Sheth NKTT College of Commerce and Sheth JTT College of Arts,Thane

(Autonomous)

(Affiliated to University of Mumbai)

Credit Structure as per NEP-2020 (w.e.f. 2024-25)

F. Y. BSc. (Information Technology) Sem I

	Semester I Subjects	Credits		Semester II Subjects	Credits
Major **BSP101** **BSM102**	1. Principles of programming with C 2. Database Management System	2 2	**BSO201** **BSM202**	1. Object Oriented Programming with C++ 2. Microprocessor Architecture with 8085	2 2
Major **BSPDP103**	1. Principles of programming with C and Data Base Management System Practical	2	**BSOMP203**	1. Object Oriented Programming with C++ and Microprocessor Architecture with 8085 Practical	2
Minor	-	-	**BSN204**	Numerical Methods	2
BSD104 **BSO105**	OE 1: Digital Marketing OE 2: Organizational Behaviour	2 2	**BSF205** **BSI206**	OE1: Financial Market OE2: Introduction to Corporate Law	2 2
BST106 **BSTPP107**	VSC: Discrete Mathematics SEC: Discrete Mathematics Practical	2 2	**BSE207** **BSEP2011**	1. VSC: Fundamentals of Digital Electronics 2. SEC: Fundamentals of Digital Electronics Practical	2 2
BSC108 **BSG109** **BSK110**	1. AEC: Corporate communication-I 2. VEC: Green Technology: I 3. IKS: Evolution of IT	2 2 2	**BSW208** **BSG209**	1. AEC: Corporate communication-II 2. VEC: Green Technology-II	2 2
BSS1011 **BSL1011** **BSP1011**	1. CC: NSS/ Sports/ Cultural/ Yoga	2	**BSS2010** **BSL2010** **BSP2010**	1. CC: NSS/ Sports/ Cultural/ Yoga	2
	Total	**22**			**22**

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **F.Y.B.Sc(Information Technology)**	**Semester: I**
Course Category/Vertical: Major	
Name of the Dept: **B.Sc(Information Technology)**	
Course Title: **Principles of programming with C**	
Course Code: **BSP101**	Course Level: 4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. To develop the logical ability and basic concepts to be cleared using suitable examples of the students 2. To handle the errors and find suitable solution.	
Course Outcomes: CO1. Learn the basic principles of programming and develop of logic using algorithm and flowchart and utilize operators CO2. Apply decision-making, looping, and branching statements to solve computational problems, different data types and develop modular programs using functions and understand the concept of recursion CO3. Utilize arrays, pointers, and structures effectively in program development and implement file handling operations and manage input/output operations in C programs.	
Description the course:	Explore the foundational principles of programming using the C language in this comprehensive course. From basic syntax to advanced concepts, gain hands-on experience in problem-solving, algorithm development, and code optimization. Build a strong foundation for understanding programming logic, memory management through practical exercises and projects.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	1. Introduction: Algorithms, Structure of C Program. Program Characteristics, Compiler, Linker and preprocessor, pseudo code statements and flowchart symbols, Desirable program characteristics. Compilation and Execution of a Program, C Character Set, identifiers and keywords, data types and sizes , constants and its types, variables, Character and character strings, typedef, typecasting 2. Type of operators: Arithmetic operators, relational and logical operators, Increment and Decrement operators, assignment operators, the conditional operator, Assignment operators and expression, Control Flow: Statements and Blocks, If-Else, Else-If, Switch, Loops- While and For Loops Do-while, Break and Continue, Goto and Labels	15
II	1. Functions and Program Structure: Basics of functions. User defined and Library functions, Function parameters, Return values, Recursion, Scope Rules, Standard Input and Output, Formatted Output-printf() and Formatted Input- scanf(), Line Input and Output 2. Pointer and Arrays: Pointers and Functions, Multidimensional Array, Command-line Arguments, Pointers to Functions 3. Structures: Basics of structures, Structures and Functions, Arrays of Structures, Unions, File management in C: Defining and Opening file, Closing a file, Input / Output operations on file, Error handling in C, Random access to files	15
	Total Hours	30

References:

1. Programming Language, Brian W.Kernighan and Denis M.Ritchie, PHI 2nd Edition 1998
2. Mastering C K R, Venugopal, Tata McGrawHill , 6th Edition, 2007
3. Programming with C , K R Venugopal, Tata McGrawHill, 6th Edition 2007
4. Let us C, Yashwant P. Kanetkar, BPB Publication
5. Programming in ANSI C, E.Balagurusamy, Tata McGrawHill, 7th Edition , 1982

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FY.B.Sc(Information Technology)**	**Semester:I**
Course Category/ Vertical: Major	
Name of the Dept: **B.Sc. (Information Technology)**	
Course Title: **Database Management System**	
Course Code: **BSM102** Course Level: 4.5	
Type: Theory	
Course Credit: 2	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. To present an introduction to fundamentals of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS 2. To train students in writing and optimizing SQL queries for data retrieval, aggregation, and manipulation, including advanced operations like views, sequences, functions, and procedural SQL. as well as managing transaction and concurrency control.	
Course Outcomes: CO1 - Understand Database as s Relational model for Organizing, structuring, storing of data and SQL to retrieve data. CO2 - To understand creation, manipulation and querying of data in databases.	
Description the course:	"Database Management System" introduces learners to the fundamental principles and practices of organizing, storing, and accessing data efficiently. This course provides a comprehensive overview of database concepts, including relational database design, SQL querying, normalization, and indexing. Participants will gain practical skills in designing, implementing, and managing databases to meet the information needs of businesses and organizations

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**Introduction:** Why Databases? Data versus Information, Introducing the Database, Role and Advantages of the DBMS, Types of Databases **Entity Relationship Model:** Conceptual modelling and database design: Data modelling using the Entity Relationship model (ER). The enhanced entity relationship model. Relational database design by ER and EER model. Practical database design methodology and use of UML diagrams. **Normalization of Database Tables:** Database Tables and Normalization, The Need for Normalization, The Normalization Process, Improving the Design, Surrogate Key Considerations, HigherLevel Normal Forms, Normalization and Database Design, Denormalization, Data-Modeling Checklist	15
II	**Structured Query Language (SQL):** Introduction to SQL, Basic SELECT Queries, SELECT Statement Options, FROM Clause Options, ORDER BY Clause Options, WHERE Clause Options, Aggregate Processing, Subqueries, SQL Functions, Relational Set Operators, Crafting SELECT Queries **Advanced SQL**: Data Definition Commands, Creating Table Structures, Altering Table Structures, Data Manipulation Commands, Virtual Tables: Creating a View, Sequences, Function and Procedural SQL. **Transaction Management and Concurrency Control**: What Is a Transaction? Concurrency Control with Locking Methods, Concurrency Control with Time Stamping Methods, Concurrency Control with Optimistic	15
	Total Hours	**30**

References:

1. Fundamentals of Database systems. Ramez Elmasri, Shamkant B Navathe Pearson. 6th Edition
2. Database Management Systems, Ramakrishnam, Gehrke, McGraw- Hill, 2007
3. The Programming Language of Oracle, 4th Revises Edition, Ivan Bayross
4. Oracle PL/SQL Programming, Steven Feuerstein with Bill Pribyl

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)** **Semester: I**
Course Category/Vertical: Major
Name of the Dept: **B.Sc. (Information Technology)**
Course Title: **Principles of programming with C and Database Management System Practical**
Course Code: **BSPDP103** Course Level: 4.5
Type: Theory
Course Credit: 2 credits
Hours Allotted: 60 Hours
Marks Allotted: 50 Marks
Course Objectives: 1. To develop the logic of the student. 2. Describe loops and Practical use of operators. 3. To introduce ER data model, database design and normalization 4. To Learn SQL basics for data definition and data manipulation
Course Outcomes: CO1. Understand the differences between syntax errors, runtime errors, and logic errors CO2. Develop applications. CO3. Design database schema for a given application and apply normalization. CO4. Acquire skills in using SQL Commands for data Definition and data manipulation

Syllabus: NEP 2020 w.e.f 2024-25

Sr. No	Content	Hours
1	1. a. Write an algorithm and draw flowchart for Area of circle. b. Write an algorithm and draw flowchart to print the given no. is even or odd. c. Write an algorithm and draw flowchart to print 1 to 10 numbers. d. Write an algorithm and draw flowchart for sum of 1 to 5 numbers. 2. a. Write a program using while loop to reverse the digits of a number. b. Write a program to calculate the factorial of a given number. c. Write a program to find the roots of quadratic equation. d. Write a program to print the Fibonacci series. 3. a. Write a program in C to check entered character vowel or consonant b. Write a program to C program to print day name of week using switch-case. c. Write a program to read three values from keyboard and print out the largest of them without using if statement. 4. a. Write a program to print the pattern of asterisks as shown below * * * * * * * * * * b. Write a program to print the pattern of asterisks as shown below : * * * * * * * * * * c. Write a program to print Floyd's Triangle. 5. a. Write a program to print area of square using function. b. Write a program using recursive function. c. Write a program to square root, abs() value using function. d. Write a program using goto statement. 6. a. Write a program to print rollno and names of 10 students using array.	15

	b. Write a program to read a matrix of size m*n. c. Write a program to sort the elements of array in ascending or descending order. 7. a. Write a program to extract the portion of a character string and print the extracted part. b. Write a program to find the given string is palindrome or not. c. Write a program to using strlen(), strcmp() function. 8. a. Write a program to display the values using different data types and its address using pointer. b. Write a program to perform addition and subtraction using pointer. 9. a. Write a program to copy the contents of the file from one file into other. b. Write a program to print the structure using • Title • Author • Subject • Book ID Print the details of two students. 10. a. Create a mini project on "Bank management system" . The program should be menu driven	
2	1. Draw E-R diagram and convert entities and relationships to relation table for a given scenario : Bank College 2. Write relational algebra queries for a given set of relations 3. Defining data a. Using CREATE statement b. Using ALTER statement c. Using DROP statement d. Using TRUNCATE statement e. Using RENAME statement 5. Manipulating data a. Using INSERT statement b. Using UPDATE statement c. Using DELETE statement d. Using SELECT statement	

	6. Creating and managing the tables a. Creating table with contraints: NOTNULL, UNIQUE, PRIMARY KEY ,FOREIGN KEY 7. Restricting and sorting data a. Using DISTINCT,IN, AS, SORT,LIKE,ISNULL, OR Using Group By, Having clause, Order By clause 8. Aggregate and Mathematical functions a. AVG,MIN,MAX,SUM,COUNT b. ABS,SQRT,ROUND,TRUNCATE,SIGN,POWER,MOD,FLOOR,CE IL 9. Views and Joins: For a given set of relation tables perform the following a. Creating view b. Dropping view c. Selecting from a view 10. Database trigger a. Using CREATE OR REPLACE TRIGGER Functions and Procedures	
	Total Hours	**60**

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)**	**Semester: I**
Course Category/Vertical: Open Elective	
Name of the Dept: **B.Sc. (Information Technology)**	
Course Title: **Digital Marketing**	
Course Code: **BSD104**	Course Level:4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: To make learner understand / implement 1. To acquaint the students with the knowledge of growing integration between the traditional and digital marketing concepts and practices in the digital era 2. To familiarize the students with the tools and techniques used by the digital marketers for driving the marketing decisions to attain marketing objectives.	
Course Outcomes: CO1. Students will be able to understand the concept of digital marketing and its integration with traditional marketing. CO2. Students will be able to understand social media marketing and apply the learnings to create digital media campaigns	
Description the course:	Digital marketing comprises all marketing efforts that use the Internet. These include digital channels such as search engines, email, websites, social media, etc., that can be used to connect with current and prospective customers.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	1. Introduction to digital marketing- Meaning of Digital Marketing, Differences from Traditional Marketing, Return of Investments on Digital Marketing vs. Traditional Marketing, E Commerce, Tools used for successful marketing, SWOT Analysis of Business for Digital Marketing, Meaning of Blogs, Websites, Portal and Their Differences, Visibility, Visitor Engagement, Conversion Process, Retention, Performance Evaluation. 2. Search Engine Optimization (SEO): On page Optimization Techniques, Off Page Optimization Techniques, Preparing Reports, Creating Search Campaigns, Creating Display Campaigns. Social Media Optimization (SMO): Introduction to Social Media Marketing, Advanced Facebook Marketing,	15
II	1. Word press Blog Creation, Twitter Marketing, Linkedln Marketing, Instagram Marketing, social media Analytical Tools. Search Engine Marketing: Meaning and Use of Search Engine Marketing, Tools used — Pay Per Click, Google Adwords, Display Advertising Techniques, Report Generation 2. Website Traffic Analysis, Affiliate Marketing and Ad Designing: Google Analytics, Online Reputation Management, EMail Marketing, Affiliate Marketing, Understanding Ad Words Algorithm, Advertisement Designing	15
	Total Hours	30

References:

1 Digital Marketing by Seema Gupta Mcgraw Hill

2 Internet Marketing: A practical approach in the Indian context, Oxford Publishing

3 Digital Marketing: Strategy, Implementation & Practice, Dave Chaffey & Fiona Ellis

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)**	**Semester:I**
Course Category/Vertical: Open Elective	
Name of the Dept: **B.Sc.(IT)**	
Course Title: **Organizational Behavior**	
Course Code: **BSO105**	Course Level:4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. To build self-awareness among the learner and enable the learner to identify and acknowledge individual and group differences. 2. To introduce the learner to group behavior, conflicts and acquaint the learner with motivation theories at workplace, familiarize with modern age workplace stress & impart skills to overcome.	
Course Outcomes: CO1. The learner studies various aspects of Personality and develop skills in applying knowledge to enhancing individual and organizational effectiveness in a wide range of organizations. CO2. To develop an understanding of the theories and group behavior and dynamics within an organization and managing change as well as Evaluate conflict management and stress management.	
Description the course: .	The course introduces the learners insights into human behavior within organizations, helping managers make informed decisions and effectively manage their workforce. The learners could upgrade their current understanding OB principles, organizations can enhance employee satisfaction, productivity, and overall performance. Students would be able to explore various career opportunities as there is a growing demand for professionals well-versed in OB

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**FUNDAMENTALS OF ORGANIZATIONAL BEHAVIOUR** •Definition, need and importance of organizational behaviour, Nature and scope, Models of OB(Autocratic, Custodial, Supportive, Collegial & SOBC) , •Definition of Emotional Intelligence - Fundamentals of Emotional Intelligence •Interpersonal Behaviour, Johari Window, •LEADERSHIP-Meaning, Importance, Leadership styles,	15
II	•**Motivation:** Importance, Types, Theories of Motivation understanding groups and teams, Groups in organizations, Group dynamics, Group decision making, Team building, Communication, Control •**CONFLICT MANAGEMENT**- Definition and Meaning, Sources of Conflict, Types of Conflict,Conflicts resolution strategies •**Organizational culture and climate** •Organizational change and development, methods for implementing organizational change •**Stress Management**-Time management	15
	Total Hours	**30**

References:

1. Jerald Greenberg- Organsiational Behavior, PHI learning Pvt. ltd India 10th Edition.
2. Fred Luthans- Organisational Behavior, MC Graw Hill, 10th Edition.
3. Gregory Moorhead, Ricy Griffin Biztatra , India 7th Edition.
4. Stephen P Robbins-Dorling Kindersley pvt ltd, 15th Edition.

Sheth T. J. Education Society's
Shath N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)**	**Semester: I**
Course Category/Vertical: Vocational Skill Course	
Name of the Dept: **B.Sc. (Information Technology)**	
Course Title: **Discrete Mathematics**	
Course Code: **BST106**	Course Level:4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. Course will provide students with an overview of discrete mathematics. 2. Students will learn about topics such as logic and proofs, sets, Relation and functions, techniques of counting, graph theory, Binary tress and other important discrete math concepts.	
Course Outcomes: CO1. Understand the basic principles of sets, operations in sets and different types of relations. Analyze mathematical properties using mathematical induction methods. Understand different counting techniques and methd of Solving Recurrence relation. CO2. Understand graphs and Binary trees and its various applications	
Description the course:	It provided the basic techniques to solve the problems. This course provided the foundation for many computer science Courses including data structures, algorithm, operation system.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**Sets, Relation and Function** Definition Sets and Elements, Subsets, Venn Diagrams, Set Operations, Algebra of Set, Power Sets, Mathematical Induction , Relations on sets, Reflexivity, Symmetric and Transitivity, Equivalence Relations, Functions Define on general sets, One-to-One, Onto, and Invertible Function, composition of functions and Cardinality with application to Computability. **Techniques of Counting** Basic Counting Principles, Permutations, Combinations, the Pigeonhole Principle, The Inclusion–Exclusion Principle, Recurrence Relations, Linear Recurrence Relations with Constant Coefficients, Solving Second Order Homogeneous Linear Recurrence Relations. **Probability:** Basics of Probability, Addition Rule	15
II	**Graph Theory:** Graph Definition and basic properties, Sub graphs, Matrix representation of graph , Isomorphism of Graphs, Paths, Connectivity, Traversable and Eulerian Graphs, Labeled and Weighted Graphs, Complete, Regular, and Bipartite Graphs, Planar Graphs, Representing Graphs in Computer Memory, Graph Algorithms, Traveling-Salesman Problem, Introduction, Directed Graphs, Sequential Representation of Directed Graphs, , Shortest Paths, Linked Representation of Directed Graphs, Graph Algorithms: Depth-First and Breadth-First Searches Algorithm for Shortest Path. **Trees and Binary Trees:** Definition and properties of tree, Spanning tree and shortest path. Definition Binary Trees, Complete Binary Trees, Traversing Binary Trees, Binary Search Trees , Huffman's Algorithm.	15
	Total Hours	**30**

References:

1 Discrete Mathematics and its Applications Kenneth H. Rosen Tata MCGraw Hill 8th 2019

2 Discrete Mathematics, Schaum's Outline Series Seymour Lipschutz, Marc Lipson Tata MCGraw Hill 3rd 2007

3 Discrete Mathematics and its Applications Sussana S.Epp Cengage Learning 5th 2018

4 Discrete Mathematical Structures B Kolman RC Busby, S Ross PHI

5 Discrete structures Liu Tata MCGraw Hill

Sheth T. J. Education Society's
Shath N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)**	**Semester: I**
Course Category/Vertical: Skill Enhancement Course	
Name of the Dept: **FY (Information Technology)**	
Course Title: **Discrete Mathematics Practical**	
Course Code: **BSTPP107**	Course Level:4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 60 Hours	
Marks Allotted: 50 Marks	

Course Objectives:

1. Course will make students understand different commands and functions of SCILAB.
2. To implement programs of set theory, functions, Recurrence relation. To represents concept of graph theory, directed graph, and their subtopics in the form of a program.

.

Course Outcomes:

CO1. Implement programs on Inclusion Exclusion principle, power sets, recursively defined functions, Mathematical Induction Cardinality in scilab. Execute programs like Sum principle, Product principle, Factorial, Permutations and Combinations.

CO2 Implement concepts in Scilab like paths and connectivity, minimum spanning tree, isomorphism, adjacency matrix, path matrix. Implement recurrence relations by iteration, Second order linear homogenous recurrence relations with constant coefficients.

Description the course:	By using scilab code students able to solve mathematical Problems of sets, Permutations combinations, minimal spanning tree and shortest path, Graphs, recurrence relation.

Syllabus: NEP 2020 w.e.f 2024-25

Sr. No.	Content	Hours
1	**Set Theory** : Inclusion Exclusion principle, Power set , Mathematical Induction	
2	**Functions and Algorithm** : Recursively define function, cardinality, Polynomial evaluation, Greatest common divisor	
3	**Sequences:** Summation Notation, Product Notation, Mathematical Induction	
4	**Probability Theory:** Sample space and events, Finite Probability space, Addition Principal	
5	**Counting I:** Sum rule principle, Product rule principle, factorial, Binomial Coefficient	
6	**Counting II:** Permutations, Permutations with repetitions, Combinations, Combinations with repetitions.	
7	**Graph Theory:** Paths and Connectivity, Minimum Spanning Tree, Isomorphism	
8	**Directed Graph:** Adjacency Matrix, Path Matrix	
9	**Tree:** Minimum Spanning tree , Shortest path algorithm Kruskal or Prims	
10	**Recurrence Relation:** Solving linear homogeneous recurrence relation with constant coefficients.	
	Total Hours	**60**

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: FYB.Sc.(Information Technology)	**Semester: I**
Course Category/Vertical: Ability Enhancement Course	
Name of the Dept: **B.Sc. (Information Technology)**	
Course Title: **Corporate Communication I**	
Course Code: **BSC108**	Course Level:4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. To inculcate the knowledge of basic communication skills in learners and make learners aware of how non-verbal communication impacts daily communication. 2. To inculcate effective business writing skills in learners and create awareness about ethics in information	
Course Outcomes: CO1: Learners would develop their basic communication skills and gain knowledge of how verbal and non-verbal communication impacts the business world. CO2: Develop effective business writing skills	
Description the course:	The course introduces learners to the basic concepts of communication required in personal and professional lives. It will assist them in making effective use of both verbal and non-verbal methodologies of communication. The course will inculcate effective writing skills in learners enabling them to overcome the communication challenges they may face in the corporate world. With these skills they can turn out to be communication experts and PR experts as well.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**Fundamentals of Technical Communication** **Fundamentals of Technical Communication:** Introduction, The process of communication, Language as tool of communication, levels of communication, The flow of communication, Communication Networks, The importance of technical communication **Barriers to communication**: Definition of Noise, classification of Barriers **Non-verbal Communication**: Introduction, Definition, significance of nonverbal, forms of non-verbal communication, types of non-verbal communication **The Seven Cs of Effective Communication:** Completeness, Conciseness, Consideration, Concreteness, Clarity, Courtesy, Correctness **Meeting and conferences**: Introduction, Purpose of Meeting, planning a meeting, Meeting Process, Leading effective meeting, evaluating meeting, planning conference, teleconferencing. **Group Discussion and team presentation**: Introduction, Benefits of GD, Workplace GD guidelines, Functional and non-functional roles in GD, Improving group performance, Assessment of group discussion, Team presentation. **Email communication**: Introduction, Advantages of email, problems in email communication, Email etiquettes, Techniques of writing Effective Email	*15*
II	**Business Writing and Visual Aids** **Business writing**: Introduction, Importance of written Business, Five main strategies of writing business messages **Business correspondence**: Business letter writing, common component of Business letter, Strategies for writing body of a letter, Types of Business letter, writing memos. **Business reports and proposal**: What is a report? Steps in writing routine Business report, parts of reports, corporate reports and Business proposals **Careers and Resume**: Introduction to career building, resume format, traditional, electronic and video resumes, sending resume, follow-up letters and online recruitment process. **Creating and Using Visual Aids**: Object, Models, Handouts, Charts and Graphs, Text Visuals, Formatting Computer generated charts, graphs and visuals.	*15*
	Total Hours	***30***

References:

1. Technical communication: principles and practices Meenakshi Raman & Sangeeta Sharma Oxford Higher Education
2. Business Communication Meenakshi Raman & Prakash Singh Oxford- Higher Education 2nd edition 2006
3. Effective Business Communication Herta Murphy, Herbert Hildebrandt, Jane Thomas Tata McGraw Hill 7th edition 2008
4. Professional Communication Aruna Koneru McGraw Hill 2008
5. Business and Professional Communication Plans, Processes and Performance James R. DiSanza Nancy J..Legge Pearson Education 4 th Edition
6. Storytelling with data-a data visualization guide for business professionals Cole Nussbaumer knaflic Wiley

Sheth T. J. Education Society's
Shath N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name:**FYB.Sc(Information Technology)**	**Semester:I**
Course Category/Vertical: Value Education Course	
Name of the Dept: **B.Sc. (IT)**	
Course Title: **Green Technology-I**	
Course Code: **BSG109**	Course Level: 4.5
Type: Theory	
Course Credit: 2 credits	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. Understand the concept of Green IT and impact of sustainability of computing applications, regulatory, non-regulatory and other influences affecting business. 2. Understand Key sustainability challenges associated with data centers and strategies to make them more environmentally sustainable with in-depth coverage of energy-efficient storage technologies and data storage systems.	
Course Outcomes: CO1. The learner studies emerging green IT regulations, energy management techniques, laws, standards and regulations related to Green IT. CO2. Develop knowledge about green data storage and data centers and how the choice of hardware and software can facilitate a more sustainable operation.	
Description the course:	The course introduces the learners to the concept of sustainable approach to IT resource management, focusing on minimizing environmental impact in the context of environmental concerns. The learners could upgrade their current understanding towards Green IT practices, reducing energy consumption and electronic waste, promoting efficient, cost-effective, and environmentally sustainable IT systems. Students would be able to explore new areas of IT professionals with expertise in Green IT.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**Green IT An Overview** •Introduction, Environmental Concerns and Sustainable Development, Environmental Impacts of IT, Green IT, Applying IT for Enhancing Environmental Sustainability, Green IT Standards and Eco-Labelling of IT. •**Green Devices and Hardware** : Introduction, Life Cycle of a Device or Hardware, Reuse, Recycle and Dispose, Green Software ,Energy-Saving Software Techniques, •**Sustainable Software Development** : Introduction, Current Practices, Sustainable Software, Software Sustainability Attributes and Metrics Sustainable Software Methodology •**Regulating Green IT:** Laws, Standards and Protocols: Introduction, Introduction, Nonregulatory Government Initiatives, Industry Associations and Standards Bodies, Green Building Standards, Green Data Centres, Social Movements and Greenpeace	
II	•**Green Data Storage**: Introduction, Storage Media Power Characteristics, Energy Management Techniques for Hard Disks, System-Level Energy Management. Green Data Centres : Data Centres and Associated Energy Challenges, Data Centre IT Infrastructure, Data Centre Facility Infrastructure: Implications for Energy Efficiency, IT Infrastructure Management, Green Data Centre Metrics	
	Total Hours	**30**

References:

1. Green IT Toby Velte, Anthony Velte, & Robert Elsenpete McGraw Hill 2008
2. Harnessing Green It Principles And Practices San Murugesan, G.R. Gangadharan WILEY -
3. Green Data Center: Steps for the Journey Alvin Galea, Michael Schaefer, Mike Ebbers Shroff Publishers And Distributors 2011
4. Green Computing and Green IT Best Practice Jason Harris Emereo
5. Green Computing Tools and Techniques for Saving Energy, Money and Resources Bud E. Smith CRC Press 2014

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)

Programme Name: **FYB.Sc(Information Technology)**	**Semester:I**
Course Category: Indian Knowledge System	
Name of the Dept: **B.Sc (Information Technology)**	
Course Title: **Evolution of Information Technology**	
Course Code: **BSK110**	Course Level:4.5
Type: Theory	
Course Credit: 2	
Hours Allotted: 30 Hours	
Marks Allotted: 50 Marks	
Course Objectives: 1. Make aware to Basics of Computer and various storage devices 2. Concept of Hardware, Software and Networking devices. 3. To study IT Act 2000	
Course Outcomes: CO1. Study generations of Computer and basics of Internet and it applications and understand various software types CO2.Explain the fundamental concepts of communication, different types of computer networks, network topologies and interpret the key provisions and offences defined under the Information Technology Act 2000 and understand its importance in regulating cyber activities.	
Description the course:	Through this course, learners will embark on a fascinating exploration of the historical milestones, key innovations, and transformative trends that have shaped the IT landscape. From early mechanical computing devices to the advent of the internet, mobile computing, and artificial intelligence, participants will gain valuable insights into how IT has revolutionized communication, commerce, and daily life.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	**Computer Generation and its classification**: Introduction, What is Computer, Characteristics of computer, Evolution of Computer, Block Diagram of a computer, Generations of Computers. **Storage Devices:** Primary Vs Secondary Storage, Data storage & retrieval methods. Primary Storage: RAM ROM, PROM, EPROM, EEPROM. Secondary Storage: Magnetic Tapes, Magnetic Disks. Cartridge tape, hard disks, Floppy disks Optical Disks, Compact Disks, Zip Drive, Flash Drives **Software:** Software and its needs, Types of S/W. System Software: Operating System, Utility Programs Programming Language: Machine Language, Assembly Language, High Level Language, advantages & disadvantages of programming language. Application S/W and its types	15
II	**Communication:** Introduction, Communication Types (modes), Data Transmission Medias, Modem and its working, characteristics, Types of Networks, Topologies, Computer Protocols. **Internet and the World Wide Web:** What is Internet? Evolution of Internet, Internet service providers, Internet and its applications, E-mail, Telnet, FTP, domain name server, Internet address, World Wide Web (WWW): World Wide Web uniform resource locator (URL), Browsers–Internet Explorer, Netscape Navigator, Opera, Firefox, Chrome, Mozilla. **I.T. Act 2000:** Introduction of IT Act 2000, Offences in IT Act 2000, Various provisions of IT Act 2000.	15
	Total Hours	**30**

References:

1. Fundamentals of Computers V. Rajaraman and Neeharika A. PHI Learning Sixth 2015
2. Data communication and networking Behrouz. Forouzan Tata McGraw Hill 5th edition 2013
3. Cyber law simplified Vivek Sood Tata McGraw Hill

Scheme of Examination

Course with Credit	External Examination	Internal Examination	Total
Credit 4	**60 marks**	**40 marks**	**100 marks**
Credit 2	**30 marks**	**20 marks**	**50 marks**

Internal Examination Structure (Theory)

Internal examination	**40 marks**	**20 marks**
Project Presentation/Case Study /Quiz/Group Discussion	10 marks	5 marks
Assignment /Active class Participation/Attendance	10 marks	5 marks
Class test	20 marks	10 marks
Total	40 marks	20 marks

Structure for Class Test

For 10 marks	
Q1. Fill in the blank (5 Marks) **a.** **b.** **c.** **d.** **e.** **Q2. Answer in one or two lines (5 Marks)** **a.** **b.** **c.** **d.** **e.**	**10 Marks**

External Examination (For 60 Marks)

Q. No.	External	Marks: 60
Q .1 (From Module 1)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 2 (From Module 2)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 3 (From Module 3)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 4 (From Module 4)	Answer the following questions (Any 3) A B C D E F	15 Marks

External Examination (For 30 Marks)

Q. No.	External	Marks: 30
Q .1 (From Module 1)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 2 (From Module 2)	Answer the following questions (Any 3) A B C	15 Marks

	D E F	

Practical Exam Evaluation: 50 Marks

1	Practical Question 1	20
2	Practical Question 1	20
3	Journal	5
4	Viva Voce	5

Members of Department of Science and Technology (B.Sc. IT)

Name	Designation	Signature
1. Dr. Yogeshwari Patil	Chairperson	
2. Dr. Hiren Dand	Expert nominated by Vice Chancellor	
3. Prof. Mohan Bonde.	Subject experts from outside the parent university nominated by the Academic Council	
4. Ms. Manasi Vaidya	Subject experts from outside the parent university nominated by the Academic Council	
5. Mr. Vikesh Jha	Representative from the industry	
6. Mr. Hrushikesh Jadhav.	Member of College Alumni	
7. Dr. Manisha Nehete.	Member	
8. Ms. Sonali A. Saraf	Member	
9. Ms. Vrushali Ghodke	Member	
10. Mr. Kiran More.	Member	
11. Mrs. Sneha Gupta	Member	
12. Ms. Aafreen Shaikh.	Member	
13. Mr. Shravan Mishra	Member	
14. Ms. Nayana Lagade	Member	
15. Mr. Nilesh Pandey	Member	
16. Ms. Priyanka Rajput	Member	