Bachelor of Computer Application			
Programme/Class:		**Year:** 1st	**Semester:** 1st
Subject Code: BCA-101 N	**Subject Title:** Computer Fundamentals and PC Software		
Course out comes:	On completion of the course, the student will be able to:		
CO 1:	The objective of this course is to familiarize students with complete computer's Fundamentals.		
CO 2:	Enhance skill of the packages commonly used in computing software.		
CO 3:	Understanding of different Operating systems.		
CO4:	Apply Word Processing Tools including Document Formatting, Using Graphics, Working with Macro and Mail Merge etc.		
Credits: 4		**Core Compulsory**	
Max. Marks: 30 + 70		**Min. Passing Marks: 40**	
Tot al No. of Lectures-Tutorials-Practical(in hours per week): 4-0-0			

Unit	Topic	No. of Lectures
I	Computers: Definition of computer, characteristics, computer generation & evolution of computers, Von Neumann Architecture, Classification of Computers, Instruction Execution Cycle, Basic Components of a computer system – Control Unit, ALU, I/ O Devices, Distributed Computer System, Parallel Computers, computer organization & block diagram representation, storage devices. Memory and its types. Types of Software – System software, Application software, Utility Software, Demoware, Shareware, Freeware, Firmware, Free Software. Computer Language and Software: Algorithm, Flowcharts, Machine Language, Assembly Language, High Level Language, Assembler, Compiler, Interpreter. Characteristics of Good Language.	10
II	Overview of Operating System: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system. Computer Virus: Definition, types of viruses, characteristics of viruses, anti-virus software. Disk Operating System (DOS): Introduction, History & Versions of DOS. DOS basics, Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files. Basic DOS Commands Windows: features of windows, my computer, windows explorer, accessories. Managing multiple windows, arranging icons on the desktop, creating and managing folders, managing files and drives, logging off and shutting down windows. Entertainment – CD Player, DVD Player, Media Player, Sound Recorder, Volume Control.	10
III	PC Maintenance and Troubleshooting: Opening the PC and identification. Study of different blocks, Assembling and disassembling. Basic Device Configuration and Installation-Printers, Microphone, Monitor, Mother Board, Sound Card, Video Card, tips on Trouble Shooting. Introduction to Computer Hardware, Components of Mother-boards & its types, Ports, Slots, Connectors, add on cards, Power supply units, and cabinet types. Storage devices: Primary & Secondary storage medium. Internet: Definition, World Wide Web, Uniform Resource Locator, Web Browsers, IP Address, Domain Name, Internet Services Providers, Internet Security, Search Engines, Net Etiquette, Internet Services, Intranet, Extranet. E-mail, advantages and disadvantages of Email, format of email addresses, influences or impacts of internet to society, education, research etc. Cybercrimes, Hacker, Cracker.	

IV	WORD PROCESSING: Introduction to Word processing, Names of some commonly used word processing software, Feature, document creating, formatting, standard toolbar, drawing toolbar, tables and other features. Mail-merge,Spell Check, Thesaurus, Find & Replace, Inserting Header, Footer, page number & pictures. Working with Tables, Introduction to power point, Auto -wizard, creating a presentation using Auto content wizard, Blank presentation, creating, saving and printing a presentation, adding slide to a presentation, slide view, outline view, slide sorter view, notes view and slide show view. Changing text font and size, selecting text style and color, to set header and footer. Using, bullets, clipart and word art gallery. Applying design template creating graph. Adding transitions and Animation effects, setting timings for slide show preparing note pages, preparing audience handouts.	10
V	Introduction To Spreadsheet (Excel sheet): Definition and Advantages of Electronic Worksheet, Working on Spreadsheets: Cell Referencing, Range & Related Operations, Setting, Saving And Retrieving Worksheet File. General Short-cut commands, Entering text and numeric data, Entering date and time different functions, formatting text and numeric data. Functions and Other Features: Classification and Usage of Various Built-In-Functions In Worksheet, Passwords, Protecting A Worksheet Printing of the worksheet, page margin setting and adding header and footer, Transferring Data to and From Non Worksheet Files, Database Handling, Creating, Naming & Executing Macros. Creating graphs.	10

Suggested Readings:

- Computers Fundamentals and Architecture by B. Ram
- Microsoft Windows XPStep by Step , PHI
- Norton, Introduction to Computers, McGraw Hill
- Ron Mansdield, Microsoft Office, BPB Publication
- P. K. Sinha & Priti Sinha, Computer Fundamentals, BPB Publications.
- Computer Fundamentals, Raja Raman – Prentice Hall of India.
- V. Rajaraman, Introduction to Computers, PHI.
- The AGI Training Team, Microsoft Office 2010 Digital Classroom, Wiley Publishing Inc.
- PC Software for Windows 98' made simple – R.K.Taxali – Tata McGraw Hill Publishers.

Suggested equivalent online courses:

- https://onlinecourses.swayam2.ac.in/cec23_cs13/preview

This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluations hall be based on allotted Assignment and Class Tests. The marks shall

	Internal Assessment	**Marks**	
	Class Interaction	5	
	Quiz/Assignments	5	
	Seminar/Presentation	5	
	Unit Test/Class Test	15	
	Total	30	

Bachelor of Computer Application			
Programme/Class:		**Year:** 1st	**Semester:** 1st
Subject Code: BCA-103 N	**Subject Title:** Programming with C		

Course out comes:	On completion of the course, the student will be able to:
CO 1:	Use the fundamentals of C programming in trivial problem solving.
CO 2:	Illustrate the flowchart and design algorithm for a given problem and to develop C programs using operators
CO 3:	Identify solution to a problem and apply control structures and user defined functions for solving the problem.
CO4:	Apply skill of identifying appropriate programming constructs for problem solving.

Credits:4	**Core Compulsory**
Max. Marks: 30 + 70	**Min. Passing Marks: 40**

Tot al No. of Lectures-Tutorials-Practical(in hours per week): 4-0-0

Unit	Topic	No. of Lectures
I	Evolution of C, Programming languages, Structure of a C program, Compiling a C program, Character set in C, Keywords in C, Hierarchy of operators, Basic data types, Qualifiers used with basic data types, Variables in C, Type declaration, Output function, Input function and format specifiers, arithmetic operators, Unary operators, Relational and logical operators	10
II	if statement, if else statement, for statement, while loop, do while statements, break statements, continue statements, switch statement, goto statement, ternary operators.	10
III	Definition of Array, types of arrays, array declaration, array initialization, Advantages of arrays, accessing data from array, array inside the memory, multi-dimensional arrays. Character arrays, Array overflow, String Variables, Reading & writing strings, string handling functions	10
IV	Declaring a function, calling a function, Advantages of functions variables, passing arguments to a function, nested functions, passing array to functions, recursion in functions, Call by value and Call by reference.	10
V	Pointers and function, Array of pointers, Pointer and Strings, Pointer to structure, Pointers with in structure, Introduction of Static and Dynamic memory allocation, Dynamic memory allocation, DMA functions, malloc() function, Sizeof() operator, Function free(), Function realloc().	10

Suggested Readings:

- Brian W.Kernighan and Dennis Ritchie, The C Programming Language" Pearson Publication.
- Let us C, Yashwant Kanetkar;
- K. R. Venugopal, S. R. Prasad, "Mastering C" McGraw-Hill Education India;
- E. Balagurusamy, "PROGRAMMING IN ANSI"' McGraw Hill Education India;

Suggested equivalent online courses:

- https://nptel.ac.in/noc/courses/noc22/SEM1/noc22-cs40/

This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:
Continuous Internal Evaluations hall be based on allotted Assignment and Class Tests. The marks shall

	Internal Assessment	Marks	
	Class Interaction	5	
	Quiz/Assignments	5	

	Seminar/Presentation	5	
	Unit Test/Class Test	15	
	Total	30	

Bachelor of Computer Application			
Programme/Class:		**Year:** 1st	**Semester:** 1st
Subject Code: BCA-105 N	**Subject Title:** Basic Mathematics		
Course out comes:	On completion of the course, the student will be able to:		
CO 1:	Perform basic computations in higher mathematics.		
CO 2:	Solve problems in Integral calculus, limits and Continuity, Coordinate Geometry, Matrices and Differential Equations.		
CO 3:	Develop and maintain problem-solving skills		
Credits: 4		**Core Compulsory**	
Max. Marks: 30 + 70		**Min. Passing Marks: 40**	
Tot al No. of Lectures-Tutorials-Practical(in hours per week): 4-0-0			

Unit	**Topic**	**No. of Lectures**
I	Test for Divisibility of Numbers; General Properties of Divisibility; Division and Remainder Rules; Principle of Prime Factorization; Difference between HCF and LCM; Definition and Comparison of Fractions; Insertion of any number of Fractions in between two given Fractions; Operation Order Sequence (VBODMAS); Algebraic Formula; Percentage and their Inter-conversion; Average; Ratio and Proportion. Binomial Theorem and expansions.	10
II	Definition of Sequence, Series and Progression; Definition of Arithmetic Progression (AP); nth term of an AP; sum of n terms of an AP; Arithmetic Mean (AM); Properties of AP; Definition of Geometric Progression (GP); nth term of a GP; Sum of n terms of a GP; Geometric Mean (GM); Properties of GP; Definition of Harmonic Progression (HP); Harmonic Mean (HM); Relations between AM, GM and HM.	10
III	Matrices: Definition of a Matrix; Various Types of Matrices; Operations on Matrices; Symmetric and Skew-Symmetric Matrices; Row Operations, Column Operations; Inverse of a Matrix by Elementary Row Operations. Determinants: Concept of Determinant; Minors and Co-factors in Determinants; Expansion of a Determinant; Properties of Determinants.	10
IV	Basic Formulae of Differentiation; Differentiation from the First Principle; Derivative of the Product of Functions, Quotient of two functions, Function of a function (Chain Rule). Derivatives of Exponential functions, Logarithmic functions, Inverse Trigonometric functions; Differentiation by Trigonometrical Transformations; Differentiation of Implicit functions; Differentiation using Logarithms.	10

V	Indefinite Integral: Basic Formulae and Standard results of Integration; Integration by Substitution; Integration using Trigonometric Identities; Integration by Parts.	10

Suggested Readings:

- R.S. Aggarwal, Senior Secondary School Mathematics for Class 11, Bharati Bhawan
- Aggarwal, R. S., Senior Secondary School Mathematics for Class 12, BharatiBhawan (Publishers & Distributors).
- B.C. Das & B. N. Mukherjee, Differential and Integral Calculus,

Suggested equivalent online courses:

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This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluations hall be based on allotted Assignment and Class Tests. The marks shall

	Internal Assessment	**Marks**	
	Class Interaction	5	
	Quiz/Assignments	5	
	Seminar/Presentation	5	
	Unit Test/Class Test	15	
	Total	30	

Bachelor of Computer Application			
Programme/Class:		**Year:**1st	**Semester:**1st
Subject Code: BCA-107 N	**Subject Title:** Communicative English		
Course out comes:	On completion of the course, the student will be able to:		
CO 1:	Ability to comprehend both the written and spoken texts. Ability to frame questions and answer them. Ability to write/speak grammatically correct sentences.		
CO 2:	Demonstrate the skill to write in English without grammatical error.		
CO 3:	Ability to participate in short group conversations. Ability to use collocations, fixed and semifixed expressions.		
CO4:	Express the viewpoints with confidence in English.		
Credits:4		**Core Compulsory**	
Max. Marks: 30 + 70		**Min. Passing Marks: 40**	

Tot al No. of Lectures-Tutorials-Practical(in hours per week): 4-0-0

Unit	**Topic**	**No. of Lectures**
I	Introduction to Language Communication Importance of English Language, Basics of Communication – Process of Communication, Components of Communication, factors of Communication; Barriers to Communication – Physical, Psychological, Semantics, Organizational and Interpersonal Barriers; How to overcome Barriers.	10

II	Communication Skills in English Language Skills- Reading Skills and Listening Skills; Verbal Communication- Vocal Communication techniques and Oral Presentation; Non Verbal Communication- Personal appearance; Facial Expression, Movement, Posture, Gesture, Eye Contact.	10
III	Effective Writing, Abstracts and Summaries; Note Making; Report Writing- Structure and Layout, Elements of Structure, Front Matter, Main Body, Back Matter; Laboratory Reports.	10
IV	Grammar 1 Parts of Speech, Definition & Identification of 'Subject' and 'Predicate', Phrases & Clauses, Tense – Types of Tenses & their use.	10
V	Grammar 2 Voice – Active voice and Passive voice, Concept of Concord – What is Concord? Subject - Verb Agreement; Reported Speech – Direct and Indirect Speech.	10

Suggested Readings:

- R.C. Sharma & Krishna Mohan, Business Correspondence & Report Writing, A Practical Approach to Business and Technical Communication, Tata McGraw Hill.
- Wren &Martin, English Grammar and Composition, S. Chand Publisher.

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluations hall be based on allotted Assignment and Class Tests. The marks shall

	Internal Assessment	**Marks**	
	Class Interaction	5	
	Quiz/Assignments	5	
	Seminar/Presentation	5	
	Unit Test/Class Test	15	
	Total	30	

Bachelor of Computer Application			
Programme/Class:		**Year:** 1st	**Semester:** 1st
Subject Code: BCA-109 N	**Subject Title:** Principle of Management		
Course out comes:	On completion of the course, the student will be able to:		
CO 1:	Understanding Management Fundamentals:		
CO 2:	Mastering the Art of Planning and Decision-Making:		
CO 3:	Efficient Organizing and Staffing. Effective Leadership and Control.		
CO4:	Managing People and Organizational Behavior.Leveraging Computer Applications in Management		
Credits: 4		**Core Compulsory**	
Max. Marks: 30 + 70		**Min. Passing Marks: 40**	

Tot al No. of Lectures-Tutorials-Practical(in hours per week): 4-0-0

Unit	**Topic**	**No. of Lectures**

I	Management: Meaning & concept, Management principles (Fayol & Taylor), Management process (in brief), Managerial levels, Roles & skills of a manager, Management Theories (Classical, Neo classical, Behavioral, Systems & Contingency)	10
II	Planning: Meaning, Purpose & process, Decision making: Concept & process, Organizing: Process, Departmentation, Authority & Responsibility relationships, Decentralization. Staffing: Nature & Importance,	10
III	Staffing: Concept, nature & importance of staffing. Directing: Motivation: concept & theories (Maslow's, Herzberg Two factor, McGregor's theory X & Y) , Leadership: Concepts & styles. Controlling: Nature, Importance, significance &Process of control.	10
IV	Managing People - Meaning, Need of understanding human behavior in organization, Models of OB, Major concepts in OB (elementary)- Personality, Learning, Perception & Attitude Building.	10
V	Relevance of Computer Applications in Different Functional Areas of Management viz.: Financial Management, Production Management, Human Resources Management and Marketing Management.	10

Suggested Readings:

● Stoner, Freeman& Gilbert, "Management" 6th Edition, Pearson International.; ● Parag Diwan & L.N. Aggarwal, "Management Principles & Practices".

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluations hall be based on allotted Assignment and Class Tests. The marks shall

	Internal Assessment	**Marks**	
	Class Interaction	5	
	Quiz/Assignments	5	
	Seminar/Presentation	5	
	Unit Test/Class Test	15	
	Total	30	