Department of Computer Science

Programme Outcomes (PO)

If you've studied computer science**,** you will have gained many technical and non-technical skills which are highly valued by employers, from leadership to programming. The increasing scope of computer science means you have plenty of choice in a wide variety of highly specialized areas. With computer technologies playing an ever growing role in all aspects of modern life, you're likely to find your computer science skills in high demand across many different industries. These include: financial organizations, management consultancy firms, software houses, communications companies, data warehouses, multinational companies (IT-related, financial services and others), governmental agencies, universities and hospitals. However, unsurprisingly, most graduates go into roles within the computer industry.

The Computer Science Graduates will be able to:

PO 1: Apply knowledge of computing and mathematics appropriate to the discipline and to provide effective solution in the area of computing

PO 2: Design, implement, and evaluate a computational system to meet desired needs of the industry

PO 3: Function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.

PO 4: Perform professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude

PO 5: Capable of adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning

PO 6: Design/development of solutions: Design solutions for complex problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 7: Communication: Communicate effectively on complex activities with the technical community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the technical practice.

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Project management and finance: Demonstrate knowledge and understanding of the technical and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 11: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PO 12: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO13: Life -long learning: Recognize the need for and have the preparation and ability to engage in independent and life- long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO 1: Attain the ability to design and develop computer applications, evaluate and recognize potential risks and provide innovative solutions.

PSO 2: Explore technical knowledge in diverse areas of Computer Science and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

PSO3: Apply probability, statistics, mathematics through differential and integral calculus, sciences including applications appropriate to the Computer Science topics.

PSO4: Use algorithms, data structures/management, software design, concepts of programming languages and computer organization & architecture.

Course outcomes:

B.Sc. Semester-I

CCO1: **Programming Fundamentals using C:**

On completion of the course the students will be able to:

1. Think logically in difference circumference.
2. Understand problems and split them into sub problems.
3. Make solution of various problems.
4. Think in machine version in multiple steps of solutions.
5. Make algorithms over a problem.
6. Make flow chart of the same.
7. Code in c of those feasible algorithms.

CC02: Computer System Architecture:

On completion of the course the students will be able to:

1. Know about Basic architecture of a system and devices.
2. Work on different number systems.
3. Build concept on binary system and its importance in work and building of machines.
4. Know the concepts of gates.
5. Conceptualise a solution with gates.
6. Know the concepts of various memories.
7. Know the concept of how devices interact with each other within the system .

B.Sc. Semester-II

CC03: Discrete Structure:

On completion of the course the students will be able to:

1. Know about Set theory.
2. Know the concept of problem solving.
3. Know the concept of graphs.
4. Conceptualise problem solving through graphs.
5. Know the concept of representing facts in propositions and predicate.

CC04: Data Structure:

On completion of the course the students will be able to:

1. Know about the need of data structures and its processes.
2. Know about the concepts of arrays and pointer.
3. Understand different linked lists.
4. Know about concept oh stack queue with arrays or linked lists.
5. Know about the concept of searching in data or sorting the data.

B.Sc. Semester-III

CC05: Operating System:

On completion of the course the students will be able to:

1. Know the concept of different kind of software and operating system.
2. Know the concept of process.
3. Conceptualise the working scenario of process.
4. Understand the Communication of peripherals with O.S..
5. Know about the processes mapping to memory.

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CC06: Design and analysis of algorithms:

On completion of the course the students will be able to:

1. Know the Concept of algorithms.
2. Conceptualise the problem solving through algorithms.
3. Know the concept of different kind of algorithm techniques.
4. Understand and compute complexities of algorithms.
5. Know the concept of sorting methods, their complexity analysis and comparison.
6. Understand the search processes in graphs.

CC07: Programming in Java:

After completion of the course, the students will be able to:

1. Know the concept of Object oriented Language.
2. Understand the language representation of real world.
3. Understand the concept of physical independency.
4. Know the various features of JAVA language.
5. Know how Features of OOL supported by JAVA.
6. Conceptualise the problem solving in OOL way and code through JAVA

B.Sc. Semester-IV

CC08: Database Management System:

After completion of the course, the students will be able to:

1. Know the concept importance of storing the data.
2. Understand the obligations of storing data in proper way in terms of using them.
3. Know the concept of representation of data and need of DBMS.
4. Know storing process and relations of data and representation of the relation.
5. Understand the need of normal forms and how to do that.
6. Know the concept language of DBMS.
7. Work with DBMS through SQL.
8. Understand transaction , its concurrency, consistency and effects on DBMS

CC09: Software Engineering:

After completion of the course, the students will be able to:

1. Know about software characteristics, various natures.
2. Know concepts of layered technology of software engineering.
3. Know the concepts of various types of software life cycle models.
4. Understand Importance and role of SRS & DFD.
5. Know the concepts of software project management.
6. Conceptualise testing strategies.

CC10: Computer Graphics:

After completion of the course, the students will be able to:

1. Know the concepts of computer graphics and its applications.
2. Know the concepts about Graphics Hardware.
3. Understand Drawing of line, circle.
4. Know the concept about surface rendering.
5. Know the concepts of polygon filling.

B.Sc. Semester-V

CC11: Theory of Computation:

On completion of the course the students will be able to:

1 know about starting of machine concept.

2 Know about how automata is basic of machine representation of computational theory.

3 Know the concept Basic theory of grammars, related language and corresponding machine.

4 Understand DFA, NFA, conversion and their limitation.

5 Understand Regular grammar, and Context free Grammar.

6 Build push down automata and Turing machine.

CC12: Computer Networks:

After completion of the course, the students will be able to:

1. Know the Concept of how systems communicate with each other.
2. Know about various devices needed and their limitation and work methodology.
3. Understand model protocol and their layers and division of works in layers.
4. Understand analog and digital mode of transmission, their use and how they can converted in each other and when.
5. Know about difficulties in communicating and possible remedies.
6. Know about various protocols applicable in various layers.

B.Sc. Semester -VI

CC13: Internet technologies:

After completion of the course, the students will be able to:

1. Know the Concept of arrays, arraylist and objects of java.
2. Understand the basics of javascript.
3. Understand JDBC concepts and need of it.
4. Know about the architecture needed for JDBC, and their utilities.
5. Know the concept of Servlet and its importance in web applications.
6. Know about Java Beans.

CC14: Project:

After completion of the course, the students will be able to:

1. Know about the various future aspects in practical field\
2. Think about their own to build something new or something that is new to them.
3. Make blueprint of the same.
4. Choose a technology for implementation.
5. Face the difficulties in the process and learn to deal with it.