



BACHELOR OF SCIENCE -INFORMATION TECHNOLOGY (B.Sc.(IT))

Semester-I (FY)

COURSE NO.	COURSE TYPE	SUBJECT	CREDIT
B.Sc.(IT)-EC-101	ELECTIVE	Environmental Science – I	02
B.Sc.(IT)-FC-101	FOUNDATION	Introduction to English Language and Literature – I	02
B.Sc.(IT)-CC-101	CORE	Fundamental of IT	03
B.Sc.(IT)-CC-102	CORE	Introduction of C Language	03
B.Sc.(IT)-CC-103	CORE	Open Office	03
B.Sc.(IT)-CC-104	CORE	Computer Oriented Mathematics	03
B.Sc.(IT)-CC-105	CORE	Practical (Based on B.Sc.(IT)-CC-102) (Based on B.Sc.(IT)-CC-103)	12
TOTAL			28

Internal Continuous Evaluation:

1. There will be Internal Continuous Evaluation in Theory papers of Core Course.
2. There will be 30 marks for Assignments in Course No: B.Sc.(IT)-CC-101, B.Sc.(IT)-CC-102, B.Sc.(IT)-CC-103, B.Sc.(IT)-CC-104



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B.Sc.(IT)	Course: Environmental Science - I	Course No: B.Sc.(IT)-EC-101
Semester: 01	Type of Course: Elective Course	
Marking Scheme: External Examination: 100 + Internal Examination: 00 = 100 Marks		
Credits: 02	Theory Sessions per Week: 02	Teaching Hours: 30 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Natural resources	06	20
	<ul style="list-style-type: none">- Introduction- Types of natural resources- a. Renewable b. non renewable resources- Natural resources and associated problems.- Renewable resources -1 : Forest<ul style="list-style-type: none">Forest types in IndiaDeforestationForest functionsThreats to the forest in India		
Unit-2	Renewable resources-2: Water	06	20
	<ul style="list-style-type: none">- Over-utilization and pollution of surface and Undergroundwater.- Effect of Global climate change on water management.- Water for agriculture and power generation.- Sustainable water management.		
Unit-3	Renewable resources- 3: Energy	06	20
	<ul style="list-style-type: none">- Hydroelectric power, Solar energy- Biomass energy, Wind power- Tidal and wave power- Nuclear power- Energy conservation		
Unit-4	Ecosystem	06	20
	<ul style="list-style-type: none">- Producers consumers and decomposers- Foodchain food webs and ecological pyramids- Forest ecosystem- Desert ecosystem- Aquatic ecosystem- Fresh water and Marine ecosystem		
Unit-5	Biodiversity	06	20
	<ul style="list-style-type: none">- Value of biodiversity- Consumptive use value- Productive use value- Social value- Ethical and moral values- Aesthetic value- Option value- India as a mega diversity nation- Threats to biodiversity		

Reference book: Paryavaran Adhyayan – University Grants Commission Oriental longman private limited.



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B.Sc.(IT)	Course: Introduction to English Language and Literature - I	Course No: B.Sc.(IT)-FC-101
Semester: 01	Type of Course: Foundation Course	
Marking Scheme: External Examination: 100 + Internal Examination: 00 = 100 Marks		
Credits: 02	Theory Sessions per Week: 02	Teaching Hours: 30 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Study of Short Stories	06	20
	The Cherry Tree - Ruskin Bond Of Studies- Francis Bacon Five Kinds of Workers- Row and Wren (Short notes 2/3 each in 500 words approximately)		
Unit-2	Study of Poetry	06	20
	Beauty – John Masefield Old Familiar Faces – Charles Lamb To the Cuckoo – William Wordsworth (Short notes 2/3 each in 500 words approximately)		
Unit-3	Parts of Speech	06	20
	Jupp and Milne Grammar Book Chapter 1 only		
Unit-4	Tenses	06	20
	Introduction of Tenses Giving Personal Information		
Unit-5	Vocabulary	06	20
	antonyms, synonyms, prefix, suffix, one word substitute		
Reference Books			
<ol style="list-style-type: none">1. Bond Ruskin, 'Treasury of Stories for Children', Puffin Books, New Delhi, 20012. Bacon, Francis, 'English Essayists', (Ed)Sinha, Susanta, OUP, 19873. Language Through Literature, OUP, 19694. Palgrave, F. T., 'The Golden Treasury', Rupa & Co, 20015. 'Prism', Ed: Board of Editors, Orient Blackswan, 20116. Green, David, 'Contemporary English Grammar Structures and Composition', Mac Millan, 19717. Issac, Anish, 'Amazing English', Anish Issac's Publishing House, Kerala, 20068. Jupp, and Milne, 'English Sentence Structure', ELBS, 1984.			



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B.Sc.(IT)	Course:- Fundamental Of IT	Course No: B.Sc.(IT)-CC-101
Semester: 01	Type of Course: Core Course	
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100 Marks		
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Introduction to computers	09	14
	Definition of computer Block Diagram of computer Characteristics of computer Generation of computer Digital computer, mini, micro, mainframe, super Hybrid compute, Data representation & Number system.		
Unit-2	Computer Peripherals	09	14
	Input Devices: Keyboard, Mouse, Joystick, Track ball, Touch Screen, OCR, OMR, MICR & OBR, Light pen, Scanner, Output Devices (All): Visual Display Unit (VDU), LCD, Plasma, Printers: Impact, Non Impact, Plotter, Storage Devices & Type of Memory: RAM, ROM, PROM, EPROM, EEPROM, cache memory, CDs, DVD, BRD, Pen Drive		
Unit-3	Concepts in information & Processing	09	14
	An overview of information technology applications, Difference between Data & Information, Information system, Value of Information, Quality of Information Software Concepts: Types of Software, Programming Languages, Software (Its Nature & Qualities), Programming Languages.		
Unit-4	Internet technology & World wide web	09	14
	Introduction to Web, Internet requirement, Internet – A global Network, Host & Terminals, TCP/IP, Common protocols used in Internet, World wide web, Web browsers, Internet addresses, Domain names, Basic concepts of HTML, Web Search engines Electronic Mail		
Unit-5	Overview Computer Language & OS	09	14
	What is machine level language, What is assembly level language, What is high level language. (Note: there is no any comparison in between these language) (Just) Definition of Assembler, compiler & interpreter Operating Systems: History & Evolution, A Brief History of Linux, A Brief History of MSDOS, A Brief History of Windows System		

Reference Books:

1. Computer Fundamentals-P.K. Sinha
2. Fundamentals Of Computers, 3rd Edition -V. Rajaraman



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B.Sc.(IT)	Course: Introduction of C Language	Course No: B.Sc.(IT)-CC-102
Semester: 01	Type of Course: Core Course	
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100 Marks		
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Programming Language Fundamentals	09	14
	Flowchart and Algorithm Introduction to programming language and 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		
Unit-2	Programming Constructs	09	14
	Formatted Input and output statements Operators Decision making and Branching (If, if-else, switch etc) Looping construct (While loop, Do..While loop, For loop etc) Break, Continue, go to and exit		
Unit-3	Array and sorting searching technique	09	14
	Introduction of array Declaration and initialization of 1-D and 2-D arrays Programming using 1-D and 2-D Array Sorting method(selection, bubble), Searching method (linear, Binary)		
Unit-4	Character, String Handling and Built-in Function	09	14
	Declaration and initialization of string and character data Character and string operation Character and String handling Function Built-in Function: math's, input output function etc		
Unit-5	Functions	09	14
	Concept of modular programming Elements of function, Type of Function Declaration, Calling, and Defining a function. Passing Array and string as function argument		

Reference Books

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



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B.Sc.(IT)	Course: Open Office	Course No: B.Sc.(IT)-CC-103
Semester: 01	Type of Course: Core Course	
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100 Marks		
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Introduction	09	14
	Introduction to personal computers : Characteristics of computer, Types of computer Overview of Basic Operation System : Introduction of Dos and Windows operating system Introduction to editors : DOS – Internal and External Commands Windows Environment : Desk top, file, folders, icons, Window explorer, control panel, Windows Accessories		
Unit-2	Word Processing Package	09	14
	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, advanced features. Inserting Pictures, Drawing and Equation, Macros.		
Unit-3	Spreadsheet Package-I	09	14
	Introduction to Spreadsheet Examples of some popular Spreadsheet packages. User of spreadsheet packages. 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		
Unit-4	Spreadsheet Package-II	09	14
	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 Spreadsheets		
Unit-5	Presentation Package	09	14
	Preparing presentation, Formatting Slides. Slide transition, adding special effects Inserting Pictures, Sound and Chart. Slide Design Animation in Slide		
Reference Books			
1. A conceptual guide to open office.org R. Gabriel Gurely			



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B.Sc.(IT)	Course: Computer Oriented Mathematics	Course No: B.Sc.(IT)-CC-104
Semester: 01	Type of Course: Core Course	
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100 Marks		
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Set and function	09	14
	SET THEORY: Introduction to set theory, basic definition Methods of representation of a set Operations on set (union, intersection, complement of set, difference of sets, symmetric difference, Cartesian product of sets) Properties of set operation (cumulative, associative, distributive, De Morgan's law) FUNCTION: Definition, Domain, co-domain, range, one-to-one function, onto function, Composite function and inverse of a function.		
Unit-2	Vector and Matrices	09	14
	Vector: Definition of Vector, Addition and Subtraction of Vectors Magnitude of a Vector, Unit Vectors, Dot Product and Cross Product. Matrices: 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, Rank of a Matrix, Solution of Linear Equations using Matrices		
Unit-3	Permutation, Combination & Algorithms	09	14
	Meaning of permutation, Formula of permutation, Permutation of n-different things, Permutation of similar things, Permutation of repeated things, Circular Permutation Combination: Meaning of Combination, Formula of Combination. Algorithm: Set Operations. Vector Addition, Subtraction and Dot Product. Algorithm: Matrix Addition, Matrix Multiplication. Algorithm: Permutation & Combination.		



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Unit-4	Sequence and Series	09	14
	Introduction Arithmetic Progression Formula for Sum to n Terms of an A.P. Geometric Progression Sum to n Terms of a G.P. Arithmetic – Geometric Progression (A.G.P.) Harmonic Progression (H.P.) Sum of First n Natural Numbers, Their Squares and Cubes		
Unit-5	Graph Theory	09	14
	Introduction to Graph, Vertices, Edges, Loops, Parallel Edges, Simple Graph, Finite Graph, Adjacent vertices, Incidence between vertex and edge, Degree of a vertex, Isolated Vertex, Pendant Vertex, Null Graph. Isomorphism, Labeled Graph, Unlabeled Graph. Walk, Closed Walk, Open Walk, Simple Path, Circuit, Connected Graph, Operation on Graph (Union, Intersection and Complement). Tree Definition, Rooted Tree, Binary tree and its properties, Uses of Binary Tree. Level of a tree. Matrix Representation of a Tree (Incidence Matrix and Adjacency Matrix).		
Reference Books			
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			



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B.Sc.(IT)	Course: Practical	Course No: B.Sc.(IT)-CC-105
Semester: 01	Type of Course: Core Course	
Marking Scheme: External Examination: 100 + Internal Examination: 00 = 100 Marks		
Credits: 12	Practical Sessions per Week: 12	Teaching Hours: 180 Hours

Unit	Detailed Syllabus	Marks/ Weight
Unit-1	Practical Problem from B.Sc.(IT)-CC-102	50
Unit-2	Practical Problem from B.Sc.(IT)-CC-103	50