



JNTUH COLLEGE OF ENGINEERING JAGTIAL
Nachupally, Kondagattu, Jagtial-505501

Department of Computer Science and Engineering

LIST OF COURSE OUTCOMES

2021-2022

M.Tech - I-Year I Sem

CO#	Subject Name -CO Statemetns
CPG1	CPG1-Mathematical Foundations of Computer Science
CPG1.1	Understand the basic notions of discrete and continuous probability.
CPG1.2	Understand the methods of statistical inference, and the role that sampling distributions play in those methods.
CPG1.3	Differentiate regression and classification problems and can do over fitting model assessment.
CPG1.4	Model and solve the real-world problems using graphs.
CPG1.5	Perform correct and meaningful statistical analyses of simple to moderate complexity.
CPG1.6	Recent Trends in various distribution functions in mathematical field of computer science for varying fields like bio-informatics, soft computing, and computer vision.

CPG2	CPG2-Advanced Data Structures
CPG2.1	Choose appropriate data structures, understand ADT/ libraries, and use it to design algorithms for a specific problem.
CPG2.2	Understand the implementation of symbol table using hashing techniques
CPG2.3	Understand the operations on skip list
CPG2.4	Understand and implement operations, applications of balanced binary search trees
CPG2.5	Develop algorithms for text processing applications
CPG2.6	Identify suitable data structures and develop algorithms for computational geometry problems

CPG3	PE-I : CPG3- Information Security
CPG3.1	Demonstrate the knowledge of cryptography, network security concepts and applications.
CPG3.2	Ability to apply security principles in system design.
CPG3.3	Understand the Public-Key Infrastructure
CPG3.4	Implement Hashing and Digital Signature techniques
CPG3.5	Understand security protocols for protecting data on networks
CPG3.6	Ability to identify and investigate vulnerabilities and security threats and mechanisms to counter them
CPG3	PE-I : CPG3- Machine Learning

CPG3.	Identify the basic methods and Linear models in Supervised Learning and know the importance of binary classification.
CPG3.2	Understand and apply the Unsupervised Learning algorithms for Clustering, Dimensionality Reduction, Matrix Factorization and Completion.
CPG3.3	Evaluate Machine Learning algorithms and selects relevant models.
CPG3.4	Explain Modeling of Sparse, Sequence/Time-series data and analyzes Deep and Feature Representation Learnings.
CPG3.5	Extract features of Scalable Machine Learning techniques that can be used for various IoT applications.
CPG3.6	Recognize the characteristics of various machine learning techniques and get an insight of when to apply a particular machine learning approach to solve real-world application problems.

CPG4	PE-II : CPG4- Cloud Computing
CPG4.1	Understand the need of the Data Warehousing and Mining in addition to database management systems.
CPG4.2	Convert raw data to standard format using pre-processing techniques
CPG4.3	Study and identify the association rules by mining frequent patterns from large data sets.
CPG4.4	Compare and contrast different classification algorithms for mining the data.
CPG4.5	Make a group of abstract objects into classes of similar objects using clustering algorithms.
CPG4.6	Apply Data Warehousing and Mining techniques to solve real world problems.

CPG5	CPG5- Advanced Data Structures Lab
CPG5.1	Ability to select the data structures that efficiently model the information in a problem.
CPG5.2	Ability asses efficiently trade-offs among different data structure implementations or combinations.
CPG5.3	Implement and know the application of algorithms for sorting
CPG5.4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and B-trees
CPG5.5	Implement and know the application of algorithms pattern matching.
CPG5.6	Identify suitable data structures and develop algorithms for computational geometry problems.

CPG6	CPG6- Machine Learning Lab
CPG6.1	Understand complexity of Machine Learning algorithms and their limitations.
CPG6.2	Explore modern notions in data analysis-oriented computing.
CPG6.3	Be capable of confidently applying common Machine Learning algorithms in practice and Implementing them on their own.
CPG6.4	Be capable of performing experiments in Machine Learning using real-world data.
CPG6.5	Apply appropriate data sets to the Machine Learning algorithms.
CPG6.6	Identify and apply Machine Learning algorithms to solve real world problems using python.

CPG7	CPG7 -Research Methodology & IPR
CPG7.1	Understand research problem formulation.
CPG7.2	To get the knowledge about technical writing.
CPG7.3	To know the literature studies, plagiarism and Analyze research related information and Follow research ethics.
CPG7.4	To know the patent rights.
CPG7.5	To analyze the nature of intellectual property rights and new developments.
CPG7.6	Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.

CPG8	CPG8- Audit Course-I : English for Research Paper Writing
CPG8.1	Understand Planning and Preparation for structuring paragraphs and sentences and avoiding ambiguity.
CPG8.2	Write a research paper in a standard format
CPG8.3	Analyze the research methodologies in a quantitative and qualitative aspects
CPG8.4	Analyze the content and formulate the title
CPG8.5	Identify the observations based on the results
CPG8.6	Obtain complete knowledge on Writing of a research paper