INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
DESIGN AND MANUFACTURING (IIITD&M) KANCHEEPURAM

INTRODUCTION OF NEW COURSE

Course Title	Data Mining	Course No *(will be assigned)*				
Specialization	Computer Engineering	Structure (LTPC)	3	0	0	3
Offered for	UG/PG	Status	Core ☐		Elective ■	
Faculty	Dr. B. Sivaselvan	Type	New ■		Modification ☐	
Pre-requisite	COT	To take effect from	Jan 2014			
Submission date	September 2013	Date of approval by Senate				
Objective	The course would provide a comprehensive exposure to knowledge discovery and data mining techniques. Issues relevant from the database and machine learning perspective shall be presented in the course. Students would be exposed to applying various analysis and mining techniques and their applications in various domains such as finance, multimedia, etc. R language, WEKA and case studies shall be used for better understanding of the techniques discussed in the course.					
Contents of the course	Introduction to Data Mining – Functionalities – Pattern Interestingness – Issues in Data Mining – Preprocessing Techniques, Data warehouse – Models, Architecture, Data cube – Dimensionality Reduction Techniques – Perspectives (9) Association Rule Mining – Basic Concepts - Frequent Pattern Mining Algorithms – Apriori – FP Growth – Dynamic Itemset Counting - Types of Association Rules, Correlation Analysis, Quality of Rules, Interestingness measures for association rules (11) Classification & Prediction – Decision Tree Induction – Attribute Selection measures, Bayesian, Rule based classifiers, GA based classifier, Classification by Association Rules, Prediction, Accuracy, Error & Enhancement Measures (11) Clustering, Data types, Methodologies, Hierarchichal, Density based, Outlier Analysis Mining Time series data, Sequence Pattern Mining – GSP, Prefix Span - Multimedia Data Mining, Text Mining, Applications and Trends in Data Mining (11)					
Textbook	1. Jiawei Han and Micheline Kamber, Data Mining Concepts and Techniques, 2nd Edition, Morgan Kauffman, 2006.					
References	2. M H Dunham, Data Mining Introductory and Advanced Topics, Pearson Education, 2001 3. A Rajaraman, J Leskovec, J Ullmann, Mining of Massive Datasets, Cambridge University Press (Available for free download @ Stanford University Website) 4. Research Papers for specific topics in the Syllabus					