Data Warehouse And Data Mining (IT-8003)

Course Code	**IT-8003**	Credits-4	L – 3, T- 1, P-0	
Name of the Course	**Data Warehouse and Data Mining**			
Lectures to be Delivered	52 (1 Hr Each) (L= 39, T = 13 for each semester)			
Semester End Examination	*Max. Marks:* **100**	*Min. Pass Marks:* **40**		Maximum Time:3hrs
Continuous Assessment (based on sessional tests (2) 50%, Tutorials/Assignments 30%, Quiz/Seminar 10%, Attendance 10%)				*Max. Marks:* 50

Instructions

1. **For Paper Setters:** The question paper will consist of five sections A, B, C, D, and E. Section E will be Compulsory, it will consist of a single question with 10-20 subparts of short answer type , which will cover the entire syllabus and will carry 40% of the total marks of the semester end examination for the course. Section A, B, C and D will have two questions from the respective sections of the syllabus and each section will carry 15% of the total marks of the semester end examination for the course .

2. For Candidates: Candidates are required to attempt five questions in all selecting one question from each of the sections A, B, C and D of the question paper and all the subparts of the questions in section E.. Use of non-programmable calculators is allowed.

Section – A

Data ware housing Definition, usage and trends, DBMS vs. data warehouse, Data marts, Metadata, Multidimensional data mode, Data cubes, Schemas for Multidimensional Database: stars, snowflakes and fact constellations.
Data warehouse process & architecture, OLTP vs. OLAP, ROLAP vs. MOLAP types of OLAP, servers, 3 – Tier data warehouse architecture, distributed and virtual data warehouses, data warehouse manager.

Section – B

Data mining definition & task, KDD versus data mining, data mining techniques, tools and applications.
Data mining query languages, data specification, specifying knowledge, hierarchy specification, pattern presentation & visualization specification, data mining techniques, tools and applications.

Section – C

Data mining techniques: Association rules, Clustering techniques, Decision tree knowledge discovery through neural Networks & Genetic Algorithm, Rough Sets, Support Victor Machines and Fuzzy techniques.

Section – D

Mining Complex data objects, Spatial databases, Multimedia databases, Time series and Sequence data; mining Text Data bases and mining Word Wide Web.

Books:

1. Data Warehousing in the Real World; Sam Anahory & Dennis Murray; 1997, Pearson
2. Data Mining – Concepts & Techniques; Jiawei Han & Micheline Kamber – 2001, Morgan Kaufmann.
3. Data Mining Techniques; Arun Pujar; 2001, University Press; Hyderbad.

Reference Books:

1. Data Mining; Pieter Adriaans & Dolf Zantinge; 1997, Pearson
2. Data Warehousing, Data Miniing and OLTP; Alex Berson, 1997, McGraw Hill.
3. Data warehousing System; Mallach; 2000, McGraw Hill.
4. Building the Data Warehouses; W.H. Longhman, C. Klelly, John Wiley & Sons.
5. Developing the Data Warehouses; W.H. Lonhman, C.Klelly, John wiley & Sons.
6. Managing the Data Warehouses; W.H. Inman, C.L. Gassey, John Wiley & Sons.
7. Decision support Systems & Data Warehouses, Ravindranath, B., New Age International Publishers, New Delhi.