

### Programme Outcomes:

The master of science in Computer Science Program provides the students with knowledge, general competence, and analytical skills on an advanced level, needed in academics, industry, research.

#### Knowledge outcomes

Students will

- PO1: Be technology-oriented with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society.
- PO2: Get some development experience within a specific field of Computer Science, through project work.
- PO3: Get ability to apply knowledge of Computer Science to the real-world issues.
- PO4: Be familiar with current research within various fields of Computer Science.
- PO5: Use creativity, critical thinking, analysis and research skill.

#### Skill Outcomes

Students will

- PO6: Learn new technology, grasping the concepts and issues behind its use and the use of computers.
- PO7: Get prepared for placement by developing personality & soft skills.
- PO8: Communicate scientific information in a clear and concise manner.
- PO9: Build up programming, analytical and logical thinking abilities.

#### General Competence:

The students will

- PO10: Be able to understand the role of Computer Science in solving real time problems in society.
- PO11: Know the recent developments IT, future possibilities and limitations, and understand the value of lifelong learning.
- PO12: Get an ability to participate in debates, discussions in the society constructively.

### Program Specific Outcomes

After completing M.Sc. Computer Science Program students will be able to:

- PSO1: Enrich the knowledge in the areas like Artificial Intelligence, Web Services, Cloud Computing, Paradigm of Programming language, Design and Analysis of Algorithms, Database Technologies Advanced Operating System, Mobile Technologies, Software Project Management and core computing subjects.  
Choose to study any one subject among recent trends in IT provided in the

optional subjects.

PSO2: Students understand all dimensions of the concepts of software application and projects.

PSO3: Students understand the computer subjects with demonstration of all programming and theoretical concepts with the use of ICT.

PSO4: Developed in-house applications in terms of projects.

PSO5: Interact with IT experts & knowledge by IT visits.

PSO6: Get industrial exposure through the 6 months Industrial Internship in IT industry.

PSO7: To make them employable according to current demand of IT Industry and responsible citizen.

PSO8: Aware them to publish their work in reputed journals.

### **M.Sc. Part I (Semester I)**

#### **CS-101(New): Principles of Programming Languages**

After successfully completing this course, students will be able to:

CO1: Students will prepare themselves to think about programming languages analytically.

They will be able to separate syntax from semantics.

CO2: Students will be able to understand how language features work like Data types, control flow, Subroutines, Data abstraction etc. students will Learn new languages more quickly and Use standard vocabulary when discussing languages.

CO3: Students will develop a greater understanding of the issues involved in programming language design and implementation. Students will familiar with design issues of object – oriented and functional languages

CO4: Students will learn Functional, Logic Languages like Prolog, Lisp.

CO5) Students will know how to analyze semantic issues associated with function implementations, including variable binding, scoping rules, parameter passing.

#### **Course CS102 (New) - Advanced Networking**

After successfully completing this course, students will be able to:

CO1: Students will understand the basic components of Networking.

CO2: Students will understand how these components are used in different project.

CO3: Students will understand how to write research paper for innovative idea.

CO4: Cryptography technique knowledge for understanding various Algorithm for security.

CO5: Internet Security protocol used for e-business and e-Banking security.

#### **Course CS-103(New): Distributed Database Concepts**

After successfully completing this course, students will be able to:

CO1: Students will understand the basic concepts of Distributed Database.

CO2: Students will understand how these concepts are used in different project where the data is concern.

CO3: Students will understand how to store, manipulate and maintain the data if it is Distributed over multiple sites at time.

CO4: Student will understand which is the best as well feasible technique to store data into database.

CO5: Student will understand how to recover from the failure by using algorithms, if any occurs.

### **Course CS-104(New): Design and Analysis of Algorithms**

After successfully completing this course, students will be able to:

CO1: Students will learn fundamental concepts of asymptotic notations of an algorithm, Space & Time Complexity, Searching & Sorting Algorithms, Divide and Conquer techniques.

CO2: Students will know various design and analysis techniques such as greedy algorithms, dynamic programming.

CO3: Student will understand the techniques used for designing of different graph algorithms.

CO4: Students will learn how to apply backtracking, branch and bound techniques for real time problems.

CO5: Students will know the concepts of P, NP and NP-Complete problems.

### **Course CS-105 (New): Network Programming**

After successfully completing this course, students will be able to:

CO1: Students will understand the basic components of Network Programming

CO2: Students will understand how these components are used in different project on networks using client-server Technology.

CO3: Students will understand how to Transmit data over network.

CO4: Student will understand which is the best protocol for the Transmission of data which cause less failure on network.

CO5: Student will understand how to recover from the failure if any occurs on network.

### **M.Sc. Part I (Semester II)**

#### **Course CS-301 Software Metrics & Project Management**

After successfully completing this course, students will be able to:

CO1: Students will understand Software Engineering and basic testing Concepts.

CO2: Students will know skills that are required to ensure successful medium and large scale software projects.

CO3: :Learn to select and apply project management techniques for process modeling,planning, estimation, risk management.

CO4: Student will learn software verification.

CO5: Understand design and execution of system test cases.

### **Course CS-302 Mobile Computing**

After successfully completing this course, students will be able to:

CO1: Explain the basic concepts of wireless network and wireless generations.

CO2: Demonstrate the different wireless technologies such as CDMA, GSM, GPRS ,etc.

CO3: Describe and judge the emerging wireless technologies standards such as WLAN, WMAN.

CO4: Explain the design considerations for deploying the wireless network infrastructure.

CO5: Differentiate and support the security measures standards.

### **Course CS-303 Soft Computing**

After successfully completing this course, students will be able to:

CO1: Analyze and integrate various soft computing techniques in order to solve problems effectively and efficiently.

CO2: Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems.

CO3: Apply neural networks to pattern classification and regression problems.

CO4: Apply genetic algorithms to combinatorial optimization problems.

CO5: Apply these techniques in applications which involve perception, reasoning and learning.

CO6: Students will understand the fundamental theory and concepts of neural networks, neuro n modeling, several neural network paradigms and its applications.

### **Course CS-304 Project**

After successfully completing this course, students will be able to:

CO1: Acquire skills to develop the software project.

CO2: Understand the software development life cycle.

### **Course Elective CS-305 Web Services**

After successfully completing this course, students will be able to:

CO1. Define Cloud Computing and memorize the different Cloud service and deployment models.

CO2. Describe importance of virtualization along with their technologies.

CO3. Use and Examine different cloud computing services.

CO4. Describe the key components of Amazon Web Service.

CO5. Design & develop backup strategies for cloud data based on features.

\*\*\*\*\*