BSC CS – COMPUTER

PROGRAMME OUTCOMES (POs)

SCSIT has designed B.SC.(CS) / B.SC.(IT) programme to prepare students to attain following

abilities:

⯀ To understand both theoretical and practical concepts of computer science.

⯀ To understand various programming languages and apply to solve real world problems

from diversified domain.

⯀ To develop better algorithms and analyze them.

⯀ To apply software engineering principles in the development of computer software.

PROGRAMME SPECIFIC OUTCOMES (PSO's)

At the end of this programme, B.SC.(CS) / B.SC.(IT) student will be able to:

⯀ Use of numerous software systems in the wide range of areas such as Internet and Web

Technology, Cloud computing, Algorithms, Networking, Compiler design, and Web

design, Machine learning, Artificial Intelligence, IoT etc.

⯀ To develop better algorithms and solutions for Computing Problems.

⯀ Understanding of latest tools and technology to undertake further research.

⯀ Apply the modern tools and technology to produce cost effective and maintainable software

Operating Systems

 Subject Learning Outcomes Upon completing the course, students will be able to: 1. Student will able to understand how a computer works. 2. Students will understand various operating system services. 3. Students will able to understand the general structure and purpose of an operating system. 4. Students will able to understand process, Process states, multiprogramming, and scheduling theory. 5. To understand various memory management policies

Data Structures

Learning Outcomes

Upon completing the course, students will be able to:

1. Understand well-known generic data structures such as stack, queue, tree, graph and related algorithms

2. Design and apply appropriate data structures for solving computing problems

3. Develop computer programs to implement different linear data structures and related algorithms

4. Demonstrate the ability to construct and analyse search tree data structure

5. Demonstrate knowledge of searching and sorting algorithms and their run-time complexity

6. Demonstrate knowledge of graph algorithms

7. Recognize the associated algorithm s' operations and complexity

8. Understand the concept of time, space complexity and analyze the time and space complexities of an algorithm.

9. Think critically & Solve problems independently

Database Management System

Subject learning Outcomes

1. Introduction provides the general overview of the nature and purpose of database systems. We explain how the concept of the database systems. We explain how the concept of database system has developed, what the common features of the database system are, what the database system does for the user, and how a database system interfaces with operating systems.

2. Database design provides the overview of the database-design process, with major emphasis on the database design using the entity relationship data model. Entity relationship data model provides a high level view of the issues in database design.

3. Relation database introduces the relational model of data, covering basic concepts as

well as the relational algebra. A brief introduction to integrity constraints and focus on the most influential of the user- oriented relational languages: SQL.

4. SQL provide how to interface between a programming language and the database supporting SQL.

5. Introduction to the theory of relational database design. The theory of functional dependencies and normalization is covered, with emphasis on the motivation and intuitive understanding of each normal form. An overview of relational design and relies on an intuitive understanding of logical implication of functional dependencies. This allows the concept of normalization to be introduced prior to full coverage of

Programming in C

Subject Learning Outcomes:

Upon completing the course, students will be able to:

7. Introduce the concept of a program (i.e., a computer following a series of instructions).

8. Introduce the concept of an algorithm (that is, a series of steps that can be carried out in a mechanical way) and a few specific examples of algorithms (for example, finding an average, sorting, searching).

9. Introduce the concept of a variable holding a value, how a variable is declared and how it can be changed.

10. Introduce the concept of a loop – that is, a series of statements which is written once but executed repeatedly- and how to use it in a programming language.

11. Be able to use a conditional statement to select a choice from two or more alternatives

12. Be able to break a large problem into smaller parts, writing each part as a module or a Function

13. Be able to use an array to store multiple pieces of homogeneous data, and use a structure to store multiple pieces of heterogeneous data

14. Introduce the concept of Pointers Structures, Union and File handling.

Computer Networks

Subject learning outcomes:

Upon completing the course:

1. Familiarity with network terminologies, reference model, applications of network, design issues and how computer network works?

2. Knowledge of Data link layer design issues, Framing, Error correction and Detection techniques.

3. Meaning of flow control and its methods.

4. Problems associated with broadcast network and multiple access control protocols.

5. Knowledge of IEEE 802.3, 802.4 and 802.5, 802.11

6. Latest LAN examples.

7. Design issues related to Network layer like routing, addressing and their protocols.

8. Introductory knowledge of Transport layer protocols like TCP and UDP.

9. Idea about client server architecture and working of DNS, HTTP and E Mail.

10. Security issues in computer network and Introduction to Cryptographic algorithms and Digital Signature.

Internet Programming Using Java

Subject Learning Outcomes

Upon completing the course:

1. Students will be able to solve programming problem using java concepts

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2. Develop application / program in core and advance java topics

3. Identify the need of dynamic website programming. Understand the concept of Web

servers and Application servers and Application of configuration files.

4. Understand the need of database programming for dynamic website designing.

Develop programmers using various JDBC driver types and the SQL package from

the JDBC API.