

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES, TIRUPATI
(AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA
SCIENCE) (CDS)
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.
Chemistry (20ABS9904)	CO1	Interpret the behaviour and interactions between matter and energy at both the atomic and molecular levels between mater and energy at both the atomic and molecular levels
	CO2	Apply the electrochemical principles to the construction of batteries, fuel cells and electrochemical sensors.
	CO3	Outline the preparation, mechanism properties and applications of polymer and conducting polymer
	CO4	Analyze the separation of gaseous and liquid mixtures using instrumental methods and their applications
	CO5	Understand the disadvantages of using hard water in domestically and industrially and select suitable treatment
Problem Solving and Programming (20AES0501)	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 organise real world heterogeneous data and apply searching ,sorting techniques with exception handling
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
Information Technology And Numerical Methods (20AES0505)	CO1	Usage of Digital World and Exploring Cyber space
	CO2	Explain the needs of hardware and software required for a computation task.
	CO3	Peripheral devices, networking and internet concepts
Numerical Methods (20AES0505)	CO4	Analyze the concepts of Errors, Algebraic & Transcendental Equations to solve different Engineering problems

	CO5	Analyze Interpolation using the concepts of the numerical methods and apply the Integration in numerical methods
	CO6	Apply the concepts of O.D.E on numerical method
Computer Science And Engineering Workshop (20AES0506)	CO1	Assemble and disassembling parts of a computer
	CO2	Develop Documents using Word processors
	CO3	Develop presentations using the presentation tool
	CO4	Perform computations using spreadsheet tool
	CO5	Design Graphics, Videos and Web pages
Chemistry Lab (20ABS9909)	CO1	To familiarize the students with the basic concepts of chemistry of materials
	CO2	Prepare advanced polymer materials
	CO3	Measure the strength of an acid present in secondary batteries
	CO4	To familiarize with digital and instrumental methods of analysis
Problem Solving And Programming Lab (20AES0503)	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.
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.
Probability And Statistics (20ABS9911)	CO1	Interpret the association of characteristics and 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.
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
Data Structures (20AES0502)	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
Python Programming (20AES0509)	CO1	Understanding the Python syntax, semantics, basic programming constructs to be used to write the programs
	CO2	Utilize the methods of various data structures to manipulate the data

	CO3	Apply various packages to work with real need
	CO4	Apply the appropriate Object-Oriented Programming principle for a given scenario
	CO5	Develop bug free applications by handling different types of exceptions
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 nanomaterials for engineering applications
Data Structures Lab (20AES0504)	CO1	Select the data structure appropriate for solving the problem
	CO2	Implement searching and sorting algorithms
	CO3	Design 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.