

**A Handbook on Program Outcomes, Program Specific  
Outcomes and Course Outcomes**



**N S S COLLEGE, RAJAKUMARI**

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### **Program- Undergraduate Courses Program Outcomes:**

- A graduate student will develop critical thinking.
- A student after graduation will acquire life skills and become a better human being, will develop language competence and be proficient in oral communication and written skill.
- Students can pursue career in multi and interdisciplinary fields.
- Students can understand the use of analytical methods required for interpreting and analysing results and drawing conclusions as supported by their data.
- Students will have better employability in the field of finance, industry, administration, social and extension work, IT sectors, research and many others.
- Students will develop confidence to appear for various competitive exams related to public and private sectors.

### **Program- Postgraduate Courses Program Outcomes:**

- Provide students with the critical faculties necessary in an academic environment and on the job in an increasingly complex interdependent world.
- Students will be able to apply critical and theoretical approaches to the reading and analysis of particular subjects.
- Students will also develop insight for research and also study research methodology which will help them to present their ideas in a structured manner.
- Students will develop a thorough knowledge of theories, concepts and research methods in the field and apply them in research design and data analysis.
- Students will gain confidence to become entrepreneur as well in the areas of their interest.



  
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### **Program Specific Outcome of Master of Science (Electronics)**

1. To expose students to pursue research in Electro-magnetics, Signal Processing, Image Processing, Artificial Intelligence and ANN, Robotics
2. To become an entrepreneur in embedded based system, digital and analog system design
3. To develop multi-skilled engineers who are able to spearhead the progress of the nation in the information age

### **Program Specific Outcome of Bachelor of Science (Electronics)**

1. To provide in depth knowledge of scientific and technological aspects of Electronics
2. To familiarize with current and recent technological developments
3. To enrich knowledge through programmes such as project lab and seminars
4. To train students in skills related to electronics industry and market.
5. To create foundation for research and development in Electronics
6. To develop analytical abilities towards real world problems.
7. To help students build-up a progressive and successful career in Electronics
8. To produce electronic professionals who can be directly employed or start his/her own work as Electronic circuit Designer, Electronics consultant, testing professional, Service engineer and even an entrepreneur in electronic industry.
9. To train students to a level where they can readily compete for seats for advanced degree courses like MSc (Electronics) and other related disciplines

### **Program Specific Outcome of Bachelor of Business Administration**

1. To train the students to be competent entry level management professionals.
2. To impart basic and operational knowledge on all functional areas of management.
3. To encourage young BBA'S to turn in to entrepreneurs.
4. To make young BBA'S a change agents in the society by fostering values which self-proclaim that "Turn to enterprising serve the society and the nation".

### **Program Specific Outcome of Bachelor of Computer Applications**

1. To attract young minds to the potentially rich & employable field of computer applications.
2. To be a foundation graduate programme which will act as a feeder course for higher studies in the area of Computer Science/Applications.
3. To develop skills in software development so as to enable the graduates to take up self-employment in Indian & global software market.
4. To Train & Equip the students to meet the requirement of the Industrial standards.

### **Programme Specific Outcomes of Bachelor of Commerce**

1. Learners will be able to prove proficiency with the ability to engage in competitive exam like C.A., C.N., ICMA etc.



2. Learner will acquire the skills like effective communication, Decision making, Problem solving in day to day business affairs.
3. Students can acquire practical skills to work as Tax Consultant, Audit Assistant, and other financial supporting services.
4. After completing three years of B.Com program, students would gain a thorough grounding in the fundamentals of commerce.
5. The students get the practical exposures which would equip them to face the modern day challenges in commerce.
6. To build a strong foundation of knowledge in different areas of commerce.
7. To develop the skill of applying concepts and techniques used in commerce.
8. To develop an attitude for working effectively and efficiently in a business environment.
9. To expose students about entrepreneurship.
10. To enable a student to be capable of making decisions at personal and professional.



  
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## Course Outcomes of the UG and PG programmes offered by the departments

### Course Outcomes of UG Programme in Department of Business Administration

#### Course Outcomes of Bachelor of Business Administration

Semester	Course Code	Course Name	Course Outcome
I	BA1CRT01	Principles and Methodology of Management	Methodological Perspective of Management as a discipline Principles and functions of Management Process of decision making Modern trends in management process
	BA1CRT02	Business Accounting	To understand the basics of accounting To identify the basics principles of accounting To understand the systems /process for recording transactions. To prepare the final accounts of sole trader. To give a general awareness about depreciation accounting. To know about the concept of bill of exchange in business
	BA1CMT03	Fundamentals of Business Mathematics	Develop scientific ability. Critically evaluate mathematical problems. To have fundamental touch with industrial and commercial problems. To know about modern trends in mathematics. To prepare them for management studies.
	BA1CMT04	Fundamentals of Business Statistics	To present a broad overview of statistics as a subject. To organize a statistical survey. To understand the importance of summary measures to describe the characteristics of data set. To analyse the relationship between two variables. To use various forecasting techniques.
	BA1CCT05	English Paper –I	The student should be able to: Confidently use English in both written and spoken forms. Use English for formal communication effectively. Have practical approach to language learning. Learn to write formal letters and resumes. Understand current trends in grammar and usage.
	BA2CRT06	Cost and Management Accounting	To equip the students about the Cost Accounting, Management Accounting, Financial Accounting
	BA2CRT07	Business Communication	To understand the nuances of business communication
	BA2CMT08	Mathematics for Management	To develop scientific ability. To know about modern trends in mathematics. To know about problems in industry and management and to learn how to solve the problem. To have research in Managerial Sciences.
II	BA2CMT09	Statistics for Management	To have some idea about probability and probability distributions. To develop the concept of a sampling distributions. To formulate hypothesis about various population parameters. To conduct various statistical tests.
	BA2CCT10	English Paper –II	Learn about the major issues of contemporary significance. Respond rationally and positively to the issues raised. Identify the values suggested and look at the world more positively. Be a sensible citizen having a contemporary outlook
III	BA3CRT11	Human Resource Management	Knowledge about personnel department, manpower



			planning and different service related matters in the organization To have an awareness on market , market segments and consumer behaviour. To know the meaning and importance of product mix. To understand pricing policies and the applicability of different pricing strategies. To know the scope of advertising and sales promotion. To identify and develop salesmanship in them
	BA3CRT12	Marketing Management	
	BA3CRT13	Research Methodology	To make the students about research methods, criteria, research design for conducting a perfect project
	BA3CMT14	Business Laws	To identify the principles behind law of contract. To equip students to identify the validity of contracts. To create awareness about various special contracts The students will have the opportunity to explore current management literature so as to develop an individual style and sharpen his skills in the area of leadership, communication, decision making, motivation and conflict Management.
	BA3CMT15	Personality Development and Management Skills	To familiarize the students about the finance functions, sources of finance, working capital management, financing decisions and dividend decisions
	BA4CRT16	Financial Management	To understand the basics of Managerial Economics, Business cycle, Demand analysis, Production function, Market structure, monopoly etc.
	BA4CRT17	Managerial Economics	Students can get a clear understanding about Entrepreneurs, small businesses, Problems of entrepreneurs, etc
	BA4CRT18	Entrepreneurship	To have through knowledge in Excel. To get adequate knowledge in Excel to use it in their Research Work. To become Computer proficient. To get enough knowledge in Computerized Accounting. Should be able to scientifically analyse the financial position of a firm.
IV	BA4CMT19	Basic informatics for Management	To identify the various steps in the formation of a company. To specify the basic principles of corporate laws. To clarify the basic principles of partnership law. To understand the basic features of limited liability partnership
	BA4CMT20	Corporate Law	Manage conflict amongst groups in business environment. Comprehend and apply motivational theories in the workplace. Identify changes within organisations and power and politics in organisations
	BA5CRT21	Organisational Behaviour	To develop and implement strategies for successful brand portfolio management.
	BA5OPT22	Brand Management	To enhance the students about the knowledge of multidisciplinary nature of environmental studies, biodiversity and its conservation, social issues and environment and green entrepreneurship
V	BA5CRT23	Environment Science and Human Rights	To appreciate the concepts of patent and trademark protection. To specify the various legal provisions in the Factories Act and Industrial Disputes Act. To identify the benefits offered by ESI Act.
	BA5CMT24	Intellectual Property Rights and Industrial Law	Provide an in-depth knowledge about production functions, planning and control, materials
	BA5CRT25	Operations Management	





VI	BA5CRT26	Industrial Relations	management, work improvement and quality control To have a basic idea regarding industrial relations. To understand various prospect of workers and employers To understand more about the employees performance and their carrier planning. To know how the relations are made in industries between workers and management. To know how the workers are participating in laws making programmes. To understand various welfare facilities of education programmes provided by employers to their employees. To create awareness among the students in healthcare, to enhance knowledge in healthcare industry, to familiarize the students about the various services and office management To orient students in Marketing Management. To encourage entrepreneurial skills. To meet the demand of the various industrial sectors To enable the students to acquire basic ideas about corporate strategy, corporate policy and planning i India, business strategy formulation, diversification, mergers and acquisitions, evaluation and control of strategies To develop communication skills as well as positive personality traits. To acquire a language suitable for technical communication. To inculcate the habit of regular reading and writing. To give an insight into the working of the real organizations. To gain deeper understanding in specific functional areas. To appreciate the linkages among different functions and departments. To develop perspective about business organizations in their totality
	BA6OCT27	Healthcare Management	
	BA6OCT28	Advertisement and Salesmanship	
	BA6CRT29	Strategic Management	
	BA6CRT30	Communication Skills and Personality development	
	BA6PRP31	Management Project	

### Course Outcomes of UG Programme in Department of Commerce

#### Course Outcome of B Com Model I programme (Co-operation)

Semester	Course Code	Course Name	Course Outcome
I	EN1CC01	Language- English-I	The course is intended to introduce the students to the basics of grammar, usage and effective communication. On Completion of the course the student can be able to confidently use English in both written and spoken forms
	ML1CCT05	Second Language-I	
	CO1CRT01	Dimensions and Methodology of Business Studies	To understand business and its role in society. To have an understanding of Business ethics and CSR. To comprehend the business environment and various dimensions. To familiarise Technology integration in business. To introduce the importance and fundamentals of business research
	CO1CRT02	Financial Accounting I	To equip the students with the skill of preparing accounts and financial statements of various types of business units other than corporate undertakings



	CO1CRT03	Corporate Regulations and Administration	To familiarise the students with the management and administration of joint stock companies in India as per Companies Act, 2013
	CO1CMT01	Banking and Insurance	To familiarize the students with the basic concepts and practice of banking and the principles of Insurance
	EN2CC03	Language- English-II	The course is intended to identify major issues of contemporary significance. On Completion students can respond rationally and positively to the issues raised
	ML1CCT06	Second Language-I	
II	CO2CRT04	Financial Accounting II	To acquaint the students with the preparation of books of accounts of various types of business activities and application of important accounting standards
	CO2CRT05	Business Regulatory Framework	The course is intended to familiarise the students with the legal framework influencing business decisions.
	CO2CRT06	Business Management	To familiarise the students with concepts and principles of management.
	CO2CMT02	Principles of Business Decisions	The course is intended to familiarise the students with the economic concepts and principles underlying business decision making
	EN3CCT05	Language- English-III	The subtle negotiations of Indigenous and Diasporic identities with-in Literature. The fissures, the tensions and the interstices present in South Asian regional identities. The emergence of Life Writing and alternate/alternative/marginal identities.
	CO3CRT07	Corporate Accounts I	To make the students familiarise with corporate accounting procedures and to understand the accounting for banking companies.
III	CO3CRT08	Quantitative Techniques for Business- 1	To make the students understand the role of statistics and quantitative techniques in business and familiarize them with basic tools applied
	CO3CRT09	Financial Markets and Operations	The course is intended to familiarise the students with financial market operations in India
	CO3CRT10	Marketing Management	The objective of this course is to provide a sound understanding of the basic principles of marketing management and their applications in the business and industry.
	CO3OCT03	Basics of Co-Operation	To inculcate the principles of co-operation among the students and to acquaint the students with the management and working of co-operatives.
	EN4CCT06	Language- English-IV	Maintain a positive attitude to life. Evaluate and overcome setbacks based on the insights that these texts provide.
	CO4CRT11	Corporate Accounts II	To equip the students with the preparation of financial statements of insurance companies and to understand the accounting procedure for reconstruction and liquidation of companies.
IV	CO4CRT12	Quantitative Techniques for Business- II	To equip the students with the preparation of financial statements of insurance companies and to understand the accounting procedure for reconstruction and liquidation of companies.
	CO4CRT13	Entrepreneurship Development and Project Management	To develop entrepreneurial spirit among students • To empower students with sufficient knowledge to start up their venture with confidence • To mould young minds to take up challenges and become employer than seeking employment and to make them aware of the opportunities and support for entrepreneurship in India





	CO4OCT03	Management of Co-Operative Enterprises	To familiarize the students with the principles and practice of co-operative management and administration. To enable the students to identify the issues in the process of management and administration of co-operatives.
	CO5CRT14	Cost Accounting - 1	To familiarise the students with cost concepts and to make the students learn the Fundamentals of cost accounting as a separate system of accounting.
V	CO5CRT15	Environment Management and Human Rights	On Completion of the course the students will get an idea about environment and social issues around us.
	CO5CRT16	Financial Management	To familiarise the students with the functional areas and principles of financial management.
	CO5OCT03	Co-Operative Legal Systems	To give an insight into the prevailing co-operative legal system 2. To enable the students to understand the legal framework of co-operation in India and in Kerala.
	CO6CRT17	Cost Accounting - 2	To acquaint the students with different methods and techniques of costing. and to enable the students to identify the methods and techniques applicable for different types of industries
	CO6CRT18	Advertisement and Sales Management	To make the students aware of the strategy, concept and methods of advertising and sales promotion.
VI	CO6CRT19	Auditing and Assurance	To familiarize the students with the principles and procedure of auditing. To enable the students to understand the duties and responsibilities of auditors and to undertake the work of auditing.
	CO6CRT20	Management Accounting	To acquaint the students with management accounting techniques for the analysis and interpretation of financial statements and to study the basic framework of financial reporting.
	CO6OCT03	Accounting For Co-Operative Societies	To familiarize the students with the special features of accounting and auditing of co-operatives. To enable the students to understand the procedures of co-operative audit.

### Course Outcome of B Com Model II programme (Computer Applications)

Semester	Course Code	Course Name	Course Outcomes
I	EN1CC01	Language- English-I	The course is intended to introduce the students to the basics of grammar, usage and effective communication. On Completion of the course the student can be able to confidently use English in both written and spoken forms
	ML1CCT05	Second Language-I	To create an interest in reading and critical thinking. To get a clear idea of the changes happening in Malayalam Literature. O understand the current outlook in public thinking and perceptions of life..
	CO1CRT01	Dimensions and Methodology of Business Studies	To understand business and its role in society. To have an understanding of Business ethics and CSR. To comprehend the business environment and various dimensions. To familiarise Technology integration in business. To introduce the importance and fundamentals of business research
	CO1CRT02	Financial Accounting I	To equip the students with the skill of preparing accounts and financial statements of various types of business units other than corporate undertakings



	CO1CRT03	Corporate Regulations and Administration	To familiarise the students with the management and administration of joint stock companies in India as per Companies Act, 2013
	CO1CMT01	Banking and Insurance	To familiarize the students with the basic concepts and practice of banking and the principles of Insurance
	EN2CC03	Language- English-II	The course is intended to identify major issues of contemporary significance. On Completion students can respond rationally and positively to the issues raised
	ML1CCT06	Second Language-I	To get an idea of the beauty and strength of Malayalam Literature. To make an awareness that different disciplines can be approached through Malayalam.
II	CO2CRT04	Financial Accounting II	To acquaint the students with the preparation of books of accounts of various types of business activities and application of important accounting standards
	CO2CRT05	Business Regulatory Framework	The course is intended to familiarise the students with the legal framework influencing business decisions.
	CO2CRT06	Business Management	To familiarise the students with concepts and principles of management.
	CO2CMT02	Principles of Business Decisions	The course is intended to familiarise the students with the economic concepts and principles underlying business decision making
	EN3CCT05	Language- English-III	The subtle negotiations of Indigenous and Diasporic identities with-in Literature. The fissures, the tensions and the interstices present in South Asian regional identities. The emergence of Life Writing and alternate/alternative/marginal identities.
	CO3CRT07	Corporate Accounts I	To make the students familiarise with corporate accounting procedures and to understand the accounting for banking companies.
III	CO3CRT08	Quantitative Techniques for Business- 1	To make the students understand the role of statistics and quantitative techniques in business and familiarize them with basic tools applied
	CO3CRT09	Financial Markets and Operations	The course is intended to familiarise the students with financial market operations in India
	CO3CRT10	Marketing Management	The objective of this course is to provide a sound understanding of the basic principles of marketing management and their applications in the business and industry.
	CO3OCT02	Information Technology for Business (Theory)	To make the students aware of the role of information technology in business and make them capable of developing web pages for business
	EN4CCT06	Language- English-IV	Maintain a positive attitude to life. Evaluate and overcome setbacks based on the insights that these texts provide.
IV	CO4CRT11	Corporate Accounts II	To equip the students with the preparation of financial statements of insurance companies and to understand the accounting procedure for reconstruction and liquidation of companies.
	CO4CRT12	Quantitative Techniques for Business- II	To equip the students with the preparation of financial statements of insurance companies and to understand the accounting procedure for reconstruction and liquidation of



		companies.
		To develop entrepreneurial spirit among students. To empower students with sufficient knowledge to start up their venture with confidence. To mould young minds to take up challenges and become employer than seeking employment and to make them aware of the opportunities and support for entrepreneurship in India
		The objective of this course is to make the students capable of managing the office activities with the help of information technology.
		To familiarise the students with cost concepts and to make the students learn the Fundamentals of cost accounting as a separate system of accounting.
		To enhance the students about the knowledge of multidisciplinary nature of environmental studies, biodiversity and its conservation, social issues and environment and green entrepreneurship
V		To familiarise the students with the functional areas and principles of financial management.
		To equip the students to meet the demands of the industry by mastering them with industry sought after computerized accounting packages. 2. To expose the students to computer applications in the field of accounting. 3. To develop practical skills in the application of Tally Accounting Package.
		To acquaint the students with different methods and techniques of costing. and to enable the students to identify the methods and techniques applicable for different types of industries
		To make the students aware of the strategy, concept and methods of advertising and sales promotion.
		To familiarize the students with the principles and procedure of auditing. To enable the students to understand the duties and responsibilities of auditors and to undertake the work of auditing.
VI		To acquaint the students with management accounting techniques for the analysis and interpretation of financial statements and to study the basic framework of financial reporting.
		To impart knowledge to use IT in business research analysis. To develop practical skills in the applications of business software.



  
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## Course Outcomes of UG Programme in Department of Computer Applications

### Course Outcomes of Bachelor of Computer Application

Semester	Course Code	Course Name	Course Outcome
I	EN1CCT01	English-I	Confidently use English in both written and spoken forms. (i) Use English for formal communication effectively. Have practical approach to language learning. Learn to write formal letters and resumes. Understand current trends in grammar and usage.
	MM1CMT03	Mathematics	Fundamentals of set theory, number theory and crypto systems and Relations
	ST1CMT31	Basic Statistics	Learn about sampling method. Know the basic idea of permutations and combinations and probability concept. Familiar with measures of central tendency and measures of dispersion.
	CA1CRT01	Computer Fundamentals and Digital Principles	To understand various number systems. To understand boolean algebra and gate networks. To introduce students to the design of basic logic circuits. To introduce students to some commonly used combinational and sequential circuits
	CA1CRT02	Methodology of Programming and C Language	Analyze a given problem and develop an algorithm to solve the problem. Basics of programming and syntax of C. Understanding loops, if constructs, functions
	CA1CRP01	Software Lab I	Learn to develop program logic. Design, develop and test programs written in 'C'
	EN2CCT03	English-II	Learn about the major issues of contemporary significance. Respond rationally and positively to the issues raised. Identify the values suggested and look at the world more positively. Be a sensible citizen having a contemporary outlook
II	MM2CMT03	Discrete Mathematics	Basic idea about graph theory and tree. Design of electronic digital computers using Boolean Algebra. Solving complex mathematical problems using Matrices.
	CA2CRT03	Data Base Management Systems	Able to understand the basic concepts and applications of database systems. Able to construct an Entity-Relationship (E-R) diagram from specifications and to transform to relational model. Understand and apply database normalization principles. Able to write SQL queries.
	CA2CRT04	Computer Organization and Architecture	Able to understand the functional units of a standard PC and its working. To understand the memory organization in a computer. To understand the concept of parallel processing and multiprocessing.
	CA2CRT05	Object oriented programming using C++	o write Cpp programs to show the basic object oriented principles like class and object. Understand and write programs to implement inheritance. Understand Polymorphism through Operator overloading, Virtual functions. Learn string handling. Learn File handling in CPP.
	CA2CRP02	Software Lab- II	Able to write basic CPP programs. Able to implement real life problems using Classes and Objects. Able to implement OOPS principles like inheritance, polymorphism, dynamic binding, data hiding etc. Able to do basic file handling operations.



	ST3CMT32	Advanced Statistical Methods	Differentiate various probability distributions. Recognize the sampling distributions. Understand the concept of estimation and test statistical hypotheses. Learn non-parametric test such as the Chi- Square test for Independence as well as Goodness of Fit.
	CA3CRT06	Computer Graphics	Understand 2D and 3D techniques for graphics Understands Animation concepts, keyframes, morphing etc.
	CA3CRT07	Microprocessor and PC Hardware	Able to have a knowledge about 8085 architecture. Idea about organization of motherboard. Basic idea about computer hardware.
III	CA3CRT08	Operating Systems	Understand fundamental concepts of systems software. To identify functions of operating systems. Understand resource allocation, process scheduling, memory and I/O management techniques. To understand salient features of popular operating systems.
	CA3CRT09	Data Structure using C++	Be familiar with data structures like array, structures, lists, stacks, queues, trees and graphs. Able to implement the above data structures in C++. Able to implement various searching and sorting algorithms. Conversions in infix, prefix and postfix representations. Implement various tree traversings.
	CA3CRP03	-Software Lab III	Able to implement various data structures like array, stack, queue, linked list, tree etc in CPP Able to implement various tree traversals. An idea about various types of file organisations and hashing techniques
	MM4CMT03	Operational Research	OR is an analytical method of problem-solving and decision-making that is useful in the management of organizations. In operations research, problems are broken down into basic components and then solved in defined steps by mathematical analysis.
	CA4CRT10	Design and Analysis of Algorithms	Be able to analyse the complexity of algorithms. Be able to select good algorithms from among multiple solutions for a problem. Have better knowledge on fundamental strategies of algorithm design.
IV	CA4CRT11	System Analysis & Software Engineering	Develop the software projects or prototypes by understanding the requirements. Understanding the concept of software project planning, feasibility analysis, requirement analysis, SRS document, cost analysis by COCOMO. Come to know various software designing strategies - structured design, DFD, structure chart, UML. Various types of software testing.
	CA4CRT12	Linux Administration	Implement basic linux commands. Develop shell programming. Idea about System administration Idea about various Servers.
	CA4CRT13	Web Programming using PHP	To impart basic skills in moderately complex use of the following tools/scripts/languages: HTML, DHTML, CSS, Java script and PHP. To impart necessary ability to choose the appropriate web tools/languages for creating state-of-the-art web sites. To Expose students to current trends and styles in web design and applications.
	CA4CRP04	Software Lab IV	Understanding on HTML, CSS, Javascript and PHP. Able to write dynamic web sites Understanding on mysql and linking project to mysql.
	CA5CRT14	Computer Networks	Identify the different components in a Communication System and their respective roles. Awareness on various network protocols and their functions. Awareness on bluetooth technologies, wireless technologies, firewall, Cryptography etc.
	CA5CRT15	IT and Environment	Idea on academic websites. Idea on Moodle. Idea on e-waste management and Green computing Knowledge about Human





			rights and UN.
CA5CRT16	Java Programming using Linux		Understands fundamental constructs of OOP. Design and implement Applet and event handling mechanisms in programs. Incorporate database concepts to java programs through JDBC connectivity. Idea about parallel processing through Thread concepts.
CA5OPT01	Informatics and Cyber Ethics		Understands fundamental concepts in Operating systems, Networks and Internet. Understand and expertise in MSWord. Expertise in Excel by understanding formulas, functions, charts and graphs. Expertise in preparing powerpoint presentations.
CA5CRP05	Software Lab V		To implement real time problems through object oriented concepts in java. To write programs with database connectivity. To have an understanding to write simple Applet programs .
CA5CRP06	Software Development Lab I (Mini Project in PHP)		Ability to develop a project through different phases of software development life cycle. Provides an opportunity for structured team work and project management. Capacity to develop effective technical documentation. Provides an opportunity to develop their presentation skills
CA6CRT17	Cloud Computing		A Clear understanding of Cloud Computing. An understanding of Cloud Computing benefits and key concepts. An understanding of when and where to use it using the appropriate industry models. An understanding of Aneka .
CA6CRT18	Mobile Application development- Android		Understand the fundamentals of Android operating systems. Able to use Android software development tools. Able to develop software with reasonable complexity on mobile platform and deploy software to mobile devices
CA6PET02	Digital Image Processing		Examine various types of images, intensity transformations and spatial filtering. Students can understand and interpret fundamental steps in image processing. Students will acquire necessary skill base to carry out further study of various image processing techniques.
VI			Provides an opportunity to practice different phases of software/system development life cycle Introduce the student to a professional environment of an IT industry. Provides an opportunity for structured team work and project management. Provides an opportunity for effective, real-life, technical documentation. Provides an opportunity to practice time, resource and person management.
CA6CRP07	Software Lab VI & Seminar		Provides an opportunity to evaluate the students knowledge in various subjects. Prepare the students to face interviews.
CA6CRP08	Software Development Lab II (Main Project)		

### Course Outcomes of UG Programme in PG Department of Electronics

### Course Outcomes of Bachelor in Science (Electronics)

Semester	Course Code	Course Name	Course Outcome
I	ENICCT01	English – I	Confidently use English in both written and spoken forms. Use English for formal communication effectively. Have practical approach to language learning. Learn to write formal letters and resumes. Understand current trends in grammar and usage.
	ELICRT01	Basic Electronics	To get the pre-requisite knowledge on basic electrical technology and to familiarise with basic electronic devices





	EL1CRT02	Methodology of Science	To get a broad perspective on evolution of science, its methodology, empirical nature, research methodology and to nurture the critical thinking in a scientific way.
	EL1CRP01	Basic Electronics Lab – Practical	To get a basic knowledge on Electronic components and their characteristics To get a basic knowledge on Logic gates and truth tables.
	PH1CMT03	Solid State Physics	To provide knowledge in Solid State Physics which is the basis of electronic devices. Developing a taste for solid state physics where the real advances in electronic device technology happens. To enable students to catch up with the new areas related to electronics which include quantum computing, nanotechnology etc.
	MM1CMT07	Mathematics – I	Get an insight into differential calculus and trigonometry which will compliment the core courses in the subsequent semesters
	EN1CCT02	English – II	Learn about the major issues of contemporary significance. Respond rationally and positively to the issues raised. Identify the values suggested and look at the world more positively. Be a sensible citizen having a contemporary outlook
II	EL2CRT03	Electronic Circuits	To equip the students with circuit level application concepts of electronic devices.
	EL2CRT04	Network Theory	Equips the students to excel in the field of circuit theory, network theorems, circuit analysis, and filter theory
	EL2CRT05	Digital Electronics	To equip the students with the concepts of Boolean algebra, digital logic gates, combinational and sequential digital circuits
	EL2CRP02	Digital Electronics Laboratory – Practical	To equip the student with expert in handling digital ICs, logic gates, and digital circuit designing
	MM2CMT07	Mathematics – II	To equip the student on a thorough knowledge on Vector spaces, Linear Algebra and Differential Equations.
	EL3CRT06	Analog Communication	To get a thorough knowledge of modulation and analog communication techniques
	EL3CRT07	Analog ICs and Applications	To get a thorough knowledge of analog ICs
III	EL3CRT08	Electromagnetic Theory	To equip the student to understand the theory of electromagnetic waves and their propagation
	EL3CRT09	8085 Microprocessor	To give a strong background in the field of Microprocessor 8085 and to expertise in assembly level programming
	EL3CRP03	Analog Electronics Circuits Lab – Practical	To equip the students in building and troubleshooting analog circuits like rectifiers, filters, amplifiers and oscillators .
	EL4CRT10	Programming in C	High level computer programming concepts and enables the student to acquire sufficient skills for programming in C language.
	EL4CRT11	Microwave Electronics	To equip the student with the theory of wave guides, transmission lines, microwave components, microwave tubes and devices
IV	EL4CRT12	Digital Communication Instrumentation	To equip the student to understand basics of Digital communication
	EL4CRT13	Electronics	To impart an in-depth knowledge in the field of transducers, Signal Conditioners and electronic instruments.
	EL4CRP04	Programming in C Lab– Practical	To introduce computer programming using C language. Also trains students to develop program and to acquire sufficient programming skills.



	EL4CRP05	Microprocessor Lab – Practical	To equip the student with a practical knowledge of 8085 programming, its interfacing and applications.
	EL5CRT14	Microcontrollers and Applications	To equip the student with the architecture and programming of microcontrollers
	EL5CRT15	Environmental Awareness and Human Rights	To develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter-relationship between man and environment and helps to protect the nature and natural resources.
V	EL5CRT16	Computer Hardware	To get an in-depth knowledge of computer hardware and hence to create a confidence in using and assembling PC
	EL5CRP06	Microcontroller Lab – Practical	To understand the basics of microcontroller programming using simulators and kits and to interface and control various input and output devices.
	EL5CRP07	Communication Lab – Practical	To get a thorough practical knowledge on modulators, demodulators and filters using analog and digital discrete and analog components.
	EL5CBT01	Electronic Communication	To enable the student to become an expert in various communication techniques, modulation, concept of digital modulation and data communication
	EL6CRT17	Optoelectronics	To get a knowledge on LASERS, its applications, optical communication, various types of optoelectronic devices.
	EL6CRT18	Computer Networks	To give an in-depth knowledge in the field of computer networks and the protocols involved in data communication
	EL6CRT19	Digital Signal Processing	To study the fundamentals of DFT, Digital filter design and DSP hardware
VI	EL6CBT01	Digital Image Processing	To equip the student with the basics of image processing, image acquisition, various image enhancement methods and various image compression standards.
	EL6SMP01	Presentation Skill Practice	To excel the presentation skills every student by presenting a topic during this semester using ICT based techniques.
	EL6PRP01	Project Lab	To enable the student to get a thorough knowledge in the frontiers in the Electronics and allied areas.

### Course Outcomes of PG Programme in PG Department of Electronics

### Course Outcomes of Masters in Sciences (Electronics)

Semester	Course Code	Course Name	Course Outcome
I	EL010101	Network Analysis and Synthesis	To get a thorough knowledge of basic circuit laws, Laplace and Fourier Transforms and its applications. To understand general properties of signals and systems. To analyse and synthesize passive networks.
	EL010102	Electronic Circuits Analysis	To study the characteristics and analysis of active electronic devices. To familiarize the operation amplifiers and its applications. To know the design of various applications of analog ICs. To understand the various power electronic devices and its applications
	EL010103	IC Fabrication and MEMS	To study the IC Fabrication Techniques. To familiarize the MES technology, fabrication and applications





	EL010104	Digital Communication Techniques	To understand information theory and coding. To familiarize various coding techniques and methods. To understand convolutional codes and cryptography. To get the knowledge on digital modulation techniques and their comparison To familiarize the designing and troubleshooting the digital circuits, analog circuits, IC based circuits. To get in-depth knowledge on op-amp circuits and their applications. To familiarize the power electronics based devices and their applications. To design and set up various modulation based circuits
	EL010105	Advanced Electronics Circuit Lab	To get a thorough knowledge on FFT and its applications To familiarize digital IIR and FIR filter designing and its realization To discuss the various applications of DSP
	EL010201	Digital Signal Processing & Applications	To give an in-depth knowledge on AVR microcontroller To get a thorough knowledge on AVR assembly language programming To familiarise the interfacing of AVR and its applications
	EL010202	AVR based Embedded Systems	To introduce mobile computing technology, To know the various emerging technologies in mobile communications To familiarize the various mobile communication standards and applications
II	EL010203	Mobile Computing	To get a thorough knowledge on MOS technology To familiarize the basic IC fabrication process To discuss the various MOS circuit design process and FPGA
	EL010204	VLSI Design and Analysis	To familiarize the AVR microcontroller programming methods To study how to interface AVR with various peripherals and controlling devices To familiarize MATLAB programming and its applications in DSP
	EL010205	Microcontrollers and DSP Lab	To get an in-depth knowledge on digital systems To design digital circuits To get a knowledge on Finite State Machines To introduce VHDL and to familiarize the design of digital circuits using VHDL
	EL010301	Digital System Design	To understand the basic knowledge on control system and its classification To study in detail the need for block diagram and signal flow graph representation To have an idea about the concept of stability and various techniques for stability analysis To understand the various plots used for analysing control systems To introduce the concept of state space modelling of systems To discuss the various real time applications of control system including PLC and SCADA
	EL010302	Control Systems	To acquire knowledge on Object-Oriented Programming To introduce Python programming concepts in Python To understand the Raspberry Pi single board computer and its programming using Python
III	EL010303	Object Oriented Programming	To get an insight into ANN. Different types of architectures. Design a Neural Network for specific applications
	EL800301	Artificial Neural Networks and Deep Learning	To acquire programming skills on Object-Oriented Programming concepts in Python To get a practical knowledge on interfacing Raspberry Pi with Python
	EL010304	Object Oriented Programming Lab	To equip the students to use ARM Processor To get a thorough knowledge of using ARM Processor with Embedded C Programming for Application Development To understand how practically apply gained theoretical knowledge in order to design, analyse and implement embedded systems.
	EL010401	ARM Processor Based Embedded System	To describe the basic principles of RF and microwave devices and circuits. To understand representation of RF and microwave devices by means of Sparameters. To understand the basic principles of radiation and antennas
	EL800402	Advanced Electromagnetics	





EL800403	Fiber Optic Communication Techniques	To get a basic understanding of fundamental principles of Optical Fiber Technology, different Multiplexing Techniques To familiarize the different Testing Equipment for optical fiber communication To understand the fiber optic network basics To familiarize the Xilinx programming environment. To simulate combinational and sequential logic
EL010402	VHDL Programming Lab	



  
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