DEPARTMENT OF COMPUTER APPLICATIONS

BCA

PO-PSO-CO

Programme Outcomes	Graduate Attribute/Program Outcome
PO-1	Intellectual Rigour and Research
PO-2	Digital Capability
PO-3	Professional & Effective Communication Skills
PO-4	Creative and Critical Thinker
PO-5	Inter-disciplinary and Social Interaction
PO-6	Holistic life-long formation with ethical practices & environmental concerns
PO-7	Optimistic Catalyst of Transformation and Effective Citizenship

Programme Specific Outcomes(PSO):

PSO No.	Programme Specific Outcomes Upon completion of the B.C.A Degree Programme, the graduate will be able to	Programme Outcomes
PSO-1	Enhancing intellectual and subject rigor in the domain of computer applications and increasing advanced and wider spectrum of computer knowledge and mastery in different applications and programmes.	PO-1
PSO-2	Utilize the practical skill to examine, plan and engineer the applications of technology using computing tools and techniques. Analyse and find the best techniques for solving computational problem.	PO-2
PSO-3	Design innovative methodologies/techniques/ideas for solving real time problems to cater to the need for the society. Develop competent technical writing skills for software.	PO-3
PSO-4	Create student employability and be competent enough to work in IT industry. Apply the recent technology in various domains and evaluate the methods of implementing it.	PO-4
PSO-5	Integrate ethical values in designing computer application. Through Computerization and computer-based systems, creating substantial changes and transformation in the society.	PO-5,6,7

BCA 6th Semester

6.1 Course Outcomes(CO)

Name of the Course: Cryptography and Network Security

Course Code : BCA603T

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	Summarise the intrusion detection and its solutions to overcome the attacks. Basic concepts of system level security	PSO1,PSO2	U,E
CO – 2	Illustrate various public key cryptographic techniques	PSO1,PSO3	An,Ap, E
CO – 3	Understand security protocols for protecting data on networks and Evaluate the authentication and hash algorithms	PSO1,PSO2, PSO3	U Ap,An
CO – 4	Be able to digitally sign emails and files. Understand vulnerability assessments and the weakness of using passwords for authentication	PSO1,PSO2, PSO4	U,Ap,E
CO – 5	Summarise the intrusion detection and its solutions to overcome the attacks. Basic concepts of system level security	PSO1,OSO3 ,PSO5	An,E,C

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

6.2 Course Outcomes(CO)

Name of the Course: Web Programming

Course Code : BCA604T

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	To Understand basic concepts of internet, servers, internet s security and also basic concepts of HTML and XHTML	PSO-1,3,5	R,U
CO – 2	To understand the complete structure and properties of HTML And XHTML. And also introducing CSS levels of style sheets And formats properties and Text properties.	PSO-2,3,4	U,Ap
CO – 3	To understand Overview of JavaScript, syntax characteristic, operations and expressions, control statements object creation, Modification; Arrays, Constructors and error handling concepts	PSO-1,4,5	**Ap,An,E**
CO – 4	To understand JavaScript Execution environment, document Object model, event access, handling events and the navigator objects.	PSO-1,2,3,6	U,E,C
CO – 5	Introduction to Dynamic documents, positioning elements, staking, mouse movements, namespace XML schemas displaying XML documents, documents with CSS; XSLT style sheets web servers	PSO-2,3,4,5	U,Ap,E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

6.3 Course Outcomes(CO)

Name of the Course: System Programming

Course Code : BCA601T

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	To understand the background of system programs and to relate compiler, assembler, linker, loader, interpreter and debugger passes involved in language processing activities by system software.	PSO-1,2,3,5	
CO – 2	To understand the background of system programs and to relate compiler, assembler, linker, loader, interpreter and debugger passes involved in language processing activities by system software.	PSO-2	
CO – 3	Enumerate and explain the function of pass1 macros and implementation of a macro calls within macros	PSO-1,2	
CO – 4	Analyse loaders and its types also analysing the concepts of passes of loaders, format of databases and its algorithms	PSO -2,3	
CO – 5	Recognizing basic elements of compilers	PSO-3,6	

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

6.4 Course Outcomes(CO)

Name of the Course: Theory of Computation

Course Code : BCA601T

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	Understand the concept of Finite Automata, Terminologies used in Finite Automata and Mathematical representation of DFA,NFA	PSO-1,2	U,An,C
CO – 2	Understanding RE and basic operations on RE and applications of RE and languages not to be RE and properties regular language Understanding the concept of languages not to be RE and properties regular language	PSO-1,2	U, An,E
CO – 3	Understanding the concept of CFG and how to design CFG from FA, Languages and RE, the concepts of parsing and applications of CFG and ambiguous grammar	PSO-1,2,5	U,An,E,C
CO – 4	Understanding the concepts of PDA, left recursion and how to eliminate useless symbols from CFG. properties of recursively enumerable language and not recursively enumerable language	PSO-2	R,U,An,C
CO – 5	Understanding the concept of properties of recursively enumerable language and not recursively enumerable language and problem in regular expressions	PSO-5	U,Ap,E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

BCA 5th Semester

5.1 Course Outcomes (CO):

Name of the Course: COMPUTER ARCHITECTURE

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	Perform conversions among different number systems, became familiar with basic logic gates and understand Boolean algebra and simplify simple Boolean functions by using basic Boolean properties	PSO – 1,2	R,U,E, Ap
CO – 2	Convert different type of codes and number systems which areused in digital communication and computer systems. Employthe codes and number systems converting circuits and compare different types of logic families which are the basic unit of different types of logic gates in the domain of economy, performance and efficiency.	PSO -1,2	An,Ap, E
CO – 3	Instruction codes, computer instruction, timing and control, execution and instruction, input-output and interrupt, design ofcomputer.	PSO -1,4	An,Ap, E
CO – 4	Processor bus organization, arithmetic logic unit (ALU) instruction formats, addressing modes, data transfer and manipulation ,program control, microprocessor organization.	PSO -1,2	R,U,E
CO – 5	Peripheral devices . asynchronous data transfer,direct memoryaccess (DMA) ,priority interrupt, input –output processor (IOP). Auxiliary memory, microcomputer memory hierarchy ,associative memory , virtual memory, cache memory.	PSO -1,2	U,An,R,

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

5.2 Name of the Course: DATA COMMUNICATION AND NETWORKS

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO1	To understand data communication in computer network withtheir techniques. To introduce evaluation of network architecture and services.	PSO – 1,3	U, R,U,E
CO2	To understand the application and principles of protocollayering. To describe the open system interconnection reference model.	PSO -2,5	U, Ap, E
CO3	To introduce the basics of data and signals using channels. Tounderstand methods of encoding techniques.	PSO -1	Ap, An, R E
CO4	To be familiar with modern telecommunications using transmission media. To learn methods of detecting andcorrecting errors	PSO -4	U, R,An
CO5	To examine and understand network protocols and architectures. Describe network structure and standards in datacommunication.	PSO -5,3	U, An, E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

5.3 Name of the Course: SOFTWARE ENGINEERING

CO	**Course Outcome** ***The learner will be able to***	**PSOs Addressed**	**Cognitive Level**
CO1	Understand the concept of software products and different processing models, along with the requirement and change ofrequirement management and system engineering process	PSO – 1,2	R,U,E
CO2	Understand software prototyping and techniques. Study ofsoftware design and designing strategies and architecture.	PSO -2,3	U, An,Ap, E
CO3	Object oriented and function oriented design. Dataflow designand detailed design, understanding the design principles and user system interface.	PSO -3,4	Ap,An. E
CO4	Study of software reliability and reusability. And object oriented and detailed design.	PSO -1,5	U, R,An
CO5	Software specification and validation techniques, projectmanagement, quality management, cost estimation an software maintenance.	PSO -2,3	U, An, E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

5.4 Name of the Course: MICROPROCESSOR PROCESSOR& ASSEMBLY LANGUAGE

CO No.	**Course Outcomes** ***The learner will be able to***	**PSOs Addressed**	**Cognitive Level**
CO – 1	Demonstrate the internal architecture and its general operations of microprocessors and describe the differencebetween the 8086 and advanced microprocessors.	PSO – 3,2,5	R,U,E, Ap
CO – 2	Classify and articulate the addressing modes and memory access methods within the microprocessor.	PSO -2	Ap, E
CO – 3	Apply the instruction set of Intel 8086 microprocessor and distinguish the use of different arithmetic, logical, shifting, rotating instructions to apply in assembly language programming.	PSO -1	**E**
CO – 4	Design and analyze assembly programming code to use thebranching structures, looping structures flags, stacks, procedures, macros, and interrupts.	PSO -4	R,U,E
CO – 5	To learn and analyze the theoretical and practical implications of memory access in the microprocessor.	PSO -5	E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

5.5 Name of the Course: JAVA PROGRAMMING

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO-1	State OOPS and Relate java syntax with C and C++.Categorize OOPS such as encapsulation, abstraction,polymorphism	PSO 1, PSO 2	R, U, An
CO-2	Applying encapsulation concepts in developing the programs with classes and objects.Identify different types of inheritanceand apply them for reusability of code.	PSO 4, PSO 1	Ap, R
CO-3	Construct the packages by arranging the classes with visibility control.	PSO 2, PSO 5	C, An
CO-4	Develop program using different methods of thread creation and exception handling.	PSO 5	C, Ap
CO-5	Create Internet program using applets. Evaluate java collection with other implementation methods of datastructure.	PSO 4, PSO 5	E, C,Ap

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

BCA 4th Semester

4.1 Course Outcomes(CO)

Name of the Course: Operations Research

CO No.	**Course Outcomes** ***The learner will be able to***	PSOs Addressed	Cognitive Level
CO – 1	**Recognise and relate LPP and solving LPP using graphical and simplex method. Provide an understanding of basic concepts in Operations Research Techniques for Analysis and Modelling in computer applications Skill Development.**	PSO1,PSO2, PSO3	U,E
CO – 2	**Explain Transportation problem and various solution to address the problems**	PSO1,PSO2, PSO4	An,Ap, E
CO – 3	**Discuss and solve assignment problem using Hungarian algorithm**	PSO1.PSO2, PSO3	U Ap,An
CO – 4	**Describe and Construct Network and estimate project schedule using CPM and PERT.**	PSO1,PSO2, PSO5	U,Ap,E
CO – 5	**Describe Game theory, Games without saddle points, dominance property and its applications**	PSO1,PSO2, PSO3,PSO6	An,E,C

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

4.2 Course Outcomes(CO)

Name of the Course: Visual Programming

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	To learn Visual Basic controls and the properties, events, methods and how to handle events of different controls.	PSO-2,3,5	R,U,E,A
CO – 2	Demonstrate the use of forms, modules, procedures and to apply fundamental programming concepts of variables and scope, arrays, sequence, selection, iteration.	PSO-1,3,5	U, An, Ap, E,C
CO – 3	To Understand the working of menus and tool bars for designing multiple document interface also database access and management using data controls.	PSO-3,5	Ap, An, E
CO – 4	Analyse the Visual C plus plus components, Classes and Objects, Event handling, VBX Controls.	PSO-1,5,6	U, Ap, E, C
CO – 5	Understand the concept of data-driven program execution flow control and additional Visual Basic controls.	PSO-1,5	U,E,C

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

4.3 Course Outcomes(CO)

Name of the Course: Unix

CO No.	**Course Outcomes** ***The learner will be able to***	PSOs Addressed	Cognitive Level
CO – 1	**Understanding the basic set of commands and utilities in Linux/UNIX systems.**	PSO-1,2	U,E
CO – 2	**To learn to develop software for Linux/UNIX systems.**	PSO-1,2,3,4	An,Ap, E
CO – 3	**Understand the concepts of advanced file concepts, commands related to Shell script and filter commands.**	PSO-1,4	U Ap,An
CO – 4	**Understand the commands related to Shell basics, vi editor and regular expression commands.**	PSO-1,2,4	U,Ap,E
CO – 5	**To understand the communication systems and handles in UNIX**	PSO-1,4	An,E,C

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

4.4 Course Outcomes(CO)

Name of the Course: NCP

CO No.	**Course Outcomes** ***The learner will be able to***	PSOs Addressed	Cognitive Level
CO – 1	**Helps to identify one's own self, i.e. the potentials , goals and purpose of individuals life's make decisions, how to achieve a goal and be creativity inculcate values.**	PSO-5	R
CO – 2	**Identify different interpersonal skills and learn how to apply it in achieving their goals and how to manage stress**	PSO-4	U
CO – 3	**Learn how to manage time for a successful life. Identify the traits of leaders in themselves and people around them**	PSO-4	**An**

PO – Program Outcome; PSO – Programme Specific Outcomes

; CO – Course Outcome;

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

3.1 Course Outcomes (CO)

Name of the Course: ACCOUNTING AND FINANCIAL MANAGEMENT.

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	Basic terminologies in accounting, Basic types of accounting process. Accounting process concepts, principles and standards	PSO – 3,4	R,U,E, Ap
CO – 2	Accounting process steps, book keeping , journal entries, preparation of ledgers accounts, subsidiary books	PSO -3,4	An,Ap, E
CO – 3	Distinction between Bill of Exchange and Promissory Note. Define Important terms of Bill of Exchange and Promissory Note. Record the Accounting Treatment of Bill of Exchange under different Circumstances. Preparation of trial balance andsuspense account, normal loss in consignment. Analyzing the reasons for differences between pass book and cash book transactions in the Bank Reconciliation Statement.	PSO -3	An,Ap, E
CO – 4	Prepare final accounts, with and without partnership deed. Balance sheet , trading account, .	PSO -3	C,R,U,E
CO – 5	Understand the basic knowledge of computer systems and information technology in functional areas of business. Learning to use tally software for accounting.	PSO -5	Ap

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

3.2 Name of the Course: OBJECT ORIENTED PROGRAMMING USING C++.

CO No.	Course Outcome *The learner will be able to*	PSOs Addressed	Cognitive Level
CO - 1	To learn the syntax and semantics of the C plus plus programming language and concept of OOP. To understandhow C plus plus improves C with object-oriented features.	PSO – 1,3	U, R,U,E
CO - 2	To learn how to design C plus plus classes and Objects for code reuse. To learn how function works and to write inlinefunctions for efficiency and performance.	PSO -2,3	U, Ap, An, E
CO - 3	To learn how to implement Constructor and Destructor with arguments. To understand the benefits and limitations of objectoriented programming and to find solution for procedure oriented programming problems.	PSO -2,5	Ap, An, R, E
CO - 4	To learn how to overload functions and operators in C plus plus. To learn how containment and inheritance promote codereuse in c plus plus.	PSO -4	U, R,An
CO - 5	To learn how to design and implement generic classes with Cplus plus templates. To learn how to use exception handling and their mechanism in C plus plus program.	PSO -2,5	U, An, E

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

3.3 Name of the Course: OPERATING SYSTEM

CO No.	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO – 1	Recall the different structures of operating systems.	PSO 1	R, U
CO – 2	Discuss theory and implementation of processes, resource control, physical and virtual memory, scheduling, I/O and files. Algorithmic Solution to the classic problems od synchronization.	PSO 2	R, U, An
CO – 3	Calculate waiting time, response time, turnaround time anddisk seek time in disk scheduling	PSO 2	U
CO – 4	Compare the memory allocation methods and differentiate the page replacement algorithms.	PSO 3	An, C
CO – 5	Conclude with a detailed understanding of Windows and Linux kernel	PSO 4	An

PO – Program Outcome; PSO – Programme Specific Outcomes; CO – Course Outcome; R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

BCA Program Outcomes (POs] As Per NEP

- To prepare graduates who will have a successful professional career in software industry, government, academia, research, and other areas where computer applications are deployed. To prepare broadly educated, ethical and responsible citizens.

Programme Outcomes	**Graduate Attribute/Program Outcome**
PO 1	Disciplinary Knowledge: Inculcates the ability to analyze, identify, formulate and develop computer applications using modern computing tools and techniques.
PO 2	Enhance literary sensibility, language skills and Communication Skills: Improves communication skills so that they can effectively present technical information in oral and written reports.
PO 3	Critical thinking: prepares to create innovative methodologies.
PO 4	Problem solving : Solving Technical and complex-real life problems.
PO 5	Research Related skills
PO 6	Information and Communication Technology (ICT) (OMT)

PO 7	Multidisciplinary learning: To work effectively both as an individual and a team leader on multi-disciplinary projects.
PO8	Moral and Ethical Awareness/Reasoning: To integrate ethics and values in designing computer applications.

BCA 2nd Semester (NEP)

2.1 Course Outcome (CO)

Name of the Course: Java Programing.

CO NO	**Course Outcome** *he learner will be able to*	**Os ddressed**	**ognitive Level**
CO1	State OOPS and Relate java syntax with C and C. Categorize OOPS such as encapsulation, abstraction, polymorphism	PO-1,3,4	,E
CO2	Applying encapsulation concepts in developing the programs with classes and objects. Identify different types of inheritance and apply them for reusability of code.	O-1,3,4	n,Ap, E
CO3	Construct the packages by arranging the classes with visibility control.	O-1,2,4	Ap,An
CO4	Develop a program using different methods of thread creation and exception handling.	O-1,2,3,4	,Ap,E
CO5	Create Internet program using applets. Evaluate java collection with other implementation methods of data structure.	O- ,3,4,7,8	,E

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

2.2 Course Outcome (CO)

Name of the Course: Database Management System.

CO	**Course Outcome** ***The learner will be able to***	**POs Addressed**	**Cognitive Level**
CO1	Basic concepts and the applications of database systems.to have broad understanding of the three level architecture of DBMS. Database System Environment, Classification of Database Management Systems	PO – 1,3,4	U,E
CO2	Identify the basic concepts and various data model used in database design.Design ER-models to represent simple database application scenarios.Explain the basic concepts of relational data model	PO -1 , 3	U,n,Ap, E
CO3	Apply relational database theory.To be able to describe relational algebra expression, tuple and domain relation expression for queries.Recognize and identify the use of normalization and functional dependency.To formulate SQL queries on data using basic DDL, DML and DCL commands	PO -1,4	U Ap,An
CO4	Transaction Processing ,Properties ,Concurrency control ,recovery	PO -3,4	U,Ap,E

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

2.3 Course Outcome (CO)

Name of the Course: Computer Architecture

CO	**Course Outcome** ***The learner will be able to***	**POs Addressed**	**Cognitive Level**
CO1	Basic number system and and arithmetic operations on the number system, and also the usage of combinational and sequential circuits.	PO-4,6	,U
CO2	Basic computer organization and design. Computer instructions, time and memory management, central processing unit. Along with SISC and RISC.	O-1,7,8	p,An
CO3	Register transfer and micro operations, micro programmed control, input output, and instruction level parallelism.	O-1,3,4	,Ap,C
CO4	**Memory System,Micro System and Thread Parallelism.**	O-1,4,5,6	,R

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

DEPARTMENT OF SCIENCE(BCA SUBJECT)

BCA - BUS.MATHEMATICS-II

Programme Outcomes(PO):

Programme Outcomes	Graduate Attribute/Program Outcome
PO-1	Disciplinary Knowledge: Bachelor degree in Mathematics is the culmination of in-depth knowledge of Algebra, Calculus, Geometry, differential equations and several other branches of pure and applied mathematics. This also leads to study the related areas such as computer science and other allied subjects.
PO-2	Communication Skills: Ability to communicate various mathematical concepts effectively using examples and their geometrical visualization. The skills and knowledge gained in this program will lead to the proficiency in analytical reasoning which can be used for modeling and solving of real life problems.
PO-3	Critical thinking and analytical reasoning: The students undergoing this programme acquire ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

PO-4	Problem Solving : The Mathematical knowledge gained by the students through this programme develop an ability to analyze the problems, identify and define appropriate computing requirements for its solutions. This programme enhances students overall development and also equip them with mathematical modeling ability, problem solvings kills
PO-5	Research related skills: The completing this programme develop the capability of inquiring about appropriate questions relating to the Mathematical concepts in different areas of Mathematics.
PO-6	Information/digital Literacy: The completion of this programme will enable the learner to use appropriate softwares to solve system of algebraic equation and differential equations.
PO-7	Self –directed learning: The student completing this program will develop an ability of working independently and to make an in depth study of various notions of Mathematics.
PO-8	Moral and ethical awareness/reasoning: The student completing this program will develop an ability to identify unethical behavior such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and mathematical studies in particular.
PO-9	Lifelong learning: This programme provides self-directed learning and lifelong learning skills. This programme helps the learner to think independently and develop algorithms and computational skills for solving real word problems.
PO-10	Ability to peruse advanced studies and research in pure and applied Mathematical sciences.

2.4 Course Outcomes

Name of the Course: BUS.MATHEMATICS-II

CO	Course Outcomes *The learner will be able to*	PSOs Addressed	Cognitive Level
CO1	Integrate concept in international business concept with functioning of global trade.	PO-1,3,5	R,U, Ap
CO2	Evaluate the legal, social and economic environment of business.	PO-3,5	R,U, E
CO3	Apply decision-support tools to business decision making. Will be able to apply knowledge of business concepts and functions in an integrated manner.	PO-3,5	R,U,Ap,An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

BCA 1st Semester (NEP)

1.1 Course Outcome (CO)

Name of the Course: Data Structures.

CO	Course Outcome *The learner will be able to*	POs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms.	PO – 1,3,4	U,E
CO2	Understand linear data structures Arrays operations on arrays . insertion and deletion of data Importance of dynamic memory concepts and implementation of linked lists, stacks and queues, Implementation and applications.	PO -1 , 3	An,Ap, E
CO3	Nonlinear data structures Graphs, and trees , Traversing, and implementation of Trees.	PO -1,4	U Ap,An
CO4	Algorithm for solving problems like sorting, searching, Various sorting techniques	PO -3,4	U,Ap,E

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

1.2 Course Outcome (CO)

Name of the Course: Problem Solving Techniques Using C

CO	Course Outcome *The learner will be able to*	POs Addressed	Cognitive Level
CO1	Understand the concept of algorithms and proving Algorithm as Technology and Implementing Fundamental Algorithms	PO – 1,3,4	U,An,A,E
CO2	Understand the basic concepts of C programming, different control structures used in C and also the concepts of Arrays and its types. Studying pointers, Structures, Unions, functions and command line arguments.	PO 3,4	U,An,Ap, E
CO3	Factoring methods for basic programs, understanding Array techniques	PO -1,3,4	U,,Ap,E,C
CO4	Techniques for solving problems like sorting, searching and also Text processing and pattern searching.	PO -1,3,4	R,U,Ap,E

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

1.3 Course Outcome (CO)

Name of the Course: Discrete Structure .

CO	Course Outcome *The learner will be able to*	POs Addressed	Cognitive Level
CO1	Explain the concepts and use equations, formulae and mathematical expression and relationship in a variety of contexts. Use logical notation.Perform logical proofs.	PO – 3,4	U,E
CO2	Apply basic and advanced principles of counting.Translate the real word problems through appropriate mathematical modeling. Algorithm for solving problems like sorting, searching, Various sorting techniques	PO -1 , 3,4	U,Ap, E
CO3	Perform common matrix operations such as addition, scalar multiplication, multiplication, and transposition.Solve linear systems of equations using the language of matrices	PO -3,4	U ,Ap
CO4	Define the basic concepts of graphs, directed graphs.Understand the degree of a vertex,different types of graphs , trees , traversing, implementation of trees and spanning trees.	PO -1,3,4	U,Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

1.4 Course Outcome (CO)

Name of the Course: Open Elective , Financial Literacy .

Faculty : Prof . Deepashree.P

CO	Course Outcome *The learner will be able to*	POs Addressed	Cognitive Level
CO1	It helps to understand the concepts of finance and scope of financial literacy in various financial institutions.	PO –1, 3	U,E
CO2	It helps to understand the concepts on financial planning in personal and professional and also understanding on preparing budget	PO -1 ,4,7	U,Ap, E
CO3	Explained the different banking services offered by banks with various services to the customers	PO -2,3	U ,Ap
CO4	It helps to understand the concepts on financial services offered by post office	PO -1,2,3	U,Ap,An
CO5	Understand the concepts of protection and investment related to insurance,equity and debt instruments .	PO –1, 3	U,E

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create

1.5 Course Outcome (CO)

Name of the Course: Office Management Tools .(SEC)

CO	Course Outcome *The learner will be able to*	POs Addressed	Cognitive Level
CO1	Give students an in-depth understanding of why computers are essential components in business, education and society. Provide hands-on use of Office applications Word, and PowerPoint	PO –2,6	Ap
CO2	Provide foundational or "computer literacy" curriculum that prepares students for life-long learning of computer concepts and skills. Topics include types of data, data cleaning, recoding and sorting, data visualization, summarizing data and an introduction to analysis of relationships between variables.Excel, Access	PO -6	Ap

R- Remember; U- Understand; Ap- Apply; An – Analyze; E- Evaluate; C – Create