2.1 Course Outcomes of the Department:

	Course Code	CO-Code	Semester	CO-Statement
Applied Mathematics-III	BDS2301	BDS2301.1	III	Understands concept Laplace transformation.
		BDS2301.2		Describe Random Variables & Probability Distributions, mathematical Expectation and its different methods and probability distributions
		BDS2301.3		Examine the error and evaluate the solution of different type of equations.
		BDS2301.4		Analyze the co-relation between variables and find analytical solution of different equations.
		BDS2301.5		Understand the function & expansions of Fourier and Z transform.
Internet of things	BDS2302	BDS2302.1		Analyze various IoT devices and its technology.
		BDS2302.2		Select and use of appropriate IoT

				technologies & Gateways protocols for application development.
		BDS2302.3		Design and development of IoT application with the use of different cloud technology.
		BDS2302.4		Design and study of IoT application on the IoT platforms.
		BDS2302.5		Design and apply IoT in application with the use of different cloud.
Introduction to Data Science	BDS2303	BDS2302.1		Understand basic concepts of data science and key issues.
		BDS2302.2		Understand data collection and data pre-processing.
		BDS2302.3		Apply statistical analytic on datasets.
		BDS2302.4		Implement regression models on datasets.
		BDS2302.5		Implement model evaluation and validation of datasets

Data structure and algorithm	BDS2304	BDS2304.1.		Categorize essential data structures and understand when it is appropriate to use.
		BDS2304.2		Analyze use of Abstract data types & ways in which ADTs can be stored, accessed and manipulated
		BDS2304.3		Apply linear data structures to solve various real-world computing problems using programming language.
		BDS2304.4		Analyze standard algorithms for searching and sorting.
		BDS2304.5		Implement linear data structure to find solution for given Engineering Applications.
Internet of things lab	BDS2305	BDS2305.1		Analyze various IoT devices and its technology.
		BDS2305.2		Select and use of appropriate IoT technologies & Gateways protocols for application development.

		BDS2305.3		Design and development of IoT application with the use of different cloud technology.
		BDS2305.4		Design and study of IoT application on the IoT platforms.
		BDS2305.5		Design and apply IoT in application with the use of different cloud technology.
Object oriented programming with C++ Lab.	BDS2306	BDS2306.1		Understand how to apply the major object-oriented concepts to implement object-oriented programs in C++.
		BDS2306.2		Summarize the relative merits of C++ as an object-oriented programming language.
		BDS2306.3		Develop how to apply the major object-oriented concepts to implement object.
		BDS2306.4		Apply how to produce object-oriented software using C++.

		BDS2306.5		Analyze advanced features of C++ specifically stream I/O, templates and operator overloading.
Data Structure and Algorithm Lab	BDS2307	BDS2307.1		Categorize essential data structures and understand when it is appropriate to use.
		BDS2307.2		Analyze use of Abstract data types & ways in which ADTs can be stored, accessed and manipulate.
		BDS2307.3		Apply linear data structures to solve various real-world computing problems using programming language
		BDS2307.4		Analyze standard algorithms for searching and sorting
		BDS2307.5		Implement linear data structure to find solution for given Engineering applications.

Introduction to Data Science lab	BDS2308	BDS2308.1 BDS2308.2 BDS2308.3 BDS2308.4 BDS2308.5		Understand basic concepts of data science and key issues Understand data collection and pre-processing Apply statistical analytics on datasets Implement regression models on datasets. Implement model evaluation and validation of datasets.
Human Values for Professional Society	BSH2301	BSH2301.1 BSH2301.2 BSH2301.3		Understand the contents and process for value education. Understand harmony in the Human Being and harmony in Myself. Understand harmony in the Family and Society- Harmony in Human-Human Relationship.

		BSH2301.4 BSH2301.5.		Understand harmony in the Nature and Existence Whole existence as Coexistence. Apply implications of the Holistic Understanding of Harmony on Professional Ethics.
Data Pre - processing Lab	BDS2309	BDS2309.1 BDS2309.2 BDS2309.3 BDS2309.4 BDS2309.5		Understand data using Statistical tools and techniques. Apply appropriate techniques for Data Cleaning. Apply Feature Scaling, Data Labeling techniques. Analyze data through graph plots. Apply the data per-processing techniques on real world datasets.
Mathematics in Data Science	BDS2401	BDS2401.1 BDS2401.2.	IV	Apply Statistical concepts to real world situation and problem solving.

		BDS2401.3 BDS2401.4 BDS2401.5		Apply the most appropriate Sampling Techniques for a given applied problems Analyze and interpret results from point and interval estimates. Apply hypothesis testing to real-world scenarios. Analyze computational problems in graph theoretical framework.
Computer Network	BDS2402	BDS2402.1 BDS2402.2 BDS2402.3 BDS2402.4		Apply Fundamentals of network formation and network devices in physical layer. Analyze reliable network topology by comparing types and Layered architecture in network layer. Determine differentiation between wired and wireless Transmission Media.

		BDS2402.5		Apply access control protocol for communication in network and reliable transmission of data packets in transport layer. Examine effective communication in network by application layer.
Formal languages Automata	BDS2403	BDS2403.1 BDS2403.2 BDS2403.3 BDS2403.4		Apply basic properties of formal languages to construct Finite Automata. Design Finite Automata for different Regular Expressions and Languages Compare different types of grammar and test the equivalence of pushdown and CFL Create a computational model using Turing Machine for the given problem. Demonstrate basic concept of undesirability, post correspondence &

				Recursive enumerable Language.
		BDS2403.5		Demonstrate basic concept of undesirability, post correspondence& Recursive enumerable language.
Data Base Management System	BDS2404	BDS2404.1		Analyze data storage problem and derive a data model expressed in the form of an entity relationship or relational model.
		BDS2404.2		Implement relational database design and normalization method of database table.
		BDS2404.3		Evaluate query processing techniques and its strategy.
		BDS2404.4		Apply the concepts of transaction management, scheduling, recovery while

				working in database environment.
		BDS2404.5		Illustrate the issues and concepts of NoSQL databases.
Design And analysis of Algorithm	BDS2405	BDS2405.1		Analyze the structure of OS and basic architectural components involved in OS design.
		BDS2405.2		Apply the concept of file system management with the concept of inter process communication.
		BDS2405.3		Analyze the role of paging, segmentation and virtual memory in operating systems.
		BDS2405.4		Evaluate Critical section problems using process synchronization.
		BDS2405.5		Analyze the mutual exclusion, Deadlock detection and protection problem security of operating system.

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