COMPUTER   SCIENCE

1) To provide through understanding application of Computer and computer languages.

2) To develop interdisciplinary approach among the students.

Program Specific Outcome (PSO):

 After the completion of the course a student is able to

1) To pursue further studies to get specialization in computer Science and Application,MCA,M.Sc.

 2) To pursue the career in corporate sector can opt for MBA.

3) To work in public sector undertakings and government organization

4) For teaching in school.

5) To work in the IT sector as programmer, system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.

Course outcomes (CO):

Computer Science SEM 1

AEC11 : Environmental Science

Objectives

1) To Help the social groups and individuals to acquire knowledge of pollution and environmental degradation.

2) To help social groups and individuals to acquire knowledge of the environment beyond the immediate environment including distant environment.

3) To help social groups and individuals to acquire a set of values for environmental protection

4)To help social groups and individuals to develop skills required for making discriminations in form,shape,sound,touch,habits and habitats. Further,to develop ability to draw unbiased inferences and conclusions.

Outcomes

1) The types of Environmenatal issues on which decisions might be made.

2) The physical setting of the prospective environmental decision,including its spatial scale.

3) The types of social groups and individuals who might interact in a process leading up to an environmental decision

4) The time frame within which the decision must be made.

5) To provide social groups and individuals with an opoortunity to be actively involved at all levels in environmental decision making

C12 + CC12L : Programming Fundamental using C (Theory and Lab)

Objectives

8. The course is designed to provide complete knowledge of C language.
9. To help students understand the medium of communication between users and the machine.
10. To develop logic in students which will help them to create programs and applications in C.
11. To make students understand the concept of compilation and execution of a program.
12. To help students understand the basic concept of the various branching and looping constructs for efficient programming

Outcomes

6. By learning the concept of C language, students will be able to develop real life applications in C
7. After learning the basic programming constructs, they can easily switch over to any other programming language in future.
8. After learning the language they will have a clearer understanding of the working of system software like compilers, loaders and linkers.
9. To provide confidence in students to switch to new object oriented languages after understanding the drawbacks of procedural language.
10. To get hands on practice on developing small working applications.
11. To develop understanding of arrays, strings, pointers and memory allocation for real life applications.
12. To help students differentiate between a procedural and object oriented language.

CC13 + CC13L Computer System Architechture (Theory and Lab)

Objectives

7. To understand the concept of fundamentals of computers, like : software/hardware/firmware, etc, and the generations of computers and computer languages.
8. To provide the concept of number system and their conversions from one system to the other.
9. To give a clear idea of the working principle of the Arithmetic and Logic unit of the computer processor.
10. To help students identify the difference in evaluation of arithmetic operations by a human and a computer.
11. To understand the basic building blocks of a computer system (logic gate)

Outcomes

6. Students will be able to design small digital circuits in the Lab and will be able to clearly understand their working principle.
7. Students can assemble and disassemble a computer after learning about its various components.
8. Students can make a small digital project using the various ICs.
9. Students will be able to identify the different hardware parts and they can also resolve minor technical issues.
10. Students will have knowledge on the different software related issues, so they will be able to fix it.
11. To give the realization of the different circuits operating in the computer system.

GE14 + GE14T : Mathematics (Theory and Tutorial)

Maths Dept.

Computer Science Sem 2

AEC21 : MIL Communication

Objectives:

6. To introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions.
7. To make students understand that one of the important links between human beings and an important thread that binds society together is the ability to share thoughts, emotions and ideas, which can be done through verbal communication.
8. Recognition of social and cultural pluralities to assist in rapid globalization

9. Nurturing growth of various speaking skills, such as personal communication, social interactions and professional communication (like: personal interviews, group discussions)
10. Develop writing skills like report writing, note taking, etc

6. Students will be able to overcome the different communication barriers and will be more confident in dealing with people.
7. After studying this course students will find a difference in their personal and professional interaction.
8. They will be able to learn the art of creative writing after development of their writing skills.
9. Better communication skills will help in the personality development of students
10. Students will regular practice on group discussions will be benefited when facing competitive exams.

CC22 + CC22L : Programming in Java (Theory and Lab)

Objectives

9. The course is designed to provide complete knowledge of Object oriented languages, like, Java.
10. To help students understand the concept of a virtual machine.
11. To develop logic in students which will help them to create programs and applications in Java.
12. To make students understand the concept of compilation, interpretation and execution of a program.
13. To help students understand the basic concept of the various branching and looping constructs for efficient programming.

Outcomes

6. Students will be able to develop real life applications in Java.
7. After learning the language they will have a clearer understanding of the working of system software like compilers, interpreters, loaders and linkers.
8. To get hands on practice on developing working applications.
9. Students will be able to design live software which would be counted in their professional experience.
10. After getting the fundamental knowledge on a powerful language like java, students can further explore its functionalities.
11. To develop understanding of the concept of inheritance, polymorphism, packages, metadata and interfaces.
12. To help students develop network and database related programs.
13. To design graphics based programs.

Objectives

7. To understand the internal architecture of a computer.
8. To give a clear idea of the working principle of the Control unit and the Arithmetic and Logic unit of the computer.
9. To help students understand the operations carried out by a computer system and the circuits involved in performing those operations.

Outcomes

5. Students will be able to identify all the hardware components present in a computer and will be able to assemble and disassemble a computer.
6. Students will be able to design small digital circuits in the Lab and will be able to clearly understand their working principle.
7. Students will be able to identify the different hardware parts and they can also resolve minor technical issues.
8. Students will be able to perform arithmetic operations in binary system and understand the exact evaluation procedure that takes place in a computer.
9. To understand the basic building blocks of a computer system and their interconnections.
10. To understand to the process of input and output operations that takes place in a computer.
11. To have a clear understanding of the memory units of a computer and their categorization

GE24 : General Elective 2 (Maths)

Maths Dept

Computer Science-IIIsem

CC31 + CC31L: Data Structures (Theory and Practical)

Objectives

9. To understand the concept of how data is stored in Computers and how they are retrieved.
10. To understand the categorization of data structures into linear and non linear.
11. To understand the use of recursion and recursive functions.
12. To help design algorithms that can search and sort data in a list.

1. Ability to analyze algorithms and algorithm correctness.

2. Ability to summarize searching and sorting technique.

3. Ability to describe stack,queue and linked list operation

4. Ability to have knowledge of tree and graphs concept.

5. To help design algorithms which are presented in a form, which is machine and language independent.

6. Use of appropriate data structure enables a computer system to perform its task more efficiently by influencing the ability of computer to store and retrieve data from any location in its memory.

7. To understand basic concept about stacks,queues,lists,trees and graphs

8. To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures.

CC32 + CC32L: Operating System (Theory and Practical)

Objectives:

6. To understand the fundamental concepts and techniques of operating systems.
7. To study the concepts in process management and concurrency control mechanisms.
8. To understand the concept of efficient memory managements and related problems.
9. To understand the concept of Synchronization among processes.
10. To help study file management and storage structures used by the operating system.

Outcomes:

6. An ability to understand basic concepts about operating system.
7. An ability to describe process management, scheduling and concurrency control mechanism.
8. An ability to analyze memory management and deadlocks.
9. An ability to compare various file systems and its operating systems example.
10. Ability to implement shell scripting on UNIX Operating System.

CC33 + CC33T : Computer Networks (Theory and Tutorial)

Objectives:

6. To help students learn the basic terminologies related to Computer Networking and enumerate the layers of OSI and TCP/IP model.
7. To acquire knowledge of application layer and presentation layer paradigms and protocols.

8. To gain core knowledge of network layer, routing protocols, IP addressing and different switching techniques.
9. To help students understand data link layer concepts, design issues and protocols.
10. To help students read the fundamentals and basics of physical layer and will apply them in real time applications.

Outcomes

6. Students will be able to describe the function of each layer in OSI and TCP/IP model.
7. Students will be able to classify the routing protocols and analyze how to assign the IP addresses for the given network.
8. Students will be able to explain the types of transmission media with real time applications.
9. Students will be able to explain the function of application layer and presentation layer paradigms and protocols.
10. Students will be able to apply network security basics, analyze different attacks on networks and evaluate the performance of firewalls and security protocols.

GE34+GE34TL:General elective-3(Physics)

Physics Dept

SEC 35 TL(E3:Python programming)

Objective:
1. To learn how to use lists, tuples and dictionaries in Python Programs.
2. To understand useful of scripting language for developers.
3. To learn to use indexing and slicing to access data in Python Programs.
4. To define the structure and components of a Python Programs.
5. To build and package Python modules to reusability.

Outcomes:
1) Students will be able to describe the numbers, math function, strings,list,tuples and dictionaries in python
2) students will be able to express different decision making statements and functions
3) students will be able to interpret object oriented programming in python
4) Student can understand and summarize different file handling operations.
5) Students will be able to design and develop client server network applications using python.
6) To use exception handling in Python application for error handling.

Objectives:

1) To teach techniques for effective problems solving in computing

2) The use of different paradigms of problem solving will be used to illustrate clever and efficient ways to solve a given problem

3) In each case emphasis will be placed on rigorously proving correctness of the algorithm

4) it is used to show the efficiency of the algorithm over the native techniques.

5) synthesize efficient algorithms in common engineering design situations.

6)Demonstrate a familiarity with major algorithms and data structures.

Outcomes:

1) Students can argue the correctness of algorithm using inductive proofs and invariants.

2) Students can analyze worst-case running times of algorithm using asymptotic analysis

3) Students can explain the major graph algorithms and their analyses.

4) Students can describe the greedy paradigm and explain when an algorithmic design situation class for it.

5) Students can compare between different data structures.

6) Students can explain what competitive analysis is and to which situations is applied.

CC42+CC42L:Software Engineering(Theory +Lab)

Objectives

7. To help students learn the nature of software development and software lifecycle process models.
8. To have a clear understanding of the concepts and principles of software design and user centric approach and principles of effective user interfaces.
9. To know the basics of testing and understanding the concepts of software quality assurance and software configuration management process.
10. To understand the needs of project management and project management life cycle.
11. To understand project scheduling concepts and risk management associated to various types of projects.
12. To explain methods of capturing, specifying, visualizing and analyzing software requirements.

Outcomes

7. Students will be able to define various software application domains and remember different process models used in software development.
8. Students will be able to explain needs for software specification and also to classify different types of software requirements and their gathering techniques.
9. Students will be able to classify different testing strategies and tactics and compare them.
10. Students will be able to convert the requirements model into the design model and demonstrate use of software and user interface design principles.
11. Students will be able to generate project schedule and can construct, design and develop network diagrams for different types of projects.
12. Students will be able to investigate the results of bugs and analyze the principles in software testing to prevent and remove bugs

CC43 + CC43L : Database Management System (Theory and Practical)

Objectives

7. To enable students to learn to describe a sound introduction to the discipline of database management system.
8. To give a good formal foundation on the relational model of data and usage of relational algebra.
9. To introduce the concept of basic SQL as a universal database language.
10. To enhance knowledge to advanced SQL topics like embedded SQL,procedures connectivity through JDBC.
11. Two demonstrate the principals behind systematic Database design approaches by covering conceptual design, logical design through normalization.
12. To provide an overview of physical design of a database system by discussing Database Indexing Techniques and storage techniques.

Outcomes:

1. Students will be able to explain the features of Database Management System and Relational Database.
2. Students will be able to design conceptual models of a database using ER Modeling for real life applications and also construct queries in Relational Algebra.
3. Students will be able to create and populate a Relational Database Management System for a real life application with constrants and keys using SQL.
4. Students will be able to analyze the existing design of a database schema and apply concepts of normalization to design an Optimal Database.
5. Students will be able to build indexing mechanisms for efficient retrival of information from a database.

GE 44: Generic Elective-4(Maths)

1. Students will learn the concept of Set Theory and Relations.
2. The concept of functions and define the recursive functions.
3. To give the concept of Laplace and inverse Laplace transform.
4. To give the concept of Permutation and Combinations.
5. To give the concept of variable and also identify the

mapping.Outcome:

1. Student will be able to apply the Set theory and Relation concepts.
2. Student will be able to apply the functions and define the recursive functions.
3. Student will be able to apply Laplace and inverse Laplace transform to differentapplications.
4. Student will be able to identify the permutations and combinations.
5. Student will be able to define variable and also identify the mappings.

SEC 45 TL :Android Programming(Theory+Lab)

Objective:
1. Students will learn to introduce anroid platform and its architecture.
2. To learn activity creation and anroid User Interface (UI) designing.
3. To be familiarized with intent, broadcast receivers and internet services.
4. To integrate multimedia, camera and location based services in anroid applications.
5. To explore Mobile Security issues.

Outcomes:
1. Students will be able to describe anroid platforms, architecture and features.
2. .Students will be able to design user interface and develop activity for anroidapplication.
3. Students will be able to design and implement Database application and contentproviders.
4. Students will be able to use multimedia, camera and location based service inanroid application.
5. Students will be able to discuss various security issues in anroid platform.
6. To work with SQLite database and content providers.