DILIP BARAD
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BOARD OF STUDIES [ENGLISH]
MAHARAJA KRISHNAKUMARSINHJI
BHAVNAGAR UNIVERSITY

Bachelor of Computer Applications (B.C.A.)
Sem 1
English Communication- I [Process of Communication]

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	
Course Type	~~Core/Multidisciplinary~~/~~VAS~~/AEC/~~etc.~~
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	English Knowledge enhancement, Communication Skill,
Relevance of course to	Local, National, Regional and Global level
Relation to	Language competency, Professional Ethics, Skill development, Ability enhancement in English communication

Course Objectives: The course has been designed keeping in view the disciplinary or inter-disciplinary nature of the programme. It is Ability Enhancement Course (AEC) for the B.C.A. programme and is also open to students of the university under choice-based credit system (CBCS). The course has been designed-

- To enable students to apply the skills of communication
- To clarify the meaning, process, and elements of communication
- To convey the need and importance of communication
- To present the communication process and the elements involved in varied communicative situations

By the end of this course, students should be able to-

(i) Get an overview of main concepts of Communication Process

(ii) Analyse difference between verbal and non-verbal concepts of English communication

(iii) Apply theoretical concepts in order to understand what English Communication is with its use in our personal or professional life

(iv) Interact skilfully and ethically

On completion of the course students will be able to:
LO 1 –Explain the origins of the Communication Discipline
LO 2 –Summarize the broad nature of the Communication discipline
LO 3 –Understand the relationship between meaning and messages

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

1 credit = 15 hours theory and 30 hours practical/practical related training

Detailed Syllabus: 2 credit course

	Course Contents	Teaching Hours	Weightage of Marks
Unit-1	**Unit:1: Introduction:** Theory of Communication, Nature of Communication, Modes of communication, Process of Communication, Importance of Communication, Different forms of Communication	15	18
Unit-2	**Unit:2: Language of Communication:** Verbal and Non-verbal (Spoken and Written), Personal, Social and Business Communication, Barriers and Strategies of Communication, Intra-personal, Inter-personal and Group communication	15	17
	Total	**30 hr.**	**35 marks for external exam**

Mode of Evaluation:

Based on the types of evaluation, various models of evaluation implementation are suggested for theory, practical, self-study and work-based learning. The focus of these models is to encourage the students to improve on skills and performance.

Model for Theory Courses CEE- 50% (100)	SEE- 50% (100)
Exam Pattern	**Marks**
Class Test (best 2 out of 3)	30
Quiz (Best 3 out of 4)	30
Active Learning	10

Home Assignment	10
Class Assignment	10
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

Semester End Evaluation (SEE)

The SEE carries 50% of the marks assigned to a course. SEE shall be of 2 ½ hours for 4 credit course and 2 hours in case of 2 credit courses.

Passing Standards

Total Marks	Pass	Fail
100	37 or more than that	Less than 37
75	28 or more than that	Less than 28
50	19 or more than that	Less than 19
25 (Practical)	10 or more than that	Less than 10

Note: - With reference to understand the above content the English Version of SOP will be considered final.

List of Reference Books/e-resources/e-content

1.*Business Communication* by Urmila Rai & S.M. Rai, Himalaya Publication House
2. *Fluency in English* - Part II, Oxford University Press, 2006.
3. *Business English*, Pearson, 2008.
4. Language, Literature and Creativity, Orient Blackswan, 2013.
5. *Language through Literature* (forthcoming) ed. Dr. Gauri Mishra, Dr. Ranjana Kaul, Dr Brati Biswas

BCA SEM 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	102- HISTORY OF COMPUTER IN INDIA
Course Type	IKS
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Development of technology in india

Course Objectives: The course has been designed keeping in view to develop knowledge about Indian system of the programme. It is a course for the BCA programme in Science and is also open to students of the university under choice-based credit system (CBCS).

The course has been designed to know about developmentof computer science and information technology in India.

By the end of this course, students should be able to-

(i) Get history of information technology
(ii) Development of technology in India
(iii) Latest development in information technology

On completion of the course students will be able to:
LO 1 –Will aware about various development in computer science and information technology.
LO 2 –Get information about basic of computer, internet technology and latest development technology.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. Students are expected to collect information from various sources to get detail understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
Unit-1	Basics of Computer and super computer in india	15	18
	Introduction of Computer Evolution of Computer, Computer generation History of Computer: Types of Computer systems, classification of computer systems. Components of computer systems History of Computing Hardware, types of Computer Hardware. Introduction of Super computer. History of Supercomputing. Types of super computer. Usage of super computer		
Unit-2	Internet Fundamentals and Technologies	15	17
	History of Internet in India Information Technology in India IT & Technological inventions by Indians Ancient technology v/s Modern Technology Indian IT Acts Development of Digital Services in India, Digital Payment Services in India, Net Banking, UPI, E-Wallet etc.		
	Total	30 hr.	50 marks for external exam

Mode of Evaluation:

Internal Evaluation: 30% (One internal test of 15 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality(presence record)
End-Semester exam: 70%(Total weightage 15 marks + 35 marks = 50 marks)

List of Reference Books/e-resources/e-content

1) Introduction to computers: Ms. Shikha Gupta V & S publishers
2) Super computers: V RAJARAMAN, Universities Press (India) ltd.

3) Link :https://en.wikipedia.org/wiki/List_of_Indian_inventions_and_discoveries
4) Link: https://www.geeksforgeeks.org/information-technology-act-2000-india/
5) Introduction to AI Robotics: Robin R. Murphy
6) Robotics: An Introduction, Prof. S.K.Saha

106 ENTREPRENEURIAL SKILL

Pre-requisites for the course	12th Standard in relevant Stream
Course Code SEC106BS	**106 ENTREPRENEURIAL SKILL**
Course Type SEC106BS	SEC (Skill Enhancement Course)
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	Employability/ Knowledge enhancement
Relevance of course to	Local, National, Regional and Global level
Relation to	Technical skills enhancement

Course Objectives: The course has been designed keeping in view the disciplinary or inter-disciplinary nature of the programme. It is aSkill Enhancement Course for the BBA Program in Management and is also open to students of the university under Choice-Based Credit System (CBCS). **By the end of this course**, students should be able to

(i) Get information about various startup schemes and initiatives

(ii) Understand various methods of developing business ideas

(iii) Get informed about various schemes and initiatives of startup

LO: Learning Outcome

On completion of the course students will be able to:
LO 1 – Acquire basic knowledge on various concepts of startup
LO 2 – Get information on various startup schemes and initiatives
LO 3 – Apply various methods of idea generation
LO 4 – Generate ideas for future startup

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

1 credit = 15 hours' theory and 30 hours practical/ practical related training

Detailed Syllabus: **2 credit course**

	Course Contents	**Teaching Hours**	**Weightage of Marks**
Unit-1	**INTRODUCTION &DEVELOPINGSUCCESSFULBUSINESS IDEAS:** Concept anddefinitionofbusiness & Startup, Typesofstartup & Skillstorequirebusinessstartup **DEVELOPINGSUCCESSFULBUSINESS IDEAS:** Recognizingopportunities, Trendanalysis, Generatingideas, Brainstorming, FocusgroupsSurveys, Customeradvisoryboard, Patents and IPRs	15	18

Unit-2	**FUNDING &GOVERNMENTINITIATIVES FORSTARTUPININDIA:** Sourcesoffinance, Commercialbanks, Governmentgrants andschemes **GOVERNMENTINITIATIVES FORSTARTUPININDIA:** Governmentinitiatives, StartupIndiainitiative,Seed fund, ATALinnovationmission, Self-employmentandtalentutilization (SETU)	15	17
	Total	**30 hrs**	

Mode of Evaluation:

For 2 credit course

Internal Evaluation: 30% (One internal test of 15 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)

End-Semester exam: 70% (Total weightage 15 marks + 35 marks = 50 marks)

List of Reference Books/e-resources/e-content

(i) Entrepreneurship development and project management by Neeta Baporikar

(ii) Dynamics of entrepreneurial development and management by Vasant desai, Himalaya publication

(iii) Kathleen R. Allen , launching new ventures, An entrepreneurial approach, Cengage learning2016

(iv) Anjan rai chaudhari, Managing new ventures concepts and cases, prentice hall international2010

BCA SEM 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	104-Basics Mathematics
Course Type	Multidisciplinary / interdisciplinary
Credit	04
Contact Hours	04-Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Knowledge enhancement

Course Objectives: The course has been designed keeping in view the disciplinary or inter-disciplinary nature of the programme. It is a core course for the B Sc. programme in Science and is also open to students of the university under choice based credit system (CBCS). The course introduces to create mathematical skill in students which is require in computer programming.

By the end of this course, students should be able to- **For Example**,

(i) Get an overview of the basics concepts of mathematics
(ii) Will be able to write computer program corresponding to mathematical problems.
(iii) will get knowledge about some core concept of mathematics which are helpful to understand working of software products.

On completion of the course students will be able to:
LO 1 –able to solve some common mathematical problem
LO 2 –able to write program for solution of mathematical problem
LO 3 –will get conceptual knowledge and problem solving skill

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. Problem solving practice. 80% attendance is necessary to attend the end semester exam.

Detailed Syllabus:4 credit course

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
Unit-1	Sets and Functions	15	18
	Sets -Introduction to set theory, Methods of representation of a set, -Operations on Set, Algebra of Sets, DE 'Morgan's Law and examples. - Functions - Function Definition, Domain, Range, One-to-One function, onto Function. Composite function and Inverse of a function		
Unit-2	Vectors & Matrices	15	18
	Definition of Vector, Addition and Subtraction of Vectors, Magnitude of a Vector, Unit Vectors, Dot Product and Cross Product. Definition of a Matrix, Equal matrices, Diagonal element of a matrix, Row matrix, Column Matrix, Symmetric Matrix Skew-Symmetric Matrix, Orthogonal Matrix, Diagonal Matrix, Identity Matrix. Operation on a Matrix (Addition, Subtraction and Multiplication) Inverse of a Matrix		
Unit-3	Permutation & Combination	15	17
	Permutation Meaning of permutation, Formula of permutation, Permutation of N-different things, Permutation of similar things, Permutation of repeated things, Circular Permutation Combination Combination: Meaning of Combination, Formula of Combination.		
Unit-4	Graph Theory	15	17
	Introduction to Graph, Graph Definition, Vertices, Edges, Loops, Parallel Edges, Simple Graph, Finite Graph, Adjacent vertices, Incidence between vertex and edge, Degree of a vertex, Isolated Vertex, Pendent Vertex, Null Graph. Isomorphism, Labelled Graph		
	Total	**60HRS**	**70 marks for external exam**

Mode of Evaluation:

For 4 credit course

Internal Evaluation: 30% (One internal test of 30 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)
End-Semester exam: 70% (Total weightage 30 marks + 70 marks = 100 marks)

List of Reference Books/e-resources/e-content

1. D. C. Sancheti, V. K. Kapoor: Business Mathematics, Sultan Chand & sons.

2. Lipschutz& Marc Lipson: DISCRETE MATHEMATICS, Tata McGraw Hill

3. Narsingh Deo: Graph Theory with application to engineering and computer science, Prentice Hall of India Pvt. Ltd

BCA SEM 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	105- Office Automation
Course Type	Major
Credit	4
Contact Hours	5 - Hours in a week
Course focussing on	Employability and Knowledge enhancement
Relevance of course to	Global level
Relation to	Professional Skill

Course Objectives: The course has been designed keeping in view the disciplinary nature of the programme. It is a core course for the BCA programme in Science and is also open to students of the university under choice-based credit system (CBCS). The course introduces meaning and nature of computer operational skill. The subject will provide operational skill, after study of this course student will able to work for office automation.

By the end of this course, students should be able to- For **Example**,

(i) Will get office automation skill.
(ii) Able to get operational skill.
(iii) Apply practical knowledge for basic office automation activity.

On completion of the course students will be able to:
LO 1 –Get idea of basic computer operation
LO 2 – Get theory and practical knowledge for small office automation.
LO 3 –Able to apply practical skill in office work.
LO 4 –Able to prepare well formatted documentation and spreadsheet.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and practical demonstration. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. 80% attendance is necessary to attend the end semester exam.

Mode of Evaluation:

Paper No: 105- Office Automation (Theory) MS OFFICE 2007

Code: Credits: 03

Marks: Semester End Examination: **70 Marks**

Internal: **30 Marks**

Exam Duration: 2.5 Hrs

	Course Contents	Teaching Hours	Weightage of Marks
Windows operating and word-processing			
Unit-1	Windows operating system Introduction to editors : DOS – Internal and External Commands Windows Environment : Desk top, file, folders, icons, Window explorer, control panel, Windows Accessories Introduction to word processing, Examples of some popular WP packages. Uses of word processors, Word Processor – Examples – Uses of WP Creation, editing, formatting of Documents. Global Search & Replacement of text. Special printing features, Mail merge Facilities, Spelling checker, Table facility, Templates, Inserting Pictures, Drawing and Equation, Macros.	15	24 (for external)
Spreadsheet Package			
Unit-2	Introduction to Spreadsheet. Building Spreadsheet using formulas, conditional calculations, and built-in functions. Use of Conditional Formatting through formula or in-built function Writing macros and spreadsheet menus to build a user-interface Graph-plotting facilities, Use externally created data lies in the spreadsheet packages. What-if analysis, protection facility, Pivot Tables, Operation on tables. Macros with its all options (Creating, running and Saving in the worksheet(s) with Data with spreadsheets) Application of Spreadsheet	15	23 (for external)
Power Point Presentation tool			
Unit-3	Preparing the presentation and Formatting Slides. Slide transition & adding special effects Inserting Pictures, Sound and Chart and other objects. Slide Design Animation in Slide	15	23 (for external)

Paper No: 105- Office Automation (Practical) MS OFFICE 2007	
Code:	Credits: 01
Marks: Semester End Examination: **25 Marks**	Exam Duration: 2 Hrs
Practical syllabus Unit 1,2, and 3 of theory paper	

List of Reference Books/e-resources/e-content

1. Microsoft Office 2007 In A Nutshell - Sanjay Saxena
2. Microsoft office 2007 - Training Guide - Prof. Satish Jain

BCA SEM 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	106-C-Programming-I
Course Type	Major (core)
Credit	4
Contact Hours	5 Hours in Week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Problem solving skill.

Course Objectives: The course has been designed keeping in view the core course nature of the programme. It is a core course for the BCA programme in Science and is also open to students of the university under choice-based credit system (CBCS).

The course is design to develop basic programming skill and aware about computer-based programming and develop problem solving skill by providing theory and practical knowledge.

By the end of this course, students should be able to-

(i) Get knowledge of write computer-based program using C- Programming Language
(ii) Have develop skill of problem-solving technique using programming language-C
(iii) Able to apply theoretical concepts in order to understand criticallyof problem and solve it
(iv) Development of core knowledge of programming

On completion of the course students will be able to:
LO 1 –Write Program using C- programming language
LO 2 –Understand problem analysis and solving technique
LO 3 –Apply theoretical concepts in order to solve basic logical and mathematical problems

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Practical demonstration and ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

Mode of Evaluation:

Paper No: 106-C-Programming-I **(Theory)**

Code:

Credits: 03

Marks: Semester End Examination: **70 Marks**

Internal: **30 Marks**

Exam Duration: 2.5 Hrs

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
Unit-1	Programming Language Fundamentals	15	24
	Flowchart and Algorithm Introduction to programming language Types of programming language Concept of Editor, Compiler, Interpreter, Translator, Assembler Getting started with C -History, Structure of C program, Compilations & linking C program Character Set, Keywords, Identifier, Data Type, Variable and Constant Debugging and tracing program.		
Unit-2	Programming Constructs	15	23
	Formatted Input and output statements Operators Decision making and Branching students (If, if-else, switch etc) Looping Statements,(While loop, Do..While loop, For loop etc) Break, Continue, go to and exit		
Unit-3	Array, sorting searching technique, character and string handling	15	23
	Introduction of array Declaration and initialization of 1-D and 2-D arrays Programming using 1-D and 2-D Array Sorting method(bubble) Searching method (linear) Declaration and initialization of string and character data Character and string operation		

Paper No: 106-C-Programming-I (Practical)	
Code:	Credits: 01
Marks: Semester End Examination: **25 Marks**	Exam Duration: 2 Hrs
Practical syllabus: - Unit 1,2, and 3 of theory paper	

List of Reference Books/e-resources/e-content

1. Programming in ANSI 'C' – Bala guruswamy: TMH.
2. Let Us C ByYasvantKanitkar
3. Mulish Cooper : The Spirit of C, Jaico Pub. House, 19th Edition-1999

BCA SEM 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	107- FUNDAMENTAL OF COMPUTER ORGANIZATION-I
Course Type	Minor
Credit	04
Contact Hours	04 Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Technical knowledge enhancement

Course Objectives: The course has been designed keeping in view the disciplinary nature of the programme. It is a core course for the B.C.A programme in Science and is also open to students of the university under choice-based credit system (CBCS). The course content the basic about computer organization. The main object is to make familiar the student about basic of computer and Information technology concept and computer system organization.

By the end of this course, students should be able to- **For Example**,

(i) Get an overview of the main concepts of computer science
(ii) will aware about various devices used in computer.
(iii) get fundament and conceptual knowledge about computer system structure

On completion of the course students will be able to:
LO 1 –Get fundament mental knowledge of computer system architecture.
LO 2 –will aware about how computer system work.
LO 3 –able to get idea about how computer system and human interaction is work
LO 4 –Get technical skill about computer fundamental.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of subject knowledge. 80% attendance is necessary to attend the end semester exam.

Detailed Syllabus:4 credit course

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
Unit-1	Basics of Computer	15	18
	Introduction: Block diagram of a computer, characteristics of computer Classification of Computer system: Mini Computers, Micro Computers, Mainframe computer, super computer. Uses and Application of Computer Basics of Windows: Desk top, file, folder, icon, Windows explorer, and Control panel, Recycle bin, etc.		
Unit-2	Input/ Output Devices and Storage Device	15	18
	Input Devices: Key board, mouse, and touch panel. Display Devices: LCD and LED Monitors, Touch Screens Printer and Scanner: Dot matrix, Line, Drum, Ink Jet, Laser, scanner. Magnetic storage & Hard Disk, Optical storage technology, CDs, DVDs. Flash memory, Memory stick (pen drive)		
Unit-3	Data Representation and Number Systems	15	17
	Representation: Representation of Number, Binary, Octal, Hexadecimal number and its arithmetic. Representation of Integers, Representation of Fractions, Representation of Character, Characters codes (ASCII, EBCDIC, UNICODE) Binary arithmetic's: Binary addition and subtraction. Binary Multiplication and Division with the help of long-hand method. Conversion of Numbers: Conversation of number in Decimal, Binary, Octal, Hexadecimal.		
Unit-4	Processors, Memory, port and Computer buses	15	17
	CPU organization: Registers, ALU, and Control Unit, execution of instruction Primary Memory: RAM, ROM, Types of RAM and ROM Cache Memory : L1 cache and L2 cache Port: Parallel Port, Serial Port, USB Port and SCSI Port Introduction to buses, Read and write cycle, introduction to FSB, PCI Bus and USB.		
	TOTAL	**60HRS**	**70 marks for external exam**

Mode of Evaluation:

Internal Evaluation: 30% (One internal test of 30 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)
End-Semester exam: 70% (Total weightage 30 marks + 70 marks = 100 marks)

List of Reference Books/e-resources/e-content

1. Tanenbaum A. S.: Structured Computer Organization, Prentice-Hall of India Pvt. Ltd.
2. V. RajaRaman: Fundamentals of Computers
3. Alexis Leon, Mathews Leon: Information Technology

Bachelor of Computer Applications (B.C.A.)
Semester – 2
English Communication- II [Speaking & Writing Skills of Communication]

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	25637-BCAAEC202-1C
Course Type	AEC
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	Speaking Skill, Writing Skill etc…
Relevance of course to	Local, National, Regional and Global level
Relation to	Human Values and Professional Ethics, Skill development etc…

Course Objectives: The course has been designed keeping in view the disciplinary or inter-disciplinary nature of the programme. It is a core course for the B.C.A. programme and is also open to students of the university under choice-based credit system (CBCS). The course has been designed-

- To enable students to Define 'reading and reading process
- To identify the stages in reading
- To list out important reading comprehension skills;
- To enable students to acquire writing process
- To familiar with different forms of writing; and to distinguish the salient features of each of these types of writing

By the end of this course, students should be able to-

(i) Get an overview of speaking and writing skill
(ii) Prepare themselves for group communication and interview
(iii) Apply theoretical concepts in order to understand importance of writing skill
(iv) Able to learn informal writing

On completion of the course students will be able to:
LO 1 –Communicate through formal and informal writing
LO 2 –Summarize the broad nature of speaking skills
LO 3 –Understand the relationship Analysis and Interpretation skills

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their

critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

1 credit = 15 hours' theory and 30 hours practical/ practical related training

Detailed Syllabus: **2 credit course**

	Course Contents	**Teaching Hours**	**Weightage of Marks**
Unit-1	**Unit:1: Speaking Skills:** Monologue, Dialogue, Group Discussion, Effective Communication/Miscommunication, Interview, Public Speech	15	18
Unit-2	**Unit:2: Reading and Understanding, Writing Skills** Close Reading, Comprehension, Summary, Paraphrasing, Analysis and Interpretation, Translation (from Indian language to English and vice-versa), Literary/Knowledge Texts, Writing Skills- Documenting, Making notes, Letter writing [Informal]	15	17
	Total	**30 hr.**	**35 marks for external exam**

Mode of Evaluation:

Based on the types of evaluation, various models of evaluation implementation are suggested for theory, practical, self-study and work-based learning. The focus of these models is to encourage the students to improve on skills and performance.

Model for Theory Courses CEE- 50% (100)	SEE- 50% (100)
Exam Pattern	**Marks**
Class Test (best 2 out of 3)	30

Quiz (Best 3 out of 4)	30
Active Learning	10
Home Assignment	10
Class Assignment	10
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

Semester End Evaluation (SEE)

The SEE carries 50% of the marks assigned to a course. SEE shall be of 2 ½ hours for 4 credit course and 2 hours in case of 2 credit courses.

Passing Standards

Total Marks	Pass	Fail
100	37 or more than that	Less than 37
75	28 or more than that	Less than 28
50	19 or more than that	Less than 19

25 (Practical)	10 or more than that	Less than 10

Note: - With reference to understand the above content the English Version of SOP will be considered final.

List of Reference Books/e-resources/e-content

1. *Business Communication* by Urmila Rai & S.M. Rai, Himalaya Publication House
2. *Fluency in English* - Part II, Oxford University Press, 2006.
3. *Business English*, Pearson, 2008.
4. *Language, Literature and Creativity*, Orient Blackswan, 2013.
5. *Language through Literature* (forthcoming) ed. Dr. Gauri Mishra, Dr.Ranjana Kaul, Dr Brati Biswas

BSCIT Sem 2

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	VAC/IKS- 201 - 25431
Course Type	Value Added Course
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Local, National, Regional and Global level
Relation to	Importance of Environment

Course Objectives:

- The course has been designed keeping in view the disciplinary or inter- disciplinary nature of the programme.
- It is a VAC course for the BCA. programme in Science and is also open to students of the university under choice-based credit system (CBCS).
- The course introduces meaning, nature and importance of natural resources like forest, water and energy.
- The programme aims to enable the students to study Ecology and biodiversity.
- The current need of renewable resource has been included to generate the concern in the student's brain for planet earth.

On completion of the course students will be able to:
LO 1 –Describe main concepts and debates of natural resources like forest, water and energy.
LO 2 –Apply theoretical concepts in order to describe, analyse and assess biodiversity and its value
LO 3 – Student will learn about environmental which having importance in present day.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

Paper: VAC/IKS- 201 (Environmental Science)
Title of the Paper: **Environmental Science** Credits: **02**
Marks: Semester End External Examination: **35** Marks
Semester End Internal Examination: **15** Marks

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
1	**Natural resources** Introduction Types of natural resources: **i**. Renewable and **ii.** Nonrenewable resources Natural resources and associated problems. **i.**Renewable resources -: **a.** Forest Forest types in India Deforestation Forest functions Threats tothe forest in India Renewable resources-2: Water Over-utilization and pollution of surface and underground **b.**water. Effect of Global climate change on water management. Water for agriculture and power generation. Sustainable watermanagement. **c.** Energy Hydroelectric power, Solar energy Biomass energy Wind power Tidal and wave power Nuclear power Energy conservation	**15**	**18**
2	**Ecosystem** Producers consumers and decomposers Food chain, food webs and ecological pyramids Forest ecosystem Desert ecosystem Aquatic ecosystem Fresh water and Marine ecosystem **Biodiversity** Value of biodiversity Consumptive use value Productive use value	**15**	**17**

	Social value Ethical and moral values Aesthetic value Option value India as a mega diversity nation Threats to biodiversity		

Reference Books

1. Paryavaran Adhyayan:by ErachBharucha, University Grants Commission, Oriental Longman private limited.
2. Text book of environmental studies:by ErachBharuchaUniversity Grants Commission, Oriental Longman private limited.

206 STRESS MANAGEMENT	
Pre-requisites for the course	12th Standard in relevant Stream
Course Code	**206 STRESS MANAGEMENT –** 25509 - BBASEC202-1C
Course Type	SEC (Skill Enhancement Course)
Credit	02
Contact Hours	02 Hours in a week
Course focussing on	Employability/ Knowledge enhancement
Relevance of course to	Local, National, Regional and Global level
Relation to	Technical skills enhancement

Course Objectives: The course has been designed keeping in view the disciplinary or inter- disciplinary nature of the programme. It is a skill enhancement course for the BBA Program in Management and is also open to students of the university under Choice-Based Credit System (CBCS). **By the end of this course**, students should be able to-

(i) Understand the concepts of stress
(ii) Understand sources of stress
(iii) Identify causes of stress
(iv) Identify coping mechanism

LO: Learning Outcome

On completion of the course students will be able to:
LO 1 – Understand the concept of stress, stressors and coping mechanism
LO 2 – Identify reasons and types of stress
LO 3 –Differentiate between individual stress and organizational stress
LO 4 – Apply suitable stress coping mechanism

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attendthe end semester exam.

1 credit = 15 hours' theory and 30 hours practical/ practical related training

Detailed Syllabus: **2 credit course**

	Course Contents	**Teaching Hours**	**Weightage of Marks**
Unit-1	**Stress:** Meaning&Definitionof stress, Characteristicsofstress, MainAreasofstress, Typesofstress: **PotentialSourcesofStress:** EnvironmentalFactors, OrganizationalFactors, IndividualFactors	15	18
	CausesOfStress: IndividualStress, GroupStressor,	15	17

Unit-2	OrganizationalStress, ExtraOrganizationalStressors **EffectsofStress** **StressManagement** • StressandCopingMechanism • IndividualCopingStrategies - PhysicalExercise - Relaxation - WorkHomeTransition - CognitiveTherapy - NetWorking		
	Total	**30**	**35**

Mode of Evaluation:

For 2 credit course

Internal Evaluation: 30% (One internal test of 15 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)

End-Semester exam: 70% (Total weightage 15 marks + 35 marks = 50 marks)

List of Reference Books/e-resources/e-content

BCA SEM 2

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	204 - Basic statistics - 25423 - BCAMDC202-1C
Course Type	Multidisciplinary
Credit	04
Contact Hours	04 Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Professional skill

Course Objectives: The course has been designed keeping in view the inter- disciplinary nature of the programme. It is a multidisciplinary course for the B.C.A. programme in Science and is also open to students of the university under choice-based credit system (CBCS). The course will provide basic statistical skill to student of computer science, which will helpful to them solve various problem using computer application/program

By the end of this course, students should be able to-

(i) will able to solve statistical problems
(ii) Student can use this know to solve real life problem using computer programs.
(iii) Able to apply statistical knowledge in research analysis.

On completion of the course students will be able to:
LO 1 – analyse various research problem. LO 2 –develop software tools related to statistical problems LO 3 –Apply theoretical concepts in order solve real life problems

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

1 credit = 15 hours' theory and 30 hours practical/ practical related training

Detailed Syllabus:4 credit course

	Course Contents	Teaching Hours	Weightage of Marks
UNIT-1	**Measure of Central Tendency & Dispersion**		
	Definition, Ungrouped Data, Grouped Data (Discrete and Continuous Grouped data). Mean: Arithmetic Mean, Geometric - Mean and Harmonic Mean for ungrouped data, Combined Mean - Weighted Mean. Median, Quartiles, Deciles, Percentiles and Mode. - Definition, Different measure of dispersion. Quartile Deviation, - Mean Deviation, Standard Deviation, Combined Standard Deviation, Coefficient of Variation	15	18 (for external)
UNIT-2	**Correlation and Regression**		
	Correlation:-Definition, Types of Correlation (positive and Negative correlation), Correlation Coefficient. Karl Pearson's Method and Spearman Rank correlation coefficient method. - Regression - Regression: Linear regression, regression line of y on x and regression line of x on y. Difference between Correlation and Regression	15	18 (for external)
UNIT-3	**Probability**		
	Probability:-Random Experiment, Sample Space, Event, Mutually - exclusive event, Exhaustive event, Equally likely event - Probability Classical definition. (Simple examples of Probability)	15	17 (for external)
UNIT-4	**Probability Distribution**		
	Binomial distribution Poisson Distribution Normal Distribution	15	17 (for external)
	Total	**60 hr.**	**70 marks for external exam**

Mode of Evaluation:

Internal Evaluation: 30% (One internal test of 30 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)
End-Semester exam: 70% (Total weightage 30 marks + 70 marks = 100 marks)

List of Reference Books/e-resources/e-content

1. Gun, Gupta & Dasgupta: Fundamentals of Statistics(Vol 1,2 &3), World Press
2. B.L. Agarwal : Basics Statistics
3. S.C.Gupta and V.K.Kapoor: Fundamental of Mathematical Statistics, S.Chand
4. S.M. Shukla, Dr. Hina Agarwal, Fundamental of Statistics, Sahitya Bhawan

BCA SEM 2

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	205 Web designing – 25418 -BCAM202-1C
Course Type	Major
Credit	4
Contact Hours	5 hours in week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Professional skill development

Course Objectives: The course has been designed keeping in view the disciplinary nature of the programme. It is a core course for the BCA programme in Science and is also open to students of the university under choice-based credit system (CBCS). The course introduces the concept of web-designing skill.

By the end of this course, students should be able to-

(i) Get an overview of web designing.
(ii) Aware about internet tools and technology
(iii) Apply theoretical and practical concepts in order to understand designing of web application

On completion of the course students will be able to:
LO 1 – ability to designing a website
LO 2 –ability to create a basic website
LO 3 –making validation in website
LO 4 –get knowledge about internet protocol.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Group and individual activities from student participants would supplement classroom engagement. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

Mode of Evaluation:
Paper No: 205 Web designing **(Theory)**

Code: 25418 Credits: 03

Marks: Semester End Examination: **70 Marks**
Internal: **30 Marks**

Exam Duration: 2.5 Hrs

Unit	DetailedSyllabus	Teaching Hours	Marks/ Weight
Unit-1	Internet Fundamental and HTML	15	24
	Basic concept of Internet, Intranet and Extranet Internet Applications (WWW,E-mail, FTP) Email Protocol (SMTP, POP, IMAP) Introduction to HTML Formatting of Text Hyperlinks, working with images, Image Map, List, Tables and Frame Working with Form (GET-POST Methods) and Form Tags. Various Form Controls		
Unit-2	Java Script	15	23
	Introduction of JavaScript, Variable and data types of JavaScript Decision Making statements , Control structure , Operators of Java Script, Handling event by using Java Script, Message Box in Java Script(Confirm, Alert, Prompt) Validation using Java Script, Built in Objects (String, Math, and Date)		
Unit-3	CSS	15	23
	What is CSS? Advantages of CSS, CSS Structure and Syntax. Types of CSS: Internal, External, Inline. CSS Color, Background and Border. CSS Margin, Padding, Height and Width. CSS Text, Fonts. CSS Icons and Links. CSS List and Tables. CSS Pseudo Class and CSS Pseudo Elements.		

Paper No: 205 Web designing (Practical)

Code: 25419 - BCAM202-1C Credits: 01

Marks: Semester End Examination: **25 Marks** Exam Duration: 2 Hrs

Practical syllabus: - Unit 1,2, and 3 of theory paper

List of Reference Books/e-resources/e-content

1. DouglasComer:-Internet-AnIntroductionPrentice-HallofIndiaPvt.Ltd
2. Ivan Bayross: - WEB enabled Comm. Appli. Develop. using HTML, DHTML,JAVASCRIPT
3. ThomasA.Powell:-TheCompletereferenceHTMLandCSS
4. DannyGoodman:-JavaScriptBible

BCA SEM 2

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	206—C-Programming-II – 25420 - BCAM203-1C
Course Type	Major
Credit	4
Contact Hours	5 Hours in a week
Course focussing on	Knowledge enhancement
Relevance of course to	Global level
Relation to	Professional field

Course Objectives: The course has been designed keeping in view the disciplinary or inter-disciplinary nature of the programme. It is a major course for the BCA. programme in Science and is also open to students of the university under choice based credit system (CBCS).

The course is design to develop basic programming skill and aware about computer-based programming and develop problem solving skill by providing theory and practical knowledge.

By the end of this course, students should be able to-

(i) Get knowledge of write computer-based program using C- Programming Language
(ii) Have develop skill of problem-solving technique using programming language-C
(iii) Able to apply theoretical concepts in order to understand critically of problem and solve it
(iv) Development of core knowledge of programming

On completion of the course students will be able to:
LO 1 –Write Program using C- programming language
LO 2 –Understand problem analysis and solving technique
LO 3 –Apply theoretical concepts in order to solve basic logical and mathematical problems

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. Practical demonstration and ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of the assigned readings. 80% attendance is necessary to attend the end semester exam.

Mode of Evaluation:

Paper No: 206-C-Programming-II **(Theory)**

Code: 25420 Credits: 03

Marks: Semester End Examination: **70 Marks**
Internal: **30 Marks**

Exam Duration: 2.5 Hrs

Unit	Detailed Syllabus	Teaching Hours	Marks/ Weight
Unit-1	Functions	15	24
	- Concept of modular programming - Elements of function- Declaration, Calling, and Defining a function - Types Of Function - Passing Array and string as function argument - Built-in Function- math's, input output function ,Character and String handling Function - String handling without using built-in function -		
Unit-2	Structure, Union and pointer	15	23
	- Structure Declaration and initialization - Creating variable and accessing data members - Array within structure and array of structure - Structure within structure(Nested Structure) - Union - Passing structure and union as function argument - Declaration, initialization and arithmetic of pointers - Pointer to array and structures - Pointers and strings - Pointers as function arguments - Functions returning pointers		
Unit-2	File Management, Pre-processors and Bit-wise operators.	15	23
	- Introduction to files - File pointer, declaring file pointer - Opening and closing a file – fopen(), fclose()		

	- Modes to open a text file “w”,”r”,”a”,”w+”,”r+”,”a+”. - I/O Operations on files - I/O functions :fread(), fwrite(), fscanf(), fprintf(),fgetw(),fputw(),fgetc(), fputc(), fgets(), fputs(), fseek(), ftell() - Introduction to pre-processors : #define, #include - Bit-wise operators - Applications of bit-wise operators		

Paper No: 206-C-Programming-II (Practical)

Code: 25421 - BCAM203-1C Credits: 01

Marks: Semester End Examination: **25 Marks** Exam Duration: 2 Hrs

Practical syllabus: - Unit 1,2, and 3 of theory paper

List of Reference Books/e-resources/e-content

1. Programming in ANSI ‘C’ – Balaguruswamy: TMH.
2. Let Us C ByYasvantKanitkar
3. Mulish Cooper : The Spirit of C, Jaico Pub. House, 19th Edition-1999

BCA SEM 2

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	207-Fundamental of Computer Organization-II 25422 - BCAE201-1C
Course Type	Minor
Credit	04
Contact Hours	04 Hours in a week
Course focussing on	Employabilityand Knowledge enhancement
Relevance of course to	Global level
Relation to	Professional knowledge

Course Objectives: The course has been designed keeping in view the disciplinary nature of the programme. It is a core course for the B.C.A programme in Science and is also open to students of the university under choice-based credit system (CBCS). The course content the basic about computer organization. The main object is to make familiar the student about basic of computer and information technology concept and computer system organization.

By the end of this course, students should be able to- For **Example**,

(i) Get an overview of the main concepts of computer science
(ii) will aware about various devices used in computer.
(iii) get fundament and conceptual knowledge about computer system structure

On completion of the course students will be able to:
LO 1 –Get fundament mental knowledge of computer system architecture.
LO 2 –will aware about how computer system work.
LO 3 –able to get idea about how computer system and human interaction is work
LO 4 –Get technical skill about computer fundamental.

LO: Learning Outcome

Teaching Methods:

Teaching will take place through lectures and interactions. For students, regular attendance and participation in the class is essential. ICT tools would be used extensively during teaching. Students are expected to participate actively in discussions based on their critical understanding of subject knowledge. 80% attendance is necessary to attend the end semester exam.

Unit	Course Contents	Teaching Hours	Weightage of Marks
Unit-1	Introduction to gates and invertors Boolean algebra with truth table Preparing truth table for given circuit Preparing truth table for given circuit (SOP & POS) De Morgan's theorem	15	18 (for external)
Unit-2	Integrated circuits Encoder, decoder Multiplexer, demultiplexer Comparators	15	18 (for external)
Unit-3	Shifters Adders, subtractors Half adder, full adder Binary adder/subtractors	15	17 (for external)
Unit-4	Latches (RS, D, level locking) Flip-flops (D, JK) Registers (shift, buffer, controlled) Computer bus Bus width, bus clocking, arbitration, operation	15	17 (for external)
	Total	**60 hr.**	**70 marks for external exam**

Mode of Evaluation:

Internal Evaluation: 30% (One internal test of 30 marks obtained marks to be converted into 50% and remaining 50% is to be added from assignment / presentation and punctuality (presence record)
End-Semester exam: 70% (Total weightage 30 marks + 70 marks = 100 marks)

List of Reference Books/e-resources/e-content

1. Tanenbaum A. S.: Structured Computer Organization, Prentice-Hall of India Pvt. Ltd.
2. Malvino A. P.: Digital Computer Electronics, Tata McGraw, Hill Pub. Co. Ltd.
3. Thomas Bartee: Computer Architecture & Logic Design, Tata McGraw, Hill Pub. Co. Ltd.
4. Pal Chaudhuri: Computer Organization and Design, Prentice-Hall of India Pvt. Ltd.
5. IBM PC and Clones by Govindrjalu, TMH Publication