



**ESWAR COLLEGE OF ENGINEERING: NARASARAOPET**  
Approved by AICTE, New Delhi., Affiliated to JNTUK, Kakinada  
Kesanupalli Village, Narasaraopet – 522 601,  
Palnadu Dist. A.P.

## **Department Of Computer Science and Engineering**

Course Outcomes

Regulation R23

**Year/Sem: II B.Tech I Sem**

<b>Course Name: DISCRETE MATHEMATICS AND GRAPH THEORY</b>	
Course Code :CSE2101	
CSE2101.1	Build skills in solving mathematical problems (L3)
CSE2101.2	Comprehend mathematical principles and logic (L4)
CSE2101.3	Demonstrate knowledge of mathematical modeling and proficiency in using mathematical software (L6)
CSE2101.4	Manipulate and analyze data numerically and/or graphically using appropriate Software (L3)
CSE2101.5	How to communicate effectively mathematical ideas/results verbally or in writing (L1)

<b>Course Name: Universal human values – understanding harmony and Ethical human conduct</b>	
Course Code: CSE2102	
CSE2102.1	Define the terms like Natural Acceptance, Happiness and Prosperity (L1, L2)
CSE2102.2	Identify one's self, and one's surroundings (family, society nature) (L1, L2)
CSE2102.3	Apply what they have learnt to their own self in different day-to-day settings in real life (L3)
CSE2102.4	Relate human values with human relationship and human society. (L4)
CSE2102.5	Justify the need for universal human values and harmonious existence (L5)
CSE2102.6	Develop as socially and ecologically responsible engineers (L3, L6)

<b>Course Name: Digital Logic &amp; Computer Organization</b>	
Course Code: CSE2103	
CSE2103.1	provide students with a comprehensive understanding of digital logic design principles and computer organization fundamentals
CSE2103.2	Describe memory hierarchy concepts
CSE2103.3	Explain input/output (I/O) systems and their interaction with the CPU.
CSE2103.4	Explain input/output (I/O) systems and their interaction with the memory.
CSE2103.5	Explain input/output (I/O) systems and their interaction with peripheral

	devices
--	---------

<b>Course Name: Advanced Data Structures &amp; Algorithm Analysis</b>	
Course Code: CSE2104	
CSE2104.1	provide knowledge on advance data structures frequently used in Computer Science domain
CSE2104.2	provide knowledge on advance data structures like Min and Max Heaps
CSE2104.3	Clique Decision Problem (CDP), Chromatic Number Decision Problem (CNDP), Traveling Salesperson Decision Problem (TSP)
CSE2104.4	Develop skills in algorithm design techniques popularly used
CSE2104.5	Understand the use of various data structures in the algorithm design

<b>Course Name: Object Oriented Programming Through Java</b>	
Course Code: CSE2105	
CSE2105.1	identify Java language components and how they work together in applications
CSE2105.2	Learn the fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries.
CSE2105.3	learn how to extend Java classes with inheritance and dynamic binding and how to use exception handling in Java applications
CSE2105.4	understand how to design applications with threads in Java
CSE2105.5	understand how to use Java APIs for program development

<b>Course Name: Advanced Data Structures and Algorithm Analysis Lab</b>	
Course Code: CSE2106	
CSE2106.1	acquire practical skills in constructing and managing Data structures
CSE2106.2	apply the popular algorithm design methods in problem-solving scenarios
CSE2106.3	Operations on AVL trees, B-Trees, Heap Trees□
CSE2106.4	Graph Traversals, Sorting techniques
CSE2106.5	Minimum cost spanning trees,Shortest path algorithms

<b>Course Name: Object Oriented Programming Through Java Lab</b>	
Course Code: CSE2107	
CSE2107.1	Practice object oriented programming in the Java programming language
CSE2107.2	Implement Classes, Objects, Methods, Inheritance, Exception, Runtime Polymorphism, User defined Exception handling mechanism
CSE2107.3	Illustrate inheritance, Exception handling mechanism, JDBC connectivity
CSE2107.4	Construct Threads, Event Handling, implement packages, Java FX GUI
CSE2107.5	JDBC connectivity

<b>Course Name: Python Programming</b>	
Course Code: CSE2108	
CSE2108.1	Introduce core programming concepts of Python programming language.
CSE2108.2	Demonstrate about Python data structures like Lists, Tuples.

CSE2108.3	Demonstrate about Python data structures like Sets and dictionaries,
CSE2108.4	Implement Functions, and to create practical and contemporary applications using these.
CSE2108.5	Modules and Regular Expressions in Python Programming

Course Name: <b>Environmental Science</b>	
Course Code: CSE2109	
CSE2109.1	Grasp multidisciplinary nature of environmental studies and various renewable and non-renewable resources.
CSE2109.2	Understand flow and bio-geo-chemical cycles and ecological pyramids.
CSE2109.3	Understand various causes of pollution and solid waste management and related preventive measures.
CSE2109.4	About the rainwater harvesting, watershed management, ozone layer depletion and waste landreclamation.
CSE2109.5	Casus of population explosion, value education and welfare programmes



**ESWAR COLLEGE OF ENGINEERING: NARASARAOPET**  
Approved by AICTE, New Delhi., Affiliated to JNTUK, Kakinada  
Kesanupalli Village, Narasaraopet – 522 601,  
Palnadu Dist. A.P.

## Department Of Computer Science and Engineering

Course Outcomes

Regulation R20

**Year/Sem: III B.Tech I Sem**

<b>Course Name:</b> Computer Networks	
Course Code :CSE3101	
CSE3101.1	Demonstrate different network models for networking links OSI, TCP/IP, B-ISDN, N-BISDN and get knowledge about various communication techniques, methods and protocol standards.
CSE3101.2	Discuss different transmission media and different switching networks.
CSE3101.3	Analyze data link layer services
CSE3101.4	functions and protocols like HDLC and PPP.
CSE3101.5	Compare and Classify medium access control protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token passing, FDMA, TDMA, CDMA protocols
CSE3101.6	Determine application layer services and client server protocols working with the client server paradigms like WWW, HTTP, FTP, e-mail and SNMP etc.

<b>Course Name:</b> Design and Analysis of Algorithms	
Course Code: CSE3102	
CSE3102.1	Analyze the performance of a given algorithm, denote its time complexity using the asymptotic notation for recursive and non-recursive algorithms.
CSE3102.2	List and describe various algorithmic approaches and Solve problems using divide and conquer & greedy Method.
CSE3102.3	Synthesize efficient algorithms dynamic programming approaches to solve in common engineering design situations.
CSE3102.4	Organize important algorithmic design paradigms and methods of analysis: backtracking, branch and bound algorithmic approaches
CSE3102.5	Demonstrate NP- Completeness theory ,lower bound theory and String Matching.

<b>Course Name:</b> Data Warehousing and Data Mining	
Course Code: CSE3103	
CSE3103.1	Illustrate the importance of Data Warehousing, Data Mining and its functionalities and Design schema for real time data warehousing applications.
CSE3103.2	Demonstrate on various Data Preprocessing Techniques viz. data cleaning, data integration, data transformation and data reduction and Process raw data to make

	it suitable for various data mining algorithms.
CSE3103.3	Choose appropriate classification technique to perform classification.
CSE3103.4	Choose Model building and evaluation .
CSE3103.5	Make use of association rule mining techniques viz. Apriori and FP Growth algorithms and analyze on frequent itemsets generation.
CSE3103.6	Identify and apply various clustering algorithm (with open source tools), interpret, evaluate and report the result.

Course Name: RES	
Course Code: CSE3104	
CSE3104.1	Analyze solar radiation data, extra-terrestrial radiation, radiation on earth's surface and solar Energy Storage.
CSE3104.2	Illustrate the components of wind energy systems.
CSE3104.3	Illustrate the working of biomass plants.
CSE3104.4	Illustrate the working of Geothermal plants.
CSE3104.5	Demonstrate the principle of Energy production from OTEC, Tidal and Waves.
CSE3104.6	Evaluate the concept and working of Fuel cells & MHD power generation.

Course Name: Artificial Intelligence	
Course Code: CSE3105	
CSE3105.1	Understand the fundamental concepts in Artificial Intelligence
CSE3105.2	Analyze the applications of search strategies and problem reductions
CSE3105.3	Apply the mathematical logic concepts
CSE3105.4	Solve basic AI based problems.
CSE3105.5	Develop the Knowledge representations in Artificial Intelligence.
CSE3105.6	Explain the Fuzzy logic systems.

Course Name: Data Warehousing and Data Mining Lab	
Course Code: CSE3106	
CSE3106.1	Design a data mart or data warehouse for any organization
CSE3106.2	Extract knowledge using data mining techniques
CSE3106.3	Extract enlist various algorithms used in information analysis of Data Mining Techniques
CSE3106.4	Demonstrate the working of algorithms for data mining tasks such as association rule mining, classification for realistic data
CSE3106.5	Implement and Analyze on knowledge flow application on data sets
CSE3106.6	Apply the suitable visualization techniques to output analytical results

Course Name: Computer Networks Lab	
Course Code: CSE3107	
CSE3107.1	Know how reliable data communication is achieved through data link layer.
CSE3107.2	Suggest appropriate routing algorithm for the network
CSE3107.3	Provide internet connection to the system

CSE3107.4	its installation.
CSE3107.5	Work on various network management tools
CSE3107.6	understand the layered architecture

Course Name: SOC	
Course Code: CSE3108	
CSE3108.1	learn various tools of digital 2-D animation
CSE3108.2	Understand production pipeline to create 2-D animation.
CSE3108.3	apply the tools to create 2D animation for films and videos
CSE3108.4	apply the tools to create videos
CSE3108.5	understand different styles and treatment of content in 3D model creation
CSE3108.6	apply tools to create effective 3D modelling texturing and lighting

Course Name: Employability Skills-I	
Course Code: CSE3109	
CSAM3109.1	Be composed with positive attitude,, develop verbal and non verbal communication.
CSAM3109.2	Understand the corporate etiquette. Lean to manage anger, stress and time.
CSAM3109.3	Make presentation effectively with appropriate body language.
CSAM3109.4	To develop good documentation and correspondence, Verbal ability
CSAM3109.5	Understand the core competencies to succeed in professional and personal life through group discussions.
CSAM3109.6	Understand the core competencies to succeed in professional and personal life , resume preparation, mock interviews

### Year/Sem: IV B.Tech I Sem`

Course Name: Cyber Security & Forensics	
Course Code: <b>CSE4101</b>	
<b>CSE4101.1</b>	Explain the Cybercrime Fundamentals
<b>CSE4101.2</b>	Describe the types of attacks on networks
<b>CSE4101.3</b>	Analyze various tools available for Cybercrime Investigation
<b>CSE4101.4</b>	Explain the Computer Forensics
<b>CSE4101.5</b>	Investigation Fundamentals and tools
<b>CSE4101.6</b>	Analyze the legal perspectives of Cybercrime

Course Name: Deep Learning Techniques	
Course Code: <b>CSE4102</b>	
CSE4102.1	Demonstrate the fundamental concepts learning techniques of Artificial Intelligence, Machine Learning and Deep Learning.
CSE4102.2	Discuss the Neural Network training, various random models.
CSE4102.3	Explain the Techniques of Keras, TensorFlow, Theano and CNTK
CSE4102.4	Explain different types of Classification,
CSE4102.5	Classify the Concepts of CNN and RNN
CSE4102.6	Implement Interactive Applications of Deep Learning

Course Name: Block-Chain Technologies	
Course Code: <b>CSE4103</b>	
CSE4103.1	Demonstrate the block chain basics, Crypto currency.
CSE4103.2	To compare and contrast the use of different private vs. public block chains and use cases.
CSE4103.3	Design an innovative bit coin block chain and scripts.
CSE4103.4	Block chain science on various coins.
CSE4103.5	Classify permission block chain and use cases – Hyper ledger, Corda
CSE4103.6	Make us of block chain in E-Governance, Land Registration, Medical Information Systems and others.
Course Name: <b>BASIC ELECTRONICS</b>	
Course Code: <b>CSE4104</b>	
<b>CSE4104.1</b>	Understand the formation of p-n junction and how it can be used as a p-n junction as diode in different modes of operation.
<b>CSE4104.2</b>	Know the construction, working principle of rectifiers with and without filters with relevant expressions and necessary comparison
<b>CSE4104.3</b>	Understand the construction, principle of operation of transistors,
<b>CSE4104.4</b>	To study different biasing techniques to operate transistor, FET , MOSFET and operational amplifier in different modes.
<b>CSE4104.5</b>	Analyze output in different operating modes of different semiconductor device
<b>CSE4104.6</b>	Know the construction, working principle of THYRISTORS,SCR,UJT ,characteristics

Course Name: EMI	
Course Code: <b>CSE4105</b>	
<b>CSE4105.1</b>	Select the instrument to be used based on the requirements.
<b>CSE4105.2</b>	Understand and analyze different signal generators and analyzers.
<b>CSE4105.3</b>	Understand the design of oscilloscopes for different applications
<b>CSE4105.4</b>	Understand the design of Digital oscilloscopes for different applications
<b>CSE4105.5</b>	Design and derive the different bridges
<b>CSE4105.6</b>	Design different transducers for measurement of different parameters

Course Name: <b>Universal Human Values 2: Understanding Harmony</b>	
Course Code: <b>CSE4106</b>	
<b>CSE4106.1</b>	By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature)
<b>CSE4106.2</b>	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
<b>CSE4106.3</b>	They would have better critical ability. They would also become sensitive to their commitment towards
<b>CSE4106.4</b>	They have understood (human values, human relationship and human society).
<b>CSE4106.5</b>	It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.
<b>CSE4106.6</b>	This is only an introductory foundational input. It would be desirable to follow it up by a) faculty-student or mentor-mentee programs throughout their time with the institution b) Higher level courses on human values in every aspect of living. E.g. as a professional

Course Name: <b>MEAN STACK TECHNOLOGIES-MODULE II- ANGULAR JS, MONGODB</b>	
Course Code: <b>CSE4107</b>	

CSE4107.1L	Build a component-based application using Angular components and enhance their functionality using directives.
CSE4107.2L	Utilize data binding for developing Angular forms and bind them with model data.
CSE4107.3L	Apply Angular built-in or custom pipes to format the rendered data.
CSE4107.4L	Develop a single page application by using synchronous or asynchronous Angular routing.
CSE4107.5L	Make use of MongoDB queries to perform CRUD operations on document database.