SACRED HEART COLLEGE (AUTONOMOUS)

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Ready for Every Good Work

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A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: PGDDS

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	Optimization Techniques	CADD101	• To understand the basics of optimization. • To learn about linear programming, randomized optimization and genetic algorithms.	• Generalize and Formulate linear programming problems. • Choose, Draft and Formulate transportation problems. • Classify and Design assignment problems. • Devise , Build and Design inventory models. • Elicit and Design queuing models • Define, Build and Formulate project manage ment and Game theory problems.	**global developmental needs**
2	Introduction to Data Science	CADD102	• To learning the founding principles of Datascience. • To learn Artifical intelligence concepts, searching and learning algorithms.	• Discover and Discuss the various technologies used in data science • Recognize and Elicit the founding principles of Data Science. • Identify, compare and correlate the Artificial intelligence concepts,	**national and global developmental needs**

				searching and learning algorithms.	
				• Identify and illustrate the methods and techniques commonly used in data science.	
				• Analyze and Evaluate how data analysis, inferential statistics, modeling, machine learning, and statistical computing can be utilized in an integrated capacity.	
				• Observe and Demonstrate the ability to clean and prepare data for analysis and assemble data from a variety of sources.	

3	Introduction to Data warehouse and Data Mining	CADD103	• To learn about the basics of Data warehouse and data mining. • To understand clustering and web mining.	• Remember, Understand and explain the fundamentals of Data Warehouse and Data Mining • Apply the concepts of association mining, clustering classification and Regression • Analyze and choose a suitable data mining task for a specific problem and support the choice of approach adopted. • Compare and Correlate the results various data mining techniques for a specific problem. • Identify and Apply real-world problems in business and scientific information using data mining techniques • Draft and Build statistical predictive models using various	**national and global developmental needs**

				techniques such as neural networks, decision trees and logistic regression.	
4	Machine Learning	CADD20 2	• To learn the concepts of machine learning. • To understand association rules, classification and prediction techniques.	• Understand and Comprehend the Machine Learning Concepts • Identify the use cases of the supervised and unsupervised learning algorithms • Analyse the logic behind the execution of various classifiers • Compute and compare the performance of different algorithms for mining data	**global developmental needs**

				• Demonstrate and analyse the clustering methods • Propose solution for real word problems	
5	Deep Learning	CADD20 3	• To understand Linear Regression and Regularization. • To learn the concepts of Deep Learning and its applications.	• Observe and Apply the concepts of Deep Learning and its applications • Identify and Use the configuration of Deep Feed Forward Networks • Comparing and Correlating the Learning and Optimization Algorithms • Identify and Practice Regularization for Deep Learning • Observe and Discuss the concepts of Convolutional networks • Identify, Analyze and Evaluate the applications of Deep Learning	**l global developmental needs**

6	Technologies for Data Science	CADD20 4	• To understand the technologies in data science. • To learn the concetps of Hadoop, Map-Reduce, HIVE, SQOOP and PIG.	• Identify and Discover the various technologies used in Data Science • Recognize and Discuss Big Data and its analytics in the real world • Identify, Draft and Develop Big Data Solutions using Hadoop • List and Leverage Hadoop as a reliable, scalable MapReduce framework • Demonstrate and Install and interact the HIVE, SQOOP and PIG tools • Apply and Demonstrate the ability to clean and prepare data for analysis using HIVE, SQOOP and PIG tools	**global developmental needs**