SEMESTER II

DATA MINING AND BUSINESS INTELLIGENCE

| CREDITS: | 3 |

OBJECTIVES :
> To know how to derive meaning form huge volume of data and information
> To understand how knowledge discovering process is used in business decision making.

UNIT I   INTRODUCTION   9
Data mining, Text mining, Web mining, Spatial mining, Process mining, Data ware house and datamarts.

UNIT II   DATA MINING PROCESS   9
Data mining process – KDD, CRISP-DM, SEMMA and Domain-Specific, Classification and Prediction performance measures -RSME, MAD, MAP, MAPE, Confusion matrix, Receiver Operating Characteristic curve & AUC;ValidationTechniques - hold-out, k-fold cross-validation, LOOCV, random subsampling, and bootstrapping.

UNIT III   PREDICTION TECHNIQUES   9
Data visualization, Time series – ARIMA, Winter Holts, Vector Autoregressive analysis, Multivariate regression analysis.

UNIT IV   CLASSIFICATION AND CLUSTERING TECHNIQUES   9
Classification- Decision trees, k nearest neighbour, Logistic regression, Discriminant analysis; Clustering; Market basket analysis;

UNIT V   MACHINE LEARNING AND AI   9
Genetic algorithms, Neural network, Fuzzy logic, Support Vector Machine, Optimization techniques – Ant Colony, Particle Swarm, DEA

TOTAL: 45 PERIODS

OUTCOME :

Appreciate the techniques of knowledge discovery for business applications.

REFERENCES :
1. Jaiwei Ham and Micheline Kamber, Data Mining concepts and techniques, Kauffmann Publishers 2006
2. Efraim Turban, Ramesh Sharda, Jay E. Aronson and David King, Business Intelligence, Prentice Hall, 2008.
3. W.H.Inmon, Building the Data Warehouse, fourth edition Wiley India pvt. Ltd. 2005.
4. Ralph Kimball and Richard Merz, The data warehouse toolkit, John Wiley, 3rd edition,2013.
5. Michel Berry and Gordon Linoff, Mastering Data mining, John Wiley and Sons Inc, 2nd Edition, 2011

6. Michel Berry and Gordon Linoff, Data mining techniques for Marketing, Sales and Customer support, John Wiley, 2011
7. G. K. Gupta, İntroduction to Data mining with Case Studies, Prentice hall of India, 2011
8. Giudici, Applied Data mining – Statistical Methods for Business and Industry, John Wiley. 2009
9. Elizabeth Vitt, Michael LuckevichStaciaMisner, Business Intelligence, Microsoft, 2011
10. Michalewicz Z., Schmidt M. Michalewicz M and Chiriac C, Adaptive Business Intelligence, Springer   Verlag, 2007
11. GalitShmueli, Nitin R. Patel and Peter C. Bruce, Data Mining for Business Intelligence – Concepts, Techniques and Applications Wiley, India, 2010.