

COURSE TITLE: DATA ANALYTICS AND MINING LAB**COURSE OBJECTIVES:**

- To acquire the knowledge of various concepts and tools behind data mining for business intelligence
- To Study data mining algorithms, methods and tools
- To Identify business applications of data mining

LEARNING OUTCOMES:

The students will be able to:

- Apply data mining concepts for analysis of data
- Develop industry level data mining skills using software tools
- Make use of relevant theories, concepts and techniques to solve real-world business problems

Code	Course	Teaching Period / Week		Credit			Duration of Theory Exam (in Hrs.)
		L	Pr./Tu	Int.	Ext.	Total	
MCSL204	Data Analytics and Mining Lab	-	2	1	1	2	1

Module No	Objective	Content	Evaluation
1	To elaborate the concept of data preprocessing	Data Preprocessing Data cleaning, data transformation, Data reduction, Discretization and generating concept hierarchies, Installing Weka 3 Data Mining System, experiments with Weka - filters, discretization	Students will be evaluated using Lab Manual. (Marks 05)
3	To implement classification and prediction	Data Mining (Supervised Learning) Using Weka/R Miner Classification Prediction	Practical Exam will be conducted. (Marks 15)
4	To implement clustering and association rule mining	Data Mining (Unsupervised Learning) using Weka/R Miner Clustering Association Rule Mining	
2	To gain detailed insights of outlier detection	Outlier Detection Detection of anomalies, such as the statistical, proximity-based, clustering-based, and classification-based methods.	Class Test (Marks 05)
Softwares used: Advanced Excel, XLMiner, Weka, IBM SPSS Statistics			

EVALUATION:

Evaluation	Details (* please give details of assessment in terms of Unit test/ Project/ quiz /or other assignments and marks allotted for it)	Marks
Internal	<ul style="list-style-type: none"> • Lab Manuals • Practical Test • Class Test 	25 Marks
External	Final Examination (Practical)	25 Marks
Total marks		50 Marks

TEXT BOOKS:

1. S.C.Gupta, V.K.Kapoor, *Fundamental of Mathematical Statistics*
2. Efraim Turban, Ramesh Sharda, Dursun Delen, David King, (2013), *Business Intelligence* (2nd Edition), Pearson

REFERENCE BOOKS:

1. Swain Scheps, (2008), *Business Intelligence for Dummies*, Wiley Publications
 2. Inmon, (1993), *Building the Data Warehouse*, Wiley
 3. Dunham, Margaret H, (2006), *Data Mining: Introductory and Advanced Topics*, Prentice Hall
 4. Witten, Ian and Eibe Frank, (2011), *Data Mining: Practical Machine Learning Tools and Techniques*, Second Edition, Morgan Kaufmann
 5. MacLennan Jamie, Tang ZhaoHui and Crivat Bogdan, (2009), *Data Mining with Microsoft SQL Server 2008*, Wiley India Edition
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