Bachelor of Science in Information Technology (B.Sc. I.T.)
Sem 1
English Communication- I [Process of Communication]

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	
Course Type	AEC
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.Sc. I.T. 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

BSCIT Sem – 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	105 Open Office
Course Type	Core
Credit	4
Contact Hours	5 hour in a week
Course focussing on	Employability
Relevance of course to	Local, National, Regional and Global level
Relation to	Professional

Course Objectives: The course has been designed keeping in view the disciplinary nature of the programme. It is a core course for the BSCIT 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

(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 Open Office **(Theory)**

Code: Credits: 03

Marks: SemesterEndExamination: **70 Marks**

Internal:**30Marks** Exam Duration: 2.5 Hrs

	Course Contents	Teaching Hours	Weightage of Marks
Unit-1	Word Processing Package Using Writer 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 – Creation, editing, formatting of Documents. Global Search & Replacement of text. Printing Facility, Mail merge Facilities, Spelling checker, Table facility, Templates, Inserting Pictures&Drawing	15	24 (for external)
Unit-2	Spreadsheet Package Using Calc Introduction to Spreadsheet Examples of some popular Spreadsheet packages. Building Spreadsheet using formulas Conditional calculations and built-in functions. Use of Conditional Formatting through formula. Graph-plotting facilities. What-if analysis, protection facility, Pivot Tables, Operation on tables.	15	23 (for external)
Unit-3	Presentation Package using Impress Preparing presentation, Formatting Slides. Slide transition, adding special effects Inserting Pictures, Sound and Chart. Slide Design Animation in Slide	15	23 (for external)

Paper No: 105 Open Office (Practical)

Code: Credits: 01

Marks: SemesterEndExamination: **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. A conceptual guide to open office.org3 R. Gabriel Gurely

2. OpenOffice.org User Guide

BSCIT 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 BSCIT 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: SemesterEndExamination: **70 Marks**
Internal:**30Marks**

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: SemesterEndExamination: **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

BSCIT 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 EnhancementCourse (AEC) for the BSCIT . programme andis 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) Analysedifference 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:
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 required)

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

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 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.

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

BSCIT Sem – 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	107 Fundamental of information technology
Course Type	Minor
Credit	04
Contact Hours	4 Theory in a week
Course focussing on	Enhance knowledge
Relevance of course to	Local, National, Regional and Global level
Relation to	Human Values and Professional Ethics, etc.

Course Objectives: The course has been designed keeping in view the minor nature of the programme. It is a core course for the BSCIT. Programme in science and is also open to students of the university under choice based credit system (CBCS). The students will be able to impart the experience of computer information technology. It helps students to get the knowledge of the computer technology.

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

(i) Understand the importance of computer and information technology: student will learn the basic concept of computer.

(ii) Explore the computer theories: students will study various computer fundamental theories.

(iii) Develop knowledge of different process of computer: students will gain knowledge about various peripherals and internet technology.

(iv) Gain insights into computer theories and Practical: the course will introduce students to the concept of computer IT and internet technology.

On completion of the course students will be able to:
LO 1 –Describe main concepts of computer fundamental and information technology.
LO 2 –knowledge about computer peripherals and internet
LO 3 –Apply theoretical concepts in creating basic website
LO 4 –Get knowledge about computer operating system

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.

	Course Contents	Teaching Hours	Weightage of Marks
Unit-1	Introduction to computers ✓ Definition of computer ,Characteristics of computer ✓ Block Diagram of computer ✓ Types of computer: Digital computer, mini, micro, mainframe, super Hybrid computer ✓ Number system-Binary Number System, Decimal Number System, Hexa Decimal Number System, Octal Number System	15	18 (for external)
Unit-2	Computer Peripherals. ✓ Input Devices: Keyboard, Mouse, Joystick, Track ball, Touch Screen, OCR, OMR, MICR, Light pen, Scanner ✓ Output Devices (All): VDU, LCD, Plasma, Printers: Impact, Non Impact, Plotter ✓ Storage Devices & Type of Memory: RAM,ROM, PROM, EPROM, EEPROM, cache memory, CDs, DVD, Pen Drive ✓ Software, Types of Software Programming Languages ✓	15	18 (for external)
Unit-3	Internet technology & World Wide Web ✓ Introduction to Web, Internet requirement, Internet – A global Network, Host & Terminals, TCP/IP ✓ Application of Internet , World wide web, Web browsers. ✓ Internet addresses, Domain names. ✓ Basic concepts of HTML.	15	17 (for external)
Unit-4	Overview Computer Language & OS ✓ What is machine level language, What is assembly level language, What is high level language. ✓ Definition of Assembler, Compiler &Interpreter ✓ Operating Systems: History & Evolution. ✓ A Brief History of Linux, A Brief History of Windows System	15	17 (for external)
	Total	**60 hr.**	**70marks for external**

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)

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

1. Computer Fundamentals-P.K. Sinha

2. Fundamentals Of Computers, 3rd Edition -V. Rajaraman

SCIT Sem 1

Pre-requisites for the course	12th Standard in relevant Stream
Course Code	102- HISTORY OF COMPUTER IN INDIA 25233 - BSCITIKS201-1C
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 BSCIT 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