



**Department of Commerce**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : B.Com**

Sem ester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	IIT / IIH / IIF / IIM	<b>Language –I</b> Tamil I / Hindi I / French I / Malayalam I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	13A	Principles of Accountancy	1. Understand the fundamentals of accounting and prepare Journal, Ledger, Subsidiary books and Trial balance.
			2. Prepare final accounts of sole trader and to rectify the errors.
			3. Analyze accounting details regarding Bill of Exchange.
			4. Gain knowledge about Consignment and Joint venture.
			5. Apply the procedure of preparation of Bank reconciliation statement, Receipts and Payments Account and Income and Expenditure Account.
I	13B	Business Organization and Office Management	1. Understand the forms of business organization
			2. Learn the nuances of starting a business such as location, sources of finance etc.
			3. Know about the functions of stock exchange and procedure for stock trading
			4. Have practical exposure about layout of office, furniture, filing EDP etc.
			5. Comprehend the techniques of data processing systems, and EDP.
			1. Know the causes for low productivity and to measure for the development of agriculture

I	1AA	Agricultural economy of India	<p>2. Understand the condition of agricultural labour in India and importance of green revolution</p> <p>3. Evaluate how agricultural marketing and pricing system regulated in India.</p> <p>4. Know the importance and procedure of land reform system in India</p> <p>5. Provide details regarding agriculture finance.</p>
I	1FA	Environmental Studies	<p>1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.</p>
II	2IT / 2IH / 2IF / 21M	<b>Language –II</b> Tamil II / Hindi II / French II / Malayalam II	<p>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</p> <p>2. Understand the basic grammar.</p> <p>3. Competent on the vocabulary of the language.</p> <p>4. Be competent on the comprehensive skills.</p> <p>5. Understand and have knowledge on the culture of the society.</p>
II	22E	English-II	<p>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</p> <p>2. Understand the basic grammar.</p> <p>3. Competent on the vocabulary of the language.</p> <p>4. Be competent on the comprehensive skills</p> <p>5. Understand and have knowledge on the culture of the society.</p>
II	23A	Financial Accounting	<p>1. Understand the significance of depreciation and demonstrate the different methods of depreciation accounting.</p> <p>2. Demonstrate accounting relating to royalties.</p> <p>3. Apply different methods of single entry system of accounting</p> <p>4. Demonstrate accounting skills related to departments and branches.</p> <p>5. Apply accounting principles and procedures relating to hire purchase and installment.</p>
II	23B	Principles of Marketing	<p>1. Develop an understanding of the concepts of the modern marketing viz, Global marketing, E-Marketing Tele-marketing and marketing ethics.</p> <p>2. Exhibit various marketing functions that link the producer and ultimate consumer.</p> <p>3. Evaluate how consumer characteristics and behaviour influence marketing strategies.</p> <p>4. Demonstrate an understanding of the components of marketing mix, product mix, price mix and promotion mix and how it is used.</p> <p>5. Understand the role of government and law relating to grading, standardization and consumer protection.</p>
			<p>1. Understand the importance of economics and the basic concept s relating to it.</p>



II	2AA	Economic Analysis	2. Understand the theory relating to consumer behavior. 3. Have knowledge on the theory of production 4. Apply product pricing in different competitive situations 5. Understand the theory relating to factor pricing.
II	2FB	Value Education-Human Rights	1. To Understand the Importance of Social and Ethical Values
III	33A	Higher Financial Accounting	1. Have knowledge on the accounting practice prevailing in partnership firms and other allied aspects. 2. Prepare partnership deed and preparation of accounts at the time of admission, retirement and death of a partner. 3. Have application knowledge of Garner vs. Murray rule at the time of insolvency of a partner/ partners. 4. Prepare statement of accounts for insolvency of firms/individuals and calculate the claim to be lodged with fire insurance firms for loss of stock and profit. 5. Have knowledge of inflation accounting and human resource accounting and prepare voyage accounts for shipping companies.
III	33B	Commercial Law	1. Understand the essentials of a contract 2. Differentiate between valid, void and voidable contract. 3. Understand and draft an agency contract document. 4. Differentiate between indemnity and guarantee and Bailment and pledge 5. Understand and apply the provisions regarding sale of goods.
III	33C	Principles of Management	1. Able to identify management thinkers and their contribution to the theories. 2. Understand the importance of planning and its procedure 3. Demonstrate the hierarchy of an organization structure and its different forms 4. Know the importance of motivation and the theories relating to it 5. Demonstrate effective coordination, communication and control measures
III	3AC	Mathematics for Business	1. Understand the concepts of set theory, Financial Mathematics. 2. Perform Matrices operation and its application. 3. Interpret differentiation techniques and its application. 4. Recognize and solve the Integration methods. 5. Formulate and solve LPP.
III	3ZA	Business Application Software-I	1. Demonstrate the basic mechanics of creating word documents 2. Exhibit the mechanics and uses of tables to organise and present data 3. Demonstrate working Knowledge of preparing letters using mail merge 4. Create and design a spreadsheet for general office use.

			5. Gain knowledge of basic functions and formulas in MS EXCEL.
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advance Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Corporate Accounting-I	1. Understand the basics and types of shares and the procedures followed in companies for their issue, forfeiture and reissue.
			2. Prepare accounting relating to issue and redemption of preference shares and debentures.
			3. Prepare the final accounts of a company in accordance with the new format.
			4. Compute the value of goodwill and shares of a firm.
			5. Prepare the Liquidators' Final Statement and calculate the remuneration to be paid to the official liquidator.
IV	43B	Computer Applications in Business	1. Understand the characteristics, generations and components of computers.
			2. Understand the meaning of software operating system, programming language and its types.
			3. Understand the concept of data base processing and management.
			4. Understand the types of information management system.
			5. Understand the meaning of network and internet.
IV	43C	Company Law and Secretarial Practice	1. Understand the procedure for forming a company and documents required for formation and issue of shares
			2. Understand the powers and duties of a director and Procedure for admission and retirement of a Director
			3. Understand the types of winding up
			4. Understand the qualification, roles and responsibilities of a company secretary
			5. Understand the types of meeting and procedure for conducting various meetings
IV	43D	Executive Business Communication	1. Understand the concepts and importance of communication
			2. Understand the various kinds of business letters.
			3. Apply the mechanics of preparing the correspondence between Banks, Insurance companies with external parties.



			4. Identify the duties to be carried out by a company secretary regarding conduct of company meetings.
			5. Prepare their resume and identify the pre preparation before attending interview.
IV	43E	Banking Theory	1. Understand the evolution and classification of banks
			2. Have knowledge on recent trends in banking
			3. Have knowledge on functions of Reserve Bank of India
			4. Have knowledge about the role of SBI in economic Development
			5. Understand the functions of commercial banks, RRBs and Co-operative banks
IV	4AD	Statistics for Business	1. Understand basic concepts of Statistics and central tendency.
			2. Gain knowledge about dispersion and skewness
			3. Understand correlation and regression.
			4. Enhance the knowledge of time series and index numbers.
			5. Interpolate and solve the problems in probability.
IV	4ZP	Computer Applications (MS-Word and MS-Excel) Practical –I	1. Proficient in document formatting functions using MS Word.
			2. Work with spreadsheets with calculations, functions and charts using MS Excel.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. Develop sound knowledge in verbal, numerical, reasoning skills and current affairs in relevant fields.
V	53A	Corporate Accounting-II	1. Understand how accounts are been prepared for Amalgamation, Absorption and External reconstruction
			2. Prepare accounts for holding and subsidiary company.
			3. Prepare accounts for banking sectors
			4. Prepare accounts for insurance sectors
			5. Prepare accounts for electricity companies and have knowledge on the international accounting standards
V	53B	Banking Law and Practices	1. Understand the meaning and relationship between a banker and customer
			2. Open and operate a bank account
			3. Deal with issuing and sending cheques for collection, dishonor of cheques, including wrongful dishonor.
			4. Understand the types of bank loans and advances and forms of securities.
			5. Understand the concepts of bank guarantee, letter of credit, discounting of bills.
			1. Understand the concepts of cost and methods of preparing cost sheet.
			2. Calculate levels of material control and EOQ and demonstrate the procedure for purchase of material.

V	53C	Cost Accounting	<p>3. Calculate the wage under different methods and allocate and absorb overhead.</p> <p>4. Apply and analysis the process costing technique considering normal and abnormal losses.</p> <p>5. Apply operating, contract costing techniques and reconcile cost and financial accounts</p>
V	53D	Income Tax Law and Practice	<p>1. Understand the basic concepts of Income Tax Act</p> <p>2. Apply the provisions of Income Tax Act provisions for the calculation of salary and house property</p> <p>3. Identify the allowed and disallowed expenses in the calculation of business income, calculation of capital gain</p> <p>4. Apply the provisions relating to deductions to be made from total income</p> <p>5. Compute the tax liability of Individual assesses</p>
V	5EA	Elective I: A) Business Finance	<p>1. Have knowledge about the role of finance and financial manager in business.</p> <p>2. Gain practical exposure about preparation of financial plans in day to day business.</p> <p>3. Understand the cause, effect, and impact of over capitalization and under capitalization.</p> <p>4. Practical exposure about the capital structure and calculation of individual and composite cost of capital.</p> <p>5. Ensure different sources of finance and its pros and cons.</p>
V	5EB	Elective I: B) Brand Management	<p>1. Understand the basic concepts of branding and identify the types of brands.</p> <p>2. Have knowledge about the process of brand image building</p> <p>3. Identify the impact of branding on its customers and competitors.</p> <p>4. Understand the brand performance over the product life cycle and its rejuvenation.</p> <p>5. Design and implement branding strategies.</p>
V	5EC	Elective I: C) Fundamentals of Insurance	<p>1. Understand the purpose and need of insurance as a social security tool.</p> <p>2. Gain knowledge on the procedure and pre-requisite of becoming an insurance agent.</p> <p>3. Understand the procedure of settlement of policy.</p> <p>4. Decide the marketing aspects of actuarial products.</p> <p>5. Identify the principles of various types of insurance.</p>
V	5ZC	Business Application Software-II ( No Tally ?)	<p>1. Demonstrate the basic mechanics of creating PowerPoint presentation.</p> <p>2. Prepare a PowerPoint Presentation</p> <p>3. Demonstrate the basics of Access – Database.</p> <p>4. Have practical exposure of creating tables and forms.</p> <p>5. Have knowledge about Reports, Mailing Labels and Connecting tables.</p>



VI	63A	Management Accounting	1. Understand the role of Management Accounting in taking Managerial Decisions 2. Analyse the financial statement with the help of Ratios. 3. Estimate the working capital requirement and analyse the flow of cash and funds in the Organisation 4. Apply the Managerial Applications of Marginal costing. 5. Generate different types of budgets.
VI	63B	Principles of Auditing	1. Understand the basic concepts of Auditing 2. Identify the documents and papers for verification. 3. Verify and value a clients Assets and Liabilities. 4. Understand the procedures for Audit of Joint stock companies. 5. Apply the procedures for Electronic Auditing.
VI	63C	Indirect Tax	1. Understand the basic concepts of Indirect Tax. 2. Identify the different types of GST and apply the rates as levied under the Act. 3. File returns as per the law and knows the registration procedure under GST. 4. Gain knowledge about the collection and levy of Tax and also the supply process. 5. Calculate the Customs tariff and can evaluate the values of imported goods.
VI	6EA	Elective II: A) Entrepreneurial Development	1. Understand the Concept of Entrepreneurship, types of entrepreneurship and the development of women entrepreneur. 2. Have knowledge on the project identification and the preparation of Project report 3. Analyse various financial institutions that provide service to entrepreneurs 4. Understand the functions of various financial institutions and commercial banks. 5. Understand the incentives and subsidised services, and tax benefits provided for entrepreneurs.
VI	6EB	Elective II: B) Supply chain Management	1. Understand the supply chain management concepts. 2. Gain knowledge on the various supply chain strategies. 3. Analyze the framework for strategic alliances. 4. Understand the benefits and risks in procurement and outsourcing. 5. Demonstrate pricing under different dimensions of customer value.
VI	6EC	Elective II: C) Principles of Web Designing	1. Acquire knowledge and skills for creation of Web Site considering elements of HTML 4.0 2. Express the basic of XML and their elements for web page creation. 3. Understand dynamic web pages with validation using JavaScript objects and advanced DHTML. Also uses and limitations of cookies and supported servers / browsers.

			4. Understand the CGI Scripting language for dynamic Web page creation.
			5. Develop simple web application using server side PHP programming and Database Connectivity using ORACLE and MS ACCESS.
VI	6ED	Elective III: A) Financial Markets	1. Understand financial markets and to distinguish between money & capital market. 2. Understand the workings of Primary market and role of Merchant bankers. 3. Have knowledge about secondary market and the regulatory mechanism. 4. Be able to make various choices of financial intermediaries. 5. Be familiar with leasing, factoring and securitization.
VI	6EE	Elective III: B) Insurance Legislative framework	1. Understand legal provisions of Insurance Act 1938. 2. Gain knowledge on LIC Act, 1956. 3. Understanding IRDA Act 1999. 4. To apply various provisions of Consumer Protection Act, 1985 applicable to the insurance companies. 5. Understand the functioning of ombudsman scheme.
VI	6EV	Elective III: C) Project Work	1. Undertake a realtime industry project / field project and prepare a report using basic statistical tools.
VI	6ZP	Skill based Subject-4 : Computer Applications : MS PowerPoint, MS-Access and Tally 9.2 - Practical-II	1. Create presentations by using text, graphics, animation and transitions using Powerpoint. and also create database with MS Access. 2. Create company, ledgers, post voucher entries and generate financial accounting reports with Tally.
VI	67A	Extension Activities	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

Prepared By

V. H

Approved By



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Department of Commerce  
Course Outcomes (Academic Year 2018-19 Onwards)  
Name of the Programme : B.Com (CA)

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	IIT / IIH / IIF / IIM	<b>Language –I</b> Tamil I / Hindi I / French I / Malayalam I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	I2E	English-I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	13A	Principles of Accountancy	1. Understand the fundamentals of accounting and prepare Journal, Ledger, Subsidiary books and Trial balance.
			2. Prepare final accounts of sole trader and to rectify the errors.
			3. Analyze accounting details regarding Bill of Exchange.
			4. Gain knowledge about Consignment and Joint venture.
			5. Apply the procedure of preparation of Bank reconciliation statement, Receipts and Payments Account and Income and Expenditure Account.
I	13B	Introduction to Information Technology	1. Understand Basic concept of computer and computer applications in various areas of business.
			2. Gain knowledge about types of Computer, Generations of computer and Networking concepts.
			3. Identify the functions of input and output devices and uses of programming languages.
			4. Evaluate the different types of operating system and to create E-Mail Id.
			5. Explore an idea regarding Management Information System, Decision Support system and expert system.
			1. Understand the concepts of set theory, Financial Mathematics.

I	1AA	Mathematics for Business	2. Perform Matrices operation and its application. 3. Interpret differentiation techniques and its application. 4. Recognize and solve the Integration methods. 5. Formulate and solve LPP.
I	-	Computer Applications Practical I: MS Office & Tally	1. Apply document formatting and able to use wizards / Template in MS Word 2. Able to prepare worksheets using MS Excel formulas, Chart types and statistical tools and prepare a presentation in MS Power Point using animatin and transition effects.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.
II	2IT / 2IH / 2IF / 21M	<b>Language –II</b> Tamil II / Hindi II / French II / Malayalam II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar. 3. Competent on the vocabulary of the language. 4. Be competent on the comprehensive skills. 5. Understand and have knowledge on the culture of the society.
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar. 3. Competent on the vocabulary of the language. 4. Be competent on the comprehensive skills 5. Understand and have knowledge on the culture of the society.
II	23A	Advanced Accounting	1. Calculate the depreciation under different methods. 2. Prepare accounts for branches and accounts under Hire purchase and Instalment system. 3. Prepare accounts under Single Entry System 4. Have thorough knowledge on the accounts practice prevailing at the time of admission and retirements of partners. 5. Prepare insolvency accounts
II	23P	Computer Application: MS Office - Practical-I	1. Create database using MS Access and apply query option to retrieve data also generate reports. 2. Prepare financial accounting and generate reports using tally and use internet for retrieving the relevant information required.
II	2AB	Statistics for Business	1. Enrich the basic concepts of Statistics and central tendency. 2. Gain knowledge about dispersion and skewness. 3. Understand correlation and regression. 4. Enhance the knowledge of time series and index numbers. 5. Interpolate and solve the problems in probability.
II	2FB	Value Education-Human Rights	1. To Understand the Importance of Social and Ethical Values



III	33A	Principles of Marketing	1. Develop an understanding of the concepts of the modern marketing viz, Global marketing, E-Marketing Tele-marketing and marketing ethics.
			2. Exhibit various marketing functions that link the producer and ultimate consumer.
			3. Evaluate how consumer characteristics and behaviour influence marketing strategies.
			4. Demonstrate an understanding of the components of marketing mix, product mix, price mix and promotion mix and how it is used.
			5. Understand the role of government and law relating to grading, standardization and consumer protection
III	33B	Database Management System	1. Understand the architectural concepts of database system.
			2. Create the database by applying the concept of relation approach.
			3. Apply the concept of structural embedded SQL with other applications.
			4. Understand hierarchal approach in IMS data structure and their data manipulation.
			5. Understand the importance of DBTG architecture and its data structure.
III	33C	Cost Accounting	1. Understand the concepts of cost and methods of preparing cost sheet.
			2. Calculate levels of material control and EOQ and demonstrate the procedure for purchase of material.
			3. Calculate the wage under different methods and allocate and absorb overhead.
			4. Apply and analysis the process costing technique considering normal and abnormal losses.
			5. Apply operating, contract costing techniques and reconcile cost and financial accounts.
III	3AC	Managerial Economics	1. Understand the concepts, tools, principles in the field of managerial economics
			2. Have knowledge of law of demand and able to apply different demand forecasting methods.
			3. Analyse the behavior of cost and able to specify appropriate method of measuring cost-output relation in specific cases.
			4. Classify markets into various categories and describe the procedure of arriving at a price using these various methods and strategies.
			5. Determine price under different market situation.
III	-	Computer Applications Practical-II : Oracle	1. Create Database using DDL and DML commands and comparison operator, numerical function and order by clause.
			2. Implement sub queries, between operator, Like clause and join in database, also alter and update the database.

III	3ZA	Skill based Subject-1 : Commercial Law	1. Understand the essentials of a contract
			2. Differentiate between valid, void and voidable contract.
			3. Understand and draft an agency contract document.
			4. Differentiate between indemnity and guarantee and Bailment and pledge
			5. Understand and apply the provisions regarding sale of goods.
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advanced Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. To understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Management Accounting	1. Understand the role of Management Accounting in taking Managerial Decisions
			2. Analyse the financial statement with the help of Ratios.
			3. Estimate the working capital requirement and analyse the flow of cash and funds in the Organisation
			4. Apply the Managerial Applications of Marginal costing.
			5. Generate different types of budgets.
IV	43B	Object Oriented Programme with C++	1. Enrich the OOPs concepts and its merits and demerits
			2. Gain Knowledge about the Datatypes, variable declaration, functions and classes and objects.
			3. Get practical exposure to create Arrays, pointer declaration and to implement operator overloading in C++.
			4. Implement the concept of inheritance and polymorphism.
			5. Enhance the concept of Console input and output operations, C++ streams and file streams operations.
IV	43C	Executive Business Communication	1. Understand the concepts and importance of communication
			2. Understand the various kinds of business letters
			3. Apply the mechanics of preparing the correspondence between banks, insurance companies with external parties.



		Communication	<p>4. Identify the duties to be carried out by a company secretary regarding conduct of company meetings.</p> <p>5. Prepare their resume and identify the pre preparation before attending interview.</p>
IV	43P	Computer Applications Practical-II : C++	<p>1. Create applications using member functions, inheritance concept and Array of objects.</p> <p>2. Implement the constructor, Destructor, operator overloading concepts and also create and access files using the files concepts.</p>
IV	43D	Banking Theory	<p>1. Able to understand the evolution of banking system with its classifications</p> <p>2. Identify the current scenario of the banking sector with updated modern practices.</p> <p>3. Understand the role of apex bank in India and its performance</p> <p>4. Know the role of State Bank of India in indian economy.</p> <p>5. Understand the development of commercial and rural banking system in india.</p>
IV	4AD	Principles of Management	<p>1. Able to identify management thinkers and their contribution to the theories.</p> <p>2. Understand the importance of planning and its procedure</p> <p>3. Demonstrate the hierarchy of an organization structure and its difference forms</p> <p>4. Know the importance of motivation and the theories relating to it</p> <p>5. Demonstrate effective coordination, communication and control measures.</p>
IV	4ZB	Skill based Subject-2 : Company Law	<p>1. Understand the procedure for forming a company</p> <p>2. Gain knowledge on the documents relating to a company.</p> <p>3. Understand the contents of Prospectus.</p> <p>4. Understand the qualification , roles and responsibilities of key persons in a company.</p> <p>5. Understand the types of meeting, procedure for conducting various meetings &amp; winding up of a company.</p>
IV	4FA	Basic Tamil II	<p>1. Understand the basic of language and be able to read and write</p>
IV	4FB	Advanced Tamil II	<p>1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.</p>
IV	4FE	General Awareness	<p>1. Develop sound knowledge in verbal, numerical, reasoning skills and current affairs in relevant fields.</p>
V	53A	Principles of Auditing	<p>1. Understand the basic concepts of Auditing</p> <p>2. Identify the documents and papers for verification.</p> <p>3. Verify and value a clients Assets and Liabilities.</p>

			4. Understand the procedures for Audit of Joint stock companies.
			5. Apply the procedures for Electronic Auditing
V	53B	Corporate Accounting	1. Understand the basics and types of shares and the procedures followed in companies for their issue, forfeiture and reissue.
			2. Prepare accounting relating to issue and redemption of preference shares and debentures.
			3. Prepare the final accounts of a company in accordance with the new format.
			4. Compute the value of goodwill and shares of a firm.
			5. Prepare the Liquidators' Final Statement and calculate the remuneration to be paid to the official liquidator.
V	53C	E-Commerce Technology	1. Understand the classification of electronics commerce and anatomy of the internet terminology.
			2. Analyse the importance of EDI software implementation, workflow atomization and coordination of internal commerce
			3. Have a thorough knowledge on the network security and firewalls, emerging client server security threats.
			4. To know about the applications of consumer oriented electronic commerce and mercantile process models.
			5. Understand the operations and designing of electronic payment system.
V	53D	Software Development with Visual Basic	1. Understanding the basics of Client server Models and its architecture
			2. Able to know Integrated Development Environment, Toolbar Menus, windows, controls, methods and events in Visual Basic.
			3. Understand the concept of control structure, functions and procedures in visual basic.
			4. Will be able to gain detail knowledge about each controls and know about SDI and MDI forms in visual basic.
			5. Practical demonstrate of data controls helps to do connectivity with SQL and MS Access and able to do manipulation of data and generate report.
V	-	Computer Applications Practical III: Visual Basic	1. Create applications using Menu editor, intrinsic control and controls Structures
			2. Connect VB application with database using ActiveX controls, ADO control and flex grid to display data and generate report
			1. Understand the basic concepts of Income Tax Act
		Elective I: A) Income Tax	2. Apply the provisions of Income Tax Act provisions for the calculation of salary and house property



V	5EA	Elective I: A) Income Tax Law & Practice	<p>3. Identify the allowed and disallowed expenses in the calculation of business income, calculation of capital gain</p> <p>4. Apply the provisions relating to deductions to be made from total income</p> <p>5. Compute the tax liability of Individual assesses</p>
V	5EB	Elective I: B) Entrepreneurial Development	<p>1. Understand the Concept of Entrepreneurship, types of entrepreneurship and the development of women entrepreneur.</p> <p>2. Have knowledge on the project identification and the preparation of Project report</p> <p>3. Analyse various financial institutions that provide service to entrepreneurs</p> <p>4. Understand the functions of various financial institutions and commercial banks.</p> <p>5. Understand the incentives and subsidised services, and tax benefits provided for entrepreneurs.</p>
V	5EC	Elective I: C) Micro Finance	<p>1. Understand micro financing system in India.</p> <p>2. Have an understanding of various financial analysis tools used for microfinance.</p> <p>3. Understand the framework of credit delivery methods.</p> <p>4. Understand the pricing of microfinance products and its impact measurement.</p> <p>5. Gain knowledge about the structure of microfinance industry and constraints of growth.</p>
V	5ZC	Skill based Subject-3 : Banking and Insurance Law	<p>1. Understand about banking system in India, functions and modern services provided by the bankers.</p> <p>2. Deal with negotiable instruments within the gambit of rules governing it .</p> <p>3. Understand the insurance system in India both life and general .</p> <p>4. Understand the legal dimensions of Insurance and to have a practical knowledge in Consumer Protection Act.</p> <p>5. Understand the structure of IRDA and its functioning.</p>
VI	63A	Management Information System	<p>1. Understand basic concept of management information system.</p> <p>2. Have detailed view about system management</p> <p>3. Understand in detail about information systems in business</p> <p>4. Inculcate knowledge on client- server networks</p> <p>5. Have a clear view on financial accounting in business.</p>
			<p>1. Understanding the basics of internet , configuration of tcp/ip account ,net surfing and protocols</p>

VI	63B	Internet and Web Designing	2. Have knowledge about various search engines and e-mailing concepts.
			3. Design a creative and dynamic websites using basic tags ,image tags, list tags in HTML.
			4. Create links within a page , with other page ,using image as links and creating tables in webpage.
			5. Develop webpage by adding audio and video files and also with forms.
VI	63P	Computer Applications Practical-III: Web Designing	1. Design webpage using frames and list in HTML and the content can be format and align using tags.
			2. Create link between/within webpages using anchor tag and apply forms concept.
VI	6EA	Elective – II: A) Business Finance	1. Have knowledge about the role of finance r in business.
			2. Gain practical exposure about preparation of financial plans .
			3. Understand the cause, effect, and impact of over capitalisation and under capitalisation.
			4. Know about the capital structure and calculation of individual and composite cost of capital.
			5. Be familiar different sources of finance and its pros and cons.
VI	6EB	Elective II: B) Brand Management	1. Understand the basic concepts of branding and identify the types of brands.
			2. Have knowledge about the process of brand image building
			3. Identify the impact of branding on its customers and competitors.
			4. Understand the brand performance over the product life cycle and its rejuvenation.
			5. Design and implement branding strategies.
VI	6EC	Elective II: C) Supply Chain Management	1. Understand the supply chain management concepts.
			2. Gain knowledge on the various supply chain strategies.
			3. Analyze the framework for strategic alliances.
			4. Understand the benefits and risks in procurement and outsourcing.
			5. Demonstrate pricing under different dimensions of customer value.
VI	6ED	Elective III: A) Indirect Taxes	1. Understand the basic concepts of Indirect Tax.
			2. Identify the different types of GST and apply the rates as levied under the Act.
			3. File returns as per the law and knows the registration procedure under GST
			4. Gain knowledge about the collection and levy of Tax and also the supply process
			5. Calculate the Customs tariff and can evaluate the values of imported goods.



VI	6EE	Elective –III : B) Financial Markets	1. Understand financial markets and to distinguish between money & capital market.
			2. Understand the workings of Primary market and role of Merchant bankers.
			3. Have knowledge about secondary market and the regulatory mechanism.
			4. Be able to make various choices of financial intermediaries.
			5. Be familiar with leasing, factoring and securitization.
VI	6EV	Elective III: C) Project Work	1. Undertake a realtime industry project / field project and prepare a report using basic statistical tools.
VI	6ZD	Skill based Subject- 4 : Cyber Law	1. Understand the concepts of cyber law and privacy factors in E-Commerce
			2. Have thorough knowledge on the security aspects in digital space
			3. Be familiar with the various laws and procedures used in Evidence aspects
			4. Understand EDI mechanism in present scenario
			5. Be familiar with authentication of electronic records and digital signature.
VI	67A	Extension Activities	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

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**Department of Commerce**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : B.Com. (Professional Accounting)**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	IIT / IIH / IIF / IIM	<b>Language –I</b> Tamil I / Hindi I / French I / Malayalam I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.
I	12E	English-I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
I	13A	Principles of Accountancy	1. Understand the Journal, Ledger, Subsidiary books and Trial balance.
			2. Prepare final accounts of sole trader and to rectify the errors.
			3. Analyse all accounting details regarding Bill of Exchange.
			4. Gain knowledge about Consignment and Joint venture.
			5. Apply the procedure of preparation of Bank reconciliation statement, Receipts and Payments Account and Income and Expenditure Account.
I	13B	Introduction to Information Technology	1. Understand Basic concept of computer and computer applications in various areas of business.
			2. Gain knowledge about types of Computer, Generations of computer and Networking concepts
			3. Identify the functions of input and output devices and uses of programming languages.
			4. Evaluate the different types of operating system and to create E-Mail Id.
			5. Explore an idea regarding Management Information System, Decision Support system
I	1AA	Mathematics for Business	1. Understand the concepts of set theory, Financial Mathematics.
			2. Perform Matrices operation and its application.
			3. Interpret differentiation techniques and its application.
			4. Recognize and solve the Integration methods.
			5. Formulate and solve LPP.



I	-	Computer applications Practical I: Ms Office & Tally	1. Apply document formatting and able to use wizards / Template in MS Word 2. Able to prepare worksheets using MS Excel formulas, Chart types and statistical tools and prepare a presentation in MS Power Point using animatin and transition effects.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.
II	2IT / 2IH / 2IF / 21M	<b>Language –II</b> Tamil II / Hindi II / French II / Malayalam II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar. 3. Competent on the vocabulary of the language. 4. Be competent on the comprehensive skills. 5. Understand and have knowledge on the culture of the society.
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar. 3. Competent on the vocabulary of the language. 4. Be competent on the comprehensive skills 5. Understand and have knowledge on the culture of the society.
II	23A	Mercantile Law	1. Understand the meaning & elements of a contract under Indian Contract Act 2. Gain deeper understanding to the elements of a contract 3. Understand how obligations under contract are carried and the consequences of breach of contract 4. Gain familiarity into the formalities in sale for buyer & seller under Sale of Goods Act 5. Understanding the provisions relating to the partners, registration and dissolution under Partnership Act
II	23P	Computer applications Practical I: MS Office & Tally	1. Create database using MS Access and apply query option to retrieve data also generate reports. 2. Prepare financial accounting and generate reports using tally and use interne for surfing the relevant information required.
II	2AA	Statistics for Business	1. Enrich the basic concepts of Statistics and central tendency. 2. Gain knowledge about dispersion and skewness. 3. Understand correlation and regression. 4. Enhance the knowledge of time series and index numbers. 5. Interpolate and solve the problems in probability.
II	2FB	Value Education-Human Rights	1. Understand the importance of Social and Ethical Values
III	33A	Industrial Law	1. Understand the various provisions of Factories Act relating to Health, Safety and Welfare measures to be provided to employees. 2. Understand the importance of Workmen Compensation in an establishment and the mode of its distribution 3. Apply the law relating to calculation of bonus paid by an employer as per the provisions of Bonus Act.

			4. Evaluate importance of provident fund for an employee and administration of the scheme.
			5. Understand the legal framework pertaining to payment of gratuity.
III	33B	Strategic Management	1. Understand about strategic management concepts and different Business Environment
			2. Demonstrate the knowledge about strategic analysis techniques and planning
			3. Explore the ideas in formulation of functional strategies.
			4. Evaluate the challenges in implementing strategies based on Business Organisation
			5. Analyse the application of quality tools such as BPR, Benchmarking, TQM and six sigma
III	33C	Cost Accounting	1. Understand the concepts of cost and methods of preparing cost sheet.
			2. Calculate levels of material control and EOQ and demonstrate the procedure for purchase of material.
			3. Calculate the wage under different methods and allocate and absorb overhead.
			4. Apply and analyse the process costing technique considering normal and abnormal losses.
			5. Apply operating, contract costing techniques and reconcile cost and financial accounts
III	3AC	Managerial Economics	1. Understand the concepts, tools, principles in the field of managerial economics
			2. Have knowledge of law of demand and able to apply different demand forecasting methods.
			3. Analyse the behavior of cost and able to specify appropriate method of measuring cost-output relation in specific cases.
			4. Classify markets into various categories and describe the procedure of arriving at a price using these various methods and strategies.
			5. Determine price under different market situation.
III	-	Computer Application Practicle II – Oracle	1. Create Database using DDL and DML commands and comparison operator, numerical function and order by clause.
			2. Implement sub queries, between operator, Like clause and join in database, also alter and update the database.
III	3ZA	Skill Based Subject I : Principles of Marketing	1. Develop an understanding of the concepts of the modern marketing viz, Global marketing, E-Marketing Tele-marketing and marketing ethics.
			2. Exhibit various marketing functions that link the producer and ultimate consumer.
			3. Evaluate how consumer characteristics and behaviour influence marketing strategies.
			4. Demonstrate an understanding of the components of marketing mix, product mix, price mix and promotion mix and how it is used.
			5. Understand the role of government and law relating to grading, standardization and consumer protection.



III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advanced Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Advanced Accounting I	1. Calculate the depreciation under different methods.
			2. Prepare branch and departmental accounts .
			3. Prepare accounts under Single Entry System
			4. Prepare hire purchase trading account under hire purchase and instalment system.
			5. Prepare the royalties accounts and determine the insolvency of individuals.
IV	43B	Management Accounting	1. Understand the role of Management Accounting in taking Managerial Decisions.
			2. Analyse the financial statement with the help of Ratios.
			3. Estimate the working capital requirement and analyse the flow of cash and funds in the Organisation
			4. Apply the Managerial Applications of Marginal costing.
			5. Generate different types of budgets.
IV	43C	Executive Business Communication	1. Understand the concepts and importance of communication
			2. Understand the various kinds of business letters.
			3. Apply the mechanics of preparing the correspondence between Banks, Insurance companies with external parties.
			4. Identify the duties to be carried out by a company meetings.
			5. Prepare their resume and identify the pre preparation before attending interview.
IV	43P	Computer Application Practicle II – Oracle & C++	1. Create applications using member functions, inheritance concept and Array of objects.
			2. Implement the constructor, Destructor, operator overloading concepts and also create and access files using the files concepts.
IV	4AD	Principles of Management	1. Able to identify management thinkers and their contribution to the theories.
			2. Understand the importance of planning and its procedure
			3. Demonstrate the hierarchy of an organization structure and its different forms
			4. Know the importance of motivation and the theories relating to it
			5. Demonstrate effective coordination, communication and control measures
			1. Understand the procedure for forming a company and documents required for formation and issue of shares

IV	4ZB	Skill Based Subject 2: Company Law	2. Understand the powers and duties of a director and procedure for admission and retirement of a Director
			3. Understand the types of winding up
			4. Understand the qualification , roles and responsibilities of a company secretary
			5. Understand the types of meeting and procedure for conducting various meeting.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. Develop sound knowledge in verbal, numerical, reasoning skills and current affairs in relevant fields.
V	53A	Advanced Accounting- II	1. Prepare the final accounts of partnership firm with adjustment and division of profits.
			2. Calculate goodwill of the firm at the time of admission, retirement and death of partners
			3. Understand the procedure of dissolution and amalgamation of firms.
			4. Understand the procedure to convert partnership into company.
			5. Know the accounting standards relating to partnership firms.
V	53B	Auditing and Assurance- I	1. Understand the international and Indian auditing & assurance board
			2. Gain knowledge on auditors' engagement
			3. Know the procedure to obtain audit evidence, its reliability, and methods
			4. Computerize the audit and to document it.
			5. Apply the provisions regarding the audit of payments.
V	53C	Principles of Auditing	1. Understand the basic concepts of Auditing
			2. Identify the documents and papers for verification.
			3. Verify and value a clients Assets and Liabilities.
			4. Understand the procedures for Audit of Joint stock companies.
			5. Apply the procedures for Electronic Auditing
V	53D	Direct Tax - I	1. Understand the basic concepts of Income Tax Act
			2. Apply the provisions of Income Tax Act provisions for the calculation of salary and house property
			3. Identify the allowed and disallowed expenses in the calculation of business income, calculation of capital gain
			4. Apply the provisions relating to deductions to be made from total income
			5. Compute the tax liability of Individual assessee.
V	53E	Direct Tax - II	1. Define the procedure of direct tax assessment.
			2. Able to file IT return on individual basis.
			3. Define tax complications and structure.
			4. Aware about IT authorities and their powers.
			5. Aware about appeal & revision, tax penalties, offences and prosecutions.



V	5EA	Elective I: A) Financial Management	1. Understand the fundamentals and importance of financial management 2. Make risk and return analysis on the basis of cost of capital capital budgeting and other techniques 3. Analyse various leverages, and capitalization structure 4. Have a thorough knowledge on leasing, various dividend theories and its implementation. 5. Compute working capital requirements in real business situations.
V	5EB	Elective I: B) Entrepreneurial Development	1. Understand the Concept of Entrepreneurship, types of entrepreneurship and the development of women entrepreneur. 2. Have a thorough knowledge on the project identification and the preparation of Project report 3. Analyze various financial institutions that provide service to entrepreneurs 4. Understand the functions of various financial institutions and commercial banks. 5. Understand the incentives and subsidized services and tax benefits provided for entrepreneurs.
V	5EC	Elective I: C) Micro Finance	1. Understand micro financing system in India. 2. Have an understanding of various financial analysis tools used for microfinance. 3. Understand the framework of credit delivery methods. 4. Understand the pricing of microfinance products and its impact measurement. 5. Gain knowledge about the structure of microfinance industry and constraints of growth.
V	5ZC	Skill Based Subject 3: Banking and Insurance Law	1. Understand about banking system in India, functions and modern services provided by the bankers. 2. Deal with negotiable instruments within the gambit of rules governing it. 3. Understand the insurance system in India both life and general. 4. Understand the legal dimensions of Insurance and to have a practical knowledge in Consumer Protection Act. 5. Understand the structure of IRDA and its functioning.
VI	63A	Corporate Accounting	1. Understand the basics and types of shares and the procedures followed in companies for their issue, forfeiture and reissue. 2. Prepare accounting relating to issue and redemption of preference shares and debentures. 3. Prepare the final accounts of a company in accordance with the new format. 4. Compute the value of goodwill and shares of a firm. 5. Prepare the Liquidators' Final Statement and calculate the remuneration to be paid to the official liquidator.
VI	63B	Auditing and Assurance- II	1. Understand audit of receipts and purchase transactions. 2. Audit of sales, supplier ledger and the debtor's ledger 3. Perform the audit of impersonal ledger and assets and liabilities

			4. Prepare report based on audit of companies.
			5. Understand the audit procedures for different type of undertakings other than corporate bodies.
VI	63C	Indirect Tax	1. Understand the basic concepts of Indirect Tax.
			2. Identify the different types of GST and apply the rates as levied under the Act.
			3. File returns as per the law and knows the registration procedure under GST
			4. Gain knowledge about the collection and levy of Tax and also the supply process
			5. Calculate the Customs tariff and can evaluate the values of imported goods.
VI	6EA	Elective II: A) Business Finance	1. Have knowledge about the role of finance and financial manager in business.
			2. Gain practical exposure about preparation of financial plans in day to day business.
			3. Understand the cause, effect, and impact of over capitalization and under capitalization.
			4. Know about the capital structure and calculation of individual and composite cost of capital.
			5. Ensure different sources of finance and its pros and cons.
VI	6EB	Elective II: B) Brand Management	1. Understand the basic concepts of branding and identify the types of brands.
			2. Have knowledge about the process of brand image building
			3. Identify the impact of branding on its customers and competitors.
			4. Understand the brand performance over the product life cycle and its rejuvenation.
			5. Design and implement branding strategies.
VI	6EC	Elective II: C) Supply Chain Management	1. Understand the supply chain management concepts.
			2. Gain knowledge on the various supply chain strategies.
			3. Analyze the framework for strategic alliances.
			4. Understand the benefits and risks in procurement and outsourcing.
			5. Demonstrate pricing under different dimensions of customer value.
VI	6ED	Elective III: A) Investment Management	1. Understand basic concepts, objectives and the development of financial system in India.
			2. Gain knowledge about the capital market and SEBI.
			3. Gain knowledge on fundamental analysis for investment decision.
			4. Understand the investment alternatives
			5. Analyze various models of portfolio management.
VI	6EE	Elective III: B) Financial Markets	1. Understand financial markets and to distinguish between money & capital market.
			2. Understand the workings of Primary market and role of Merchant bankers.
			3. Have knowledge about secondary market and the regulatory mechanism.
			4. Be able to make various choices of financial intermediaries.



			5. Be familiar with leasing, factoring and securitization.
VI	6EV	Elective III: C) Project Work	1. Undertake a realtime industry project / field project and prepare a report using basic statistical tools.
VI	6ZB	Cyber Law	1.To understand the concepts of cyber law and privacy factors in E-Commerce 2.To have thorough knowledge on the security aspects in digital space 3.To be familiar with the various laws and procedures used in Evidence aspects 4.To understand EDI mechanism in present scenario 5.To be familiar with authentication of electronic records and digital signature.
VI	67A	Extension Activities	1.Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

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**Department of Commerce**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme: M.Com (CA)**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13A	Managerial Economics	1. Understand the role of Managerial economist in business decision making.
			2. Understand the concept of demand analysis, types and methods of elasticity of demand and different demand forecasting method for industrial and consumer goods.
			3. Demonstrate the appropriate method of measuring cost-output relation in specific cases.
			4. Analyse the feature that distinguish the limiting cases of competition from each other and understand their implications.
			5. Analyse the stages of business cycles and causes and remedies of industrial sickness.
I	13B	Marketing Management	1. Understand the scope, functions and principles of marketing management.
			2. Determine strategies for developing new products that are consistent with evolving market needs.
			3. Understand the role of marketing intermediaries in introducing products to market.
			4. Evolve strategies for selecting appropriate promotional mixes.
			5. Demonstrate an understanding of advertising strategies, various advertising media.
I	13C	Database Management System	1. Understand the architectural concepts of database system.
			2. Create the database by applying the concept of relation approach.
			3. Apply the concept of structural embedded SQL with other applications.
			4. Get knack of hierarchal approach in IMS data structure and their data manipulation.
			5. Understand the importance of DBTG architecture and its data structure.
I		Computer Application: MS Office & Oracle – Practical – I	1. Create database using MS Access and apply query option to retrieve data also generate reports.
			2. Prepare financial accounting and generate reports using tally and use internet for surfing the relevant information required.
			1. Understand the concept of service marketing, its importance and growth.



I	1EC	Elective – I: Group A - Paper I: Services Marketing	2.Understand the expectations of customers in order to meet their demand 3. Identify the marketing mix of service 4. Identify the key services available in service marketing 5. Measure the service quality and tools for achieving the service quality
I	1EB	Elective I: Group B - Paper I: Financial Markets and Institutions	1. Understand the working of financial markets and its types. 2. Gain knowledge about capital market. 3. Know the role of financial services institutions specifically in the areas of clearing, credit rating and discounting. 4. Understand the role of regulatory authorities in financial services 5. Understand the organizational set-up and structure of a few significant financial institutions.
I	1EA	Elective I: Group C - Paper I: Principles of International Trade	1. Know the importance and forms of international trade. 2. Understand international commodity agreements. 3. Gain knowledge on tariff system and subsidies. 4. Comprehend the significance and limitation of foreign investment. 5. Know implications and importance of globalization to the MNCs.
II	23A	Corporate Accounting	1. Calculate Managerial Remuneration and to prepare final accounts of Joint stock companies as per Schedule VI 2. Prepare the joint stock companies accounts on Amalgamation, Absorption and Reconstructions 3. Calculate the minority interest and Holding company Accounts 4. Prepare accounts of Banking and Insurance companies 5. Understand the concept of Human Resource and Government accounting
II	23B	Human Resource Management	1. Understand and perform the role of HR manager and can able to plan human resource planning process. 2. Demonstrate the knowledge of recruitment process, conducting of tests and interview. 3. Analyse and apply the procedure of training methods and evaluate effectiveness of training programmes. 4. Gain knowledge about the fundamental concepts of Discipline, Causes of indiscipline, Procedure for Disciplinary Action and Organisation conflict. 5. Compare and contrast the different techniques involved in Performance Appraisal-Process, motivation Theories and handling of grievances.
II	23C	Business Research Methods	1. Understand the basics of business research and its application and prepare a research design 2. Collect data for the research using appropriate tools for data collection 3. Analyse data and prepare a report

			4. Apply measures of central tendency and correlation/regression and interprets the results.
			5. Apply tests of hypothesis and interpret the results.
II	23D	Object Oriented Programming with C++	1. Understand the basic concepts of OOPs
			2. Gain knowledge about Data types, Loops, Arrays, Strings and Functions
			3. Understand about Classes and Objects
			4. Gain knowledge about Operating Overloading
			5. Gain knowledge about the various File Operations
II	23P	Computer Application: Tally and C++ – Practical - II	1. Create applications using member functions (both inside and outside of the class), Control structures, Array, Constructor, Destructor and operator overloading concepts, Nesting of member function and friend function.
			2. Create company, ledgers, post voucher entries and generate financial accounting reports using Tally
II	2EC	Elective II: Group A - Paper II: Marketing of Financial Services	1. Understand the money market, capital market and bond market.
			2. Gains knowledge about the role of exchanges in India
			3. Analyse the current trends in plastic card industry and benefits of bank assurance.
			4. Exhibit the knowledge about the insurance sector reforms and types of insurance companies and policies.
			5. Classify the Indian Real Estate Market and evaluate the mechanism of and evaluate the mechanism of securitization.
II	2EA	Elective II: Group B - Paper II: Indian Stock Exchanges	1. Know the evolution and growth of stock exchanges in India
			2. Understand the regulatory framework within which stock exchanges function.
			3. Gain knowledge on listing and delisting of shares.
			4. Know the provisions of Securities Contracts Act and functions and working of SEBI.
			5. To analyze the current scenario in stock trading
II	2EB	Elective II: Group C - Paper II: Export and Import Procedure	1. Develop an understanding of export business.
			2. Gain knowledge on different categories of exporters.
			3. Understand the excise procedure in exports.
			4. Gain knowledge on import trade law in India.
			5. Understand the directives of RBI in import payment.
III	33A	Cost and Management Accounting	1. Prepare a cost sheet for a product depicting the total cost and cost per unit for the production of a product.
			2. Gain insights into the fixation of stock levels and their methods of pricing and will be able to calculate the labour cost and gains knowledge in allocation and absorption of overheads.
			3. Compute the ratios and working capital requirement of a company with its balance sheet and interpret the results.
			4. Understand the flow of funds and cash into and from the company.
			5. Prepare various budgets for a company and make decisions with the help of marginal costing techniques.



III	33B	Visual Basic	1. Understand the Integrated Development Environment, properties, methods and events in Visual Basic.
			2. Analyse the uses of controls and apply to create VB applications.
			3. Understand how to declare variables and procedures.
			4. Practical exposure to process data in grid controls and connecting with SQL and MS Access database
			5. Acquire knowledge to do manipulation of data in database and generate report.
III	33P	Computer Application : Visual Basic - Practical III	1. Create applications using Menu editor, intrinsic control and controls Structures
			2. Connect VB application with database using ActiveX controls, ADO control and flex grid to display data and generate report
III	33C	Financial Management	1. Understand the fundamentals and importance of financial management
			2. Make risk and return analysis on the basis of cost of capital capital budgeting and other techniques
			3. Analyse various leverages, and capitalization structure
			4. Be familiar with dividend theories and policies.
			5. Compute working capital requirements in real business situations.
III	3EB	Elective III: Group A - Paper III: Marketing of Health Services	1. Understand the concepts of services marketing.
			2. Identify the tools of marketing mix of hospital services.
			3. Be familiar with online health care services and marketing
			4. Apply the knowledge of understanding to identify the thrust areas of hospital services.
			5. Have practical exposure about online marketing, consumer protection Act and Medicine safety rules.
III	3EA	Elective III: Group B - Paper III: Futures and Options	1. Understand the basic concepts of derivatives.
			2. Analyze the significance and movements of index derivatives.
			3. Ability to know the difference between forward contracts and futures.
			4. Understanding about various pay offs in hedging, speculation and arbitrage.
			5. Understand the evolution and development of commodity markets globally.
III	3EC	Elective III: Group C - Paper III: Institutions Facilitating International Trade	1. Understanding on the role of various institutions in promoting export in India.
			2. Comprehend role of RBI and other institutions in exporting financing.
			3. Know the functions and agreements of WTO in promoting trade.
			4. Comprehend the financing facilities provided by IMF.
			5. Gain knowledge on functions and principles of International Development association.
			1. Understand the importance of investment and factors influencing investment.

IV	43A	Investment Management	2. Understand the working of capital market and its regulatory authority
			3. Have knowledge on fundamental and technical analysis.
			4. Make choice of various investments alternative considering risk and return
			5. Be familiar with portfolio management.
IV	43B	Direct Taxes	1. Understand the basic concepts of Income Tax Act
			2. Apply the provisions of Income Tax Act for the calculation of salary and house property.
			3. Identify the allowed and disallowed expenses in the calculation of business income, and capital gain
			4. Apply the provisions relating to deductions to be made from total income and compute the tax liability of Individual assesses.
			5. Understand the role and functions of Income Tax Authorities and gain knowledge about procedure for assessment
IV	43C	Java Programming and HTML	1. Apply basic concept, structure of java programming and how to compile and execute the java program.
			2. Understand the concept of Datatypes, using control structures, creating class with objects and fields and multiple inheritance and threads.
			3. Implement java functions, array concepts, java script and applets in java Platforms
			4. Understand the history of HTML and their generations linking pages using anchor tags
			5. Accumulate practical knowledge in designing webpage by using basic tags and their properties
IV	47V	Project Work & Viva - Voce	1. Undertake a realtime industry project / field project (Commerce/IT) and prepare a report using basic statistical tools.
IV	4EB	Elective IV: Group A - Paper IV: Travel and Hospitality Services	1. Understand the concepts and elements of Tourism marketing.
			2. Classify different methods of tourism and analyse emerging trends in tourism services.
			3. Demonstrate the tools of marketing mix of tourism services.
			4. Evaluate the thrust areas of hospitality services.
			5. Have an idea about MIS, Marketing mix for hotel industry.
IV	4EA	Elective IV: Group B - Paper IV: Fundamental and Technical Analysis	1. Know the importance and need of risk and return analysis of investment in securities.
			2. Gain knowledge about fundamental analysis.
			3. Understand the meaning and method of industry and company analysis.
			4. To understand the techniques and theories of technical analysis.
			5. Understand the insight about the moving averages
			1. Know the origin, development and features of Foreign trade policy.



IV	4EC	Elective IV: Group C - Paper IV: India's International Trade	2. Gain an understanding of Legal framework of India's foreign trade.
			3. Comprehend past and future trends in India's export trade.
			4. Understand technology policy and environment of imports and intellectual property rights.
			5. Gain insight in to the global trade and impact of trade policy.

**Prepared By**

*K. V. V. V. V.*

**Approved By**

*[Signature]*

Head of the Department  
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**Department of Computer Science**  
**Course Outcomes**

**Name of the Programme : B.Sc Computer Science**  
**Period : Academic Year 2018-19 onwards**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T / 11F / 11M / 11H	Language – I: Tamil I / French I / Malayalam I / Hindi I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	13A	Core 1: Computing Fundamentals and C Programming	1. Gain knowledge about fundamentals of computer and purpose of programming language
			2. Learn the basic programming concepts in C language
			3. Familiarize with decision making and looping statements
			4. Gain knowledge in user defined data types
			5. To know the advanced C Programming concepts



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13B	Core 2: Digital Fundamentals and Computer Architecture	1.Understand the number system and binary codes
			2.Familiarize Boolean concepts and sequential circuits
			3.Understand peripheral devices,I/O interface & asynchronous data transfer
			4.Understand the concepts of priority interrupts & DMA
			5.Gain knowlegde about the difference between types of memory.
I	13P	Core Lab 1: Programming Lab – C	1.Able to implement the concepts of decision-making, branching, looping, Arrays and Structures
			2. Able to implement programs using user defined functions,Pointers and files
I	1AA	Allied 1- Mathematical Structures for Computer Science	1. Understand the concepts of Matrices and estimate Eigen values and Eigen vectors.
			2. Apply numerical methods in solving system of linear equations.
			3. Understand the concept of numerical differentiation and integration.
			4. Compute different Measures of Central tendency and Measures of Dispersion.
			5. Interpret the concepts of regression and correlation.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.
II	21T / 21H / 21F / 21M	Language-II: Tamil II / French II / Malayalam II / Hindi II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
II	23A	Core 3: C++ Programming	1. Understand the difference between object oriented programming and procedural oriented language and data types in C++.
			2. Understand the OOPs concepts
			3. Ability to develop applications using Object Oriented Programming Concepts
			4. Develop an application using OOPs concept for a given Problem.
			5. Work with File handling and Exception handling in C++.
II	23P	Core Lab 2: Programming Lab – C++	1. Develop programs with the basic control structures and functions in C++
			2. Inscribe C++ programs using classes and objects with knowledge on Object-oriented concept using C++.
II	23Q	Core Lab 3: Internet Basics	1. To create, compose, send, download an email-id.
			2. Acquire knowledge about the basic concept of how to search, read and upload using Internet.
II	2AA	Allied 2: Discrete Mathematics	1. Understand the concept of Set Theory and Laws of Set Theory.
			2. Analyze the logic and its application in Computer Science.
			3. Understand the relations, functions and their applications in matrix.
			4. Interpret the Languages, Grammar, Finite State Machine and Automata.
			5. Identify the types of graphs, trees and its application.
II	2FB	Value Education-Human Rights	1. To Understand the Importance of Social and Ethical Values



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	33A	Core 4: Data Structures	1.Analyzing algorithms and describing stack & queue operations
			2.Describing singlly linked list & Doubly Linked list opeartions.
			3.Understand with Graphs and Tree Structures.
			4. Familiarize with External storage devices & sorting.
			5. Deals about various types of Internal Sorting and file Organization
III	33B	Core 5: Java Programming	1.Understand the fundamentals of Oops concepts.
			2.Understand the syntax and semantics of basic programming concepts in Java.
			3.Implement the concepts of inheritance, packages, interfaces and applet programming.
			4.Develop skills to handle errors and exceptions.
			5.Handle the different types of files.
III	33P	Core Lab 4: Programming Lab- Java	1.Able to implement Object Oriented programming concept using basic syntaxes of control Structures, inheritance and GUI
			2.Gained skills to develop files in Java Programming with Applets & AWT
III	3AC	Allied 3:Computer Based Optimization Techniques	1. Formulate and solve LPP.
			2. Recognize and solve Transportation and Assignment Problems.
			3. Understand the concept of Game Theory and Replacement techniques.
			4. Identify the Queueing Models.
			5. Construct Network and identify the critical path
III	3ZA	Skill based subject 1: Software Engineering and Software Project Management	1 To Understand software engineering process and promote knowledge of functional and data modeling
			2.To have a clear view about design process and design concepts in software engineering
			3.To gain a knowledge about software testing and its types
			4..To understand the detail view of software configuration management
			5.To have clear view about software project estimation

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advanced Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Womens Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Core 6: System Software and Operating System	1.To understand the fundamentals of system Software and loaders and linkers
			2.To gain knowledge about the compiler features
			3.To understand the services provided by and the design of an operating system
			4.To understand the structure and organization of the virtual storage system
			5.Students should be able to use system calls for managing processes, memory and the file system.
IV	43B	Core 7: Linux and Shell Programming	1.Understand the inner workings of Linux / Unix -like operating systems
			2.Understanding the basic set of commands and utilities in Linux/UNIX systems
			3.Mastery of simple UNIX filters
			4.Familiarity of UNIX pipes and redirection, UNIX environment, traps, signals, filter parameters, filter options, UNIX contentions, and Regular Expressions
			5.Write shell scripts to automate various tasks
IV	43P	Core lab 5: Linux and Shell Programming Lab	1.Able to develop shell scripts using basic file commands and directory commands in Linux
			2. Develop skills to implement control and looping structure with shell scripts and file commands in Linux



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	4AD	Allied 4: Business Accounting	1.To understand the accounting principles and concepts
			2.To have thorough knowledge in preparing final accounts with adjustments
			3.To be familiar with the preparation of cost accounts
			4.To understand the material cost using FIFO & LIFO.
			5.To have knowledge on the management accounting & to know the preparation of various budgets.
IV	4ZP	Skill-2 Lab: Software Project Management Lab	1. To Understand and to Prepare Project Management Planning, Requirement Analysis and Orientation Designs
			2. To gain Knowledge on Preparing Project Documentation, Testing and tools
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. To Develop Sound knowledge in verbal, Numerical, Reasoning skills and current affairs in relevant fields.
V	53A	Core 8: RDBMS & Oracle	1.To understand DBMS Relationship, data modeling and Normalization
			2.To gain knowledge about client/server database and oracle tables with DDL
			3.To grasp knowledge with DML and Built-in functions
			4.To understand PL/SQL and cursors/exceptions
			5.To gain knowledge about composite data types & named blocks
V	53B	Core 9: Visual Basic	1.To Analyze program requirements
			2.To Design/develop programs with GUI interfaces
			3.To Code programs and develop interface using ODBC
			4.To have clear view on File system controls and OLE
			5.To gain knowledge on additional controls in VB
V	53P	Core lab 6: Programming Lab VB & Oracle	1.Able to Understand algorithmic thinking and apply it to programming concepts
			2. Able to develop project front end and back end using ODBC

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EA	<b>Elective 1:E-Learning</b>	1.Able to understand about E Learning, its users, Tools
			2. Able to Understand FLASH and its tools
			3. Gain knowledge on creating animation using flash
			4.Able to import and export audio /video formats
			5. Able to develop movie projects
V	5EB	<b>Elective 1: Computer Networks</b>	1.Develop knowledge on reference structure of an abstract layered protocol model
			2. Acquire skills on transmission media
			3. Gain knowledge on Data link layer
			4.Gain knowledge on network layer
			5. Gain knowledge on network security
V	5EC	<b>Elective 1 : Organizational Behavior</b>	1. Ability to understand about organization and its behaviour
			2. Acquire skills on individual behaviour, personality and attitudes
			3. Gain knowledge on motivation and process
			4.Able to learn about group dynamics and negotiation skills
			5.Gain knowledge in Communication, Decision making,organization change and development
V	5ZC	<b>Skill based subject 3: Software Testing</b>	1.Able to understand the Phases of software testing models.
			2.Able to understand about the concept of Black Box testing and integration testing.
			3.Able to use various testing techniques such as Acceptance testing and difference between functional and Nonfunctional testing.
			4. Able to deal with Performance and Regression testing.
			5.Able to understand the concept of Test planning, Execution, Reporting and Test Metrics



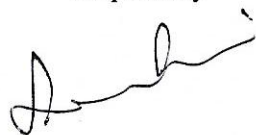
Semester	Sub code	Course	Outcomes
			<b>On successful completion of the course the students will be able to:</b>
VI	63A	Core 10:Graphics & Multimedia	1.Acquire knowledge in Output Primitives like Line, Circle, Ellipse and its attributes
			2. Gain knowledge on 2D transformations, Viewing and clipping algorithms
			3.Gain knowledge about the Basics of Multimedia concepts.
			4.Able to design and animations
			5.Able to make a video, audio files in different way.
VI	67V	Core 11: Project Work Lab	1.Acquire practical knowledge on the implementation of the programming concepts studied.
			2.Chance to show Exhibit their individual idea to develop the project
VI	63P	Core lab 7 : Programming Lab Graphics & Multimedia	1. Implement line drawing concepts to draw lines and other images with 2D transformations
			2.Able to use all tools in Photoshop and create animations.
VI	6EA	<b>Elective 2:</b> Network Security and Cryptography	1. Ability to Understand the basics of cryptography
			2. Gain knowledge on various cryptography algorithms
			3.Understand the concepts of key management and digital signature standards
			4.Familiar about authentication application
			5. Understand about the intruders and fire-walls
VI	6EB	<b>Elective 2:</b> Artificial Intelligence & Expert systems	1. Understand most fundamental knowledge for understanding AI.
			2.Understand the basic search algorithms for problem solving
			3.Understand the concept of knowledge representation and its issues
			4.Develop representation methods for predicate and proposition Logic
			5. Understand the architecture of an expert system

Semester	Sub code	Course	Outcomes
VI	6EC	Elective 2: Web Technology	On successful completion of the course the students will be able to:
			1. Understand the basics of TCP/IP and UDP
			2. Understand the fundamentals of DNS and web browsers
			3. Ability to understand the web technology
			4. Able to develop active web pages and get familiar about EDI
			5. Get familiar about XML and WAP
VI	6ED	Elective 3: Data Mining	1. Able to understand the basics of data mining.
			2. Able to understand statistical techniques.
			3. Students will be able to analyse the Classification Techniques.
			4. Gain knowledge about Clustering.
			5. Gain knowledge on Association rule Mining.
VI	6EE	Elective 3: Open Source Software	1. Able to understand the basics of open sources and open source operating system
			2. Able to gain knowledge on MySQL
			3. Students will be able to familiar about PHP
			4. Gain knowledge about Python
			5. Gain knowledge on Perl
VI	6EF	Elective 3: Mastering LAN & Trouble Shooting	1. Able to understand the fundamentals of PC Hardware
			2. Able to learn about peripheral devices, Display adapters and printer controller
			3. Students will be able to know about Mother board circuits
			4. Able to understand installation and maintenance
			5. Gain knowledge on Trouble shooting



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6ZP	Skilled based subject lab 4: Software Testing lab	1 Gain Knowledge in designing,implementing project and apply a wide variety of testing techniques in an effective and efficient manner
			2.Gain knowledge about test cases
VI	67A	Extension Activities	1.Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

Prepared by



Programme Coordinator

Approved by



Head of the Department  
Head of the Department  
Department of Computer Science  
Sri Ramakrishna College of  
Arts & Science for Women  
Coimbatore - 641 044.

## Department of Computer Science

### Course Outcomes

Name of the Programme : B.Sc Computer Science

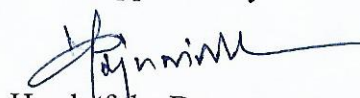
Period : Academic Year 2019-2020 Onwards

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EA	Elective 1: PYTHON Programming	1.Understand the basics concepts of Python.
			2.Understand the control statements of concepts in Python
			3.Implement the concepts of function
			4.Develop skills to handle errors and exceptions.
			5.Handle the different types of file with object oriented features
VI	6EF	Elective 3: Internet of Things (IoT)	1.To understand the basic concepts with related to logical & physical design
			2.To understand in detail about IoT and M2M
			3.To inculcate knowledge on IoT platforms design Methodology
			4.To have detailed view on Logical design using python
			5.To have clear view on Physical design

Prepared by

  
Programme Coordinator

Approved by

  
Head of the Department  
Head of the Department  
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Department of Computer Science  
Course Outcomes

Name of the Programme : Bachelor of Computer Applications  
Period : Academic Year 2018-19 onwards

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T / 11F / 11M / 11H	Language –I : Tamil I / French I / Malayalam I / Hindi I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	13A	Core 1: Computing Fundamentals and C Programming	1. Gain knowledge about fundamentals of computer and purpose of programming language
			2. Learn the basic programming concepts in C language
			3. Familiarize with decision making and looping statements
			4. Gain knowledge in user defined data types
			5. To know the advanced C Programming concepts

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13B	Core 2: Digital Fundamentals and Computer Architecture	1.Understand the number system and binary codes
			2.Familiarize Boolean concepts and sequential circuits
			3.Understand peripheral devices,I/O interface & asynchronous data transfer
			4.Understand the concepts of priority interrupts & DMA
			5.Gain knowlegde about the difference between types of memory.
I	13P	Core Lab 1: Programming Lab – C	1.Able to implement the concepts of decision-making, branching, looping ,Arrays and Structures
			2. Able to implement programs using user defined functions,Pointers and files
I	1AA	Allied 1- Mathematical Structures for Computer Science	1. Understand the concepts of matrices and estimate Eigen values and Eigen vectors.
			2. Apply numerical methods in solving system of linear equations.
			3. Understand the concept of numerical differentiation and integration.
			4. Compute different measures of central tendency and measure of dispersion.
			5. Interpret the concepts of regression and correlation.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.
II	21T / 21H / 21F / 21M	Language-II: Tamil II / French II / Malayalam II / Hindi II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
II	23A	Core 3: C++ Programming	1. Understand the difference between object oriented programming and procedural oriented language and data types in C++.
			2. Understand the OOPs concepts
			3. Ability to develop applications using Object Oriented Programming Concepts
			4. Develop an application using OOPs concept for a given Problem.
			5. Work with File handling and Exception handling in C++.
II	23P	Core Lab 2: Programming Lab – C++	1. Develop programs with the basic control structures and functions in C++
II	23Q	Core Lab 3: Internet Basics	2. Inscribe C++ programs using classes and objects with knowledge on Object-oriented concept using C++.
			1. To create, compose, send, download an email-id.
II	2AA	Allied 2: Discrete Mathematics	2. Acquire knowledge about the basic concept of how to search, read and upload using Internet.
			1. Understand the concept of Set Theory and Laws of Set Theory.
			2. Analyze the logic and its application in Computer Science.
			3. Understand the relations, functions and their applications in matrix.
			4. Interpret the Languages, Grammar, Finite State Machine and Automata.
			5. Identify the types of graphs, trees and its application.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	2FB	Value Education-Human Rights	1. To Understand the Importance of Social and Ethical Values
III	33A	Core 4: Data Structures	1. Analyze algorithms and algorithm correctness.
			2. Summarize searching and sorting techniques.
			3. Understand with Graphs and Tree Structures.
			4. Familiarize with storage devices.
			5. Describe stack, queue and linked list operation.
III	33B	Core 5: Java Programming	1. Understand the fundamentals of OOPS concepts.
			2. Understand the syntax and semantics of basic programming concepts in Java.
			3. Implement the concepts of inheritance, packages, interfaces and applet programming.
			4. Develop skills to handle errors and exceptions.
			5. Handle the different types of files.
III	33P	Core Lab 4: Programming Lab- Java	1. Able to implement Object Oriented programming concept using basic syntaxes of control Structures, inheritance and GUI
			2. Gained skills to develop files in Java Programming with Applets & AWT
III	3AC	Allied 3: Computer Based Optimization Techniques	1. Formulate and solve LPP.
			2. Recognize and solve Transportation and Assignment Problems.
			3. Understand the concept of Game Theory and Replacement techniques.
			4. Identify the Queueing Models.
			5. Construct Network and identify the critical path



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	3ZA	Skill based subject 1: Web Programming	1. Students will be able to understand concepts Internet and World Wide Web
			2. Students will develop knowledge on HTML
			3. Students will be able to develop interactive web pages with HTML & DHTML.
			4. Students will understand XML concepts
			5. Students will be able to create XML Style sheets.
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advanced Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Womens Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Core 6: System Software and Operating System	1.To understand the fundamentals of system Software and loaders and linkers
			2.To gain knowledge about the compiler features
			3.To understand the services provided by and the design of an operating system
			4.To understand the structure and organization of the virtual storage system
			5.Students should be able to use system calls for managing processes, memory and the file system.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	43B	Core 7 : Linux and Shell Programming	1.Understand the inner workings of Linux / Unix -like operating systems
			2.Understanding the basic set of commands and utilities in Linux/UNIX systems
			3.Mastery of simple UNIX filters
			4.Familiarity of UNIX pipes and redirection, UNIX environment, traps, signals, filter parameters, filter options, UNIX contentions, and Regular Expressions
			5.Write shell scripts to automate various tasks
IV	43P	Core Lab 5: Linux and Shell Programming Lab	1.Able to develop shell scripts using basic file commands and directory commands in Linux
			2. Develop skills to implement control and looping structure with shell scripts and file commands in Linux
IV	4AD	Allied 4: Business Accounting	1.To understand the accounting principles and concepts
			2.To have thorough knowledge in preparing final accounts with adjustments
			3.To be familiar with the preparation of cost accounts
			4.To understand the material cost using FIFO & LIFO.
			5.To have knowledge on the management accounting & to know the preparation of various budgets.
IV	4ZP	Skill lab-2: Web Programming Lab	1.Develop web pages using basic HTML tags using frames and tags
			2. Gained Knowledge on developing complete web pages
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. To Develop Sound knowledge in verbal, Numerical, Reasoning skills and current affairs in relevant fields.
V	53A	Core 8: RDBMS & Oracle	1.To understand DBMS Relationship, data modeling and Normalization
			2.To gain knowledge about client/server database and oracle tables with DDL
			3.To grasp knowledge with DML and Built-in functions
			4.To understand PL/SQL and cursors/exceptions
			5. To gain knowledge about composite data types and named blocks
V	53B	Core 9: Visual Basic	1.To Analyze program requirements
			2.To Design/develop programs with GUI interfaces
			3.To Code programs and develop interface using ODBC
			4.To have clear view on File system controls and OLE
			5.To gain knowledge on additional controls in VB
V	53P	Core lab 6: Programming Lab VB & Oracle	1.Able to Understand algorithmic thinking and apply it to programming concepts
			2. Able to develop project front end and back end using ODBC
V	5EA	Elective 1: Introduction to Compiler Design	1. To realize basics of compiler design and apply for real time applications
			2. To introduce different translation languages
			3, To understand the concepts of syntax phase.
			4. To know about compiler generation tools and techniques
			5. To understand the importance of code optimization

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EB	Elective 1: PHP & Scripting Language	1. Understand the Open source related concepts and basics of VB and Java script.
			2. Develop Scripting language skills in VB Script, Java Script and PHP using data validation.
			3. Students To know the different in Server side scripting and Client side scripting, concepts on cookies and frames.
			4. Working with PHP programs
			5. Working with File handling and Exception handling
V	5EC	Elective 1: Digital Image Processing	1. To understand the Digital Image Fundamentals
			2. Understand the need for different types of image transforms and their properties
			3. Have an understanding of the underlying mechanisms of image compression
			4. Learning methods involving in Feature Extraction
			5. Apply the 2-D Representation
V	5ZC	Skill based subject 3: CASE Tools & Concepts	1.To make students familiarize with software development life cycle phases
			2.To gain knowledge about various automated tools used for the design phase
			3. The applications of case tools
			4. To understand the UML diagrams and its architecture
			5. To gain knowledge about uses of UML diagrams



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	63A	Core 10:Graphics & Multimedia	1.Acquire knowledge in Output Primitives like Line, Circle, Ellipse and its attributes
			2. Gain knowledge on 2D transformations,Viewing and clipping algorithms
			3.Gain knowledge about the Basics of Multimedia concepts.
			4.Able to design and animations
			5.Able to make a video, audio files in different way.
VI	67V	Core 11: Project Work Lab	1.Acquire practical knowledge on the implementation of the programming concepts studied.
			2.Chance to show Exhibit their individual idea to develop the project
VI	63P	Core lab 7: Programming Lab Graphics & Multimedia	1. Implement line drawing concepts to draw lines and other images with 2D transformations
			2.Able to use all tools in Photoshop and create animations.
VI	6EA	Elective 2: Computer Networks	1.Develop knowledge on reference ructure of an abstract layered protocol model
			2. Acquire skills on transmission media
			3. Gain knowledge on Data link layer
			4.Gain knowledge on network layer
			5. Gain knowledge on network security
VI	6EB	Elective 2: Dot Net Programming	1. Understand the architecture of .NET Framework
			2. Acquired knowledge on VB.Net Basic Controls
			3. Learn VB.Net arrays and Files.
			4. Able to develop web application using ASP.Net
			5. Acquired knowledge on ASP.Net Web forms and developing websites

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6EC	Elective 2: Distributed Computing	1. Understand the designing a distributed processing
			2. Learn the methods managing the distributed resources
			3. Analysis the requirements of Design considerations
			4. Understand various types of networking models
			5. Understand the trends and principles of distributed computing
VI	6ED	Elective 3: E-Commerce	1.Elaborate business to business e-commerce.
			2.Explain security issues in e-commerce.
			3.Describe the process of Selling and Marketing on web
			4.Explain regulatory environment of e-commerce
			5.Discuss various E-business Strategies.
VI	6EE	Elective 3: Web Services	1. Get insight of the concepts of web services...
			2. Enable the students to learn basic technologies of web services.
			3. Enable to understand real world web service deployment and application
			4. Understand the technologies under distributed computing.
			5. Understand how to build the real world applications using Web Services.
VI	6EF	Elective 3: Software Testing	1.Students will be able to understand the concepts of software testing and apply it to programming.
			2.Students will be able to understand problem-solving techniques.
			3.Students will be able to use various testing techniques.
			4.Students will be able to deal with the real life implementation problems.
			5.Students will be able to plan,management, execution and reporting



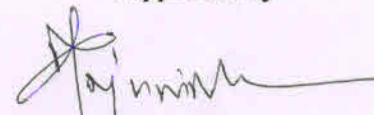
Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6ZP	Skilled based subject lab 4: CASE Tools lab	1 Gain Knowledge in designing and implementing project at design level
			2. Gain knowledge about test cases
VI	67A	Extension Activities	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

Prepared by



Programme Coordinator

Approved by



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## Department of Computer Science

### Course Outcomes

Name of the Programme : Bachelor of Computer Applications

Period : Academic Year 2019-2020 Onwards

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EC	Elective 1: PYTHON Programming	1. Understand the basics concepts of Python.
			2. Understand the control statements of concepts in Python
			3. Implement the concepts of function
			4. Develop skills to handle errors and exceptions.
			5. Handle the different types of file with object oriented features
VI	6ED	Elective 3: Internet of Things (IoT)	1. To understand the basic concepts with related to logical & physical design
			2. To understand in detail about IoT and M2M
			3. To inculcate knowledge on IoT platforms design Methodology
			4. To have detailed view on Logical design using python
			5. To have clear view on Physical design

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**Department of Computer Science**  
**Course Outcomes**

Name of the Programme : B.Sc Information Technology

Period : Academic Year 2018-19 onwards

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T / 11F / 11M / 11H	Language –I: Tamil I / French I / Malayalam I / Hindi I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13A	Core 1: Computing Fundamentals and C Programming	1. Gain knowledge about fundamentals of computer and purpose of programming language
			2. Learn the basic programming concepts in C language
			3. Familiarize with decision making and looping statements
			4. Gain knowledge in user defined data types
			5. To know the advanced C Programming concepts
I	13B	Core 2: Digital Fundamentals and Computer Architecture	1. Understand the number system and binary codes
			2. Familiarize Boolean concepts and sequential circuits
			3. Understand peripheral devices, I/O interface & asynchronous data transfer
			4. Understand the concepts of priority interrupts & DMA
			5. Gain knowledge about the difference between types of memory.
I	13P	Core Lab 1: Programming Lab – C	1. Able to implement the concepts of decision-making, branching, looping, Arrays and Structures
			2. Able to implement programs using user defined functions, Pointers and files
I	1AA	Allied 1- Mathematical Structures for Computer Science	1. Understand the concepts of matrices and estimate Eigen values and Eigen vectors.
			2. Apply numerical methods in solving system of linear equations.
			3. Understand the concept of numerical differentiation and integration.
			4. Compute different measures of central tendency and measure of dispersion.
			5. Interpret the concepts of regression and correlation.



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components , interdependence and be aware of the importance of sustainable development.
II	21T / 21H / 21F / 21M	Language-II: Tamil II / French II / Malayalam II / Hindi II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
II	23A	Core 3: C++ Programming	1. Understand the difference between object oriented programming and procedural oriented language and data types in C++.
			2. Understand the OOPs concepts
			3. Ability to develop applications using Object Oriented Programming Concepts
			4. Develop an application using OOPs concept for a given Problem.
			5. Work with File handling and Exception handling in C++.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	23P	Core Lab 2: Programming Lab – C++	1. Develop programs with the basic control structures and functions in C++
			2. Inscribe C++ programs using classes and objects with knowledge on Object-oriented concept using C++.
II	23Q	Core Lab 3: Internet Basics Lab	1. To create, compose, send, download an email-id.
			2. Acquire knowledge about the basic concept of how to search, read and upload using Internet.
II	2AA	Allied 2: Discrete Mathematics	1. Understand the concept of Set Theory and Laws of Set Theory.
			2. Analyze the logic and its application in Computer Science.
			3. Understand the relations, functions and their applications in matrix.
			4. Interpret the Languages, Grammar, Finite State Machine and Automata.
			5. Identify the types of graphs, trees and its application.
II	2FB	Value Education- Human Rights	1. To Understand the Importance of Social and Ethical Values
III	33A	Core 4: Data Structures	1. Analyze algorithms and algorithm correctness.
			2. Summarize searching and sorting techniques.
			3. Understand with Graphs and Tree Structures.
			4. Familiarize with storage devices.
			5. Describe stack, queue and linked list operation.



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	33B	Core 5: Java Programming	1.Understand the fundamentals of Oops concepts.
			2.Understand the syntax and semantics of basic programming concepts in Java.
			3.Implement the concepts of inheritance, packages, interfaces and applet programming.
			4.Develop skills to handle errors and exceptions.
			5.Handle the different types of files.
III	33P	Core Lab 4: Programming Lab- Java	1.Able to implement Object Oriented programming concept using basic syntaxes of control Structures, inheritance and GUI
			2.Gained skills to develop files in Java Programming with Applets & AWT
III	3AC	Allied 3: Microprocessor & ALP	1.To understand basic architecture of 16 bit and 32 bit microprocessors
			2.To understand the concept of 8086 instruction groups
			3.To understand about intel 386 & 486 microprocessors
			4.Able to understand Data Transfer
			5.Able to understand the concept of MOTOROLA 68000
III	3ZA	Skill-1 Introduction to web design & Applications	1. Understand the basic usage of Email,
			2.To understand the usage of HTML usage,
			3.To establish and to know clear view about world wide web.
			4. To have a detail view about headers and footer usage.
			5.To have detailed information about usage of e-books and magazines and electronic journals

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advance Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Womens Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Core 6: System Software and Operating System	1.To understand the fundamentals of system Software and loaders and linkers
			2.To gain knowledge about the compiler features
			3.To understand the services provided by and the design of an operating system
			4.To understand the structure and organization of the virtual storage system
			5.Students should be able to use system calls for managing processes, memory and the file system.
IV	43B	Core 7:Linux and Shell Programming	1.Understand the inner workings of Linux / Unix -like operating systems
			2.Understanding the basic set of commands and utilities in Linux/UNIX systems
			3.Mastery of simple UNIX filters
			4.Familiarity of UNIX pipes and redirection, UNIX environment, traps, signals, filter parameters, filter options, UNIX contentions, and Regular Expressions
			5.Write shell scripts to automate various tasks



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	43P	Core Lab 5:Linux and Shell Programming Lab	1.Able to develop shell scripts using basic file commands and directory commands in Linux
			2. Develop skills to implement control and looping structure with shell scripts and file commands in Linux
IV	4AD	Allied 4: Mastering LAN and Trouble Shooting	1.To understand the basic usage of Hardware and its types
			2.To understand in detail about peripheral devices
			3.To inculcate knowledge on MotherBoard Circuits
			4.To have detailed view on installing and maintaining hardware
			5.To have clear view on fault finding and Troubleshooting
IV	4ZP	Skill-2 Lab: HTML, XML and JavaScript Lab	1.To gain knowledge about different types of tags and how it is useful in creating a webpage.
			2.To promote creativity skills in web designing using HTML and XML tags.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. To Develop Sound knowledge in verbal, Numerical, Reasoning skills and current affairs in relevant fields.

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	53A	Core 8: RDBMS & Oracle	1.To understand DBMS Relationship, data modeling and Normalization
			2.To gain knowledge about client/server database and oracle tables with DDL
			3.To grasp knowledge with DML and Built-in functions
			4.To understand PL/SQL and cursors/exceptions
			5. To gain knowledge about composite data types and named blocks
V	53B	Core 9: Visual Basic	1.To Analyze program requirements
			2.To Design/develop programs with GUI interfaces
			3.To Code programs and develop interface using ODBC
			4.To have clear view on File system controls and OLE
			5.To gain knowledge on additional controls in VB
V	53P	Core lab 6: Pragramming Lab VB & Oracle	1.Able to Understand algorithmic thinking and apply it to programming concepts
			2. Able to develop project front end and back end using ODBC
V	5EA	Elective- I- Soft Computing	1.To undersatand fuzzy logic and its applications
			2.To familiarize with soft computing concepts.
			3.Inculcate knowledge on Artifical intellegence and neural Network.
			4. Able to do Soft computing aplications in various domain
			5. Hybrid system usage, application and Optimization.



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EB	Elective- I Animation Techniques	1.To understand the concept of Animation and its types and techniques
			2.To inculcate knowledge about creating Animation on Flash
			3.To have detailed knowledge about 3D Animation
			4.To understand the concepts of Motion Caption
			5.To have clear view about Colors, Motion Development and 3D animation Movies
V	5EC	Elective- I Business Intelligence	1. Understand how transaction processing data drives Business Intelligence solutions
			2. To draw valuable insights that can be converted into value added products or services
			3. Develop the life skills/ interpersonal skills to progress professionally by building stronger relationships
			4. Demonstrate awareness of contemporary issues knowledge of professional and ethical responsibilities.
			5. Help to solve specific business issues with the help of data.
V	5ZC	Skill based Subject 3: Dot Net Programming	1. Understand the architecture of .NET Framework
			2. Acquired knowledge on VB.Net Basic Controls
			3. Learn VB.Net arrays and Files.
			4. Able to develop web application using ASP.Net
			5. Acquired knowledge on ASP.Net Web forms and developing websites

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	63A	Core 10: Graphics & Multimedia	1.Acquire knowledge in Output Primitives like Line, Circle, Ellipse and its attributes
			2. Gain knowledge on 2D transformations, Viewing and clipping algorithms
			3.Gain knowledge about the Basics of Multimedia concepts.
			4.Able to design and animations
			5.Able to make a video, audio files in different way.
VI	67V	Core 11: Project Work Lab	1.Acquire practical knowledge on the implementation of the programming concepts studied.
			2.Chance to show Exhibit their individual idea to develop the project
VI	63P	Core lab 7 : Programming Lab Graphics & Multimedia	1. Implement line drawing concepts to draw lines and other images with 2D transformations
			2.Able to use all tools in Photoshop and create animations.
VI	6EA	Elective II - Network Security and Administration	1. Knowledge on basic concepts of system level security
			2.To Able to maintain and monitor the security operation.
			3.Able to understand the Network systems and applications
			4. Explore the working principles and utilities of various cryptographic algorithms
			5. To gain knowledge on design issues and working principles of various authentication



Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6EB	Elective II- Mobile Computing	1. Explain the principles and theories of mobile computing technologies.
			2. Describe Android platform and its operations.
			3. Use multimedia, camera and Location based services in Android App.
			4. Describe the possible future of mobile computing technologies and applications.4.
			5. Discuss various security issues in Android platform.
VI	6EC	Elective II - Internet Programming	1. To get familiar with basics of the Internet Programming.
			2. Design and develop interactive, client-side, executable web applications.
			3.To master in Scripting Languages
			4. To explore different web extensions and web services standards
			5. To gain ability to develop responsive web applications
VI	6ED	Elective III - E-Learning	1.Understand the concept of e-learning and integrating the technology.
			2..To gain detailed knowledge on e-learning strategies.
			3..Understand the technology mediated communication and its application.
			4.Understand the concepts of WBI,HMD.
			5..Inculcate knowledge in planning the role of information technology in virtual classroom.


Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6EE	Elective III- Component Technology	1. Understand the fundamental hardware components that make up a computer's hardware
			2. Identify the principal components of a given computer system
			3. Describe some examples of computers and state the effect that the use of computer technology
			4. Understand the difference between an operating system and an application program, and what each is used for in a computer
			5. Familiarity with the technologies and standards for component models and service-oriented computing.
VI	6EF	Elective III: E-Commerce	1. Elaborate business to business e-commerce.
			2. Explain security issues in e-commerce.
			3. Describe the process of Selling and Marketing on web
			4. Explain regulatory environment of e-commerce
			5. Discuss various Ebusiness Strategies.
VI	6ZP	Skilled based subject lab 4: Dot Net lab	1. To create a database in VB.net using basic operations
			2. To create an application in .net using menus and controls
VI	57A	Extension Activities	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

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**Department of Computer Science**

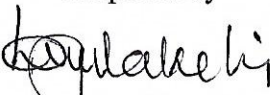
**Course Outcomes**

Name of the Programme : B.Sc Information Technology

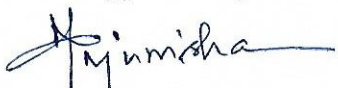
Period : Academic Year 2019-2020 Onwards

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
VI	6EC	Elective 2: PYTHON Programming	1.Understand the basics concepts of Python.
			2.Understand the control statements of concepts in Python
			3.Implement the concepts of function
			4.Develop skills to handle errors and exceptions.
			5.Handle the different types of file with object oriented features
VI	6ED	Elective 3: Internet of Things (IoT)	1.To understand the basic concepts with related to logical & physical design
			2.To understand in detail about IoT and M2M
			3.To inculcate knowledge on IoT platforms design Methodology
			4.To have detailed view on Logical design using python
			5.To have clear view on Physical design

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**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	33A	Visual Programming	1. Acquired knowledge on the visual basic IDE.
			2. Have acquired insights on Controls, Looping & Control structures and Functions.
			3. Obtained knowledge on Arrays and File Manipulation.
			4. Acquired knowledge on MFC Classes , Object Properties and Resources.
			5. Understand DAO & ODBC Connectivity and Threading concepts.
III	33B	Java Programming	1. Comprehend the concepts in core java including applets.
			2. Study the Networking concepts.
			3. Explore the JDBC.
			4. Study the concepts of Servlets and JSP.
			5. Learn the Swing and JQuery concepts.
III	33C	Analysis & Design of Information Systems	1. Understand the Basics of Data structure & algorithm
			2. Understand the algorithm design method Divide & Conquer & to solve the problems
			3. Inculcate knowledge on Greedy Method.
			4. Able to apply Dynamic programming method to solve the problems.
			5. Understand Backtracking method and understand how to apply different design techniques to find the solution to the problem
III	33D	Computer Networks	1. Gain the knowledge basic networking.
			2. Know in design issues of physical layer.
			3. Learn the function in data link layer
			4. Know about the Network and transport layers.
			5. Learn the design issues of session and application layers.





**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	33E	Operations Research	1. Formulate and solve the LPP
			2. Solve transportation and assignment problems
			3. Identify the EOQ model
			4. Construct network and identify the critical path
			5. Identify and solve the queueing model
III	33P	Visual Programming Lab	1. Program for a various application like notepad, employee, supplier, hospital..etc.,
			2. Program for create and reading text file
III	33Q	Java Programming Lab	1. Gain the knowledge in programming Applet, RMI and Socket
			2. Study JDBC Concepts, Servlet and JSP Pages
IV	43A	.Net Programming	1. Understood the architecture of .NET Framework
			2. Acquired knowledge on VB.Net Basic Controls
			3. Learn VB.Net arrays and Files.
			4. Able to develop web application using ASP.Net
			5. Acquired knowledge on ASP.Net Web forms and developing websites
IV	43B	Computer Graphics & Multimedia	1. Implement any image with straight line using Line drawing algorithms
			2. Able to Draw circle, Elipse using Bresenham's algorighm
			3. Perform 2D/ 3D transformations for any image
			4. Study about the basic concepts of audio, video, video and animation
			5. Know about Data compression techniques
IV	43C	Software Project Management	1. Know about Software Project Planning, Resources, Risks
			2. Study about Project Evaluation and Models
			3. Analyse the Project effort estimation
			4. Learn about Software Project Risk management
			5. Know about Software project Managing Contracts, Measures and standards



**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	4EA	Client Server Technology	1. Understand client server computing, benefits and its applications
			2. Explore client server hardware, operating system, databases and categories
			3. Study database management, access tools, software products and server categories
			4. Know application development environment, distributed transaction management and integrated environments.
			5. Inculcate knowledge on production requirements, network management and hardware software trends
IV	4EB	Digital Image Processing	1. Study origin of DIP, fundamentals and linear & non linear operations
			2. Know about basic gray level transformations, spatial filtering and methods
			3. Explore image restoration, filtering and geometric transformation
			4. Understand image compression, error free compression and image compression
			5. Gain knowledge on image segmentation and its usages
IV	4EE	Open Source Software	1. Understand the free Open source software available in current technology.
			2. Understand the free Open source software Life Cycle.
			3. Know the running environments and Applications.
			4. Able to basics of Perl, list arrays and hash and write Perl scripts.
			5. Working with PHP programs
IV	4EF	Mobile Computing	1. Understand digital information, mobile communication and requirements
			2. Study on cellular mobile communication, standards and cordless mobile communications
			3. Gain knowledge on satellites in mobile communication and inferences in cellular communication
			4. Explore mobile Internet and wireless local loop architecture
			5. Inculcate knowledge on Ad hoc network and Intelligent mobile communication



**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
IV	4EC	Distributed Computing	1. Explore on distributed processing systems, network & interconnection structure and designing process
			2. Understand pros & cons, challenges and managing distributed processing system
			3. Gain knowledge on design consideration and decision trees
			4. Study client/server network model and email server
			5. Acquire knowledge on distributed databases and R* techniques
IV	4ED	Cloud Computing	1. Understand basic concepts of cloud.
			2. Able to cloud architecture.
			3. Explore the application of cloud.
			4. Know the challenges in cloud.
			5. Understand the Benefits of cloud computing
IV	43P	.NET Programming Lab	1. Acquired knowledge on how to create the windows and Font application using VB.NET
			2. Able to develop web application and connecting it with the backend.
IV	43Q	Graphics and Multimedia Lab	1. Able to perform 2D /3D transformations and clipping
			2. Acquire knowledge to use basic tools of Photoshop
V	53A	Software Testing	1. Gets an insight into the processes of software testing.
			2. Know how to do project planning for the software testing
			3. Understand the quality concepts for ensuring the functionality of the software
			4. Implement various test processes for quality improvement
			5. Design test planning
V	53B	Network Security and Cryptography	1. Get an insight into the n/w security services & techniques
			2. Know about encryption algorithms.
			3. Understand the key management techniques
			4. Study about Authentication applications
			5. Identify the intruder's detection

Department of Computer Science  
Course Outcomes (Academic Year 2018-19 Onwards)  
Name of the Programme : MCA

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	53C	Data Mining and Warehousing	1. Understood the KDD Process and Statistical Methods & Techniques
			2. Understood the algorithms used for Classification
			3. Understood the Association rules, Clustering techniques
			4. Acquired knowledge on the data warehousing concepts, Architecture and Tools
			5. Understood the areas where the Data warehousing are practically applied
V	5EA	Web Services	1. Get insight of the concepts of web services...
			2. Enable the students to learn basic technologies of web services.
			3. Enable to Use real world web service application
			4. Understand the technologies under distributed computing.
			5. Understood how to build the real world applications using Web Services.
V	5EC	Middleware Technologies	1. Understand middleware, objects and applications
			2. Learn on OOM and java RMI
			3. Explore on CORBA
			4. Study on webservices and security
			5. Clear view on types of middleware
V	5EB	Neural Networks	1. Understand on pattern classification and boolean neural network
			2. Learn hopfield network, Hamming network and Kohonen's network
			3. Study on fuzzy relation, matrices and operations
			4. Explore fuzzy variables, measures and defuzzication and application
			5. Case study on application of neural network
V	5EG	Parallel Processing	1. Understand on parallel processing and multiprocessor architecture
			2. Learn on principle of pipelining and designing pipeline architecture
			3. Explore on types of operating systems and software tools
			4. Study on thread based implementation and distributed computing
			5. Work on algorithm for parallel machines





**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EE	E-Commerce	1. Understand e-commerce framework
			2. Learn architecture and web technology
			3. Study on electronic payment system
			4. Explore internal information system, supply chain and datawarehouse
			5. Clear view on new age of information based marketing and information search and retrieval
V	5ED	Embedded Systems	1. Understand the embedded systems
			2. Learn on devices, buses for device networks
			3. Explore program modeling concepts in single & multiprocessor systems software
			4. Clear view on Inter processing communication and real time OS
			5. Study on Hardware and software co-design on embedded and case study on embedded
V	5EF	Information Retrieval System	1. Know the introduction to retrieval of information from the web,
			2. Know various applications and query structures.
			3. Learn about multimedia information retrieval process.
			4. Enable the students to learn the basics of search operation on the web
			5. Explore the methods to retrieve from the web like text, image and multimedia contents.



**Department of Computer Science**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : MCA**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
V	5EH	Big Data Analysis	1. Understand the importance of big data and examples of big data
			2. Learn installing R and data operations
			3. Study on installing Hadoop
			4. Explore hadoop features
			5. Study on HDFS architecture
V	57V	Mini Project	1. Understand the real time business model of the organization.
			2. Provide software solution to enhance the organisation performance
V	53P	Software Testing Lab	1. Investigate the reason for bugs Explore basics of testing procedure
			2. Know the knowledge about types of testing
VI	67V	Project Work and Viva Voce	1. Understand the real time business model of the organization.
			2. Provide software solution to enhance the organisation performance

Prepared by

Approved by

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**Department of Computer Science**

**Course Outcomes (Academic Year 2018-19 Onwards)**

**Name of the Programme : M.Sc CS**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13A	Analysis & Design of algorithms	1. Understand the Basics of Data structure & algorithm & how to analyse the performance of algorithm
			2. Understand the algorithm design method Divide & Conquer & able to apply this method to solve the problems.
			3. Inculcate knowledge on Greedy Method.
			4. Able to apply Dynamic programming method to solve the problems.
			5. Understand Backtracking method and understand how to apply different design techniques to find the solution to the problem.
I	13B	Object Oriented Analysis and Design & C++	1. Understand object model concepts
			2. Understand Classes and objects
			3. Know the basic C++ programming concepts.
			4. Explore the key concepts in object oriented C++.
			5. Know the advanced OO concepts in C++.
I	13C	Advanced Networks	1. Know the introduction of WAN and TCP/IP
			2. Gain the knowledge in Internet Address and client-server model of interaction.
			3. Explore the knowledge in Internet protocol and Routing.
			4. Know the user datagram protocol.
			5. Understand File transfer Access and Internet management.
I	13D	Advanced Software Engineering	1. Know the characteristics of software and process model.
			2. Understand about requirement engineering and management.
			3. Understand software project management and risk management.
			4. Explore on object oriented and function oriented design.
			5. Explore the programming algorithm concepts
I	13P	Algorithm and OOPS Lab	1. Work on problems like Knapsack, divide & conquer and 8 queens.
			2. Learn virtual function & parameterized constructors.



**Department of Computer Science**

**Course Outcomes (Academic Year 2018-19 Onwards)**

**Name of the Programme : M.Sc CS**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	13Q	Software Testing Lab	1. Explore basics of testing procedure 2. Understand the concept of testing tool
II	23A	Data Mining and Warehousing	1. Learn the KDD Process and Statistical Methods & Techniques 2. Explore the algorithms used for Classification 3. Understand the Association rules, Clustering techniques. 4. Understand the Architecture and Tools used in Data warehousing 5. Explore Developing and the Application areas of Data warehousing
II	23B	Advanced Operating system	1. Learn the concept of OS and Working Of Process 2. Clear view about the communication and Its Problems 3. Study the Concepts Of Distributed Os Concepts And Design. 4. Comprehend the Concepts Of Unix. 5. Explore the Process Control In Unix.
II	23C	Advanced Java Programming	1. Comprehend the concepts in core java including applets. 2. Study the Networking concepts. 3. Explore the JDBC. 4. Study the concepts of Servlets and JSP. 5. Learn the Swing and JQuery concepts.
II	23D	Artificial Intelligence & Expert Systems	1. Understand the AI problems and techniques. 2. Understand the heuristic search techniques. 3. Able to represent facts with predicate and preposition logic. 4. Explore the statistical reasoning & knowledge representation techniques 5. Understand the concepts of Expert System





**Department of Computer Science**

**Course Outcomes (Academic Year 2018-19 Onwards)**

**Name of the Programme : M.Sc CS**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	2EA	Multimedia and its Applications	1. Understand the basic concepts of multimedia and basic software tools
			2. Learn multimedia authoring tools, building blocks, text and sound
			3. Know about the images and how to do the animations and videos
			4. Explore about the Internet, tools and designing of world wide web
			5. Understand high definition television and knowledge based multimedia
II	2EB	Embedded Systems	1. Understand architecture, Input and output pins of 8051, Memory, Timings and Interrupts
			2. Clear view on instruction set and programming and applications
			3. Learn concepts on RTOS and operating system services.
			4. Study basic design of RTOS and RTL and QNX principles
			5. Explore software tools and debugging techniques
II	2EC	PHP Programming	1. Understand the basic concepts of operators and flow controls in PHP.
			2. Learn PHP functions, browser handling and web page data reading..
			3. Know object oriented programming and file handling in PHP.
			4. Work with databases and setting sessions, cookies and FTP.
			5. Inculcate the knowledge in AJAX and Drawing Images on the server.
II	23P	Advanced Java Programming Lab	1. Gain the knowledge in programming Applet.
			2. Learn R MI, JDBC, Servlet, JSP and Socket programming.
II	23Q	Data Mining using R	1. Gained the knowledge on basics of R and implementing visualization Techniques.
			2. Apply packages used in classification, clustering algorithms and statistical techniques in R

**Department of Computer Science**

**Course Outcomes (Academic Year 2018-19 Onwards)**

**Name of the Programme : M.Sc CS**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	33A	Digital Image Processing	1. Learn about basic of Matlab
			2. Explore the Techniques of Histogram
			3. Study various types of restoration
			4. Know types of filtration
			5. Learn about Edge detection
III	33B	Python Programming	1. Learn about the basic data types in Python
			2. Explore to use loops, Functions and error handling in Python
			3. Learn Modules, Packages and OOPs
			4. Explore about the strings, File Handling and Web handling
			5. Acquire the knowledge on Systems, Concurrency and Networks
III	33C	Network Security and Cryptography	1. Understand the basic concepts of cryptography
			2. Explore the different types of algorithms
			3. Acquire the knowledge on Authentication, Encryption, E-mail and IP security.
			4. Deal with web, system and password security.
			5. Case study on cryptographic algorithms and study of various security algorithms.
III	33D	Business Intelligence	1. Major tools and business
			2. Intelligence Components of Hadoop
			3. Connectivity of Hadoop
			4. Various platforms solutions for big data.
			5. Process of Implementing Big data
III	3EA	Mobile Computing	1. Learn advantages of digital information, telephone systems and Mobile communications
			2. Explore on cellular mobile communication, mobility and frequency management
			3. Study on mobile computing and satellites in mobile computing
			4. Understand the mobile computing parameters and wireless local loop architecture
			5. Various technology and ad hoc network





**Department of Computer Science**

**Course Outcomes (Academic Year 2018-19 Onwards)**

**Name of the Programme : M.Sc CS**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
III	3EB	Cloud Computing	1. Learn basic concepts of cloud.
			2. Explore on cloud architecture.
			3. Acquire the knowledge on application of cloud.
			4. Learn the challenges in cloud.
			5. Comprehend the benefits of cloud computing
III	3EC	Web Services	1. Understand distributed computing and web services industry standards
			2. Learn XML fundamentals and schema
			3. Explore on SOAP and UDDI
			4. Learn advance web services technology
			5. Acquire the knowledge on QoS and web service management.
III	33P	Python Programming Lab	1. To learn basic of Python and working with set, tuple, etc data types
			2. Explore and work on class, exception handling, deal with files and web design
III	33Q	Digital Image Processing using MATLAB	1. To learn about basic of Matlab and techniques of Histogram
			2. Explore and work on various types of Restoration, types of filtration and work on Edge detection
III	33R	Web Designing Lab	1. To learn about HTML
			2. Creating webpages, PHP
IV	47V	Project Work and Viva voce	1. The project work is to experience the way in which organizations functions.
			2. Develop quality software solution for real time projects

Prepared by

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**DEPARTMENT OF BIOCHEMISTRY**  
**COURSE OUTCOME**

**Name of the Programme: B.Sc Biochemistry**

**Period: Academic Year 2018- 2019 onwards**

Semester	Subject code	Course	Course Outcome
			On successful completion of the course the students will be able to:
I	11T/F/M/H	Language – I (Tamil I / French I / Malayalam I / Hindi I)	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society.
I	12E	English – I	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society
I	13A	Core Paper I- Biomolecules	Gain a through knowledge about the structure, chemistry and function of carbohydrates
			Develop in depth knowledge about the significance of the complex lipids
			Understand the importance of proteins and peptides
			Obtain knowledge about the salient features of nucleic acids
			Attain knowledge about the importance of vitamins and minerals.
I	13B	Core Paper II- Cell Biology	Gain a through knowledge about the overview of cells and cell cycle
			Develop knowledge about the various cell organelles with their functions and actions



			Acquire information about the structure and transport of molecules across biological membranes
			Understand the relationship between cellular and genetic organization and biological functions
			Apply the application of cell biology in cancer research
I	1AA	Allied A: Paper I- Chemistry	Understand the concept and importance of chemical bonding and organic compounds
			Gain knowledge about the Industrial uses of gases and dyes
			Acquire information about the covalent bond and isomerism
			Understand about the types of solutions and chemical kinetics
			Acquire knowledge about the conductance and buffer systems
I	1FA	Environmental Studies	Understand the concept and interdependence of ecosystem, importance of environmental conservation and sustainable development.
II	21T/F/M/H	Language – II (Tamil II/ French II/ Malayalam II / Hindi II)	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society.
II	22E	English – II	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society
II	23A	Core Paper II- Biomedical instrumentation	Understand the concepts and the preparation of expressing various strength of the solutions
			Acquire knowledge about the principle and the applications of chromatographic techniques
			Gain knowledge about the principle and the applications of Electrophoretic techniques
			Obtain knowledge about the principle and the applications of spectroscopic techniques
			Develop knowledge about the application of radioisotopes in biological field
II	2AA	Allied A: Paper II-	Gain information about Metals and its extraction

		Chemistry-II	Understand about aromatic compounds and its electrophilic substitution reactions
			Obtain information about Preparation and properties of amino acids and carbohydrates
			Acquire information about energetics and its significance
			Proficient in the principles of electrochemistry
II	23P	Core Practicals I	Facilitate students to identify the sugars
			Facilitate students to identify the amino acids
			Analyze biomolecules by separation techniques
II	2AH	Allied A: Practicals	Facilitate the students to neutralize the acids and bases by titrimetric reactions
			Facilitate the students to identify the organic compounds
II	2FB	Value Education- Human Rights	Understand the importance of human values and Ethics, and to have knowledge on human rights as per the constitution.
III	31T/M/H/F	Language – I (Tamil I/French I/Malayalm I/Hindi I)	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society.
III	32E	English – III	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society
III	33A	Core Paper IV: Enzyme and enzyme technology	Understand The structure of the enzyme and its classification
			Understand the kinetics of the enzyme
			Obtain information about the mechanism of action of enzymes and co-enzymes
			Gain knowledge about the production, Purification and characterization of immobilized enzymes
			Understand about the applications of enzymes
III	33B	Core Paper V-	Understand the basics in microscopy, culture methods and staining techniques



		Microbiology	Develop idea about the morphology of bacteria, algae and fungi
			Gain information about the morphology of virus
			Gain indepth knowledge about Microbial diseases, their etiology and prevention
			Obtain the mechanism of Pathogenesis of microbes in water, soil and food
III	3ZA	Skill based Subject I-Bioinformatics and medical coding	Understand the concepts and applications of biological databases
			Gain information about the principle and applications of various search tools
			Acquire knowledge on the concepts of drug designing
			Understand the concepts of terminologies in medical coding
			Obtain the guidelines of medical transcriptionist
III	3AR	Basic mathematics	Solve problems involving binomial, exponential and logarithmic series.
			Solve linear equations using matrices.
			Apply derivative to find velocity, acceleration and maxima- minima.
			Perform simple integration.
			Understand the concept measures of central tendency, dispersion and correlation
III	3FC	Yoga for Human Excellence	To have a basic knowledge of yoga for physical and mental health.
III	3FA	Basic Tamil I	Be competent on fundamental language skills such as listening, speaking, reading and writing.
III	3FB	Advanced Tamil I	Be competent on fundamental language skills such as listening, speaking, reading and writing.
IV	41T/M/H/F	Language – IV (Tamil IV/French IV/Malayalam IV/Hindi IV)	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society.
IV	42E	English – IV	Be competent on fundamental language skills such as listening, speaking, reading and writing.
			Understand the basic grammar.
			Proficient on the vocabulary of the language.
			Be capable of comprehensive skills.
			Understand and have knowledge on the culture of the respective society
IV	43A	Core Paper VI Intermediary	understand the Concepts of thermodynamics and the mechanism of energy transfer in ETC
			generate idea about the Fate of the dietary carbohydrates

		metabolism	gain knowledge about the Fate of the dietary lipids
			acquire information about Fate of the dietary proteins
			Integrate metabolic concepts among the carbohydrates, fat and protein metabolism
IV	43P	Core Practical II	Expertise in estimation of various biomolecules.
			expertise in enzymic analysis
			Acquire knowledge about the separation techniques
IV	4AC	Allied B: Paper II- Computer	Understand the Characteristics of Computers, Flowcharts and Algorithms
			Understand C Programming Language, variables, expressions and operators
			Understand about Input, Output function and conditional and Compound Statements
			Understand about Arrays
			Understand about Functions and Strings
IV	43Q	Allied Practical	Programs using Conditional Statements
			Programs using relational operators
			Programs using Functions, arrays and strings
IV	4ZB	Skill based subject 2- Basics of Information technology	Understand the Concepts of numbering system
			Understand the basics of Algorithm and its components
			Understand the applications of internet in various field
			Understand the importance of database system
			Understand the concepts of networking
IV	4FA	General Awareness	Proficient in verbal and numerical aptitude, abstract reasoning and general knowledge on various subjects including current affairs.
IV	4FA	Basic Tamil II	Be competent on fundamental language skills such as listening, speaking, reading and writing.
IV	4FB	Advanced Tamil II	Be competent on fundamental language skills such as listening, speaking, reading and writing.
V	53A	Core Paper VII- Human physiology	Understand the Concepts of vision and skeletal muscle
			Understand the composition of blood , and other biological body fluids
			Understand the mechanism of respiratory and excretory system
			Understand the mechanism of nervous and endocrine system
			Understand the mechanism of male and female reproductive organs
V	53B	Core Paper VIII- Clinical	Understand the diagnostic processes and complications of carbohydrate metabolism
			Understand the diagnostic processes and complications of lipid metabolism



		Biochemistry	Understand the diagnostic processes and complications of amino acids
			Understand the diagnostic processes and complications on digestive disorders
			Understand the assessment of liver and renal functions
V	53C	Core Paper IX- Molecular Biology	Understand the replication process in prokaryotes and eukaryotes
			Understand the transcription process in prokaryotes and eukaryotes
			Understand the translation process in prokaryotes and eukaryotes
			Understand the mechanism and gene regulation in prokaryotes
			Understand the mechanism of mutations
V	53D	Core Paper X- Genetic engineering and Bioprocess technology	Understand the basics of gene cloning
			Understand the concept of genomic and cDNA library
			Obtain knowledge about DNA sequencing methods
			Understand the concept of expression vectors
			Acquire information about Bioprocess technology
V	5EA	Elective (A)- Immunology and immunotechniques	Understand the historical developments of immunology
			Gain knowledge about interaction of antigen and antibody in defence mechanism
			Understand the techniques employed to study the antigen and antibody interaction
			Understand clinical manifestations of hypersensitivity reactions
			Understand the mechanism and mode of action of transplantation
V	5EB	Elective (B)- Introduction to biomaterials	Understand about the occurrence and characteristics of biomaterials
			Obtain information about Second generation biomaterials and their properties
			Gain knowledge about the interaction between biological materials
			Understand the applications of nanoprobe and nanosensors
			Understand the mechanism of SEM and TEM
V	5EC	Elective ©- Nutritional biochemistry	Correlate relationship between nutritional and clinical health
			Obtain information about Sources and functions of biomolecules
			Understand about BMR and factors affecting it
			Gain knowledge about mineral and vitamins- sources and function

			Understand the concepts and facts of Nutrition challenges of the future –
V	5ZC	Skill Based Subject 3 – Basics of patent and bioethics	Understand the concept and importance of patent and IPR
			Acquire the knowledge about the bioethics and containment levels
			Understand the ethical procedures for genetic engineering methods
			Gain information about ethical procedures to work in the laboratory conditions and safety measures
			Understand the ethics in clinical trials and good clinical practices
VI	63A	Core Paper XI- Plant Biochemistry and therapeutics	Acquire information about mechanism of photosynthesis
			Understand the concepts about cycles of elements
			Understand the mode of action of plant growth regulators
			Gain information about the mode of action of plant morphogenesis
			Understand the concepts of secondary metabolites and their mode of action
VI	63B	Core Paper XII- Medicinal chemistry	Understand the transport of the drugs and the drug receptor interaction
			Gain knowledge about drug metabolism and elimination
			Understand about mode of action of drugs against bacteria and virus
			Understand mode of action of drugs acting on CNS and cardio vascular system
			Gain knowledge about drugs of plant origin and their uses and abuses.
VI	63P	Core Practical III	Gain the knowledge about diagnostic procedures
			Acquire knowledge about and interpretation of biological components
VI	63Q	Core Practical IV	Acquire knowledge about isolation and identification of microbial by staining
			Evaluate the effect of bioparameters on enzymic studies
VI	6EB	Elective II A- Plant and animal biotechnology	Understand the components of culture media and plant tissue culture techniques
			Learn about the techniques of genetic engineering in plants
			Understand the components of culture media and techniques of animal cell culture
			Learn about the synthesis and applications of recombinant proteins from cell cultures
			Learn about the techniques of genetic engineering in animals
VI	6EB	Elective II B- Nanomaterials and nanomedicine	Develop idea about the Structure property relationship of Biological materials in tissue engineering
			Gain information about implants and their applications




			Understand about Synthetic implant materials
			Gain knowledge on Metallic and ceramic implants
			Develop idea about nanoparticles and drug delivery vehicles
VI	6EC	Elective II C- Health and hygiene	Understand the Concept of health and diseases
			Understand the Nutritional Profiles of principle foods and their deficient status
			Acquire information about health requirements in the environment
			Understand about Family planning methods
			Acquire knowledge about Health care programmes in India
VI	6ED	Elective III (A)- Clinical laboratory technology	Interpret on the various clinical tests
			Interpret on the levels of enzymes and hormones
			Understand the mechanism of serodiagnostic procedures
			Understand about complete analysis of biological fluids
			Gain information about importance of blood bank
VI	6EE	Elective III (B)- nanobiotechnology	Manipulate nanostructured materials to basic and applied studies
			Develop biocompatible devices for medical implants
			Biomolecular recognition devices and polymer nanocontainers
			Utilise DNA molecules in nanomechanics and computing
			Understand molecules in nanomechanics and computing.
VI	6EF	Elective III ©- Sports biochemistry	Gain information about Nanoparticles as carrier for genetic material
			Develop Interrelationship among sports, exercise and games
			Understand Skeletal muscle system and metabolic systems in Exercise:
			Gain information about cardiac muscle system and metabolic systems in Exercise:
			Assess various techniques for a sports person
VI	6ZP	Practical in Bioinformatics	Understand the healthy Nutrition for sports and Exercise:
			Acquire skill on working tools of MS office
			Gain knowledge on various insilico techniques
			Get accustomed to structure prediction tools
			Visualize different types of biomolecules

III	3FD	Women's Rights	To understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
VI		Extension activities	Recognize the importance of contributing to the betterment of society and engage in activities related to the same

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**DEPARTMENT OF BIOCHEMISTRY**  
**COURSE OUTCOME**

Name of the Programme: M.Sc Biochemistry

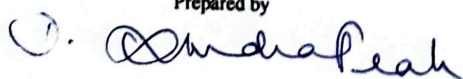
Period: Academic Year 2018-2019 onwards

Semester	Subject code	Course	Course Outcome
			On successful completion of the course the students will be able to:
I	13A	BIOPOLYMERS	1. Gain an indepth understanding on the basic principles, mechanisms and significances of biopolysaccharides 2. Obtain knowledge on the conformational properties of biological proteins 3. Gain Information about all lipids and their biological significance. 4. Develop clear idea on the types, structure and biological functions of nucleic acids 5. Obtain clear understanding on the characterization and nucleic acid recognition by proteins and their related techniques.
	13B	ANALYTICAL BIOCHEMISTRY AND BIOINFORMATICS	1. Gain detailed information on the principles and applications of spectroscopic techniques and centrifugation methods. 2. Acquire knowledge on separation of bioactive components by chromatographic and electrophoretic techniques. 3. Develop overview on characterization of biomolecules by diffraction and radio chemical methods. 4. Acquire thorough knowledge on various applications and scopes of Bioinformatics 5. Gain Indepth understanding of the concepts of biological databases and their applications.
	13C	ENZYMES AND ENZYME TECHNOLOGY	1. Develop knowledge on the basic concept and recent advances in Enzyme studies. 2. Gain indepth understanding of current issues in enzyme catalysis, antioxidants etc. 3. Acquire comprehensive understanding on enzyme kinetics and inhibition. immobilization and biosensors. 4. Obtain knowledge on applications of enzymes in various industries 5. Get clear idea on techniques of immobilization and biosensors
	13D	CELLULAR BIOCHEMISTRY	1. Obtain knowledge about the chemistry and functions of cell membrane. 2. Understand about the transport in cell membrane. 3. Gain knowledge on the power house of the cells. 4. Gain knowledge on cell to cell signalling and interactions. 5. develop information about the programmed cell death and cancer cell properties
	13E	PLANT BIOCHEMISTRY AND BIOTECHNOLOGY	1. Understand about the photosystem of plants and chemical synthesis of photophosphorylation. absorption. 2. Analyse cognizant of different types of plants based on their carbon 3. Gain basic knowledge about nitrogen and sulphur metabolism. 4. understand an overview of Structural organization of plant genome. 5. develop clear idea about the plant organelle development.
I	1EA	ELECTIVE A- CELL CULTURE AND MOLECULAR TECHNIQUES- PLANT TISSUE CULTURE	1. Gain knowledge about genome organization in plants 2. Gain knowledge about embryo culture and artificial seed production conservation 3. Develop Basic concepts of cryopreservation germplasm 4. Understand basic concepts of plant transformation 5. Gain knowledge about secondary metabolites
	1EB	ELECTIVE - B- COMPUTATIONAL MOLECULAR BIOLOGY	1. Gain indepth knowledge about all genome databases 2. Acquire Overview of the sequence alignment 3. Gain knowledge about the evolutionary bioinformatics 4. Gain knowledge about the functional transcriptional regulatory signals 5. Obtain knowledge about the profile pattern
	1EC	ELECTIVE- C- NANOSCIENCE- CHARACTERIZATION OF NANOMATERIALS	1. Understand the history of nanotechniques at their atomic level 2. Gain knowledge about the interactions of nanoparticles 3. Gain indepth knowledge about nanostructures and their properties 4. Gain in depth knowledge on high vacuum technology
II	23A	MICROBIAL BIOCHEMISTRY	1. Understand the basic principles of metabolic processes within the cell. 2. Obtain theoretical knowledge about the fermentation techniques and the synthesis of intermediary components. 3. Understand the theoretical knowledge on bio process technology. 4. Develop insight on microbial production of fermented products 5. Understand the basics of mammalian cell culture techniques
	23B	IMMUNOLOGY	1. Gain key knowledge about the lymphoid organs and their products. 2. Understand the concept about the development of antibodies and their detection 3. Understand the immune cell receptors. 4. Gain significant knowledge development in over expression of immune system. 5. Acquire the application of immunotechniques in biological field
II	23C	ADVANCED CLINICAL BIOCHEMISTRY	1. Understand the physiological and clinical importance of Hb and its disorders. 2. Gain detailed knowledge on the biological sample collection and its interpretation. 3. Understand the importance of enzymes in diagnosis of diseases. 4. Develop Knowledge on physiological organs and its related disorders 5. Gain in depth idea on oncology aspects and anti oxidants.
	23D	MOLECULAR BIOLOGY	1. Gain knowledge on structural organization of eukaryotic chromosomes. 2. Understand the molecular mechanism of replication of recombination 3. Gain knowledge about the eukaryotic and prokaryotic transcription process

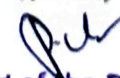


			4. Obtain knowledge regarding RNA processing and regulation
			5. Understand about the transcriptional processing of its involving sub cellular organelle
II	2EA	ELECTIVE A- CELL CULTURE AND MOLECULAR TECHNIQUES- PLANT TISSUE CULTURE	1. Gain knowledge about culture media preparation 2. Develop Idea about types of cell culture 3. Gain In-depth knowledge of characterization of cultured cells 4. Obtain knowledge on embryology and stem cell culture 5. gain knowledge of transgenic animal production and its application
II	2EB	ELECTIVE - B- COMPUTATIONAL MOLECULAR BIOLOGY- GENOMICS	1. Gain basic uses of structures of genomes 2. Obtain thorough knowledge of mapping and sequencing of genome 3. Gain the knowledge about the gene evolution and human genome project 4. Gain the knowledge about the DNA sequencing and modeling 5. Understand the concepts of comparative genomics of prokaryotes and eukaryotes
II	2EC	ELECTIVE- C- NANOSCIENCE- CHARACTERIZATION OF NANOMATERIALS	1. Gain knowledge about fundamentals of sol gel processing techniques of nanoparticles 2. Acquire In-depth details of coating of nanomaterial 3. Gain knowledge about synthesis of nanostructures 4. Develop Idea about various forms of carbon
II	23P	CORE PRACTICAL I	Expertise in estimation of various enzymes and interpretation expertise in molecular biology tools Acquire knowledge about the immunology techniques
III	33A	BIOSTATISTICS AND RESEARCH METHODOLOGY	1. Gain knowledge on conducting survey and data interpretation and to develop skill in identification of research problem, thesis writing and publication in journal 2. Have basic knowledge on measures of central tendency and variation 3. Gain sufficient knowledge on theoretical and normal distribution 4. Grasp knowledge on tests of significance 5. Have better understanding on analysis of variance.
III	33B	METABOLISM AND METABOLIC REGULATION	1. Gain a detailed overview on carbohydrate metabolism and its regulation . 2. Acquire detailed overview on lipid metabolism and its regulation. 3. Gain detailed overview on amino acid metabolism and its regulation. 4. Obtain detailed overview on porphyrin metabolism and its regulation. 5. Understand a detailed overview on plant metabolism and its regulation.
III	33C	GENETIC ENGINEERING	1. To have basic understanding of Mendelian genetics 2. To have deeper understanding on the techniques of gene manipulation . 3. Clear understanding of cloning vector, their development and their application 4. Acquire knowledge and cloning strategies and expression vectors 5. Develop adequate knowledge on gene transfer methods , selectable markers and their applications
III	33D	ENDOCRINOLOGY	1. Gain basic knowledge of hormones and their receptors. 2. Provide information on pituitary, thyroid, parathyroid hormones 3. Provide information on pituitary hormones and pineal gland and their pathophysiology 4. Gain knowledge on pancreatic hormones and their pathophysiology 5. Gain information on reproductive hormones and their pathophysiology
III	33E	PHARMACEUTICAL CHEMISTRY AND NEUROCHEMISTRY	1. To have deeper understanding on various routes of drug administration, distribution and excretion 2. Learn about principles of basic pharmacokinetics 3. Gain knowledge on drug delivery system. 4. Understand about drugs used in therapy. 5. Gain knowledge on neurotransmitters and neurodegenerative disorders.
III	3EA	ELECTIVE A- CELL CULTURE AND MOLECULAR TECHNIQUES- PLANT TISSUE CULTURE	1. Gain Knowledge on structural organization of eukaryotic chromosomes. 2. Understand molecular mechanism of replication and recombination 3. Acquire knowledge about the eukaryotic and prokaryotic transcription process 4. Obtain knowledge regarding RNA processing and regulation 5. Understand about the transcriptional processing of its involving sub cellular organelle
III	3EB	ELECTIVE - B- COMPUTATIONAL MOLECULAR BIOLOGY- PROTEOMICS	1. Understand electrophoresis, chromatography techniques. 2. Clearly understand analysis of proteins. 3. Gain thorough knowledge on structural proteomics. 4. Gain knowledge on developing new drugs. 5. Have clear idea on computational protein – protein interactions.
V	3EC	ELECTIVE- C- NANOSCIENCE- CHARACTERIZATION OF NANOMATERIALS	1. To know about basics and applications of nanomaterials. 2. To know about important material systems. 3. To know about photodetectors. 4. acquire knowledge Quantitative study of proteins and nucleic acids.
IV	43P	CORE PRACTICAL II	Expertise in estimation of various biomolecules. Expertise in enzymic analysis Acquire knowledge about the separation techniques
IV	4EP	ELECTIVE PRACTICAL	Gain knowledge on various insilico techniques Get accustomed to structure prediction tools Visualize different types of biomolecules
IV	47V	PROJECT	Acquire knowledge about the analytical techniques Gain knowledge on various insilico techniques Application in the real time experiments and research

Prepared by



Approved by



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**DEPARTMENT OF BIOCHEMISTRY**

**COURSE OUTCOME**

Name of the Programme: M.Sc Biochemistry  
Period: Academic Year 2019- 2020 onwards

Semester	Subject code	Course	Course Outcome
			On successful completion of the course the students will be able to:
I	13A	BIOMOLECULAR CHEMISTRY	1. Understand on the basic principles, mechanisms and significances of biopolysaccharides. .
			2. Gain knowledge on the conformational properties of biological proteins
			3. Acquire Information about all lipids and their biological significance.
			4. Obtain clear idea on the types, structure and biological functions of nucleic acids
			5. Obtain clear understanding on the characterization and nucleic acid recognition by proteins and their related techniques.
II	23A	MICROBIAL BIOCHEMISTRY	1. Understand the basic principles of metabolic processes within the cell.
			2. Gain theoretical knowledge about the fermentation techniques and the synthesis of intermediary components.
			3. Attain theoretical knowledge on bio process technology.
			4. Understand insights on microbial production of fermented products
			5. Obtain information on biochemical and molecular triggering of infections

Prepared by

D. Sundarashan

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**Department of Business Administration**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : BBA(BPM)**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T/11H/ 11F/11M	Language –I Tamil I / Hindi I / French I / Malayalam I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.

I	13A	Principles of Management	1. Understand the management concepts and functional areas of management in business arena.
			2. Evaluate the conceptual framework of planning and decision-making in day today life.
			3. Understand the managerial functions of organizing and staffing to achieve the target of the organization.
			4. Analyze the theories of motivation, leadership and communication in a variety of circumstances and management practices in organizations
			5. Evaluate the control process, to apply theoretical knowledge in simulated and real-life settings.
I	13B	Business Economics	1. Apply the objectives of business firms, demand analysis and elasticity of demand in daily life.
			2. Identify the effective use of factor of production and BEP Analysis.
			3. Understand the determination of the price, market structure and competition.
			4. Analyze various theories of wages, interest and profit in business field.
			5. Evaluate the core areas quantitative data in econometrics.
I	1AA	Mathematics for Management I	1. Understand the concepts of matrix and compute inverse of matrix.
			2. Understand the concept of set theory, simple and compound interest.
			3. Collect, present and analyze the data.
			4. Interpret the concepts of dispersion correlation and regression.
			5. Gain knowledge in index numbers and time series.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components, interdependence and be aware of the importance of sustainable development.
II	21T	Language-II Tamil II / French II / Malayalam II / Hindi II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.

			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
II	23A	Human Resource Management	1. Understand the concepts and functions of HRM
			2. Analyze the nature of job and able to prepare Job descriptions and job specifications
			3. Strategically plan for the recruitment and selection of qualified candidates.
			4. Plan their career and gain an understanding of ways organizations can assist individuals in pursuing their career goals
			5. Understand the types of grievances and the mechanism for resolving it.
II	23B	Business Law	1. Understand the concepts of contract, offer and acceptance
			2. Analyze the legal rules and impart the same in their day to day business.
			3. Gain knowledge on agreement, quasi contract and breach of contract
			4. Gather insights on contract of sale and vendor rights
			5. Understand about creation and termination of agency
III	2AA	Mathematics for Management II	1. Formulate LPP and solve graphically.
			2. Solve transportation and assignment problem.



			3. Understand the concept of game theory.
			4. Construct network and identify the critical path using CPM.
			5. Gain knowledge in PERT and replacement models.
II	2FB	Value Education- Human Rights	1. To understand the importance of social and ethical values
III	33A	Business Correspondence	1. Review and refine communications skills
			2. Learn and apply effective written communication techniques.
			3. Determine and use proper psychological approach in writing letters based on situations.
			4. Complete employment communications.
			5. Explore the importance of communicating effectively in the world of work
III	33B	Financial Accounting	1. Understand the basic accounting concepts
			2. Understand double entry book keeping system and various books of accounts
			3. Preparation of final accounts
			4. Preparation of non-trading institutions income and expenditure account and calculate depreciation
			5. Preparation of account from incomplete records
III	33C	Basics of Business Process Services	1. Understand the basics, growth drivers and challenges in BPO industry
			2. Gain knowledge of BPO industry opportunities and their requirements, Technology and types of call centers
			3. Analyze the concepts in healthcare BPO, its structure, trends and threats
			4. Gather insights on concepts of Transaction Process BPO - back office & financial services
			5. Acquire knowledge of Human Resource BPO - evolution, trends and other emerging BPO domains

III	33D	Insurance for Business Process Services	1. Understand the basics of insurance and the underlying concepts in risk management.
			2. Demonstrate the different types of life and general insurance business.
			3. Evaluate the principles of fire insurance, marine insurance and motor insurance.
			4. Appraise the importance of health insurance, life annuity and retirement savings.
			5. Comprehend the need for outsourcing in insurance industry
III	33P	PC Software (MS Office Practical)	1. Understand the basics of MS Office, prepare documents using Ms-Word and spreadsheets using Ms-Excel
			2. Prepare presentations using Ms-PowerPoint, prepare databases using Ms-Access
III	3ZV	Communication Skills I	1. To hone their speaking and writing skills by reinforcing their listening and reading skills and habituating them
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advance Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FE	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Marketing Management	1. Acquire knowledge on importance and functions of marketing
			2. Understand buyer behavior, market segmentation and channel selection
			3. Analyze the types of products, product life cycle and product packaging
			4. Overview of pricing strategies and methods
			5. Gain insights on branding concepts
IV	43B	Financial	1. Understand the concept of finance functions

		Management	2. Learn the use of computing cost of capital
			3. Know the significance capital structure
			4. Grasp the concept of capital budgeting,
			5. Understand the benefits of working capital management
IV	43C	Finance and Accounting for Business Process Services	1. Label the outsourcing need and current trends in BPO, lean and six sigma.
			2. Understand the various activities in PO creation, vendor management and invoice processing.
			3. Explain the activities in credit management, collection procedures and reporting.
			4. Review the accounting standards.
			5. Outline general ledger and emerging trends in F&A technology, ERP and international financial reporting standards.
IV	43D	Banking for Business Process Services	1. Understand the overview of banking, classification of banks and accounting opening procedures
			2. Acquire knowledge on retail banking and customer relationship management
			3. Gain insights on features of cheque, loan procedures and issue of securities
			4. Gather knowledge on service channels of banks
			5. Understand the overview of cash management
IV	4AD	Taxation Law and Practice	1. Understand the principles of direct and indirect taxes
			2. Learnt the concepts of calculation of tax, what are tax authorities and procedures.
			3. Perform computation of income under salary, profession, house property, profits and gains of Business
			4. Learnt the basic concept of GST and constitutional framework of GST Model
			5. Understand the basic concept of time and value of taxable supply, GST council and guiding principles



IV	4ZV	Communication Skills II	1. Learn the importance of building vocabulary by learning new words and their meanings and using it effectively in their conversations and in writing reports, letters, and reviews.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. To develop sound knowledge in verbal, numerical, reasoning skills and current affairs in relevant fields.
V	53A	Research Methods for Management	1. Understand the concept of research, various types of research sampling techniques
			2. Apply data collection methods and tabulate it
			3. Understand the statistical analysis part and its implications
			4. Prepare research reports and graphically represent data
			5. Apply research into various fields
V	53B	Cost and Management Accounting	1. Understand scope and objectives of cost and management accounting, cost and classification
			2. Prepare cost sheet, compute EOQ, stock levels, materials issue and labour remuneration
			3. Prepare comparative and common size balance sheet and income statement and analyze various ratios
			4. Analyze and prepare fund flow and cash flow statements
			5. Understand standard costing, variance analysis and prepare budgets
V	53C	Managing Business Process Services	1. Understand Concept and components of process management, steps involved in business process management.
			2. Formulate Business process modelling, swim lane diagram and understand the recent trends in BPM
			3. Comprehend the importance of six sigma, lean methodology principles and tools.
			4. Gain the knowledge about quality management process, tools and quality assurance.

			5. Able to identify the risk and evaluate the type of risk and formulate the mitigation strategy.
V	53D	Retail Supply Chain Management	1. Understand the concept, key issues and phases of supply chain management
			2. Understand the operations management in supply chain management
			3. Understand the procurement of supply chain
			4. Gain knowledge about elements of logistics management and warehousing
			5. Acquire knowledge about global issues in supply chain management
V	5EA	Advertising and Sales Promotion	1. Understand the concept, importance of advertising and different forms of media
			2. Acquire knowledge on advertising agencies, advertising appeals, advertising budget, different elements of advertising
			3. Grasp the concepts of advertising layout, typography and advertising campaign
			4. Learnt the nuances of sales force management, recruitment, training and compensation
			5. Know the different types of sales promotion tools
V	5EB	Management Information System	1. Understand the basics of information systems and MIS structures.
			2. Understand the strategic information system and data base management system models
			3. Understand the features of computer hardware and software.
			4. Understand the use of input devices and output devices
			5. Understand the trends that impacted telecommunication revolution and introduction to e-commerce.
V	5EC	Consumer Behaviour	1. Understand the scope and significance of consumer behaviour and customer value satisfaction
			2. Gain insights on the process of consumer research, consumer motives and consumer perception
			3. Apply consumer behavioural learning theories to understand the customer attitude

			4. Gather knowledge on life style profile of consumers and cross cultural behaviour strategies
			5. Learn about the model of decision making and opinion leadership
V	5ED	Introduction to ERP	1. Understand the basics of ERP systems, data warehousing and data mining
			2. Gather insights on ERP implementation, its requirements, project teams and data migration
			3. Acquire knowledge on operation, maintenance and quality management of ERP systems
			4. Gain information on the scope of marketing ERP systems by understanding market snapshots
			5. Understand the application and future trends of ERP
V	57A	Institutional Training	1. Understand the functions and operating procedures of various departments in a production firm.
V	5ZV	Campus To Corporate	1. Understand and apply the knowledge gathered on etiquettes, attire aspects, e-communication, aptitude and positive attitude for a smooth transition from campus to corporate
VI	63A	Entrepreneurship and Project Management	1. Analyze the entrepreneurial process through which business ideas are evaluated and the characteristics of successful entrepreneurs
			2. Identify and describe strategies for supporting entrepreneurship
			3. Distinguish between business ideas and opportunities
			4. Explain how to write a formalized business plan, and perform this task
			5. Explain how to write a marketing plan, and perform this task; identify and describe team-building dynamics
VI	63B	Services Marketing	1. Understand the characteristics of services, classification of services, evolution and growth of service sector.
			2. Understand the service marketing system, marketing mix, service product, pricing, promotion and distribution and physical evidence.
			3. Understand service quality and service quality management.
			4. Understand the services in Hospitality, Travel & Tourism, Logistics, Healthcare and Telecom services.
			5. Understand the marketing strategies for financial services and educational services



VI	63C	Capital Markets for Business Process Services	1. Understand the basics and concepts of investments, securities and investment banking
			2. Gain knowledge on functions of financial services and growth of financial service market in India
			3. Analyze the trends in capital market and money market
			4. Understand the types and transactions of mutual funds and financial derivatives
			5. Analyze and measure the risk involved in capital market
VI	6EA	Modern Office Management	1. Learn the concept, functions of office, office manager, principles of office organization
			2. Understand the features to be considered while selecting office location, office communication types and barriers
			3. Understand the meaning and significance of office correspondence and record keeping
			4. Grasp the concepts of office systems and procedures and work simplification
			5. Acquire knowledge on employee morale, employee welfare and grievance handling
VI	6EB	Customer Relationship Management	1. Understand the overview of relationship marketing and customer life cycle
			2. Gain insights on evolution of Customer Relationship Management and importance of customer divisibility
			3. Gather knowledge on sales force automation and enterprise marketing
			4. Learn about value chain, customer eco system and vendor selection
			5. Acquire knowledge about database marketing, data warehouse and data mining
VI	6EC	E-Commerce	1. Understand the foundations of electronic commerce
			2. Gain knowledge on internet consumers and market research
			3. Acquire insights on advertisement in e-commerce
			4. Know the concepts of business-to-business and electronic marketing

			5. Understand public policy and legal issues involved in e-commerce
VI	6ED	International Business Environment	1. Understand the importance of adjusting to environmental needs
			2. Analyze the significance of understanding the role of natural and economic environment
			3. Gain insights on the impact of cultural environment on international business
			4. Gather knowledge about legal environment and the commercial laws followed by various countries
			5. Know about the measures taken to protect natural and economic environment in India and in other countries
VI	6EE	Strategic Management	1. Understand the overview of strategic management, its types, benefits and the concept of social audit
			2. Analyze the concept of strategy formulation and SWOT
			3. Gather insights on the various strategies and its significance
			4. Gain knowledge on strategic implementation and its role in gaining competitive advantage
			5. Learn about the use of strategic evaluation and the criterion used
VI	6EF	Financial Services	1. Understand the concept of merchant banking
			2. Gain knowledge about hire purchase
			3. Gather insights about mutual fund and its performance
			4. Acquire knowledge about venture capital and credit rating institutions
			5. Get knowledge about mergers and acquisitions.
VI	6EG	Intellectual Property Rights	1. Understand the basics of intellectual property rights and its types
			2. Gather insights on the significance of patent applications in India
			3. Acquire knowledge on fundamentals of trademarks and the need for obtaining protection for industrial design

			4. Gain information on copyrights, ownership, registration and transfer
			5. Understand the concept of geographical indications, plant varieties and farmers rights
VI	6EV	Project Work and Viva Voce	1. Undertake research work in a specific management domain and present feasible solutions which is of use to industry and society.
VI	6ZV	Soft Skills for Business	1. Understand the core areas of communication, leadership, teamwork and personal development skills using practical approach and to explore the real world challenges, apply the knowledge of assertiveness in building real world situations to a chose their career path.
VI	67A	Extension Activity	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same

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**Department of Business Administration**  
**Course Outcomes (Academic Year 2018-19 Onwards)**  
**Name of the Programme : BBA(CA)**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to :
I	11T/ 11H/ 11F/ 11M	Language –I Tamil I / Hindi I / French I / Malayalam I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	13A	Principles of Management	1. Understand the management concepts and functional areas of management in business arena.
			2. Evaluate the conceptual framework of planning and decision-making in day today life.

			3. Understand the managerial functions of organizing and staffing to achieve the target of the organization.
			4. Analyze the theories of motivation, leadership and communication in a variety of circumstances and management practices in organizations
			5. Evaluate the control process, to apply theoretical knowledge in simulated and real-life settings.
I	13B	Basics of Business and Business Environment	1. Understand the basics of business, different types of industry and various forms of business organization
			2. Grasp the concepts of various sectors of economy, stakeholders of business, factors of production, business Model, business risks and steps in starting a business.
			3. Identify the differences between goods and services and understand the concepts of banking, insurance, warehousing, e-business
			4. Analyze the characteristics of business environment, Environmental analysis.
			5. Illustrate the concepts of liberalization, globalization, privatization, role of GATT and WTO, trading blocks and social responsibility of business
I	1AA	Mathematics for Management I	1. Understand the concepts of matrix and compute inverse of matrix.
			2. Understand the concept of set theory, simple and compound interest.
			3. Collect, present and analyze the data.
			4. Interpret the concepts of dispersion correlation and regression.
			5. Gain knowledge in index numbers and time series.
I	1FA	Environmental Studies	1. Understand the concept of ecosystem, its components, interdependence and be aware of the importance of sustainable development.
II	21T	Language-II Tamil II / French II / Malayalam II /	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.

		Hindi II	3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills.
			5. Understand and have knowledge on the culture of the society.
II	22E	English-II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Competent on the vocabulary of the language.
			4. Be competent on the comprehensive skills
			5. Understand and have knowledge on the culture of the society.
II	23A	Organizational Behaviour	1. Understand the meaning of organizational psychology and use of personality tests
			2. Apply brainstorming and follow motivation theories
			3. Grasp the concepts of job satisfaction, job enrichment and job enlargement
			4. Evaluate the benefits of Hawthorne experiment, groups and the importance of supervision
			5. Understand the significance of counseling and leadership theories
II	23B	Economics for Executives	1. Understand the concepts of profit maximization, law of demand and elasticity of demand
			2. Analyze production function, factors of production, break-even point analysis
			3. Gain insights about market structure, monopoly, monopolistic, duopoly, oligopoly markets, pricing and price discrimination



			4. Gather knowledge on wages, marginal productivity theory, keynes theory, theories of profit, risk theory
			5. Understand the performance of public sector enterprises in India, pricing policy of public sector enterprises, types of public sectors in India
III	2AA	Mathematics for Management II	1. Formulate LPP and solve graphically.
			2. Solve transportation and assignment problem.
			3. Understand the concept of game theory.
			4. Construct network and identify the critical path using CPM.
			5. Gain knowledge in PERT and replacement models.
II	2FB	Value Education-Human Rights	1. To understand the importance of social and ethical values
III	33A	Financial Accounting	1. Understand the basic accounting concepts
			2. Understand double entry book keeping system and various books of accounts
			3. Preparation of final accounts
			4. Preparation of non-trading institutions income and expenditure account and calculate depreciation
			5. Preparation of account from incomplete records
III	33B	Production and Materials Management	1. Understand the concept of plant location, layout and functions of production planning and control
			2. Grasp the concepts of materials handling and maintenance management.
			3. Acquire knowledge on materials management, purchasing and vendor rating

			4. Evaluate functions of inventory and its importance tools and store keeping, store keeper duties and responsibilities
			5. Understand quality control, TQM, bench marking and ISO features and procedures
III	33C	Marketing Management	1. Understand the importance and functions of marketing
			2. Grasp the concepts of Buyer behavior, market segmentation and channel selection
			3. Familiarize with Types of products, product life cycle and product packaging
			4. Learn pricing strategies and methods
			5. Understand branding concepts
III	33P	PC Software (MS Office Practical)	1. Understand the basics of Ms-Office, prepare documents using Ms-Word and spreadsheets using Ms-Excel
			2. Prepare presentations using Ms-PowerPoint, prepare databases using Ms-Access
III	3AC	Business Law	1. Understand the Essentials of contract, offer, acceptance of contract and capacity of parties in contract
			2. Grasp the concepts of contracts with/without consideration, mistakes of law and fact, legality/illegality of agreements
			3. Learn about the agreements opposed to public policy, quasi contracts, discharge and breach of contract, contract of sale
			4. Understand the document of title to goods, goods sent on approval, lien
			5. Evaluate the concept of agency
III	3ZV	Communication Skills I	1. To hone their speaking and writing skills by reinforcing their listening and reading skills and habituating them
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write

III	3FB	Advance Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FE	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	43A	Human Resource Management	1. Understand human resource management meaning, functions and strategic management
			2. Understand human resource planning, job analysis, job description, role analysis
			3. Learn about the steps in recruitment and selection
			4. Evaluate the concepts of induction and job evaluation
			5. Familiarize the concepts of career planning, employee grievances and industrial conflicts.
IV	43B	Financial Management	1. Understand the concept of finance functions
			2. Learnt the use of computing cost of capital
			3. Know the significance capital structure
			4. Grasp the concept of capital budgeting,
			5. Understand the benefits of working capital management
IV	43P	Financial Accounting Package Tally	1. Procedure of company creation, journal, ledgers, vouchers and final accounts
			2. Prepare cash book and subsidiary books, BRS, stock creation and summary, VAT and payroll



IV	43C	Management Information System	1. Understand the basics of information systems and MIS structures.
			2. Understand the MIS strategic information system and data base management system models
			3. Understand the features of computer hardware and software.
			4. Understand the use of input devices and output devices
			5. Understand the trends that impacted telecommunication revolution and introduction to e-commerce.
IV	4AD	Taxation Law and Practice	1. Understand the principles of direct and indirect taxes
			2. Learnt the concepts of calculation of tax, what are tax authorities and procedures.
			3. Perform computation of income under salary, profession, house property, profits and gains of business
			4. Learnt the basic concept of GST and constitutional framework of GST model
			5. Understand the basic concept of time and value of taxable supply, GST council and guiding principles
IV	4ZV	Communication Skills II	1. Learn the importance of building vocabulary by learning new words and their meanings and using it effectively in their conversations and in writing reports, letters, reviews.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
IV	4FE	General Awareness	1. To Develop Sound knowledge in verbal, numerical, reasoning skills and current affairs in relevant fields.
V	53A	Cost and Management	1. Understand scope and objectives of cost and management accounting, cost and classification

		Accounting	2. Prepare cost sheet, EOQ, stock levels, materials issue and labour remuneration
			3. Prepare comparative and common size balance sheet and income statement and analyze various ratios
			4. Analyze and prepare fund flow and cash flow statements
			5. Understand standard costing, variance analysis and prepare budgets
V	53B	Research Methods for Management	1. Understand the concept of research, various types of research sampling techniques
			2. Apply data collection methods and tabulate it
			3. Understand the statistical analysis part and its implications
			4. Prepare research reports and graphically represent data
			5. Apply research into various fields
V	53C	Business Correspondence	1. Review and refine communications skills
			2. Learn and apply effective written communication techniques.
			3. Determine and use proper psychological approach in writing letters based on situations.
			4. Complete employment communications.
			5. Explore the importance of communicating effectively in the world of work
V	53D	Internet and Web Page Design Theory	1. Understand the basics of internet, meaning of search engine, installing a modem and connecting to internet
			2. Work with e-mail : Sending, replying and reading e-mail messages

			3. Learn the introduction to HTML, web servers and web clients, creating files, HTML commands for aligning and formatting text
			4. Understand the concept of creating list, adding graphics to HTML document, creating tables, usage of links and hyperlinks
			5. Learn DHTML basics and its attributes
V	53P	Internet and Web Page Design Practical	1. Understand the basics of Internet, search engines, creating mail id, sending e-mail id to single / multiple users with attachments.
			2. Create basic web pages with HTML, aligning and formatting text in web pages, create web pages with hyperlinks, and create web pages for maintaining student and sales database.
V	57A	Institutional Training	1. Understand the functions and operating procedures of various departments in a production firm.
V	5EA	Insurance Principles and Practice	1. Grasp the concepts of risk management, principles of insurance, role of IRDA, insurance business in India
			2. Understand life insurance, different products offered by life insurers, premium, bonus, assignment, nomination and surrender of policy, claims, ULIP's, LIC.
			3. Understand the meaning of general insurance and laws governing it, proposal form, cover notes, endorsement, co-insurance, re-insurance
			4. Learn fire insurance and its categories, marine insurance, its classification and principles.
			5. Understand the concepts of motor insurance, health insurance, accident insurance, burglary insurance, engineering insurance, rural insurance, and micro insurance.
V	5EB	Modern Office Management	1. Learn the concept, functions of office, office manager, principles of office organization
			2. Understand the features to be considered while selecting office location, office communication types and barriers
			3. Understand the meaning and significance of office correspondence and record keeping
			4. Grasp the concepts of office systems and procedures and work simplification
			5. Acquire knowledge on employee morale, employee welfare and grievance handling



V	5EC	Intellectual Property Rights	1. Understand the basics of intellectual property rights and its types
			2. Gather insights on the significance of patent applications in India
			3. Acquire knowledge on fundamentals of trademarks and the need for obtaining protection for industrial design
			4. Gain information on copyrights, ownership, registration and transfer
			5. Understand the concept of geographical indications, plant varieties and farmers rights
V	5ED	Introduction to ERP	1. Understand the basics of ERP systems, data warehousing and data mining
			2. Gather insights on ERP implementation, its requirements, project teams and data migration
			3. Acquire knowledge on operation, maintenance and quality management of ERP systems
			4. Gain information on the scope of marketing ERP systems by understanding market snapshots
			5. Understand the application and future trends of ERP
V	5ZV	Campus To Corporate	1. Understand and apply the knowledge gathered on etiquettes, attire aspects, e-communication, aptitude and positive attitude for a smooth transition from campus to corporate
VI	63A	Entrepreneurship and Project Management	1. Analyze the entrepreneurial process through which business ideas are evaluated and the characteristics of successful entrepreneurs
			2. Identify and describe strategies for supporting entrepreneurship
			3. Distinguish between business ideas and opportunities
			4. Explain how to write a formalized business plan, and perform this task
			5. Explain how to write a marketing plan, and perform this task; identify and describe team-building dynamics

VI	63B	RDBMS and Oracle Programming - Theory	1. Understand the concepts of DBMS and RDBMS, normalization, introduction to oracle, Data Definition Language.
			2. Learn the key facts about Data Manipulation Language, Transaction Control statements, constraints.
			3. Acquire knowledge on built-in functions: single functions and group functions, grouping of data.
			4. Grasp the basics of joins, operators, sequences, tables and indexes.
			5. Understand the fundamentals of PL/SQL, reserved keywords, identifiers, block structure, cursors, procedures, functions and triggers.
VI	63P	RDBMS and Oracle Programming - Practical	1. Create an oracle database for maintaining student information, calculating student's average marks and pass percentage in each subject
			2. Create an oracle database for maintaining employee information, payroll processing and for implementing a banking system
VI	63C	Services Marketing	1. Understand the characteristics of services, classification of services, evolution and growth of service sector.
			2. Understand the service marketing system, marketing mix, service product, pricing, promotion and distribution and physical evidence.
			3. Understand service quality and service quality management.
			4. Understand the services in hospitality, travel & tourism, logistics, healthcare and telecom services.
			5. Understand the marketing strategies for financial services and educational services
VI	6EA	Strategic Management	1. Understand the overview of strategic management, its types, benefits and the concept of social audit
			2. Analyze the concept of strategic formulation and SWOT
			3. Gather insights on the various corporate strategies and its significance
			4. Gain knowledge on strategic implementation and its role in gaining competitive advantage

			5. Learn about the use of strategic evaluation and the criterion used
VI	6EB	Industrial Relations and Labour Laws	1. Gather knowledge on industrial relations, disputes cause and settling disputes, solving employee grievances
			2. Understand the procedure to conduct collective bargaining
			3. Gain insights on factories act to govern factory activities and workman's compensation
			4. Understand industrial disputes acts settlements and trade unions
			5. Familiarize with the concept of payment of wages, employee state insurance act and benefits of it to employees.
VI	6EC	Advertising and Sales Promotion	1. Understand the concept, importance of advertising and different forms of media
			2. Acquire knowledge on advertising agencies, advertising appeals, advertising budget, different elements of advertising
			3. Grasp the concepts of advertising layout, typography and advertising campaign
			4. Learnt the nuances of sales force management, recruitment, training and compensation
			5. Know the different types of sales promotion tools
VI	6ED	Visual Basic Theory	1. Understand the basics of visual basic environment, its tools and menus
			2. Gather insights on the steps involved in programming with the use of code window, statements and functions
			3. Gain knowledge on control arrays, lists, procedures, functions and MDI forms
			4. Grasp the fundamentals of graphics and files
			5. Acquire knowledge on data control and use of database objects



VI	6EF	E-Commerce	1.Understand the foundations of electronic commerce
			2.Gain knowledge on internet consumers and market research
			3.Acquire insights on advertisement in e-commerce
			4.Know the concepts of business-to-business and electronic marketing
			5. Understand public policy and legal issues involved in e-commerce
VI	6EV	Project Work and Viva Voce	1. Undertake research work in a specific management domain and present feasible solutions which is of use to industry and society.
VI	6EE	Financial Services	1. Understand the concept of merchant banking
			2. Gain knowledge about hire purchase
			3. Gather insights about mutual fund and its performance
			4. Acquire knowledge about venture capital and credit rating institutions
			5. Get knowledge about mergers and acquisitions.
VI	6EG	Multimedia	1. Understand the basics of multimedia presentation and production, types of media used and the difference between Analog Vs Digital Presentation
			2. Gain knowledge about various types of text, font and files
			3. Gather insights about image processing and features of digital images
			4. Acquire knowledge about basics of audio mixing, sound recording and acoustics
			5. Grasp the concepts of video recording, editing and file formats

VI	62V	Soft Skills for Business	1. Understand the core areas of communication, leadership and teamwork, personal development skills using practical approach, explore the real world challenges, apply the knowledge of assertiveness in building real world situation to a chose their career path
VI	67A	Extension Activity	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same

  
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**DEPARTMENT OF MICROBIOLOGY**  
**COURSE OUTCOME (ACADEMIC YEAR 2018-19 ONWARDS)**

**Name of the Programme: B.Sc. Microbiology**

Semester	Subject code	Course	Outcome
			On successful completion of the course the students will be able to:
I	11T/11M/11H/11F	Language – I (Tamil I/French I/Malayalam I/Hindi I)	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.
I	12E	English – I	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society



I	13A	Core Paper I- Fundamentals of Microbiology	1. Gain insights on how the subject area developed over a period of time.
			2. Impart knowledge on the working of different types of Microscopes.
			3. Internalize the techniques used to observe microorganisms by different staining techniques.
			4. Understand the concept of asepsis and modes of sterilization.
			5. Identify the different types of medium and techniques used for the growth and cultivation of microorganisms.
I	1AB	Allied A: Paper I- Biostatistics and computer Application I	1. Enrich the basic concepts of Statistics
			2. Understand the concepts of measure of dispersion and skewness.
			3. Gain knowledge in probability and its distribution
			4. Gain knowledge in basic concepts of computer
			5. Familiar with all the operations related to Microsoft excel
I	1FA	Environmental Studies	1. Understand the concept and interdependence of ecosystem, importance of environmental conservation and sustainable development.
II	21T/M/H/F	Language – II (Tamil II/French II/Malayalam II/Hindi II)	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.

II	22E	English – II	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society
II	23A	Core Paper II- Analytical Microbiology	1. Gain insights on the concepts in chemistry for the preparation of solutions.
			2. Get acquainted with the different instruments used in microbiology laboratory.
			3. Impart knowledge to identify the physical and chemical properties of biomolecules
			4. Facilitate the students with the concept of property of light absorption to study biomolecules
			5. Understand the principle and applications of chromatographic techniques.
II	23B	Core Paper III- General Biology	1. Provide knowledge about the structure and function of Prokaryotes and Eukaryotes.
			2. Understand the reproduction of Prokaryotes and Eukaryotes.
			3. Elucidate the physiological structure of plant and animal cell.
			4. Know about the basic characters of vertebrates.
			5. Impart knowledge about structure and function of human physiological system.

II	23P	Core Practical I	1. Get acquainted to the laboratory precautions and culturing techniques to be followed in general microbiology laboratory
			2. Facilitate students to identify microorganisms microscopically.
			3. Facilitate students in culturing techniques.
			4. Acquire skills to isolate and quantify microorganisms
			5. Analyse biomolecules by separation techniques
II	2AB	Allied A: Paper II- Biostatistics and Computer Applications-II	1. Perform simple correlation and regression analysis.
			2. Solve problems in curve fitting.
			3. Perform testing of hypothesis
			4. Execute non- parametric test.
			5. Perform ANOVA and RBD.
II	2FB	Value Education - Human Rights	1. Understand the importance of human values and Ethics, and to have knowledge on human rights as per the constitution.
III	31T/M/H/F	Language – I (Tamil I/French I/Malayalam I/Hindi I)	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.



III	32E	English – III	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society
III	33A	Core Paper IV: Microbial Diversity	1. Impart knowledge about the taxonomical classification of Microorganisms.
			2. Understand the Bergey's manual of systematic bacteriology.
			3. Provide knowledge about the taxonomy, characters, life cycle and Economical important.
			4. Elucidate the physiological structure, characters, reproduction and economical important of Algae and Protozoa.
			5. Summarize the basic structural characterization of virus and its classification.
III	3AC	Allied B: Paper I- Biochemistry I	1. Understand the structure, chemistry and function of the carbohydrates
			2. Understand the significance of lipids
			3. Understand the importance of amino acids & proteins
			4. Understand the salient features of nucleic acids
			5. Understand the classification and functions of enzymes

III	3ZA	Skill based Subject I-Clinical Lab Technology	1. Impart knowledge about the collection, transport, preservation and processing of clinical samples.
			2. Gain insight about the complete blood components and processing of human tissue specimens.
			3. Acquire skills to examine Urine and stool samples.
			4. Know the processing of biopsy
			5. Acquire skill to examine the stool sample
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
III	3FA	Basic Tamil I	1. Understand the basic of language and be able to read and write
III	3FB	Advanced Tamil I	1. Read and write the language displaying grammatical skills and proficient in vocabulary.
IV	41T/M/ H/F	Language – IV (Tamil IV/French IV/Malayalam IV/Hindi IV)	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society.

IV	42E	English – IV	1. Be competent on fundamental language skills such as listening, speaking, reading and writing.
			2. Understand the basic grammar.
			3. Proficient on the vocabulary of the language.
			4. Be capable of comprehensive skills.
			5. Understand and have knowledge on the culture of the respective society
IV	43A	Core Paper V- Microbial Physiology	1. Understand and distinguish the Microorganisms based on their nutritional requirements and uptakes of nutrients.
			2. Elucidate the growth and growth factors of Microorganism.
			3. Provide knowledge about the Metabolic and Biosynthetic pathways.
			4. Acquire the knowledge about aerobic and anaerobic respiration of Microorganisms.
			5. Facilitate the understanding on photosynthesis and bioluminescence
IV	43P	Core Practical II	1. Expertise in estimation of various biomolecules.
			2. Measure morphological and population size of a microbes. To measure morphological and population size of a microbes.
			3. Acquire knowledge about the morphological and physiological characteristics of Microorganisms.
			4. Screen the enzymatic potential of microorganisms
			5. Understand the morphological characters of Algae, Fungi and Parasites.



IV	4AC	Allied B: Paper II- Biochemistry II	1. Learn the basic functions, principles and concepts of metabolism.
			2. Provide information related to carbohydrate
			3. Understand the metabolism of protein
			4. Understand the metabolism of lipids
			5. Understand the functions of hormones secreted by various glands
IV	43Q	Allied Practical	1. Understanding of the carbohydrate.
			2. Understanding of the major types of carbohydrate and confirmatory test
			3. Understanding of the various types of amino acids and confirmatory test
IV	4ZB	Skill based subject 2- Bacteriology and serology	1. Impart knowledge about the Microscopic and Physiological characterization of infectious agents from clinical samples.
			2. Demonstrate the antibiotic susceptibility and resistance pattern of Pathogens and result interpretation.
			3. Impart the knowledge about the Immunological and Rapid diagnostic tests.
			4. Gain knowledge to test, report and interpret the clinical reports
			5. Study the etiology of infectious diseases
IV	4FA	General Awareness	1. Develop Sound knowledge in verbal, Numerical, Reasoning skills and current affairs in relevant fields.
IV	4FA	Basic Tamil II	1. Understand the basic of language and be able to read and write
IV	4FB	Advanced Tamil II	1. Read and write the language displaying grammatical skills and proficient in vocabulary.

IV	53A	Core Paper VI-Microbial Genetics	1. Gain knowledge on the structure and characters of Genetic materials.
			2. Understand replication of DNA.
			3. Learn transcription and translation process in prokaryotes and Eukaryotes.
			4. Perceive Genetic alterations and their repair mechanisms.
			5. Understand the methods of genetic exchange
V	53B	Core Paper VII- Principles of Immunology	1. Recall the developments in immunology
			2. Learn Immunity types, structure and function of Immunoglobulins.
			3. Categorize mechanism of antigen antibody reactions.
			4. Gain knowledge on autoimmune diseases.
			5. Acquire knowledge on blood transfusion and tissue transplantation.
V	53C	Core Paper VIII-Food Microbiology	1. Learn the basic relationship between food and microorganisms.
			2. Understand the principles of food preservation.
			3. Analyse the mechanism food spoilage
			4. Acquire knowledge on fermented foods
			5. Understand food borne diseases and food quality control measures.

V	53D	Core Paper IX-Medical Microbiology	1. Learn basics of infection and the epidemiology of infectious diseases.
			2. Understand the morphology, pathogenicity and laboratory diagnosis of gram positive and negative cocci
			3. Analyse the morphology, pathogenicity and laboratory diagnosis of gram positive rods
			4. Acquire the knowledge about the morphology, pathogenicity and laboratory diagnosis of gram negative rods
			5. Study the morphology, pathogenicity and laboratory diagnosis of Acid fast bacteria
V	5ZA	Elective (A)- RDT I	1. Understand the gene manipulation, Enzymes involved genetic engineering.
			2. Differentiate the Chromosomal DNA, Plasmid DNA & RNA. The vectors of bacteriophage, yeast and bacteria.
			3. Understand the gene transfer technique and selection methods.
			4. Understand the vectors of Bacteriophage, Yeast and Bacteria
			5. Able to understand recent techniques like DNA Microarray, Protein
V	5ZA	Elective (B)- Applied Plant Biology	1. Acquire knowledge related to history and basic knowledge of plant tissue culture
			2. Understand cells involved in plant tissue culture
			3. Gain knowledge about methods involved in genetic engineering of plants



			4. Understand transgenic plant technology
			5. Gain knowledge about plant breeding
V	5ZA	Elective (C)- Entomology	1. Gain knowledge about the basic concepts of insects and pests
			2. Acquire knowledge about beneficial and harmful insects
			3. Apply the knowledge of management strategies for insect/mite pests of small grains
			4. Acquire knowledge about integrated pest management
			5. Acquire knowledge about insect vectors for plants and animals
V	5ZC	Skill Based Subject 3 – Diagnostic Microbiology (Virology, Mycology And Parasitology)	1. Learn basic Laboratory techniques in Mycology
			2. Acquire knowledge on superficial fungal infections
			3. Gain the knowledge of parasitic infections and diagnosis
			4. Study the identification of intestinal protozoan and helminths
			5. Acquire knowledge about drug resistant microorganisms
VI	63A	Core Paper X-Industrial Microbiology	1. Learn the process of fermentation and its types.
			2. Understand the methods to screen and achieve effective strains for improved yield
			3. Get accustomed to economically important products using microorganisms
			4. Acquire knowledge on the production of health product using microorganisms
			5. Analyse the methods for effective recovery and purification of fermented products

VI	63B	Core Paper XI-Environmental and Agricultural Microbiology	1. Understand the distribution of microorganisms in nature and microbial associations
			2. Acquire knowledge of microbial decomposition
			3. Know the various cycles involved in microbial degradation of organic matter
			4. Learn the microbial ecology, analysis and treatment of water
			5. Provide basic information on air microbiology
VI	63C	Core Paper XII-Virology	1. Recall the historical development and basic information on virus
			2. Learn the reproductive pathway of Phages
			3. Describe general method of viral life cycle
			4. Gain the knowledge about replication strategy of plant and animal viruses
			5. Acquire knowledge about oncogenic virus and human viral infections
VI	63P	Core Practical III	1. Acquire knowledge about isolation and identification of genetic materials like DNA and Plasmids
			2. Evaluate the microorganisms involved in food spoilage.
			3. Expose the screening and production mechanism of commercially important fermented products
			4. Apply the new approach in laboratory diagnosis of mycotic infections
			5. Assess the quality of drinking water from various resources

VI	63D	Elective III (A)- Dairy Microbiology	1. Understanding of the compositions and properties of milk as well as of the physical, chemical, biological changes occurring in milk during processing and storage.
			2. Understanding on different dairy products production
			3. Understand the microbiology of different fermented milk products
			4. Knowledge in hygienic practices in manufacturing of milk products
			5. Know about different microbiological food standards
VI	63D	Elective III (B)- Bionanotechnology	1. Understand the basic concepts of nanotechnology
			2. Acquire knowledge about structural principles of Bionanotechnology
			3. Understand the functional principles of Bionanotechnology
			4. Know about different Tools and technique required for Bionanotechnology
			5. Know about different of application of Bionanotechnology
VI	63D	Elective III (c)- Medical Biochemistry	1. Understanding the disorders of carbohydrate metabolism
			2. Acquires knowledge about lipid disorders
			3. know about liver and kidney disorder
			4. Acquire knowledge about abnormalities in nitrogen metabolism
			5. Know about different disorders of blood



VI	6ZP	Practical in Diagnostic Microbiology	1. Acquire skill on collection and processing of clinical specimens
			2. Gain knowledge on various serological techniques
			3. Get accustomed to immunological techniques involved in diagnosis
			4. Visualize different types of infectious Fungi
VI	67A	Extension Activity	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.

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Approved by



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**DEPARTMENT OF MICROBIOLOGY**  
**COURSE OUTCOME (ACADEMIC YEAR 2019 ONWARDS)**

**Name of the Programme: B.Sc. Microbiology**

S.No	Semester	Subject code	Course	Course Outcome
				On successful completion of the course the students will be able to:
1.	II	23B	General Biology	Provide knowledge about the structure and function of Prokaryotes
				Acquire knowledge about the structure and function of Eukaryotes.
				Impart knowledge on cell division in Prokaryotes and Eukaryotes.
				Understand basis of plant kingdom
				Know about the basic characters of vertebrates and invertebrate.

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**DEPARTMENT OF MICROBIOLOGY**  
**COURSE OUTCOME (ACADEMIC YEAR 2018-19 ONWARDS)**

**Name of the Programme: M.Sc. Microbiology**

Semester	Subject code	Course	Outcome
			On successful completion of the course the students will be able to:
I	13A	Fundamentals of Microbiology	1. Acquire knowledge on the historical development in microbiology
			2. Make the students understand to interpret the morphology of the microscopic specimens
			3. Describe and distinguish the microbial taxonomy.
			4. Study the general characteristics and classification of microorganisms and apply their knowledge in day to day life.
			5. Implement appropriate steps for the study of emerging viruses in the society.
I	13B	Microbial Physiology and Biochemistry	1. Recall the ultra-structure of prokaryotic and eukaryotic cells
			2. understand microorganisms based on their nutritional requirements and their mechanism of transport.
			3. Apply their knowledge in carbohydrate metabolism and fermentation.
			4. Categorise on the types of enzymes and their mechanism
			5. Prioritise the importance of biosynthesis of macromolecules



I	13C	Applied Biotechniques	1. Help the students to identify the physical and chemical characters of macromolecules
			2. Facilitate the students with the principles and applications of the various techniques.
			3. Apply their knowledge in principles and instrumentation of centrifugation.
			4. Implement the instrumentation of chromatography.
			5. Determine the principle and instrumentation of electrophoresis.
I	13D	Environmental and Agricultural Microbiology	1. Make the students understand the contemporary issues associated with environmental microbiology.
			2. Understand the significance of soil microorganisms and their impact in environment.
			3. Make the students capable of applying fundamental principle of microbiology to waste water treatment
			4. Facilitate the students understand microbial ecology and community development
			5. To facilitate understanding about analysis and treatment of hazardous and non-hazardous solid wastes and treatment
I	1EA	Elective- Group A Principles of Quality Assurance	1. Understand design and applications of microbiology lab.
			2. Describe the maintenance of lab equipment's and quality control records
			3. Facilitate the quality control of culture preparation and their maintenance
			4. Acquire the knowledge of effluent disposal with respect to biological reference and standard
			5. Outline good lab practices and first aid procedures

I	1EA	Elective- Group B Environment and Health	1. Describe about water pollutants and purification methods
			2. Impart knowledge about air pollutants and their control
			3. Provide information about noise pollution – causes and control
			4. Understand about medical entomology with respect to vector control
			5. Educate about environmental sanitation and waste disposal procedures
I	1EA	Elective- Group C Basic Biological Science	1. Provide knowledge about structure and function of cell with a note on cell differentiation
			2. Impart information about atoms and molecules with respect to physical characteristics and key processes
			3. Elucidate the physiological phenomenon in plants and animals with reference to reproduction and response to stress
			4. Summarise the concepts of origin and evolution of microbes , plants and animals
			5. Discuss on the various types of ecosystems, community structure and organisation.
II	23A	Molecular Genetics	1. Help the students to understand genetic material and its replication process
			2. Differentiate the microorganisms based on their molecular setup.
			3. Understand the concept of genetic transformation of microorganisms
			4. Analyse the gene regulation and pattern of gene sequence
			5. Understand the central dogma of the prokaryotic and eukaryotic cells
II	23B	Microbial Food Technology	1. Identify appropriate processing , preservation and packaging methods
			2. Understand the various causes of food deteriorations and food poisoning
			3. Analyse the food related hazards and HACCP method
			4. Evaluate the product quality and effect of processing technique
			5. Awareness of food laws and regulations

II	23C	Bioprocess Technology	1. Get equipped with a theoretical understanding of industrial microbiology
			2. Know about the design of bioreactors , factors affecting growth and production
			3. Identify the industrially important microorganisms
			4. Emphasize the techniques and the principles in the downstream processing
			5. Acquire the knowledge of microbial products which are commercially important
II	23D	Gene manipulation and Bioinformatics	1. Understand the basics of gene manipulation techniques
			2. Learn the enzyme involved in cloning, various techniques involved in gene transformation.
			3. Acquire knowledge on vectors and gene expressions in prokaryotes and eukaryotes
			4. Analyse the cloned DNA with different characterization techniques
			5. Impart knowledge on gene sequence using bioinformatic tools
II	23P	Practical I	1. Impart the awareness of elemental principles and techniques in Microbiology
			2. Acquire knowledge on culturing of microorganisms.
			3. Study the isolation process and quantification of microorganisms.
			4. Enable the students to identify microorganisms and characterise them biochemically
			5. Assess the growth kinetics and the study basis of anaerobic culture techniques.
II	23Q	Practical II	1. Expertise in the production of commercially important microbial products
			2. Isolate and identify the microorganisms having agricultural importance
			3. Assess the quality of drinking water from sewage contamination
			4. Acquire knowledge on selection of microorganism for bioremediation
			5. Expertise in molecular techniques



II	2EA	Elective- Group A Quality Assessment in Pharmaceuticals	1. Explain the role of drugs and antibiotics in pharmaceuticals
			2. State the significance of sterility in pharmaceutical industry
			3. Impart knowledge on regulatory guidelines on production of natural, nutraceutical and veterinary antimicrobial products
			4. Impart knowledge on quality assurance in pharmaceutical manufacturing
			5. Validate the regulatory requirements for biotherapeutics and role of microbiologist in HACCP
II	2EA	Elective- Group B Communicable and Noncommunicable diseases	1. Describe about various respiratory infections
			2. Elaborate on the various intestinal infections
			3. Discuss about different types of vector borne infections
			4. Acquire information about superficial mycosis and their diagnosis and treatment
			5. Understand about various non communicable diseases and their preventive measures
II	2EA	Elective- Group C Biophysics and Biochemistry	1. Impart knowledge about biophysical methods used for analysis of biopolymers
			2. Provide information on nucleic acid polymorphism
			3. Educate about radio-physics with respect to tracer techniques in biology
			4. Provide basic information on conversion and synthesis of macromolecules and their role in metabolism
			5. Understand various metabolic disorders and their molecular biology

III	33A	Immunology And Immunotechnology	1. Recall the history and the development of immunology.
			2. Understand the structure, properties and functions of antigen and antibody.
			3. Describe the techniques used to understand the antigen antibody interactions.
			4. Explain the role of MHC and hypersensitivity in immune system and discuss about the immunity against various pathogens.
			5. Understand the role of HLA in transplantation, immunodeficiency disorders and role of vaccines in immune system.
III	33B	Medical Microbiology	1. Acquire knowledge on the basis of infectious diseases, diagnosis, examination of the clinical sample.
			2. Understand the morphology, pathogenesis and lab diagnosis of pathogenic bacteria.
			3. Apply the new approaches in lab diagnosis of mycotic infections.
			4. Analyse the life cycle, pathogenicity and lab diagnosis of parasitic infections.
			5. Understand the general properties, pathogenesis and lab diagnosis of viral infections.
III	33C	Biotechnology and IPR	1. Understand the basics of microbial production of therapeutic agents and various types of modern vaccines.
			2. Acquire the knowledge of microbial [products which are commercially important.
			3. Understand about technologically engineered microbial products such as enzymes, siderophores, antibiotics, special proteins, insecticides and levels of biosafety at laboratory and industrial scale
			4. Impart knowledge about modern plant biotechnology process.
			5. Understand the basic concepts of patents and the importance of related components.

III	33D	Bionanotechnology	1. List out and study nanostructures and bio inspired nanomaterials.
			2. Discuss various methods in the process of nanoparticle synthesis.
			3. Demonstrate physiochemical properties of materials at nano scale level.
			4. Integrate various instruments involved in characterising nanomaterials.
			5. Prioritise the range of biological applications of nanoparticles.
III	33E	Biostatistics and Research Methodology	1. Recall the scope of biostatistics.
			2. Apply their knowledge in measure of central tendency.
			3. Understand the correlation of different statistical methods.
			4. Analyse the basic ideas of various significance test.
			5. Explore the different aspects of research ethics.
IV	4EA	PAPER III- Group A Total Quality Management	1. Provide information about the tools and techniques of total quality management.
			2. Impart knowledge about data analysis and data representation.
			3. Educate about various forms of graphs.
			4. Apply the basic statistics in numerical data summarization.
			5. Explain the numeric summaries and their graphic display.
IV	4EA	PAPER III- Group B Health care of the Community	1. Gain information about nutrition, health, food adulteration and preventive measures.
			2. Understand the importance of physical and mental health.
			3. Emphasise the need of health programs and health education.
			4. Apply the social culture to find the solutions for mental illness and drug addiction
			5. Insist the need of family planning and reproductive health education.

IV	4EA	PAPER III- Group C Molecular Cytology and Tissue Engineering	1. Understand the molecular background linked to signal transduction pathways and sex linked inheritance.
			2. Gain knowledge about DNA constancy and mutagenesis.
			3. Know the different cell and tissue culture techniques.
			4. Understand about the application of genetic engineering in agriculture, health and industry.
			5. Acquire the knowledge about the basics of mammalian systems.
IV	47V	Project and Viva Voce	1. Extend the boundaries of knowledge through research and development
			2. Complete an independent research project, resulting in at least a thesis publication, and research outputs in terms of publications in high impact factor journals and conference
			3. Instil practicality into the knowledge of contemporary issues in their chosen field of research.
			4. Demonstrate an ability to present and defend their research work to a panel of experts.
IV	47A	Industrial Training and Viva Voce	1. Apply the knowledge and skills in a real time environment
			2. Improve their knowledge and skills relevant to their area of study
			3. Integrate classroom theory with workplace practice
			4. Enhance the employability skills of the students
			5. Opportunities for students to be offered jobs in the organizations in which they undergo their Industrial Training.



IV	4EP	Elective- Group A Practical -	1. Perform microscopy in analysis of food sample.
			2. Understand and apply asepsis.
			3. Evaluate the microbial load in the environment.
			4. Gain knowledge in maintaining quality control in food industry.
			5. Analyse the impact of temperature on microbial death.
IV	4EP	Elective- Group B Practical -	1. Quality analysis and parameter of water and milk.
			2. Diagnostic testing for diabetics, hypertension, WIDAL and VDRL.
			3. Food adulteration and information.
			4. Immune assays in diagnosis of infectious diseases.
			5. Examination of Protozoa and helminthic parasites.
IV	4EP	Elective- Group C Practical -	1. Learn the various stages of cell divisions.
			2. Estimate the total carbohydrate and proteins in the sample.
			3. Induce mutation by UV radiations.
			4. Visualise agglutination, precipitation patterns and agarose gel electrophoresis.
			5. Understand the phenomenon of callus, auxin production and bioluminescence.

Prepared by

*Geal*

Approved by

*Re*  
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**Department of English**  
**Course Outcomes (CO )**

**Name of the Programme : BA English Literature**  
**Period : Academic Year 2017 Onwards**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T/M/ H/F	Language –I Tamil I / French I / Malayalam I / Hindi I	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
I	12E	Part II English – I	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
I	13A	Part III - Core I - Prose I	<ul style="list-style-type: none"> <li>• Understand prose texts</li> <li>• To apply traditional and modern theories of literary/cultural criticism</li> <li>• To develop the powers of critical/analytical thinking</li> <li>• To build an appreciation of the written utterances</li> <li>• Understand the interrelationships between texts, together with an ability to apply such techniques to primary/secondary texts;</li> </ul>
I	13B	Part III – Core II – Fiction I	<ul style="list-style-type: none"> <li>• Understand the variety of stylistic choices an author of a fiction makes to appeal the reader interest.</li> <li>• Familiarize with unfamiliar and diverse cultures, experiences, and points of view.</li> <li>• To recognize a text as a product of particular culture, history and Era.</li> <li>• Articulate ways in which the text contributes to self-understanding.</li> </ul>

			<ul style="list-style-type: none"> <li>Understand the text within the context of a literary tradition or convention.</li> </ul>
I	1AA	Part III – Allied I - Social History of English	<ul style="list-style-type: none"> <li>Understand a significant range of literary genres, in the English language from British Isles/US/Indian writings in English</li> <li>to study/specialize in literature</li> <li>enable the study of texts in historical/cultural contexts</li> <li>develop an appreciation of the specific contexts that condition the representation of allegedly 'universal' concepts</li> <li>to respond imaginatively, intellectually and independently to the written word</li> </ul>
I	1FA	Part IV - Environmental Studies	<ul style="list-style-type: none"> <li>Understand the concept and interdependence of ecosystem, importance of environmental conservation and sustainable development.</li> </ul>
II	21T/M/H/F	Language –I Tamil II / French II / Malayalam II / Hindi II	<ul style="list-style-type: none"> <li>Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>Understand the basic grammar.</li> <li>Proficient on the vocabulary of the language.</li> <li>Be capable of comprehensive skills.</li> <li>Understand and have knowledge on the culture of the respective society.</li> </ul>
II	22E	Part II English – II	<ul style="list-style-type: none"> <li>Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>Understand the basic grammar.</li> <li>Proficient on the vocabulary of the language.</li> <li>Be capable of comprehensive skills.</li> <li>Understand and have knowledge on the culture of the respective society.</li> </ul>
II	23A	Part III – Core III - Poetry I	<ul style="list-style-type: none"> <li>Recognize poetry from a variety of cultures, languages and historic periods</li> <li>Understand and appreciate poetry as a literary art form</li> <li>Analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc.</li> <li>Identify a variety of forms and genres of poetry from diverse cultures and historic periods, such as haiku, tanka, sonnets, ballads, dramatic monologues, free verse, etc.</li> <li>Develop their own creativity to enhance their writing skills.</li> </ul>
II	23B	Part III –	<ul style="list-style-type: none"> <li>Learn to deliver audience appropriate theatrical</li> </ul>



		Core IV - Drama I	<p>presentation</p> <ul style="list-style-type: none"> <li>• Read with comprehension and learn to critically and aesthetically analyze works in dramatic literature and performing arts.</li> <li>• Demonstrate understanding of the social and artistic movements that have shaped theatre.</li> <li>• Analyze and interpret texts and performances both in writing and orally.</li> <li>• Demonstrate problem solving skills in the creation of artistic work</li> </ul>
II	2AA	Part III – Allied II - History of English Literature	<ul style="list-style-type: none"> <li>• Delineate major writers and their works in chronological order.</li> <li>• Discuss how literature also influences the social and political history of each period.</li> <li>• Compare English Literature of one period with that of another.</li> <li>• Analyse how the religious, social and political history of England influences the English writers from 6th to 18th centuries.</li> <li>• Classify all major literary genres.</li> </ul>
II	2FB	Part IV - Value Education- Human Rights	<ul style="list-style-type: none"> <li>• Understand the importance of human values and Ethics, and to have knowledge on human rights as per the constitution.</li> </ul>
III	31T/M/ H/F	Language –I Tamil III / French III / Malayalam III / Hindi III	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
III	32E	Part II English – III	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
III	33A	Part III – Core V – Prose II	<ul style="list-style-type: none"> <li>• Understand prose texts</li> <li>• To apply traditional and modern theories of literary/cultural criticism</li> <li>• To develop the powers of critical/analytical thinking</li> <li>• To build an appreciation of the written utterances</li> <li>• Understand the interrelationships between texts,</li> </ul>



			together with an ability to apply such techniques to primary/secondary texts;
III	33B	Part III – Core VI- Fiction II	<ul style="list-style-type: none"> <li>• Understand the variety of stylistic choices an author of a fiction makes to appeal the reader interest.</li> <li>• Familiarize with unfamiliar and diverse cultures, experiences, and points of view.</li> <li>• To recognize a text as a product of particular culture and history.</li> <li>• Articulate ways in which the text contributes to self-understanding.</li> <li>• Understand the text within the context of a literary tradition or convention.</li> </ul>
III	3AA	Part III – Allied III - Literary Forms	<ul style="list-style-type: none"> <li>• Appreciate the relevance and value of theoretical models in literary study.</li> <li>• Develop an understanding of important theoretical methodologies by summarizing key concepts or arguments.</li> <li>• Become familiar with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.</li> <li>• Able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.</li> <li>• To identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts</li> </ul>
III	3ZA	Part IV - Skill Based Subject I – Communicative English – Paper I	<ul style="list-style-type: none"> <li>• Enhance reading comprehension ability.</li> <li>• Enrich vocabulary</li> <li>• understand basic English Phonetic system</li> <li>• Have proper understanding on the usage of language in formal and informal system</li> <li>• Have better writing skill</li> </ul>
III	3FC	Part IV - Yoga for Human Excellence	<ul style="list-style-type: none"> <li>• To have a basic knowledge of yoga for physical and mental health.</li> </ul>
III	3FA	Part IV - Basic Tamil I	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> </ul>
III	3FB	Part IV - Advanced Tamil I	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> </ul>
III	3FD	Part IV – Non – Major Elective – I Women's	<ul style="list-style-type: none"> <li>• To understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.</li> </ul>

		Rights	
IV	41T/M/ H/F	Language –I Tamil IV / French IV / Malayalam IV / Hindi IV	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
IV	42E	Part II English – IV	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>• Understand the basic grammar.</li> <li>• Proficient on the vocabulary of the language.</li> <li>• Be capable of comprehensive skills.</li> <li>• Understand and have knowledge on the culture of the respective society.</li> </ul>
IV	43A	Part III – Core VII - Poetry II	<ul style="list-style-type: none"> <li>• Identify various forms and types of poetry</li> <li>• Specify the figurative language used in poems</li> <li>• Identify the prosody employed by poets</li> <li>• Analyze poetry appreciatively</li> <li>• Observe how the poetry influences and improves the quality of life.</li> </ul>
IV	43B	Part III – Core VIII - Drama II	<ul style="list-style-type: none"> <li>• Learn to deliver audience appropriate theatrical presentation</li> <li>• Read with comprehension and learn to critically and aesthetically analyze works in dramatic literature and performing arts.</li> <li>• Demonstrate understanding of the social and artistic movements that have shaped theatre.</li> <li>• Analyze and interpret texts and performances both in writing and orally.</li> <li>• Demonstrate problem solving skills in the creation of artistic work</li> </ul>
IV	4AA	Part III – Allied IV - Literary Criticism	<ul style="list-style-type: none"> <li>• Use critical vocabulary and analytical and interpretive skills to read and participate in the academic and popular conversations surrounding literary works.</li> <li>• Able to analyze literary works and their historical and modern contexts</li> <li>• Understand the relevance to contemporary culture and in a student's personal life.</li> <li>• Demonstrate critical thinking skills and an appropriate sense of audience and use of conventions for each.</li> <li>• Appreciate the different literary forms and their</li> </ul>



			applications
IV	4ZB	Part IV - Skill Based Subject 2 – Communicative English- Paper II	<ul style="list-style-type: none"> <li>• Enhance reading comprehension ability.</li> <li>• Enrich vocabulary</li> <li>• understand basic English Phonetic system</li> <li>• Have proper understanding on the usage of language in formal and informal system</li> <li>• Have better writing skill</li> </ul>
IV	4FA	Part IV - Non – Major Elective – II General Awareness	<ul style="list-style-type: none"> <li>• Proficient in verbal and numerical aptitude, abstract reasoning and general knowledge on various subjects including current affairs.</li> </ul>
IV	4FA	Part IV - Basic Tamil II	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> </ul>
IV	4FB	Part IV - Advanced Tamil II	<ul style="list-style-type: none"> <li>• Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> </ul>
V	53A	Part III – Core IX- Shakespeare – I	<ul style="list-style-type: none"> <li>• Explain key terms, concepts and dramatic genres in Shakespeare's plays.</li> <li>• Use appropriate literary terminology to explain how Shakespeare used and experimented with genre and literary forms.</li> <li>• Enlarge an understanding and Shakespeare's texts by thinking creatively like adaptors, actors, directors, film makers and illustrators.</li> <li>• Show how a text's meaning is informed by cultural and historical contexts in which it was produced and received.</li> <li>• Experience analyzing literary themes comparatively cross culturally and historically.</li> </ul>
V	53B	Part III – Part III – Core X Indian Writing In English	<ul style="list-style-type: none"> <li>• Trace the unfolding of the plot of an Indian novel and a short story</li> <li>• Identify quotes from the poems and dramas prescribed in this course and provide reference to context</li> <li>• Describe the various aspects of Indian English short stories, novels poetry, dramas prescribed in the course</li> <li>• Compare and contrast various aspects of Indian English short stories, poetry and drama of different writers</li> <li>• Critically appreciate Indian English short story, poetry and dramas prescribed in this course.</li> </ul>
V	53C	Part III – Part III – Core XI American	<ul style="list-style-type: none"> <li>• Students will be able to identify writing styles, themes, and importance of major works by American authors.</li> </ul>

		Literature	<ul style="list-style-type: none"> <li>• Students will be able to analyze, synthesize, and write about American literature and authors.</li> <li>• Students will understand the historical and cultural environments of major American authors and their works.</li> <li>• Students will gain practice in oral presentations and group work.</li> <li>• Inculcate a rhetorical approach to the literary study of American texts and also the conceptions, generalizations, myths and beliefs about American cultural history.</li> </ul>
V	53D	Part III – Part III – Core XII Commonwealth Literature	<ul style="list-style-type: none"> <li>• To problematize and define Commonwealth Literature</li> <li>• Identify the geography of commonwealth literature</li> <li>• State the Functions of Commonwealth Literature</li> <li>• Discuss how the Commonwealth Organization has promoted Commonwealth Literature</li> <li>• Mention major Characteristics of Commonwealth Literature/Issues common to the writers</li> <li>• Discuss the problem of language in creative writing in the Commonwealth Literature</li> </ul>
V	5EA/ 5EB	Part III - Elective –I English for Competitive Examination	<ul style="list-style-type: none"> <li>• The practice of reading literary texts exercises the imagination, cultivates a capacity for understanding ambiguity and complexity.</li> <li>• Master in interpersonal communication in the workplace</li> <li>• Update basic skills to the level of demands of companies</li> <li>• Literary study builds skills of analytical and interpretive argument, helping students become creative and critical writers.</li> <li>• Understand the pattern of English questions for Competitive Examinations and will be equipped to answer them confidently</li> </ul>
V	5ZC	Part IV – Skill Based Subject 3 Communicative English - Paper III	<ul style="list-style-type: none"> <li>• Select the right digital tools for tasks to be undertaken in their academic, research and professional life</li> <li>• Demonstrate a working knowledge and hands-on experience with the most popular office suites, publishing software, email and web applications</li> <li>• Create documents and presentations using office and publishing software</li> <li>• Publish on the web</li> <li>• Use Internet in the most appropriate way for academic work and research</li> </ul>



VI	63A	Part III – Core XIII - Shakespeare II	<ul style="list-style-type: none"> <li>• Comprehend the Shakespearean concepts of tragedy and comedy as the primary knowledge.</li> <li>• Be trained in the interpretation of Shakespearean language, images and his style of rhetoric.</li> <li>• The learner would have understood Shakespearean style of character cast and characterization.</li> <li>• Understand the history of Shakespearean Criticism and its socio political implications.</li> <li>• Understand the importance of the historical plays from a new historicist point of view as much as he/she has comprehended the socio political contexts which the plays showcase.</li> </ul>
VI	63B	Part III – Core XIV - Intensive Study Of An Author – Tagore	<ul style="list-style-type: none"> <li>• Knows about Tagore's writings filled with images of human activity and habitation.</li> <li>• Knows about Tagore's fascination and absorption in heritage.</li> <li>• Knows about self-infinity or endlessness which is a natural consequence.</li> <li>• Understanding of women- their discontents and dilemmas in the patriarchal society.</li> <li>• Will learn about the tragic characters struggling against their passion and social circumstances.</li> </ul>
VI	63C	Part III – Core XV - Indian Literature In English Translation	<ul style="list-style-type: none"> <li>• Highlights the agenda and purpose of translation.</li> <li>• Origin and development of translations from Indian languages into English.</li> <li>• Knows about the emphasis is upon a thematic rather than a chronological survey.</li> <li>• Discusses issues of resistant and representation with reference to Indian texts and their English translations.</li> <li>• Argues that the contextualization, theorization and canonization of Indian literature in English translation needs attention in today's fast changing literary scene.</li> </ul>
VI	6EC	Part III – Elective –II: Writing Skill	<ul style="list-style-type: none"> <li>• Interact with academic content, reading, and writing, listening, and speaking</li> <li>• Demonstrate ability to think critically</li> <li>• Utilize information and literacy skills</li> <li>• Practice their creative voice in nonfiction such as biographical and autobiographical essays, feature articles, travel writing and diaries.</li> <li>• Produce fictional writing in the form of short stories, short crime fiction and novelettes.</li> </ul>
VI	6EE	Part III –	<ul style="list-style-type: none"> <li>• Students will have an ability to read texts in</li> </ul>

		Elective –III : Studying Novels	<p>relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context.</p> <ul style="list-style-type: none"> <li>• They become more aware of themselves as situated historically and culturally.</li> <li>• Can write a text which analyzes literary works in correct English.</li> <li>• Read literary texts critically and independently.</li> <li>• Identify the literary, cultural, historical, political influence of fictional works in the literary world.</li> </ul>
VI	6ZC	Part IV – Skill Based Subject 4 Communicative English - Paper IV	<ul style="list-style-type: none"> <li>• Select the right digital tools for tasks to be undertaken in their academic, research and professional life</li> <li>• Demonstrate a working knowledge and hands-on experience with the most popular office suites, publishing software, email and web applications</li> <li>• Create documents and presentations using office and publishing software</li> <li>• Publish on the web</li> <li>• Use Internet in the most appropriate way for academic work and research</li> </ul>
VI	-	Part V Extension Activities	<ul style="list-style-type: none"> <li>• Recognise the importance of contributing to the betterment of society and engage in activities related to the same</li> </ul>

Prepared by



Programme Coordinator

Approved by



Head of the Department

**Dr. Anandhi. M., PhD**

**Professor & Head - Department of English**

**Sri Ramakrishna College of Arts & Science for Women**

**Coimbatore - 641 044**

## Department of Mathematics

### Course Outcomes

**Name of the Programme : B.Sc Mathematics**

**Period : Academic Year 2018 Onwards**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
I	11T/ 11H/ 11F/ 11M	Language –I Tamil I / Hindi I/ French I / Malayalam I	<ol style="list-style-type: none"> <li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>2. Understand the basic grammar.</li> <li>3. Proficient on the vocabulary of the language.</li> <li>4. Be capable of comprehensive skills.</li> <li>5. Understand and have knowledge on the culture of the respective society.</li> </ol>
I	12E	English – I	<ol style="list-style-type: none"> <li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>2. Understand the basic grammar.</li> <li>3. Proficient on the vocabulary of the language.</li> <li>4. Be capable of comprehensive skills.</li> <li>5. Understand and have knowledge on the culture of the respective society.</li> </ol>
I	13A	Core Paper-I Classical Algebra	<ol style="list-style-type: none"> <li>1. Solve problems involving binomial and exponential theorems.</li> <li>2. Compute Convergence and divergence of different types of series.</li> <li>3. Gain knowledge in convergence test.</li> <li>4. Understand the concepts of roots and its relation.</li> <li>5. Solve the equations by Newton's and Horner's Methods.</li> </ol>
I	13B	Core Paper-II Calculus	<ol style="list-style-type: none"> <li>1. Understand the concept of curvature evolutes and envelopes.</li> <li>2. Perform different types of integration.</li> <li>3. Gain knowledge and apply double and triple integral.</li> <li>4. Perform integration with change of order and variables.</li> <li>5. Understand the concept of beta and gamma integrals</li> </ol>
I	1AC	Allied A:Paper-I Statistics for Mathematics-I	<ol style="list-style-type: none"> <li>1. Understand the concept of Random Variable and distribution functions.</li> <li>2. Enhance the knowledge on Moment generating</li> </ol>



			<p>function, Cumulants and Characteristic functions.</p> <ol style="list-style-type: none"> <li>3. Gain knowledge in probability distributions and apply test of significance.</li> <li>4. Fit curves and perform correlation and regression analysis.</li> <li>5. Evaluate the problems using above concepts.</li> </ol>
I	1FA	Environmental Studies	<ol style="list-style-type: none"> <li>1. Understand the concept of ecosystem, its components, interdependence and be aware of the importance of sustainable development.</li> </ol>
II	21T/ 21H/ 21F/ 21M	Language-II Tamil II / Hindi II / French II / Malayalam II	<ol style="list-style-type: none"> <li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>2. Understand the basic grammar.</li> <li>3. Proficient on the vocabulary of the language.</li> <li>4. Be capable of comprehensive skills.</li> <li>5. Understand and have knowledge on the culture of the respective society.</li> </ol>
II	22E	English-II	<ol style="list-style-type: none"> <li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li> <li>2. Understand the basic grammar.</li> <li>3. Proficient on the vocabulary of the language.</li> <li>4. Be capable of comprehensive skills.</li> <li>5. Understand and have knowledge on the culture of the respective society</li> </ol>
II	23A	Core Paper III- Analytical Geometry	<ol style="list-style-type: none"> <li>1. Enhance knowledge on two dimensional conic sections in polar coordinates</li> <li>2. Understand the Concept of Straight line and Shortest distance in 3D</li> <li>3. Recognize geometrical aspects of Sphere &amp; their Properties</li> <li>4. Gain knowledge in 3D aspects of Cone &amp; Cylinder</li> <li>5. Identify the nature of Conicoids and Geometrical aspects of Central Conicoid</li> </ol>
II	23B	Core Paper IV Trigonometry, Vector Calculus and Fourier Series	<ol style="list-style-type: none"> <li>1. Gain knowledge in expansion of trigonometric functions.</li> <li>2. Understand Logarithm of complex quantities</li> <li>3. Understand the concept of scalar and vector fields.</li> <li>4. Apply the concept of Integration in vectors.</li> <li>5. Perform expansion of Fourier series.</li> </ol>
II	2AC	Allied A:Paper-II Statistics for Mathematics-II	<ol style="list-style-type: none"> <li>1. Gain knowledge in concepts of Statistics</li> <li>2. Understand the concept of Estimation.</li> <li>3. Perform test of hypothesis and significance.</li> <li>4. Enhance the knowledge of Sampling, ANOVA and experimentation principle.</li> <li>5. Evaluate the problems using above concepts.</li> </ol>
II	2FB	Value Education- Human Rights	<ol style="list-style-type: none"> <li>1. To Understand the Importance of Social and Ethical Values</li> </ol>





III	31T/ 31H/ 31F/ 31M	Language – III Tamil III/ Hindi III/ French III/ Malayalam III	<ol style="list-style-type: none"><li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li><li>2. Understand the basic grammar</li><li>3. Proficient on the vocabulary of the language</li><li>4. Be capable of comprehensive skills.</li><li>5. Understand and have knowledge on the culture of the respective society.</li></ol>
III	32E	English – III	<ol style="list-style-type: none"><li>1. Be competent on fundamental language skills such as listening, speaking, reading and writing.</li><li>2. Understand the basic grammar</li><li>3. Proficient on the vocabulary of the language</li><li>4. Be capable of comprehensive skills.</li><li>5. Understand and have knowledge on the culture of the respective society.</li></ol>
III	33A	Core Paper V Differential Equations and Laplace Transforms	<ol style="list-style-type: none"><li>1. Solve first order ordinary differential equations</li><li>2. Solve Second order and higher order ODE</li><li>3. Form and solve PDE</li><li>4. Understand the concept of Laplace Transformations and their properties</li><li>5. Apply Inverse Laplace transforms in ODE.</li></ol>
III	33B	Core Paper VI Statics	<ol style="list-style-type: none"><li>1. Realize the concept of forces</li><li>2. Enhance the knowledge about the resultant and equilibrium of forces</li><li>3. Recognize parallel forces and couples</li><li>4. Gain knowledge about coplanar forces</li><li>5. Determine the centre of gravity</li></ol>
III	3AN	Allied B: Paper-I Principles of Accountancy -I	<ol style="list-style-type: none"><li>1. To Know the basic concepts in accounting and their procedures</li><li>2. Prepare the end result of the business</li><li>3. Identify the various procedures followed in credit transaction</li><li>4. Help the students to know the other type of business activities</li><li>5. Learn how the service oriented organisations maintain their accounts</li></ol>
III	3ZA	Skill based Subject : Operations Research-I	<ol style="list-style-type: none"><li>1. Understand the basic concepts of OR and formulate LPP.</li><li>2. Solve LPP using graphical and simplex method.</li><li>3. Apply and solve LPP using Big-M and two phase method.</li><li>4. Gain Knowledge in the concept of Duality.</li><li>5. Apply and solve transportation problems.</li></ol>
III	3FA	Basic Tamil I	<ol style="list-style-type: none"><li>1. Understand the basics of language and be able to read and write</li></ol>



III	3FB	Advanced Tamil I	1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.
III	3FC	Yoga for Human Excellence	1. Have a basic knowledge of yoga for physical and mental health.
III	3FD	Women's Rights	1. Understand the legal framework relating the women's rights, crimes against women and the welfare laws for their protection.
III	3FG	Constitution of India	1. Understand the basic structure of the Government under which the people are governed including the principles and guidelines required for the people.
IV	41T/ 41H/ 41F/ 41M	Language – IV Tamil IV/ Hindi IV/ French IV/ Malayalam IV	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar 3. Proficient on the vocabulary of the language 4. Be capable of comprehensive skills. 5. Understand and have knowledge on the culture of the respective society.
IV	42E	English – IV	1. Be competent on fundamental language skills such as listening, speaking, reading and writing. 2. Understand the basic grammar 3. Proficient on the vocabulary of the language 4. Be capable of comprehensive skills. 5. Understand and have knowledge on the culture of the respective society.
IV	43A	Core Paper VII Dynamics	1. Understand the concept of Projectiles. 2. Acquire knowledge in the field of Central Orbits. 3. Enrich the knowledge about Simple Harmonic motion. 4. Gain knowledge on Collision of elastic bodies and Impulsive forces. 5. Enhance the knowledge on Oblique impact of smooth spheres.
IV	43B	Core Paper VIII Programming in C	1. Identify the different data types 2. Understand the Operators and their Precedence 3. Read and write character and create programs with decision making statements 4. Execute programs with looping statements 5. Create and Apply one and two dimensional arrays & perform basic string operations
IV	43P	Core Practical: Programming in C	1. Implement the concepts of decision making and looping. 2. Implement the concepts of sorting , recursive function and two dimensional arrays.



IV	4AN	Allied B:Paper-II Principles of Accountancy -II	<ol style="list-style-type: none"><li>1. Understand the significance of the depreciation and demonstrate the different methods of depreciation accounting</li><li>2. Apply different methods of single entry system of accounting</li><li>3. Demonstrate accounting skills related to departments and branches</li><li>4. Apply accounting principles and procedures relating to hire purchase and installment</li><li>5. Demonstrate accounting relating to royalties.</li></ol>
IV	4ZB	Skill based Subject : Operations Research-II	<ol style="list-style-type: none"><li>1. Understand the concept of assignment problems.</li><li>2. Analyze profitability situation using game theory.</li><li>3. Identify and solve single server queueing models.</li><li>4. Recognize and solve multi server queueing model.</li><li>5. Gain knowledge in inventory.</li></ol>
IV	4FA	Basic Tamil II	<ol style="list-style-type: none"><li>1. Understand the basic of language and be able to read and write</li></ol>
IV	4FB	Advanced Tamil II	<ol style="list-style-type: none"><li>1. Able to read and write the language displaying grammatical skills and proficient in vocabulary.</li></ol>
IV	4FE	General Awareness	<ol style="list-style-type: none"><li>1. To Develop Sound knowledge in verbal, Numerical, Reasoning skills and current affairs in relevant fields.</li></ol>
V	53A	Core Paper IX Real analysis I	<ol style="list-style-type: none"><li>1. Understand the concept of real and complex numbers.</li><li>2. Gain knowledge in set theory and set algebra.</li><li>3. Enhance the knowledge in Euclidean Space</li><li>4. Explain the concept of Covering and Metric Spaces.</li><li>5. Understand the concept of convergent sequence and complex valued function.</li></ol>
V	53B	Core Paper X Complex analysis I	<ol style="list-style-type: none"><li>1. Perform basic algebraic manipulation with complex numbers.</li><li>2. Identify and construct complex-differentiable functions and determine whether a given function is differentiable.</li><li>3. Compute the radius of convergence for complex power series</li><li>4. Construct conformal mappings between many kinds of domain.</li><li>5. Evaluate integrals along the curve and Cauchy's Theorem for higher derivatives.</li></ol>



V	53C	Core Paper XI Modern algebra I	<ol style="list-style-type: none"><li>1. Perform basic computations in group and ring theory.</li><li>2. Understand quotients and products of groups.</li><li>3. Prove the isomorphism theorems and use them to prove groups are isomorphic</li><li>4. Understand the idea of a group, a ring and an integral domain.</li><li>5. Know the fundamental concepts and results in ring theory, an ideal, quotient ring, integral domain, and field.</li></ol>
V	53D	Core Paper XII Discrete Mathematics	<ol style="list-style-type: none"><li>1. Understand the Mathematical Logic</li><li>2. Enrich the knowledge in Relations, Functions and Algebraic structures</li><li>3. Recognize and apply Formal Languages and Automata</li><li>4. Gain knowledge in Lattices &amp; Boolean Functions</li><li>5. Apply the concept of Graph Theory and Trees</li></ol>
V	5EA	Elective I A Astronomy-I	<ol style="list-style-type: none"><li>1. Understand the general description of solar system</li><li>2. Acquire knowledge on position of heavenly bodies and its apparent motion</li><li>3. Understand the concept of Twilight and Geocentric parallex</li><li>4. Enrich the knowledge on Refraction</li><li>5. Understand and apply the Kepler's laws</li></ol>
V	5EB	Elective I B Numerical Methods I	<ol style="list-style-type: none"><li>1. Solve algebraic and transcendental equations</li><li>2. Apply and Solve simultaneous linear equations using different methods</li><li>3. Understand the concept of finite difference operators</li><li>4. Perform Interpolation for equal intervals</li><li>5. Perform Interpolation for unequal intervals</li></ol>
V	5ZC	Skill based Subject : Operations Research III	<ol style="list-style-type: none"><li>1. Understand and apply simulation models.</li><li>2. Apply and solve network scheduling.</li><li>3. Understand integer programming problem.</li><li>4. Enhance the knowledge on NLPP.</li><li>5. Understand the concept of DPP.</li></ol>
VI	63A	Core Paper XIII Real Analysis II	<ol style="list-style-type: none"><li>1. Understand concept of continuous functions.</li><li>2. Gain knowledge in compactness.</li><li>3. Apply the concept of derivatives.</li><li>4. Enhance the knowledge in bounded and total variations.</li><li>5. Understand and apply Riemann –Stieltjes Integrals.</li></ol>
VI	63B	Core Paper XIV Complex Analysis II	<ol style="list-style-type: none"><li>1. Apply Cauchy's theorem I</li><li>2. Understand and apply Cauchy's Theorem II</li><li>3. Enhance the knowledge in singularities and residues.</li><li>4. Understand the concept of integration and apply to find poles and residues.</li><li>5. Gain knowledge in meromorphic functions.</li></ol>
VI	63C	Core Paper XV Modern Algebra II	<ol style="list-style-type: none"><li>1. Understand basic concepts of Matrices.</li><li>2. Find rank, Characteristics roots and vectors of matrix.</li></ol>





			3. Gain knowledge in Vector Space. 4. Understand the concepts of dual spaces and orthogonal vectors. 5. Understand and apply linear transformations.
VI	6EA	Elective II A Astronomy-II	1. Understand the concepts of time, Seasons and Calendar. 2. Enhance the knowledge in Annual Parallax 3. Understand the Phenomenon of Precession and Nutation. 4. Improve the understanding of The Moon and Eclipses. 5. Gain knowledge in Planetary Phenomenon .
VI	6EB	Elective II B Numerical Methods II	1. Compute and apply the derivatives numerically. 2. Understand and apply numerical Integration. 3. Understand and solve linear difference equations. 4. Apply different techniques to solve linear difference equations. 5. Understand and solve Ordinary differential equations.
VI	6ED	Elective III A Graph theory	1. Understand the basic concepts of Graphs. 2. Enhance the knowledge in Euler, Hamiltonian graphs and trees. 3. Understand and apply matrix representation of graphs and spaces. 4. Gain knowledge in planar graphs. 5. Understand and apply the concept of connectivity and tournaments in directed graph
VI	6EE	Elective III B Automata Theory and Formal Languages	1. Understand the basic concepts and Phrase structure languages 2. Understand and apply Closure operations 3. Gain knowledge on Context free languages 4. Construct and apply Finite state automata 5. Enrich the concept of Push down automata
VI	6EF	Elective III C Programming in C++	1. Understand the basic concept of ++class structure, member functions & data members. 2. Understand Functions and I/O Operations. 3. Enhance the knowledge of Classes and Objects with Constructors and Destructors function. 4. Gain knowledge in Operator Overloading 5. Enrich the concept of inheritance and its types
VI	6PF	Practical- Programming in C++	1. Create applications using built in numeric functions and function overloading 2. Implement the concept of member function,type conversion and operator overloading in the application
VI	6ZD	Skill based Subject : Operations Research IV	1. Gain knowledge in decision analysis. 2. Understand job sequencing and apply it for cost optimization. 3. Solve and apply replacement problems. 4. Understand the concept of information theory. 5. Apply simplex method to solve game and replacement in reliability.



**SRI RAMAKRISHNA**

COLLEGE OF ARTS & SCIENCE FOR WOMEN



VI	67A	Extension Activities	1. Recognize the importance of contributing to the betterment of society and engage in activities related to the same.
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Prepared by

*P. P. Liberman*

Programme Coordinator

Approved by

*P. K. ...*

Head of the Department

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**Department of Mathematics**

**Course Outcomes**

**Name of the Programme : B.Sc Mathematics**

**Period : Academic Year 2019 Onwards**

Semester	Sub code	Course	Outcomes
			On successful completion of the course the students will be able to:
II	23A	Core Paper III- Analytical Geometry	<ol style="list-style-type: none"><li>1. Understand the Concept of Straight line and Shortest distance in 3D</li><li>2. Recognize geometrical aspects of Sphere &amp; their Properties</li><li>3. Enhance knowledge in orthogonal, tangency and coaxial system of spheres.</li><li>4. Gain knowledge in 3D aspects of Cone &amp; Cylinder</li><li>5. Identify the nature of Conicoids and Geometrical aspects of Central Conicoid</li></ol>
III	33B	Core Paper VI Statics	<ol style="list-style-type: none"><li>1. Realize the concept of forces</li><li>2. Enhance the knowledge about the resultant and equilibrium of forces</li><li>3. Recognize parallel forces and couples</li><li>4. Gain knowledge about coplanar forces</li><li>5. Analyse the equilibrium of forces acting on a rigid body.</li></ol>

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