.
	CPW4D	Core	Company Laws	Students will learn the provisions governing the Company Law, and to make the students aware on recent amendments to Companies Act.
	CPW4A	Allied	Indian Economy-II	It helps students to identify the policy measures that encourage prosperity and avoid inefficiency, making it a crucial driver in the search for sustainable growth.
V	CPW5A	Core	Practical Auditing	It will make students to learn about the concept of present day Auditing Practices, and the knowledge of various techniques of Auditing.
	CPW5B	Core	Banking Theory Regulatory Mechanism	Students will learn the concept of the Banking Structure, and the relationship between the Banking theory reforms and Monetary policy.
	CPW5C	Core	Portfolio Management	Students will learn the concept of Portfolio Management, and the Techniques of Portfolio Managements.
	CPW5D	Core	International Banking	This subject will make the students to learn the International Banking Structure, and the role of Foreign Exchange Market and it's Managements.
	CVW5A	Core	Credit Risk and Management Banking	Students will learn the concept of Credit and Risk Management, and the process of Credit and Risk Management.

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VI	CPW6A	Core	Marketing of Banking Services	It will make the students to understand the concept of role of Banking sector in the service of Banks and the application of Marketing Principles in Banking Sector.
	CPW6B	Core	Technology in Banking	This subject will make the students to learn about the concepts of application of Technology in Banking Sector, and the role of Technology in Banking Sector.
	CPW6C	Core	Management Accounting	Students will gain knowledge about the various techniques of management principles, and also practical skill in solving management's problems.
	CVW6C	Core	Treasury Management	Students will learn the concept of Treasury Management, and the mechanism of Treasury Management.
	CVW6A	Core	Customer Relationship Management	Students will learn the role of customer relationship management in the process of communication and the concept of CRM.

Department of B.Com (Computer Application)

COURSE: BCOM COMPUTER APPLICATION	OUTCOMES
Financial accounting	On successful completion of this course the student are enabled with the Knowledge in the practical applications of accounting, learn principles and concepts of Accountancy, basic concepts of Partnership Accounting, company accounts etc.
Business statistics and mathematics	students acquire new skills on the application of statistical tools and techniques in Business decision-making, Popular Quantitative Tools used in Business, practical exposure on calculation of measures of average, correlation and regression
Cost and management accounting	It enable the students to understand the theories of costing and management accounting in a wide aspects, idea regarding cost control and preparation of financial statement
Financial management	awareness about capital structure and theories of capital structure, cost of capital in wide aspects, dividend policies and various dividend models, working capital management
Computer fundamentals & office automation	Awareness of basics of computer
Object oriented programming using C++	To inculcate knowledge on Object-oriented programming concepts using C++
Database concepts &	To inculcate knowledge on RDBMS concepts and Programming with Oracle.

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oracle	
Java programming	To inculcate knowledge on Java Programming concepts
VB NET programming	To enable students to create a software package using VB
Software engineering	To introduce software project management and to describe its distinctive characteristics and to discuss project planning and the planning process and show how graphical schedule representations are used by project management and the risk management process
Programming in C	On successful completion of this subject the students have the programming ability in C Language
Operating system & Linux	This course will prepare students to develop software in and for Linux environments
Multimedia & DTP	Knowledge of DTP
Web design	Get practical experience of web designing
Modern marketing(E-Commerce)	Gain idea about Modern marketing and its functions, consumer behavior, product and its classifications, pricing policies
Auditing	To develop an understanding of audit concept

B.Sc. Psychology

Course Learning Outcomes (CLO) 2018-2019

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	SAT1A	Core Paper I	General Psychology - I	The students will learn the scientific and theoretical underpinnings in each psychological process in human mind and behavior. Topics like learning, perception, memory etc. are dealt elaborately.
	SAT1B	Core Paper II	Biological Basis of Behavior – I	This paper will facilitate the students to gain knowledge about the complex biological process behind each psychological process. Topics like nervous system, synaptic transmission etc. are elaborated.
	SBT1A	Allied Paper I	Principles of Sociology	The students will learn about society, institution, family, kinship etc. Relation between Sociology and Psychology also emphasized.
II	SAT2C	Core Paper III	General Psychology - II	The students will learn the scientific and theoretical underpinnings in thinking, intelligence, personality, motivation, emotion etc. elaborately. Psychology of oneself also emphasized.
	SAT2D	Core Paper IV	Biological Basis of Behavior – II	Students will learn the biological basis of sleep, dreams, sensory systems, brain damage, motor control etc. in this paper
	SBT2B	Allied Paper II	Fundamentals of Social Anthropology	The students will be enlightened in the topics like marriage, family, political institution, belief system, etc.
III	SAT3E	Core Paper V	Developmental Psychology - I	The student will be able to understand the physical, motor, sensory, emotional, perceptual and other developments across the human life stages like conception, infancy, early childhood, adolescence

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	SAT3F	Core Paper VI	Experimental Psychology (Practical)	The student will gain hands on experience in observing, recording and interpreting the human behavior in a given environmental setup. This paper will enhance the students' employability skills.
	SBT3C	Allied Paper III	Statistics in Psychology	This paper will help the students to employ statistical tests while interpreting the cause of human behavior with massive numerical data. This paper enlightens about facilitating research analysis.
IV	SAT4G	Core Paper VII	Developmental Psychology - II	Students will learn the characteristics, developmental tasks, physical development, sensory and motor development, intellectual development, hazards etc. elaborately during the human life stages like adulthood, middle age, old age.
	SAT4H	Core Paper VIII	Psychological Assessment (Practical)	The students will gain hands on experience in collecting, summarizing and analyzing the quantitative data. This clearly encompasses only paper and pencil tests. This paper will enhance the students' employability skills, research skills, analytical skills etc.
	SBT4D	Allied Paper IV	Marketing and Consumer Behaviour	Students will have a strong foundation in applying psychological principles in advertising, so that the benefits will get quantified.
V	SAT5I	Core Paper IX	Psycho pathology - I	This core paper will throw light on pathological conditions of human mind and behavior. Classification of disorders, diagnoses, treatment, therapies especially of anxiety disorders, dissociative and somatoform disorders are studied elaborately.
	SAT5J	Core Paper X	Psychological Research and Measurement	The students will gain knowledge in the research steps like data collection, analysis, sampling, report writing etc. Thus they can master their research skills.
	SAT5K	Core Paper XI	Applied Psychology	The students will learn the method of applying psychological principles in various domains like industries, clinic, community, health, environment, medicine etc. They will apply psychology wherever human beings exist.
	SAT5L	Core Paper XII	Social Psychology I	Students are enlightened on how people's thoughts, feelings, and behaviours are influenced by the actual, imagined or implied presence of others. Topics like cognition, attitudes, conformity, interpersonal attraction, altruism etc. are discussed.
		Core Elective I OR Project (at VI semester)	Health Psychology	The students will learn about the effective ways of promoting health like cognitive and behavioral approaches, health enhancing behaviors, health compromising behaviors, health habit modification etc.
VI	SAT6N	Core Paper XIII	Psychopathology - II	The students will learn about the clinical features, causes and treatment of mood disorders, schizophrenia, personality disorders, addiction disorders, sexual variants and sexual dysfunctions.
	SAT6O	Core Paper XIV	Organizational Psychology	The student will gain knowledge on organizational structure, culture, team, leadership, communication, work motivation, work environment and job satisfaction

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	SAT6P	Core Paper XV	Social Psychology II	The students will learn the basics of group dynamics, aggression, prejudice, conflict and peace making. Applying social psychology in the legal system, health, sports, media etc, also emphasized.
		Core Elective II	Counselling and Guidance / Project	Students will understand the different approaches in counseling, counseling processes, educational and vocational guidance etc. elaborately.
		Core Elective III	Human Resource Management / Project	Students get to be aware about the recruiting, selecting, training and development, performance assessment and compensation benefits in Human Resource Management.
	SAT6Q	Elective	Project / 3 Electives-Project **	This paper is the final report of applying psychological principles in any domain. It also helps to enhance research skills.

B.Com Corporate Secretaryship


Course Learning Outcomes

YEAR/ SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
1 st Year 1 st Sem	CYA1A	Core	Financial Accounting-I	The students will learn preparation of financial statement, Income & Expenditure A/C, Receipt & Payments A/C and Single entry system, calculation of depreciation.
	CYA1B	Core	Company Law and Secretary Practice – I	The students will learn the company secretary qualification, disqualification, appointment and meeting as per Companies Act 2013 and formation of company, contents of memorandum of Associations & Articles of Associations
	CYB1B	Allied	Marketing	This course will facilitate the students to gain experience in Marketing environment, segmentation, marketing mix and marketing trends involved in marketing.
1 st Year 2 nd Sem	CYA2A	Core	Advanced Financial Accounting-II	The students will learn about preparation of final Accounts and ascertainment of Partners A/C such as admission, retirement and dissolution of the partner and statement of Branch A/C and Departmental A/C.
	CYA2B	Core	Human Resource Management	The students will learn about function of HRM and recruitment process, selection methods, training and HR planning and performance appraisal methods, various training methods.
	CYB2B	Allied	Business Communication	Pupil will learn about layout of business letters, drafting various business letters for business communication.

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2 nd Year 3 rd Sem	CYA3A	Core	Corporate Accounting – I	The students will learn about the various kinds of shares and its redemption, final accounts of companies.
	CYA3B	Core	Company Law and Secretary Practice – II	The students will learn the directors qualification, disqualification, appointment and meeting as per Companies Act 2013
	CYB3A	Allied	Statistics - I	The students will learn the basics of statistics such as Mean, Median, Mode, Correlation, Regressions, and Skewness.
2 nd Year 4 th Sem	CYA4A	Core	Advanced Corporate Accounting - II	The students will learn about the various companies' shares like equity, preference, debentures.
	CYA4B	Core	Business Management	The students will learn the directors qualification, disqualification, appointment and meeting as per Companies Act 2013
	CYB4A	Allied	Statistics - II	The students will learn the basics of statistics such as Mean, Median, Mode, Correlation, Regressions and Skewness.
3 rd Year 5 th Sem	CYA5A	Core	Management Accounting	Students will learn about the applications of various management accounting concepts in order to take efficient decision making.
	CYA5B	Core	Securities Law & market operations	The students will gain hands on experience of the changing domestic & global investment scenario in general & Indian capital market.
	CYA5C	Core	Income Tax Law & Practice-I	The students will learn about the Direct & indirect tax with latest Provisions.
	CYA5C	Core	Commercial Law	The students will learn about the contract Act as per latest provisions.
	CYA5D	Allied	Entrepreneurial Development	The students will learn about Entrepreneurial innovative concepts in various industrial sectors.
3 rd Year 6 th Sem	CYA6A		Cost Accounting	The students will learn about the various cost unit, preparation of cost sheet, Inventory control, and over heads distribution.
	CYA6B		Industrial Law	The students will gain hands on experience Industrial law, preventive measures, and amendments.
	CYA6C		Income Tax Law & Practice-II	The students will learn about the Direct & indirect tax with latest Provisions as well as study about PAN.
	CYA6D		Indirect Taxes	The pupil will learn about GST, Customs & excise duty.
	CYE6Q		Project-Institutional Training	The students will gain hands on experience of corporate exposure in various departments.


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**BSc Electronics and
Communication Science Course
Learning Outcomes (CLO) 2018-
2019**

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I	TAG1A	Core	Basic Circuit Theory	The course will make the student to understand the basic components and theories in electronics.
	TAG11	Core Practical	Practicals-I	The course will make the student to understand and develop skill about the basic components and its testing .
II	TAG2A	Core	Basic Electronics	The students will learn about the manufacture of materials,technologies and its application.
	TAG21	Core Practical	Main Practical II	The course will make the student to understand the basic semiconductor components and its characteristics.
III	TAG3A	Foundation Course	Electricity & Magnetism	The student will familiarize about the operation of electric,magnetic field and its applications.
	TAG3B	Foundation Course	Numerical Methods	Students will be learning matrix concept,basic methods,algorithm and programming techniques to solve mathematical problem.
	TAG3C	Core	Amplifiers and Oscillator	students will find the operation and applications of amplifiers.they will analysis and design basic transistor,feedback amplifier etc.
	TAG3A	Allied	Basic Physics I	The student will learn the natural science that involves study of matter and its motion through space and time.
	TAG31	Core Practical	Practicals -III	students will get practical knowledge on different amplifiers and their working
	TAG4A	Foundation Course	Principles of Communication	Students will learn analog and digital communication system and modulation techniques.
	TAG4B	Foundation Course	Programming in C & OOPS Concept	Students will learn variables,character,array and pointers,structures and data types.also features of C++.
	TAG4C	Core	Digital Electronics	Students will learn about digital electronic circuits and will perform various digital conversions.

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IV	TBG4A	Allied	Allied Basic Physics II	The course will make the student to understand the fundamental science and general truth of nature.
	TAG41	Core Practical	Main Practicals IV	Students will perform all basic gates operations and to verify all gates using different laws.
	TBG41	Allied Practical	Basic Physics Practicals	The course will make the student to understand & develop skill about the different types of instruments and its technique.
V	TAG5A	Core	Microprocessor (Intel 80	Subject will taught basic concepts of microprocessor and their assembly languag and in-depth will learn the interfacing techniques.
	TAG5B	Core	Antennas & Television E	will learn basic about antenna and their types.they will analysi about TV pictures,video signals,receiver pictures tubes.
	TAG5C	Core	Electrical & Electronics Instrumentation	Students will learn basic concepts of electrical and electronic measuring instruments and to design of analog and digital circuits.
	TEGAE	Elective	Medical Electronics	The course will make the student to understand the medical Instrumentation and electronics in medical field
	TAG51	Core Practical	Practical –V	Students will learn all basic assembly language of microprocessor and to interface with other devices.
VI	TAG6A	Core	Microcontroller	Students will know more about microcontroller and their operations.And will get ideas on interface techniques.
	TAG6B	Core	Advanced Electronics	The students will acquire knowledge about different types of OS models and technologies based on it.
	TAG6C	Core	Computer Networks	computer networks and about multiplexing,transmission media and signals.
	TEGAE	Elective	Industrial Electronics	The students will acquire knowledge about different types of industrial technology and use the electronis process
	TAG61	Practical	Practical - VI	Students will get pracital knowledge in microcontroller through interfacing devices.
	TAG6Q	Core	Project	Will get practical skill through all electronics industries and their current projects.

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M.Sc Applied Electronics

Course Learning Outcomes (CLO)

SEM	Course Code	Course	Course Title	
I	MDS1A	Core	Electronics Materials & Semiconductor Devices	The course will make the student to understand the materials and semiconductor processor
	MDS1B	Core	Mathematical Methods	The course will enable the students to explain series solutions of differential equations, power series methods also system simulation techniques.
	MDS1C	Core	Digital Electronics and Microprocessor	The course in depth teaches about Boolean Algebra and various number systems and to teach the concepts of sequential logic circuits. To learn about the architecture and their external devices of 8086 Microprocessor.
	MDS11	Core	Digital Electronics and Microprocessor LAB	The students will work in all Digital conversions. To perform Arithmetic and logical operations and also peripheral Interfacing.

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	MDSAA	Elective	Power Electronics	To understand basic Power Electronics and to learn in detail about Power semiconductor switches and Convertors. To design Choppers, Invertors and Convertors
	MDSAB	Elective	Computer Organization and Architecture	The students will acquire knowledge about the set of rules and methods that describe organization involving logic design and implementation.
II	MDS2A	Core	Electromagnetic Theory and its Applications	The course will describe the eletromanetic field quantities both mathematically and graphically and to solve problems involving Electromagnetic Fields.
	MDS2B	Core	Control System	To learn about the fundamentals of Industrial Process Control and Automation. To learn about the basics of CAD / CAM
	MDS2C	Core	Electronics Instrumentation	TO learn fundamental concepts and principles of instrumentation also functioning, specification and applications of signal analysing instruments.
	MDS21	Core	Practical – II Embedded	To develop programs to add numbers in various number systems and to examine the

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		System Laboratory	I/O ports and will learn about Embedded C.
MDSAB	Elective	Opto Electronics and Fibre Optic Communication	The students will learn the technologies, manufacturing process and its applications at optic communication
MDSBB	Elective	Embedded System	Students will be more familiar in programming and overall hardware related to embedded.
III	Core	Data Communication & Computer Networking	The course will make the student to understand the data communication between two devices with a combination of hardware and software.
	Core	Digital Signal Processing	The students will develop their skills to interpret and process in digital signals and systems and ability to design DSP systems like FIR and IIR Filters
	Core	Basic VLSI Design & VHDL	The students will learn the difference between IC Families and their manufacturing process and will analyse the model of MOS, CMOS etc. To describe Verilog hardware description, Languages HDL
			The students will get knowledge on Digital

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	Core	DSP Laboratory	Filter design and various signals. They will also work with MATLAB functions.
	Elective	Machine Vision and its Applications	To learn about the concepts of 2D and 3D and about Sensors and Robotics and their applications.
	Elective	Digital Image Processing	The course will make the student to learn current technologies and issues that are specified to image processing. To know the principles of Image compression, Enhancement, Restoration and Segmentation.
IV	Core	Neural Networks & Artificial Intelligence	To learn the fundamentals of neural networks and Artificial Intelligence. To know the Neural functions, Architecture and Patterns. Introduction to AI and their Production systems
	Core	Microwave Electronics	To learn wide range of Microwave components and to design and solve Real world problems. To learn various types of Microwave measurements
	Core	Project & viva-voce	Will get practical skill through all electronics industries and their current projects.
			The students will learn the

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III	MAM3E	CORE	FINANCIAL MANAGEMENT	To learn the role of the financial manager, to prepare and analyze the capital structure of the firm and its importance, cost of capital and dividend policies
	MAM3G	CORE	ORGANIZATION BEHAVIOUR	To learn the individual, group and organization behavior and also to learn the concept of leadership and conflict management.
	MAM3H	CORE	COMPUTER APPLICATION IN BUSINESS	To learn the technical languages of computer and its relation with the business enterprise.
	MAM3J	CORE	MARKETING MANAGEMENT	To learn the concepts in marketing including product life cycle, market segmentation and consumer behavior
	MCM3C	ALLIED	BUSINESS STATISTICS	To learn & acquire new skills on the application of statistical tools and techniques in business decision making.
IV	MAM4Z	CORE	HUMAN RESOURCE MANAGEMENT	To introduce HR practices that exists within the organization including manpower planning, appraisal methods, training and development of employees.
	MAM4M	CORE	BUSINESS REGULATORY FRAMEWORK	To get a brief outline of Indian Contracts Act, Indian Companies Act, FEMA, trade marks, copy rights and property rights.
	MAM4N	CORE	FINANCIAL SERVICES	To understand the working of financial system in India and also to acquire knowledge on basic financial services offered in India.
	MAM4P	CORE	MANAGEMENT INFORMATION SYSTEM	To learn the importance of Information systems in the business organization and how it facilitates the managers in decision making processes.
	MBM4D	ALLIED	OPERATION RESEARCH	To give practical exposure to LPP, transportation, assignment, sequencing, queuing and game theory problems in order to facilitate resource allocation.
V	MAM5A	CORE	ADVERTISING AND SALES PROMOTION	To learn about the market, the different market segments, target audience, mass media and also to aware the importance of sales promotion.

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	MAM5B	CORE	RESEARCH METHODOLOGY	To acquire research knowledge through various research design, sampling techniques, data collection methods and the art of report writing.
	MAM5C	CORE	OPERATION MANAGEMENT	Understanding the importance of operations management, production analysis, quality control processes, types of service industry and its operations.
	MAM5W	CORE	MATERIALS MANAGEMENT	To acquire knowledge about purchasing, storing and distributing materials involved in the business environment.
	MEM5B	CORE	ENTREPRENEURIAL DEVELOPMENT	To build the entrepreneurial skills and facilitate the students to achieve the business goals.
VI	MAM6X	CORE	BUSINESS ENVIRONMENT	To create awareness about the business environment in which the business organization exists.
	MAM6Y	CORE	SERVICES MARKETING	To understand the principles of service marketing, developing service quality and also to impart knowledge on different services.
	MAM6K	CORE	BUSINESS TAXATION	Understanding the concept of indirect taxes, the revenue generated by goods and services for the country's development, GST laws and understanding the returns to be filed.
	MEM6A	CORE	CUSTOMER RELATIONSHIP MANAGEMENT	To understand the value of components like customer equity, cost of customers, identification and selection of customers, ways to strengthen the customer relationship.
	MAM6Q	CORE	PROJECT WORK	Students will get an industry exposure and tries to apply acquired knowledge through real-life experiences and drafting the project report at the end of the project.

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BA- English Course Learning Outcomes (CLO)

SEM	Course Code	Course	Course Title	Course Learning Outcomes (CLO)
I SEM	BRA1A	Core	British Literature I	<p>By the end of the course, students will be able to</p> <ul style="list-style-type: none"> • learn social, and historical events of 16th, 17th, and 18th centuries and their impact on English writers and their works • analyse the themes and styles in English poetry, drama, and fiction written during 16th, 17th, and 18th centuries
	BRA1B	Core	Indian Writing in English	<ul style="list-style-type: none"> • explore the origin and development of Indian Writing in English • understand the impact of English imperialism on Indian educational system • analyse different themes and techniques used in Indian English prose, poetry, drama, and fiction
	BRB1A	Allied	Background to the study of English Literature I	<ul style="list-style-type: none"> • study the characteristic features of literary ages and biographical details of specific authors of 16th, 17th and 18th centuries • comprehend the origin and development of literary forms
II SEM	BRA2A	Core	British Literature II	<ul style="list-style-type: none"> • study major revolutions, movements, and reforms of 18th and 19th centuries • comprehend their impact on English society and literature

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III SEM	BRA2B	Core	Regional Indian Literature in Translation	<ul style="list-style-type: none"> understand the background of Indian literary tradition and significance of Indian aesthetics study characteristic features of Regional Indian Literature in translation
	BRB2A	Allied	Background to the Study of English Literature II	<ul style="list-style-type: none"> understand English prose, poetry, drama, and fiction of 18th, 19th, and 20th centuries identify aspects of literary forms with their corresponding authors study characteristic features of various literary movements
	BRA3A	Core	British Literature III	<ul style="list-style-type: none"> recall the impact of World Wars I and II on English society and their influence on English literature learn the circumstances that led to Great Depression, Welfare State, and Labour Movement Identify the style of representative 20th century prose writers, poets, dramatists, and novelists
	BRA3B	Core	Modern English Language and Usage	<ul style="list-style-type: none"> Trace the evolution of English language and its regional variations Learn significant terms in English grammar and usage Study the use of language in specific speech events assess various forms of discourse

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				<ul style="list-style-type: none"> • use language learning tools in Internet and create English language content online
	BRB3A	Allied	Myth and Literature	<ul style="list-style-type: none"> • explore the origin and development of myths and legends • study characters, places, and events in Greek, Roman, Celtic and Indian mythologies
IV SEM	BRA4A	Core	American Literature I	<ul style="list-style-type: none"> • understand the origin and history of American Literature • identify the cultural, political, and stylistic protocols that governed early American literature • assess the impact of Puritanism and significance of Transcendentalism using prescribed texts
	BRA4B	Core	Film and Literature	<ul style="list-style-type: none"> • know the basic principles of adaptation theory • learn the significant terms used in film analysis • analyse novels with their film adaptations
	BRB4A	Allied	Introduction to the study of Language and Linguistics	<ul style="list-style-type: none"> • understand distinctive properties of human language • identify structures and patterns in language and linguistics • study different approaches in language study • analyse basics of English phonetics, phonology, grammar, syntax, and semantics

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V SEM	BRA5A	Core	American Literature II	<ul style="list-style-type: none"> • understand the historical and cultural events of America • learn the key features of Modern American prose, poetry, drama, and fiction
	BRA5B	Core	Post Colonial Literature in English, Australian Literature	<ul style="list-style-type: none"> • know the origin and growth of Australian Literature and • understand the nature of aboriginal Australian society before European settlement • conceive Australian landscape and environment to understand the traumatic experiences of natives and settlers during colonization
	BRA5C	Core	Women's Writing	<ul style="list-style-type: none"> • Know the specific issues of women and their writing, society and the concepts of feminism, radical feminism and patriarchy around the world
	BRA5D	Core	Introduction to Literary Theories	<ul style="list-style-type: none"> • Learning literary theory from Aristotle to F. R. Leavis, also some recurrent ideas in critical theory.
	BRE51	Elective	Practical Approach to Technical Writing	<ul style="list-style-type: none"> • Students will get thorough knowledge in writing skills, technical writing, objectives and importance of technical writing
VI SEM	BRA6A	Core	Contemporary Literature	<ul style="list-style-type: none"> • This paper is very useful for the literature students to analyse multiculturalism, theme of acculturation, globalization and hybridity.
	BRA6B	Core	Post Colonial Literature in English II, Canadian Literature	<ul style="list-style-type: none"> • Main intention to explore how Canadians have articulated their feelings about the nature through

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				literary expression, and to gain empathy for ecosystem
	BRA6C	Core	Shakespeare	<ul style="list-style-type: none"> To know the mythical life of Shakespeare, his theatre ,audience ,players, and varieties in his dramas such as comedies, tragedies ,histories ,romances, and sonnets
	BRE6A	Elective	World Literature in Translation	<ul style="list-style-type: none"> Students able to know the concept of Goethe's literature, French revolution , realistic drama of Ibsen and Chekhov and postmodernism
	BRE6B	Elective	Journalism	<ul style="list-style-type: none"> Make the students to familiar with the introduction of journalism; learn about freedom of press, reporting news and the layouts of advertisements.


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B.Sc Computer Science

Course Learning Outcomes (CLO)

SEM	Course Code	Course	Course Title	Course Learning Outcomes
I	SAE1A	Core	Programming In C	This course introduces the basic concepts of Programming in C. C Fundamentals, Data Input and Output Functions, Functions, Arrays, Structures, Pointers, and Files.
	SAE11	Practical	Programming In C	This course train the students to solve the problems using C language; String Manipulations, Recursion, Matrix Manipulation, Sorting and Searching.
II	SAE2B	Core	Digital Electronics & Microprocessors	This course introduces the concepts of fundamentals of Digital Electronics and Microprocessor. Number Systems, Sequential Logic, 8085 instructions, Time delay Programs, 8085 interrupts
	SAE22	Practical	Digital Electronics & Microprocessors Lab	This course gives training on the experiments of Digital Electronics and Microprocessor. Gates, Karnaugh Map, Demorgan's Law, Adders, Subtractors, Complements. BCD Addition, Subtraction, Multiplication, Arrays etc.,
III	SAE3A	Core	Programming in C++ and Data Structures	This course introduces the basic concepts of programming in C++ and Data Structures. Introduction to C++, Classes and Objects, Working with Files, Stacks, Queue, Linked List, Trees, and Graphs.
	SAE31	Practical	Programming in C++ and Data Structures Lab	This course deals with practical implementation of Data structures using C++. Stack, Queue, Linked List, Expression Evaluation, Tree traversals, Search algorithms etc.,
IV	SAE4A	Core	Programming In Java	This course introduces the basic concepts of programming in Java. Introduction to Java, Classes and Objects, Interfaces, Packages, Threads, Managing Streams, Exception Handling, Network basics, Working with Graphics.#
	SAE41	Practical	Programming In Java Lab	This course deals with practical implementation of Java Programming. Calendar Manipulation, Image Manipulation, Exception Handling, Stream Classes, String Classes, Interfaces and Packages. Applets: Working with Colors, Fonts, Dialog box, and Menus, Usage of various controls.

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SAE5A	Core	Operating Systems	Process Synchronization, Memory Management, Virtual Memory and I/O Systems.
SAE5B	Core	Database Management Systems	This course introduces the basic concepts of database management systems. Introduction, Components of DBMS, Query basics, Forms, Reports, Data storage methods, Database administration, Backup, Recovery of Data, Client-Server System, OOD, integrated applications.
SAE5C	Core	Computer Architecture and Organization	This course introduces the architecture of various computers and its organization. Computer Evolution, Main Memory, Input/output, CPU, Control Unit.
SAE51	Practical	RDBMS Lab	This course trains the students to implement the database applications. Payroll, Mark sheet, Banking, Inventory, Invoice, Library, and Electricity bill, Telephone Processing Systems.
SAEEA	Core	Visual Programming	To include knowledge on Visual Basic concepts and Programming: Customizing Forms, Various controls, Loops, Functions and Procedures, Built-in functions, Menus, Error Trapping, Working with Graphics, File Handling, File System Controls, COM/OLE, DLL Servers.
V			

SAE6A	Core	Data Communication and Networking	This course introduces the details about basic concepts of data communication and networking. Introduction DCN, Parallel and Serial Communication, Switching, Multiplexing, History of Networks, Layers, TCP/IP, WWW.
SAE6B	Core	Web Technology	This course introduces the concepts of ASP, VB Script, Java Script. Introduction to VB Script, Java Script, ASP.NET, Cookies, Working with IIS etc.,
SAE61	Practical	Web Technology Lab	This course deals with practical implementation of VB Script, Java Script, ASP programming.
SEE6C	Elective	Object Oriented Analysis and Design	This course introduces to UML, Object Oriented analysis and design of any application. System Development, Use-case models, Design Processes, User Interface Design, Case Studies, Quality Assurance Tests, Testing, Debugging etc.,
SEE6G	Elective	Software Engineering	This course introduces the details about the concepts of life cycle of software. Introduction to SE, Software Cost Estimation, Software Design, Implementation Issues, Quality Assurance.
VI			

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BSc Home Science- Clinical Nutrition and Dietetics

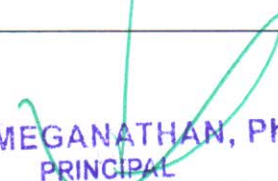
Course Learning Outcomes (CLO)

SEM	Course Code	Course	Course Title	Course Learning Out comes (CLO)
I	TAJ1A	Core	Food Science	The students will learn different principles, common food preparation methods and chemistry underlying the properties of various food components. Student gain knowledge on food groups, food pyramid and understand cooking methods with the application in balanced menu planning.
	TAJ1B	Core	Microbiology	The students would be able to explain the classification of microorganisms, their replication, survival, and interaction with their environment, hosts. Also, food storage conditions on survival and growth of microbial contaminants.
	TBTAA	Allied	Chemistry I	Students will have a firm foundation in the fundamentals and application of chemical and scientific theories including those in Analytical, Inorganic, Organic
		Allied Practical	Chemistry	The course will learn volumetric analysis and analysis of organic compounds with their functional group
II	TAJ2A	Core	Human Physiology	The student will demonstrate a thorough understanding of the normal physiology and basic abnormal physiologic conditions of each organ system of the body.
	TAJ2I	Core	Microbiology and Physiology Practical	The course enables the student to learn the basic techniques to identify the simple microorganisms. The aim of the physiology practical is to develop basic understanding of the functions of the body and to develop skills in assessing the functions of systems of the body and basic clinical examination.
	TBTAB	Allied	Chemistry II	The course gives an in depth knowledge on industrial chemistry
	TBTA1	Practical	Chemistry	The student can explore the food analysis experiments.
III	TAJ3A	Core	Family Meal Management	The students understand meal management and nutritional requirements and content like – balanced diet – food groups & – the planning of balance diet
			Family Meal Management practical	The course helps the student to plan meal for different age groups with respect to the RDA
	TAJ3B	Core	Nutrition I	The student will utilize knowledge from foundational sciences as a basis for understanding the role of food and nutrients in health and disease and apply knowledge of

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				biochemistry and physiology to human nutrient metabolism.	
	TBJ3A	Allied	Biochemistry	The course enables the student to demonstrate an understanding of fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes	
		Practical	Biochemistry	The student will learn about qualitative and quantitative analysis of sugars and amino acids.	
IV	TAJ4A	Core	Advance Dietetics	Students will relate the causes, symptoms and onset of various types of diseases, comprehend dietary principles in planning therapeutic diets for disease conditions.	
		Core	Nutrition and Advance Dietetics practical	The course enables the student to estimate the nutrients qualitatively and quantitatively in nutrition aspect. The student will apply dietary principles to plan therapeutic diets for diseases conditions and demonstrate skills in preparing appropriate therapeutic diets and calculate the nutrient content of diets prepared. Gain confidence in meal planning for diseased conditions.	
	TBJ4A	Allied	Community Nutrition	Students will have a strong foundation in nutritional programmes and policies to overcome malnutrition. Student understand the role of national, international and voluntary nutritional organizations to combat malnutrition and able to organize community nutrition education programme.	
V	TAJ5A	Core	Human Development I	The student will recognize the characteristics, developmental tasks and milestones from early childhood to period of adolescence. The course helps to understand the physical, motor, cognitive, language and moral development in the early and late childhood period and compare the changes in these areas with that of the babyhood.	
	TAJ5B	Core	Food service Management-I	The student understands organization structures in food service institutions and comprehend the theories and principles of management.	
	TAJ5C	Core	Nutrition –II	The students will learn to conceptualize, implement and evaluate the functions, metabolism, requirements and effects of deficiency of nutrients.	
	TAJ5D	Core	Sports Nutrition	The student will learn how nutrition influences the biomechanics physiological aspect of physical activity and performance.	
				Sports Nutrition Practical	The student will learn about the different aspects of sports activity and plan diet for various sports.
	TEJ5A	Elective		Entrepreneurial Development	The course will learn about the importance of entrepreneurship as an effective to a “White collar job.


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VI	TAJ6A	Core	Clinical Nutrition	The course will help the student to understand the principles of clinical nutrition and to correlate with the biochemical findings
	TAJ6B	Core	Food Service Management-II	The course will help in understanding the principles of bulk food production
			Food Service Management-II Practical	The students gain skill in food production and service.
		Core	Clinical Nutrition Practical	Students will develop skill in urine analysis and serum estimation.
	TEJ6A	Elective	Health Psychology	The course enables the student to understand the basic concepts of Human behaviour and Health Psychology.
	TEJ6B	Elective	Human Development II	Students learn about the developmental task of adulthood. Gain information about special children
			Human Development practical	The student gains hands on information on child development

BCA – Programme Outcome

A learner get foundation of computing principle and business practice for effectively using and managing information systems and enterprise software. The learner will get the knowledge of internal architecture and functionality of system which guide them in developing system software and utility software and also gets the knowledge to work towards hardware development industry. Students get the programming knowledge through which gets the practical experience of application development. The students specialize in legacy application software, system software or mobile application development. The students will growth to the dynamic developments of electronic world. The project based learning inculcate the research aspect and gives practice towards society need.

B.COM (INFORMATION AND SYSTEM MANAGEMENT)

Course Learning Out comes

The objective of the course is to impart high quality of education and prepare the young Students to challenge the world by bridging commerce and computer application.

Our graduates will develop and deploy IT to create value for their business. Our Information system course offer a unique blend of technology and management. The students are also trained on personality development and communication skills and they are motivated to do project work.

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It maintains a good industry and institutional interaction. Training in computer applications in the field of commerce is an extra mileage in placements.

B.COM GENERAL (SHIFT II) PROGRAMME OUTCOME

To enable the Students to get a Comprehensive understanding of the Financial Accounting and the significance of Management in Business provided the relevance of Marketing in day-to-day business World.

- Create innovative marketing strategies for the success of the organization.
- Acquire skills necessary to start entrepreneurial activities and solving Management problems apart from learning the awareness about the ever changing Business Climate.
- To provide knowledge on research method, techniques and process and to develop skills in the application of research methods for business problem solving.

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