ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(AUTONOMOUS)
DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
(AIML)
COURSE OUTCOMES (CO'S)
AK20 REGULATION

COURSE NAME	COURSE OUTCOMES	
Algebra and Calculus (20ABS9901)	CO1	Make use of matrix algebra techniques that is needed by engineers for practical application
	CO2	Utilize mean value theorems to real life problems.
	CO3	Interpret with functions of several variables which is useful in optimization. Variables which is useful in optimization.
	CO4	Analyze 2-dimensional and 3- dimensional concepts in coordinate systems
	CO5	Utilize the concept of special functions.
Applied Physics LAB(20ABS9902)	CO1	Analyze the intensity variation of light due to interference and diffraction & illustrate the propagation of electromagnetic waves.
	CO2	Analyze and apply the concepts of LASER S and optical fibers.
	CO3	Infer the properties of dielectric magnetic material
	CO4	Apply the fundamentals of semi conductors for device applications
	CO5	Implement the behavior of superconductors in diverse fields & interpret the properties of nanomaterials for multiple applications.
Communicative English (20AHS9901)	CO1	Understand the context, topic, and pieces of specific information from social or transactional dialogues spoken by native Speakers of English.
	CO2	Apply grammatical structures to formulate sentences and correct word forms
	CO3	Analyze discourse markers to speak clearly on a specific topic in informal discussions
	CO4	Evaluate reading/listening texts and to write summaries based on global comprehension of these texts.
	CO5	Create a coherent paragraph interpreting a figure/graph/chart/table
Engineering Graphics (20AES0301)	CO1	Ability to discuss the conventions and methods of Engineering Drawing
	CO2	Ability to demonstrate drafting practices, visualization and projection skills
	CO3	Ability to perform basic sketching techniques of Engineering components
	CO4	Ability to draft the orthographic and pictorial views of a given Engineering components
	CO5	Ability to increasingly use architectural and engineering scales
Problem Solving and Programming (20AES3301)	CO1	Able to know interconnection of peripherals and connects of algorithms and flowcharts
	CO2	Able to know problem solving aspects, design and analysis of algorithm
	CO3	Able to know flow control, input output and implementation functions
	CO4	Able to solve computational problems using functions, array and pointers
	CO5	Able to organize real world heterogeneous data and apply searching , sorting techniques with exception handling
Communicative English Lab (20AHS9902)	CO1	Create Awareness on mother tongue influence and neutralize it in order to improve fluency in spoken English
	CO2	Understanding the different aspects of the language with emphasis on LSRW skills and make use of different strategies in discussion
	CO3	Improve word knowledge and apply skills in various languages learning activities
	CO4	Analyze speech sounds, stress ,rhythm, intonation and syllable division for better listening and speaking comprehension
	CO5	Evaluate and exhibit acceptable etiquette essential in social and professional presentations.
Applied Physics Lab (20ABS9907)	CO1	Analyze the wave properties of light and the interaction of energy with the matter.
	CO2	Apply electromagnetic wave propagation in different guided media.

	CO3	Asses the electromagnetic wave propagation and its power in different media
	CO4	Analyze the conductivity of semiconductors.
	CO5	Interpret the difference between normal conductor and superconductor and apply the nano materials for engineering applications.
Problem Solving And Programming Lab (20AES3302)	CO1	Assemble and disassembling parts of a Computer
	CO2	Identify to control structure to solving the problem
	CO3	Analyze different sorting algorithms
	CO4	Design solutions for computational problems
	CO5	Develop C programs which utilize the memory efficiently using programming constructs like pointers.
Probability And Statistics (20ABS9911)	CO1	Interpret the characteristics through correlation and regression tools.
	CO2	Make use of the concepts of probability and their applications.
	CO3	Apply discrete and continuous probability distributions.
	CO4	Inference the components of a classical hypothesis test for large sample
	CO5	Inspect the components of a classical hypothesis test for small samples.
Numarical Methods (20ABS9921)	CO1	Apply the concepts of Errors, Relative and Percentage Errors
	CO2	Solve the concepts of Algebraic & Transcendental Equations to solve different Engineering problems
	CO3	Estimate Interpolation using the concepts of the Numerical Methods
	CO4	Apply the concepts of Integration in Numerical Methods
	CO5	Apply the concepts of O.D.E on Numerical Methods
Basics of Python Programming (20AES3303)	CO1	Understanding the syntax and semantics of Python programming.
	CO2	Apply modularity to programs.
	CO3	Select appropriate data structure of Python for solving a problem.
	CO4	Implement Mutable and Immutable data types
	CO5	Interpret the concepts of object oriented programming as used in Python
Data Structures (20AES3305)	CO1	Analyze and evaluate the efficiency of an algorithm
	CO2	Implement linear data structures
	CO3	Implement non -linear data structures
	CO4	Solve the problem of efficiently using graphs and Hashing techniques
	CO5	Implement advanced sorting and organizing the file
Web Design (20AES3307)	CO1	Add elements to web pages, including colors, text, images, and more
	CO2	Add advanced features to your website including special effects
	CO3	Apply the CSS Knowledge to add colors and text formatting
	CO4	Apply advanced CSS style presentation and techniques
	CO5	Develop HTML and CSS Programs.
Basics of Python Programming Lab(20AES3304)	CO1	Write, Test and Debug Python Programs
	CO2	Implement Conditionals and Loops for Python Programs
	CO3	Use functions and represent Compound data using Lists, Tuples and Dictionaries
	CO4	Read and write data from & to files in Python and develop Application using Python
	CO5	Implement the problem in terms of real world object using OOPs concepts
Computational Lab (20ABS9918)	CO1	Determine problems in linear algebra using MS-Excel‘s Tools
	CO2	Apply Central Tendency, Dispersion, Correlation and Regression analysis as basics of Statistics using Ms- Excel‘s Tools.
	CO3	Utilize properties of probability distributions and to perform using Ms- Excel's Tools.
	CO4	Solving problems in Definite integrals numerically using Trapezoidal and Simpson's methods in Ms- Excel‘s Tools.
	CO5	Analyze Statistics to solve large samples and Small samples problems using Statistical Tools practicing in Ms- Excel's Tools.

Data Structures Lab (20AES3306)	CO1	Select the data structure appropriate for solving the problem
	CO2	Implement searching and sorting algorithms
	CO3	Derive new data types
	CO4	Illustrate the working of linear and non linear data structure
	CO5	Organize the data using Files structure
Environmental Studies (20AMC9903)	CO1	To recognize and to understand the importance and scope of Environmental Studies.
	CO2	To understand the importance of protecting natural resources, ecosystem for future generation by communication each other in the society crate the awareness
	CO3	Students become conversant with the fact that there is a need to create a concern for our environment that will trigger pro-environmental action; including simple activities we can do in our daily life to protect it.
	CO4	By studying Environmental Science, students are exposed to the environment the enables one to find out solution of various environmental problems, encountered on and often.
	CO5	At the end of the course, it is expected that student will be able to identify and analyze environmental problems as well as the risks associated with these problems and efforts to be taken to protect the environment from getting polluted. These will enable every human being to live in a more sustainable manner.
Discrete Mathematical Structures (20ABS9914)	CO1	Apply mathematical logic to solve problems.
	CO2	Understand the concepts and perform the operations related to sets, relations and functions.
	CO3	Apply basic counting techniques to solve combinatorial problems.
	CO4	Formulate problems to solve recurrence relations
	CO5	Apply Graph Theory in solving computer science problems
Digital Electronics & Microprocessors (20APC3301)	CO1	Design Logic circuit using basic concepts of Boolean algebra.
	CO2	Design Logic circuit using basic concepts of PLDs.
	CO3	Design sequential logic circuits.
	CO4	Design application using 8086 Microprocessor.
	CO5	Design application using 8051 Microcontroller.
Database Management Systems (20APC3302)	CO1	know the fundamentals of Databases
	CO2	Understand SQL and PL/SQL Concepts
	CO3	Design a database for a real-world information system
	CO4	Process and Optimize the query
	CO5	Working of transaction and concurrency techniques in real time applications
Object Oriented Programming through JAVA (20APC3304)	CO1	Understanding the Syntax, Semantics and features of Java Programming Language.
	CO2	To gain knowledge on Object Oriented Programming concepts.
	CO3	Raise Exceptions and handle exceptions.
	CO4	Analyze the method of creating Multi-threading programs
	CO5	Ability to create GUI applications & perform event handling.
Computer Organization (20APC3306)	CO1	Understand computer architecture concepts related to the design of modern processors, memories and I/Os
	CO2	Design Arithmetic and control unit
	CO3	Identify the hardware requirements of Primary and Secondary memory and Understand the importance of I/O devices and its interface circuits.
	CO4	Identify pipeline hazards and possible solutions to those hazards
	CO5	Understand Scalable Architectures, Pipelining, Superscalar processors, multiprocessors
Database Management Systems Laboratory (20APC3303)	CO1	Write SQL Queries
	CO2	Implement PL/SQL programs
	CO3	Design database for any real world problem
Object Oriented Programming through Java Lab	CO1	Demonstrate java compiler and eclipse platform and learn how to use net beans IDE to create java Application

(20APC3305)	CO2	Ability to create user friendly interfaces
	CO3	Ability to solve the problem using object oriented approach and design solutions which are robust
	CO4	Implement exception handling and Templates
	CO5	Ability to create GUI components and implementations
Computer Organization and Microprocessor Lab(20APC3307)	CO1	Represent numbers and perform arithmetic operations.
	CO2	Minimize the Boolean expression using Boolean algebra and design it using logic gates
	CO3	Analyze and design combinational circuit.
	CO4	Design and develop sequential circuits
	CO5	Understand and apply the working of different operations on binary numbers.
Client Side Scripting (20ASC3301)	CO1	Analyze and understand the basic concepts of web programming.
	CO2	Implement Arrays, Functions and Strings
	CO3	Apply techniques of form validation using Java Script.
	CO4	Describe important concepts related to client side Web Security.
	CO5	Save client information in cookie by server
Constitution Of India (20AMC9902)	CO1	Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
	CO2	Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
	CO3	Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
	CO4	Discuss the Powers and functions of Governor, President, Judiciary.
	CO5	Discuss the functions of local administration bodies
Software Engineering for AI (20APC3308)	CO1	Understand the methods and issues in software engineering
	CO2	Apply the principles of Artificial Intelligence for Software engineering
	CO3	Design AI based software
	CO4	Apply the algorithms of Machine learning in solving problems
	CO5	Design Expert systems
Artificial Intelligence (20APC3309)	CO1	Understand the basic concepts of Artificial Intelligence
	CO2	Apply searching techniques for solving a problem
	CO3	Analyze the concepts of Reinforcement Learning
	CO4	Develop Natural Language Interface for Machines
	CO5	Understanding the concepts to design a robotics
Data Mining and Data Warehousing (20APC3311)	CO1	Understand the basic concepts of Data Warehouse and data Mining
	CO2	Apply OLAP technology for Data Warehouse
	CO3	Analyze and evaluate performance of Association Rules and classification algorithms
	CO4	Evaluate various Clustering algorithms
	CO5	Analyze advanced Data Mining techniques
Operating Systems (20APC3313)	CO1	Distinguish between the different types of operating system environments.
	CO2	Apply the concepts of process synchronization & CPU scheduling
	CO3	Develop solutions to deadlock and memory management
	CO4	Analyze various disk scheduling algorithms and file system interfaces
	CO5	Analyze the various security issues and goals of protection
Managerial Economics And Financial Analysis(20AHSMB01)	CO1	Understand the fundamentals of Economics and Managerial economics viz.,Demand, Production, cost, revenue and markets.
	CO2	Apply the Concept of Production cost and revenues for effective Business decision
	CO3	Analyze how to invest their capital and maximize returns.

	CO4	Evaluate the capital budgeting techniques.
	CO5	Define the concepts related to financial accounting and management and able to develop the Accounting statements and evaluate the financial performance of business entity.
Universal Human Values (20AHS9905)	CO1	Students are expected to become more aware of themselves, and their surroundings (family, society, nature)
	CO2	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.
	CO3	They would have better critical ability
	CO4	They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).
	CO5	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.
Artificial Intelligence Lab (20APC3310)	CO1	Implement search algorithms
	CO2	Solve Artificial Intelligence Problems
	CO3	Develop the solutions using Backtracking
	CO4	Design Chatbot
	CO5	Implement basic problems by using NLTK(Natural Language Tool Kit)
Data Mining and Data Warehousing Lab (20APC3312)	CO1	Learn how to use different data mining tools.
	CO2	Learn to execute data mining tasks using a data mining toolkit (Orange data mining tool kit) and visualize the results.
	CO3	Understanding linear regression model in the orange environment.
	CO4	Demonstrate the working of algorithms for data mining tasks such association rule mining, classification and clustering.
	CO5	Demonstrate the usage of Silhouettes.
Operating Systems Lab (20APC3314)	CO1	Ensure the development of applied skills in operating systems related areas.
	CO2	Able to write software routines modules or implementing various concepts of operating system
Server Side Scripting (20ASC3302)	CO1	Learn the installation guide of MYSQL, XAMPP5, APACHE and PHP
	CO2	Able to design code for simple dynamic web pages
	CO3	Design PHP and SQL/MySQL Integration.
	CO4	Design Basic Projects
	CO5	Able to provide protection to web server