"Dissemination of Education for Knowledge, Science and Culture"
**-Shikshanmaharshi Dr. Bapuji Salunkhe**

Shri Swami Vivekanand Shikshan Sanstha's

# VIVEKANAND COLLEGE, KOLHAPUR

## (AN EMPOWERED AUTONOMOUS INSTITUTE)

## DEPARTMENT OF COMPUTER SCIENCE

**Three/Four- Years UG Programme**
**Department/Subject Specific Core or Major (DSC)**

**NEP- 2.0**

# Curriculum, Teaching and Evaluation Structure

**(as per NEP-2020 Guidelines)**

**for**

# B.Sc.-I Computer Science

# Semester-I & II

**(Implemented from academic year 2024-25 onwards)**

# Department of Computer Science

## B.Sc.: Program Outcomes (POs):

**PO 1: Disciplinary Knowledge:** Graduates will gain in-depth understanding in their specific major or discipline, mastering the foundational principles and theories, as well as advanced concepts. Execute theoretical and practical knowledge developed from the specific curriculum.

**PO 2: Problem-Solving Skills:** Graduates will learn to use their knowledge to identify, analyze and solve problems related to their field of study.

**PO 3: Analytical Skills:** Graduates will gain the ability to collect, analyze, interpret, and apply data in a variety of contexts. They might also learn to use specialized software or equipment.

**PO 4: Research Skills and Scientific Temper:** Graduates might learn how to design and conduct experiments or studies, analyze results and draw conclusions. They might also learn to review and understand academic literature.

**PO 5: Environment and Sustainability:** Possess a sympathetic awareness of the environment while conducting research and scientific studies and focus on sustainable social development.

## B.Sc. in Computer Science: Program Specific Outcomes (PSOs):

**PSO1:** To obtain sound knowledge in the theory, principles and applications of Computer Science.

**PSO2:** Develop and build strong problem solving, analyzing and decision-making skills and abilities to solve multidisciplinary problems of various domains associated with Computer Science.

**PSO3:** Apprised with current trends and concepts of Computer Science and its applications in order to get competence for getting professional status.

**PSO4:** Ability to understand the computing needs of multidisciplinary problems and to formulate and solve these by applying programming skills, development tools and environments.

**PSO5:** Integrate knowledge of Computer Science with associated subjects like mathematics, statistics, electronics etc. to build and explore problem solving concepts.

**PSO6:** Develop skills and knowledge (communication, problem solving, interviewing, creativity, team work, group discussion, aptitude etc.) to make or to build competence among the stakeholders to achieve the career in different fields and at a different level (Industry personnel, academician, researcher, entrepreneur etc).

**PSO7:** Understand professional and ethical responsibilities in order to work at different positions in organizations and at a societal context.

# Vivekanand College, Kolhapur (Empowered Autonomous)

## Department of Computer Science

## NEP-Phase-II

## Departmental Teaching and Evaluation scheme

### (2024-25 onwards)

### Three/Four- Years UG Programme

### Department/Subject Specific Core or Major (DSC)

### (as per NEP-2020 Guidelines)

## First Year Semester-I & II

| Sr. No. | Course Abbr. | Course code | Course Name | Teaching Scheme Hours/week | | Examination Scheme and Marks | | | | Course Credits |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TH | PR | SEE | CIE | PR | Marks | |
| **Semester-I** | | | | | | | | | | |
| 1 | DSC-I | 2DSC03CSC11 | Problem Solving using Computers-I | 2 | - | 40 | 10 | - | 50 | 2 |
| 2 | DSC-II | 2DSC03CSC12 | Introduction to DBMS-I | 2 | - | 40 | 10 | - | 50 | 2 |
| 3 | DSC CSC-PR-I | 2DSC03CSC19 | DSC Computer Sci Lab-1 | - | 4 | - | - | 25 | 25 | 2 |
| 4 | OEC COS-PR-I | 2OEC03COS11 | Fundamentals of Computer | - | 4 | - | - | 25 | 25 | 2 |
| **Semester –I Total** | | | | **4** | **8** | **80** | **20** | **50** | **150** | **8** |
| **Semester-II** | | | | | | | | | | |
| 1 | DSC -III | 2DSC03CSC21 | Problem Solving using Computers-II | 2 | - | 40 | 10 | - | 50 | 2 |
| 2 | DSC -IV | 2DSC03CSC22 | Introduction to DBMS-II | 2 | - | 40 | 10 | - | 50 | 2 |
| 3 | DSC CSC-PR-II | 2DSC03CSC29 | DSC Computer Sci Lab-2 | - | 4 | - | - | 25 | 25 | 2 |
| 4 | OEC COS-PR-II | 2OEC03COS21 | Introduction to Web | - | 4 | - | - | 25 | 25 | 2 |
| **Semester –II Total** | | | | **4** | **8** | **80** | **20** | **50** | **150** | **8** |

Abbreviations: TH-Theory, PR-Practical, PRO- Project, SEE- Semester End Examination, CIE-Continuous Internal Examination

Note: Minimum passing for 10 marks Internal evaluation = 04 marks
Minimum passing for 40 marks Theory paper = 16 marks
Minimum passing for 25 marks Practical = 10 marks
Passing percentage for Democracy, Election and Good Governance (DEGG) and Environmental Studies papers should be 40%

**Separate passing for each Head - SEE, CIE and Practicals**

# Semester -I

**B. Sc. Part – I Semester -I COMPUTER SCIENCE**

**DSC-I: 2DSC03CSC11: PROBLEM SOLVING USING COMPUTERS-I**

**Credits: 02 Theory: 30hrs. Marks-50**

**Course Outcomes:** After the completion of the course the student will be able to:

**CO1:** Learn Basics of Programming Languages and their classification.

**CO2:** Understand problem-solving techniques by defining problems, designing programs, and using debugging strategies to identify and fix errors in Python programs.

**CO3:** Utilize programming methodologies such as top-down and bottom-up programming to develop structured and well-designed Python programs.

**CO4:** Implement control structures and looping constructs in Python.

**Unit -1: Introduction to Programming Languages: (10 Lectures)**

Programming languages, their classification and characteristics, language translators and language translation activities, Planning the Computer Program, what is program and programming paradigms, Concept of problem Solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation Techniques of Problem Solving: Algorithms, Flowcharting, Structured programming concepts, Programming methodologies viz. top-down and bottom-up programming

**Unit -2: Building Blocks of Program: (10 Lectures)**

Data, Data Types, Data Binding, Variables, Constants, Declaration, Operations on Data such as assignment, arithmetic, relational, logical or Boolean, ternary, bitwise, increment or decrement operators.

Introduction to Python Programming: Features, Structure of a Python Program (Python Shell Indentations, Comments), Python Interpreter, Writing and executing simple program, Basic Data Types: numbers (int, long, float, complex), strings, Declaring variables, Performing assignments, arithmetic operations, Sequence Control – Precedence of operators, Type conversion, Simple input-output (print(), raw_input(), input())

**Unit -3: Logics**: **(10 Lectures)**

Conditional Statements: if, if-else, nested if –else Looping: for, while, nested loops, else clause with while and for loop Control statements: Terminating loops, skipping specific conditions (break, continue, pass) Numeric Functions: abs(), ceil(), floor(), max(), min(), pow(), sqrt() String Manipulation: Declaring strings, String immutability, unicode string (u'String'), escape sequences (\), Operations on String (Concatenation (+), Repetition (*), Slicing ([index]), Range Slicing([start:end] or [:end] or [start:] , Member ship operator (in, not in) ), String Functions : capitalize(), len(), lower(), swapcase(), upper()

**Reference Books:**

1. Charles Dierbach, Introduction to Computer Science using Python, Wiley, 2013
2. James Payne, Beginning Python: Using Python 2.6 and Python 3, Wiley India, 2010
3. Paul Gries, Jennifer Campbell, Jason Montojo, Practical Programming: An Introduction to Computer Science Using Python 3, Pragmatic Bookshelf, 2/E 2014.

**B. Sc. Part – I Semester -I COMPUTER SCIENCE**
**DSC-II: 2DSC03CSC12: INTRODUCTION TO DBMS-I**
**Credits: 02 Theory: 30hrs. Marks-50**

**Course Outcomes:** After the completion of the course the student will be able to:

**CO1:** Understand the fundamental concepts of database management systems, including data models, schemas, and instances.

**CO2:** Demonstrate proficiency in designing and creating normalized relational database schemas to represent real-world scenarios.

**CO3:** Utilize SQL queries to perform data manipulation, retrieval, and management, showcasing the practical application of database concepts.

**CO4:** Recognize and apply database security measures, including access controls, encryption, and authentication, to ensure data integrity and confidentiality.

**Unit-1: Introduction to DBMS**: **(10 Lectures.)**

Database, DBMS – Definition, Overview of DBMS, File processing system vs DBMS, Limitation of file processing system, Advantages of DBMS, Levels of abstraction, Data independence, DBMS Architecture, Users of DBMS, Data models - Object Based Logical Model, Record Based Logical Model (relational, hierarchical, network)

**Unit-2: Entity Relationship Model**: (**10 Lectures**)

Entities, attributes, entity sets, relations, relationship sets, Additional constraints (key constraints, participation constraints, weak entities, aggregation / generalization, Conceptual Design using ER (entities VS attributes, Entity Vs relationship, binary Vs ternary, constraints beyond ER), Entity Relationship Diagram (ERD).

**Unit- 3: MySQL:** **(10 Lectures**)

DDL Statements - Creating Databases, Using Databases, MySQL datatypes, Creating Tables (with integrity constraints – primary key, default, check, not null), Altering Tables, Renaming Tables, Dropping Tables, Truncating Tables, Backing Up and Restoring databases

DML Statements – Viewing the structure of a table insert, update, delete, select – all columns, specific columns, unique records, conditional select, in clause, between clause, limit, aggregate functions (count, min, max, avg, sum), group by clause, having clause.

Functions – String Functions (concat, instr, left, right, mid, length, lcase/lower, ucase/upper, replace, strcmp, trim, ltrim, rtrim), Math Functions (abs, ceil, floor, mod, pow, sqrt, round, truncate) Date Functions (adddate, datediff, day, month, year, hour, min, sec, now, reverse)

DCL Statements (creating/dropping users, privileges introduction, granting/revoking privileges, viewing privileges)

**Reference books:**

1. A Silberschatz, H Korth, S Sudarshan, “Database System and Concepts”, fifth Edition McGraw-Hill
2. Rob, Coronel, “Database Systems”, Seventh Edition, Cengage Learning.
3. An introduction to Database System – Bipin Desai, Galgotia Publications.

**B. Sc. Part – I Semester -I COMPUTER SCIENCE**
**DSC- PR-I : 2DSC03CSC19: DSC COMPUTER SCI LAB-1**
**Credits: 02 Practical: 60hrs. Marks-25**
**(Practical: Four lectures of 60 minutes per week per batch)**

**Python Programming**

1. Using the Operating system (logging, creating – deleting folders, creating-deleting files, using editors etc.)
2. Installing python and setting up environment. Simple statements like printing the names, numbers, mathematical calculations, etc.
3. Simple programs containing variable declaration and arithmetic operations
4. Programs based on conditional constructs
5. Programs based on loops

**Introduction to DBMS Lab**

**(1) Practical No. 1**
- Viewing all databases
- Creating a Database
- Viewing all Tables in a Database
- Creating Tables (With and Without Constraints)
- Inserting/Updating/Deleting Records in a Table
- Saving (Commit) and Undoing (rollback)

**(2) Practical No. 2**
- Altering a Table
- Dropping/Truncating/Renaming Tables
- Backing up / Restoring a Database

**(3) Practical No. 3**
- Simple Queries
- SIMPLE Queries with Aggregate functions
- Queries with Aggregate functions (group by and having clause)

**(4) Practical No. 4**
- Queries involving
- Date Functions
- String Functions
- Math Functions

(On previously created tables and/or the dual table)

**(5) Practical No. 5**
- Creating a savepoint
- Commit & Roll back
- Granting and revoking permissions

**(6) Practical No. 6**
- Join Queries
- Using 2 related tables
- More than 2 related tables

**(7) Practical No. 7**
- Sub Queries

**B. Sc. Part – I Semester -I COMPUTER SCIENCE**
**OEC COS-PR-I: 2OEC03COS11: Fundamentals of Computer**

**Practical: Four lectures of 60 minutes per week per batch**
**Marks: 25 (Credits 02)**

## Fundamentals of Computer Lab

**Practical 1: Introduction to Computer Hardware**
**Objective:** Identify and understand the basic components of a computer system.
**Activities:** Open a computer CPU case and identify the motherboard, RAM, hard drive, power supply and other peripherals.
Learn how to assemble and disassemble a computer.
Understand the function of each component.

**Practical 2: Operating System Installation**
**Objective:** Install and configure an operating system.
**Activities:** Install Windows/Linux on a computer.
Partition the hard drive during installation.
Configure basic settings such as user accounts, updates, and drivers.

**Practical 3: Working with Command Line Interface (CLI)**
**Objective:** Learn basic command line operations.
**Activities:** Navigate through directories using CLI commands.
Perform file operations like creating, copying, moving, and deleting files.
Understand and use commands like dir, cd, mkdir, rm, cp, mv, ls, etc.

**Practical 4: Introduction to Word Processing Software**
**Objective:** Learn the basics of using word processing software.
**Activities:** Create a formatted document using Microsoft Word/LibreOffice Writer.
Apply different formatting styles, insert tables, images, and create a table of contents.
Save the document in various formats (DOCX, PDF, etc.).

**Practical 5: Introduction to Spreadsheet Software**
**Objective:** Understand the basic functions of spreadsheet software.
**Activities:** Create a spreadsheet using Microsoft Excel/LibreOffice Calc.
Perform basic calculations using formulas and functions (SUM, AVERAGE, etc.).
Create charts and graphs to represent data visually.

**Practical 6: Basics of Presentation Software**
**Objective:** Create a basic presentation.
**Activities:** Use Microsoft PowerPoint/LibreOffice Impress to create a presentation.
Add slides, apply themes, insert images, and use transitions.
Present the slides in a sequence and learn how to control a slideshow.

**Practical 7: Basic Programming with Python**
**Objective:** Write and execute basic Python programs.
**Activities:** Install Python and set up the environment.
Write simple programs to perform arithmetic operations, control structures (if-else, loops), and functions.
Run the programs and understand error messages.

**Practical 8: Introduction to Databases using SQL**
**Objective:** Learn basic database operations.
**Activities:** Install and set up MySQL/SQLite.
Create a database and tables.
Perform basic SQL operations like INSERT, UPDATE, DELETE, and SELECT.

**Practical 9: Basics of Networking**
**Objective:** Understand basic networking concepts and configurations.
**Activities:** Set up a simple local area network (LAN).
Learn about IP addressing, subnetting, and configuring network settings.
Use basic network troubleshooting tools like ping, traceroute, and ipconfig/ifconfig.

# Semester -II

**B. Sc. Part – I Semester -II COMPUTER SCIENCE**

**DSC-III: 2DSC03CSC21: PROBLEM SOLVING USING COMPUTERS-II**

**Theory: 30 hrs.**

**Marks-50 (Credits: 02)**

**Course Outcomes:** After the completion of the course the student will be able to:

**CO1:** Explain the concepts and operations of Python data structures such as lists, tuples, and dictionaries.

**CO2:** Apply built-in methods and operations on lists, tuples, and dictionaries to solve computational problems.

**CO3:** Develop modular programs by defining and invoking user-defined functions with variousparameter-passing techniques.

**CO4:** Design and implement Python programs using functions and modules by integrating standard libraries for real-world problem-solving.

**Unit-1: List and Tuples**: **(10 Lectures)**

Lists: Creating a list, Displaying list(print()), Basic Operation( Length (len()), Concatenation(+), Repetition(*), Membership (in, not in), Iteration (for var in list), Slicing, Updating(=) and deleting(del) element of a list. Compare (cmp()), Maximum(max()) and minimum (min())), List Methods (Append ( list.append()), Count (list.count()), Insert object (list.insert()), Remove (list.remove(), list.pop()), Reverse (list.reverse())). Tuples (sequence of immutable objects) : Creating tuples(using () brackets) and Deleting tuple(del), empty tuple, Displaying( print()), Basic Operation( Length (len()), Concatenation(+), Repetition(*), Membership (in, not in), Iteration (for var in list), Slicing, Updating(=) and deleting(del) element of a list, Compare (cmp()), Maximum(max()) and minimum (min())).

**Unit-2: Dictionaries, Functions**: **(10 Lectures)**

Dictionaries – Concept of dictionary, Creating Dictionary ({Key:Value,…}), Values are mutable objects but keys are immutable object, Properties of Dictionary keys, Basic Operation( Length (len()), Compare (cmp()) ), Dictionary Methods( Clear (dict.clear())), Existance of Key (dict.has_key()), List of dictionaries tuple pairs ( dict.items()), List of keys (dict.keys()), Add dictionary (dict.update()), Dictionary Values (dict.values()) ). Functions: Defining Functions (def, name, arguments, function suite, return statement), calling a function, Pass arguments by value or by reference (using list), Advantages of functions, types of functions, function parameters (required, keyword, default), anonymous functions or ternary operator(lambda), Scope of a variable (global and local).

**Unit-3 Module and File Handling**: **(10 Lectures)**

Modules: Importing module, Creating & exploring modules, Math module, Random module, Time module, rules of locating module, namespace and scope (local and global), Functions for Modules (List of elements (dir()), List of Local elements (locals()), List of Global elements (globals)

Python File Input-Output: Opening and closing file, Various types of file modes, reading and writing to files.

**Reference Books:**

1. Charles Dierbach, "Introduction to Computer Science Using Python", 1st Edition, Wiley India Pvt Ltd. ISBN-13: 978-8126556014
2. Reema Thareja, “Python Programming using problem solving approach”, Oxford University press, 2017. ISBN-13: 978-0199480173.
3. Integrated Electronics, J. Millman & C. C. Halkias, 2nd edition, 2010, TMH.

**B. Sc. Part – I Semester -II COMPUTER SCIENCE**

**DSC-IV: 2DSC03CSC22: Introduction to DBMS-II**

**Theory: 30 hrs.**

**Marks-50 (Credits: 02)**

**Course Outcomes:** After the completion of the course the student will be able to:

**CO1:** Understand the principles of the relational data model, including concepts such as entities, attributes, relationships, and normalization.

**CO2:** Apply Entity-Relationship (ER) modeling techniques to represent real-world scenarios and transform ER diagrams into normalized relational database schemas.

**CO3:** Demonstrate proficiency in using MySQL as a relational database management system, including creating databases, tables, and performing basic SQL operations.

**CO4:** Design and implement relational databases using MySQL, incorporating constraints, indexes, and views to ensure data integrity and optimize query performance.

**Unit-1: Relational data model**: (**8 Lectures**)

Domains, attributes, Tuples and Relations, Relational Model Notation, Characteristics of Relations, Relational Constraints - primary key, referential integrity, unique constraint, Null constraint, Check constraint

**Unit-2: ER to The Relational Model:** (**8 Lectures**)

Entity to Table, Relationship to tables with and without key constraints. Introduction to Functional Dependencies and Normalization – 1NF, 2NF, 3NF Relational Algebra operations (selection, projection, set operations union, intersection, difference, cross product, Joins –conditional, equi join and natural joins, division)

**Unit-3: MySQL:** (**14 Lectures**)

MySQL Joining Tables – inner join, outer join (left outer, right outer, full outer)

Subqueries – sub queries with IN, EXISTS, sub queries restrictions, Nested sub queries, ANY/ALL clause, correlated sub queries

Database Protection: Security Issues, Threats to Databases, Security Mechanisms, Role of DBA, Discretionary Access Control

MySQL – Stored functions, procedures, cursor, trigger, views (creating, altering dropping, renaming and manipulating views)

**Reference books:**

1. "Database System Concepts" by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill, 2010, 9780073523323
2. "Database Management Systems" by Raghu Ramakrishnan, McGrawhill, 2002
3. Fundamentals of Relational Database Management Systems by S. Sumathi, S. Esakkirajan, Springer Publications

**B. Sc. Part – I Semester -II COMPUTER SCIENCE**
**DSC- PR-I : 2DSC03CSC29: DSC COMPUTER SCI LAB-2**
**Credits: 02 Practical: 60hrs. Marks-25**
**(Practical: Four lectures of 60 minutes per week per batch)**

**Python Programming**

1. Programs related to string manipulations.
2. Programs related to Lists and Tuples
3. Programs related to dictionaries
4. Programs to read & write files.
5. Programs to do searching and sortings.

**Introduction to DBMS Lab**

**(1) Practical No. 1**

• Demonstrate various types of Joins

**(2) Practical No. 2**

• Demonstrate various types of constraints

**(3) Practical No. 3**

• Demonstrate stored function, stored procedure

**(4) Practical No. 4**

• Demonstrate views

**(5) Practical No. 5**

• Demonstrate triggers

**(6) Practical No. 6**

• Demonstrate cursors

**B. Sc. Part – I Semester -II COMPUTER SCIENCE**

**OEC COS-PR-II: 2OEC03COS22: Introduction to Web**

**Credits: 02 Practical: 60hrs. Marks-25**

**(Practical: Four lectures of 60 minutes per week per batch)**

## Introduction to Web Lab

**Practical 1: Understanding the Basics of the Internet and Web**

- **Objective**: Gain a foundational understanding of how the Internet and the World Wide Web work.
- **Activities**:
  - Explore the difference between the Internet and the World Wide Web.
  - Learn how domain names and IP addresses work.
  - Use a browser's developer tools to inspect elements of a web page, check HTTP requests, and understand basic networking concepts.

**Practical 2: Introduction to HTML and CSS**

- **Objective**: Create a simple web page using HTML and CSS.
- **Activities**:
  - Write a basic HTML document with headings, paragraphs, links, and images.
  - Style the web page using inline, internal, and external CSS.
  - Experiment with different CSS properties like color, font, margin, and padding.

**Practical 3: Introduction to Google Search**

- **Objective**: Learn effective search techniques using Google Search.
- **Activities**:
  - Use advanced Google Search operators (e.g., site:, filetype:, inurl:) to find specific information.
  - Explore Google Scholar to find academic articles and papers.
  - Set up alerts for specific topics using Google Alerts.

**Practical 4: Using Google Drive and Google Docs**

- **Objective**: Understand the collaborative tools provided by Google Drive and Google Docs.
- **Activities**:
  - Create and organize folders in Google Drive.
  - Share documents and set permissions (view, edit, comment).
  - Collaborate on a Google Docs document, using features like comments, suggestions, and version history.

**Practical 5: Introduction to Google Sheets**

- **Objective**: Learn the basics of using Google Sheets for data organization and analysis.
- **Activities**:
  - Create a Google Sheet and enter data.
  - Use basic formulas and functions (e.g., SUM, AVERAGE, COUNTIF).
  - Create charts and graphs to visualize data.

**Practical 6: Introduction to Google Slides and Google Forms**

- **Objective**: Create presentations and forms using Google Slides and Google Forms.
- **Activities**:

o Design a simple presentation using Google Slides, incorporating text, images, and transitions.

o Create a survey using Google Forms, including various question types (e.g., multiple-choice, short answer, checkboxes).

o Analyze the responses from Google Forms in Google Sheets.

**Practical 7: Introduction to WordPress - Setting Up a website**

- **Objective**: Set up a basic website using WordPress.
- **Activities**:

o Install and configure WordPress on a local server or web host.

o Choose and install a theme.

o Create and publish pages (Home, About, Contact) and posts.

**Practical 8: Customizing WordPress Themes and Plugins**

- **Objective**: Customize the appearance and functionality of a WordPress site using themes and plugins.
- **Activities**:

o Explore theme customization options (e.g., colors, fonts, layout).

o Install and configure essential plugins (e.g., SEO, security, contact forms).

o Create a custom menu and add widgets to the sidebar.

**Practical 9: Search Engine Optimization (SEO) Basics**

- **Objective**: Understand the basics of SEO and apply them to a WordPress site.
- **Activities**:

o Use an SEO plugin (e.g., Yoast SEO) to optimize page titles, meta descriptions, and keywords.

o Analyze website performance using Google Analytics.

o Learn about on-page SEO practices like alt text for images, internal linking, and content optimization.

**Practical 10: Introduction to E-commerce with WordPress**

- **Objective**: Set up a basic e-commerce site using WordPress.
- **Activities**:

o Install and configure WooCommerce or a similar e-commerce plugin.

o Add products, set up categories, and manage inventory.

Configure payment gateways, shipping options, and tax settings..

# Question Paper Format:

| Seat No. | |
|---|---|

| Ques. paper code | |
|---|---|

**VIVEKANAND COLLEGE, KOLHAPUR**
**(AN EMPOWERED AUTONOMOUS INSTITUTE)**

B.Sc. Part- I (Computer Science) (Semester-I) Examination……..

Course Code and Name: DSC03CSC11: Problem Solving using Computers-I

Day: Time: 1.30 hours

Date: --/--/---- Marks : 40

**Instructions:**

*1) All the questions are compulsory.*
*2) Figures to the right indicate full marks.*
*3) Draw neat labeled diagrams wherever necessary.*
*4) Use of log table/calculator is allowed.*

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**Q. 1. Select correct alternative (One mark each): [8]**

i) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

ii) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

iii) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

iv) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

v) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

vi) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

vii) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

viii) Xyzabcdefghijklmnop ----------
a) -------- b) -------- c) -------- d) --------

**Q.2. Attempt any TWO (Eight marks each): [16]**

i) Xyzabcdefghijklmnop.

ii) Xyzabcdefghijklmnop.

iii) Xyzabcdefghijklmnop.

**Q.3. Attempt any FOUR (Four marks each):** **[16]**

i) Xyzabcdefghijklmnop.

ii) Xyzabcdefghijklmnop.

iii) Xyzabcdefghijklmnop.

iv) Xyzabcdefghijklmnop.

v) Xyzabcdefghijklmnop.

vi) Xyzabcdefghijklmnop.

**Evaluation Pattern for practical Course:**

**Marks Distribution of Practical (LAB) course: Total Marks: 100**

| Course | Experimental work | Journal assessment | Seminar/ Mini Project | Total Marks |
|---|---|---|---|---|
| Major | 20 | 05 | - | 25 |
| OE | 20 | 05 | - | 25 |

**Equivalence of Courses:**

**B.Sc. Part I (Semester I and II)**

| Sem | Old Course | | | Course in NEP Phase-II | | |
|---|---|---|---|---|---|---|
| | **Course code** | **Course Name** | **Credits** | **Course code** | **Course Name** | **Credits** |
| **I** | DSC-1006A1 | Problem Solving using Computers-I | **2** | 2DSC03CSC11 | Problem Solving using Computers-I | **2** |
| | DSC-1006A2 | Introduction to DBMS-I | **2** | 2DSC03CSC12 | Introduction to DBMS-I | **2** |
| **II** | DSC-1006B1 | Problem Solving using Computers-II | **2** | 2DSC03CSC21 | Problem Solving using Computers-II | **2** |
| | DSC-1006B2 | Introduction to DBMS-II | **2** | 2DSC03CSC22 | Introduction to DBMS-II | **2** |
| | DSC-1006A & DSC-1006B | Computer Science Lab(I) | **4** | 2DSC03CSC19 | DSC Computer Sci Lab-1 | **2** |
| | | | | 2DSC03CSC29 | DSC Computer Sci Lab-2 | **2** |