

Department of Computer Science

SEMESTER : **IV M.Tech**
BRANCH : **CSE**
SUBJECT : **Machine Learning Techniques**
SUBJECT CODE : **14SCS41**
NO OF HRS/WK : **5**

NAME OF THE FACULTY : **Dr. Krishnan R**
DATE OF COMMENCEMENT : **11/01/2016**
CLASS STRENGTH : **18**
TOTAL HRS : **60**

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	11/01/2016	MODULE I INTRODUCTION, CONCEPT LEARNING AND DECISION TREES: Learning Problems	Board and Chalk, Projector		
2	2/1	11/01/2016	Designing Learning systems	”		
3	3/1	11/01/2016	Designing Learning systems (Contd)	”		
4	4/1	12/01/2016	Perspectives and Issues	”		
5	5/1	12/01/2016	Concept Learning	”		
6	6/1	18/01/2016	Concept Learning (As search)	”		
7	7/1	18/01/2016	Version Spaces and Candidate Elimination Algorithm	”		
8	8/1	18/01/2016	Inductive bias	”		
9	9/1	19/01/2016	Decision Tree learning – Representation	”		
10	10/1	19/01/2016	Algorithm (Basic Learning Algorithm)	”		
11	11/1	25/01/2016	Heuristic Space Search.	”		
12	12/1	25/01/2016	Inductive bias, Issues in DTL	”		

13	Internal Lab	25/01/2016	Discussion of Lab Exercises – 1 , 2, 3	”	Assignment 1	
14	1/2	27/01/2016	MODULE II NEURAL NETWORKS AND GENETIC ALGORITHMS: Neural Network Representation-Problems	”		
15	2/2	27/01/2016	Perceptrons	”		
16	3/2	01/02/2016	Multilayer Networks and Back Propagation Algorithms	”		
17	4/2	01/02/2016	Multilayer Networks and Back Propagation Algorithms (Contd)	”		
18	5/2	01/02/2016	Multilayer Networks and Back Propagation Algorithms (Contd)	”		
19	6/2	02/02/2016	Advanced Topics (Neural Networks)	”		
20	7/2	02/02/2016	Genetic Algorithms	”		
21	8/2	08/02/2016	Genetic Algorithms (Contd)	”		
22	9/2	08/02/2016	Hypothesis Space Search	”		
23	10/2	08/02/2016	Genetic Programming	”		
24	11/2	09/02/2016	Models of Evolution and Learning	”		
25	12/2	09/02/2016	Models of Evolution and Learning(contd)	”		
26	Internal Lab	15/02/2016	Discussion of Lab Exercises – 4	”	Assignment 2	
27	1/3	15/02/2016	MODULE III: BAYESIAN AND COMPUTATIONAL LEARNING: Bayes Theorem – Concept Learning	”		
28	2/3	15/02/2016	Concept Learning (contd)	”		
29	3/3	16/02/2016	Maximum Likelihood	”		
30	4/3	16/02/2016	Minimum Description Length Principle	”		
31	5/3	22/02/2016	Bayes Optimal Classifier	”		
32	6/3	22/02/2016	Gibbs Algorithm – Naïve Bayes Classifier	”		
33	7/3	22/02/2016	Bayesian Belief Network	”		

34	8/3	23/02/2016	Bayesian Belief Network	”		
35	9/3	23/02/2016	EM Algorithm	”		
36	10/3	29/02/2016	Probably Learning	”		
37	11/3	29/02/2016	Sample Complexity for Finite and Infinite Hypothesis Spaces	”		
38	12/3	29/03/2016	Sample Complexity for Finite and Infinite Hypothesis Spaces (Contd)	”		
39	13/3	01/03/2016	Mistake Bound Model.	”		
40	Internal Lab	01/03/2016	Discussion of Lab Exercises – 5	”	Assignment 3	
41	1/4	08/03/2016	MODULE IV: INSTANT BASED LEARNING AND LEARNING SET OF RULES: K- Nearest Neighbor Learning	”		
42	2/4	08/03/2016	K- Nearest Neighbor Learning (Contd)	”		
43	3/4	08/03/2016	Locally Weighted Regression	”		
44	4/4	09/03/2016	Radial Basis Functions	”		
45	5/4	09/03/2016	Case-Based Reasoning	”		
46	6/4	21/03/2016	Sequential Covering Algorithms	”		
47	7/4	21/03/2016	Learning Rule Sets	”		
48	8/4	21/03/2016	Learning First Order Rules	”		
49	9/4	22/03/2016	Learning Sets of First Order Rules	”		
50	10/4	22/03/2016	Learning Sets of First Order Rules (contd)	”		
51	11/4	28/03/2016	Induction as Inverted Deduction	”		
52	12/4	28/03/2016	Inverting Resolution	”		
53	1/5	28/03/2016	MODULE V ANALYTICAL LEARNING AND REINFORCED LEARNING: Perfect Domain Theories	”		
54	2/5	29/03/2016	Explanation Based Learning	”		

55	3/5	29/03/2016	Explanation Based Learning (contd)	”		
56	4/5	04/04/2016	Inductive-Analytical Approaches	”		
57	5/5	04/04/2016	Inductive-Analytical Approaches (contd)	”		
58	6/5	04/04/2016	FOCL Algorithm	”		
59	7/5	05/04/2016	Reinforcement Learning	”		
60	8/5	05/04/2016	Task – Q-Learning	”		
61	9/5	11/04/2016	Task – Q-Learning (contd)			
62	10/5	11/04/2016	Temporal Difference Learning			
63	11/5	11/04/2016	Temporal Difference Learning (contd)			
64-70	Internal Lab	12/04/2016 To 20/04/2015	Completion of Internal Lab Exercises			

Syllabus for Internal Assessment Tests (IAT)*

IAT #	Syllabus
IAT-1	Class # 01 – 30
IAT-2	Class # 31 – 63

Text Book Details

Book Type	Code	Author & Title	Publication information	
			Edition // Publisher	ISBN
Text Book	TB1	Tom M. Mitchell, “Machine Learning”	McGraw-Hill Education (INDIAN EDITION), 2013.	
Reference	RB1	Ethem Alpaydin, “Introduction to Machine Learning”.	2nd Ed., PHI Learning Pvt. Ltd., 2013.	
Reference	RB2	T. Hastie, R. Tibshirani, J. H. Friedman, “The Elements of Statistical Learning”,	Springer; 1st edition, 2001.	

SEMESTER : IV M.Tech
 BRANCH : CSE
 SUBJECT : Business Intelligence and its applications
 SUBJECT CODE : 14SCS422
 NO OF HRS/WK : 5

NAME OF THE FACULTY : Mr. Shivaraj V B
 DATE OF COMMENCEMENT : 11/01/2016
 CLASS STRENGTH : 18
 TOTAL HRS : 60

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	11/01/2016	Introduction to BI, Development Steps	Board, and Chalk		
2	2/1	11/01/2016	BI Definitions, BI Decision Support Initiatives	”		
3	3/1	12/01/2016	Development Approaches	”		
4	4/1	12/01/2016	Development Approaches	”		
5	5/1	12/01/2016	Parallel Development Tracks, BI Project Team Structure	”		
6	6/1	18/01/2016	Business Justification, Business Divers, Business Analysis Issues, Cost – Benefit Analysis	”		
7	7/1	18/01/2016	Risk Assessment, Business Case Assessment Activities	”		
8	8/1	19/01/2016	Roles Involved In These Activities, Risks Of Not Performing Step	”		
9	9/1	19/01/2016	Hardware, Middleware	”		
10	10/1	19/01/2016	DBMS Platform, Non Technical Infrastructure Evaluation	”		
11	11/1	25/01/2016	CASE STUDY	”		
12	12/1	25/01/2016	CASE STUDY	”		20%
13	1/2	27/01/2016	Managing The BI Project	”		
14	2/2	27/01/2016	Defining And Planning The BI Project	”		
15	3/2	27/01/2016	Project Planning Activities	”	Assignment 1	
16	4/2	01/02/2016	Project Planning Activities	”		

17	5/2	01/02/2016	Roles And Risks Involved In These Activities	”		
18	6/2	02/02/2016	Roles And Risks Involved In These Activities	”		
19	7/2	02/02/2016	Roles And Risks Involved In These Activities	”		
20	8/2	02/02/2016	General Business Requirement	”		
21	9/2	08/02/2016	General Business Requirement	”		
22	10/2	08/02/2016	Project Specific Requirements	”		
23	11/2	09/02/2016	Project Specific Requirements	”		
24	12/2	09/02/2016	Interviewing Process	”		40%
25	1/3	09/02/2016	Differences in Database Design Philosophies	”		
26	2/3	15/02/2016	Logical Database Design	”		
27	3/3	15/02/2016	Physical Database Design	”		
28	4/3	16/02/2016	Activities, Roles And Risks Involved In These Activities	”		
29	5/3	16/02/2016	Incremental Rollout	”		
30	6/3	16/02/2016	Security Management	”	Assignment 2	
31	7/3	22/02/2016	Database Backup And Recovery	”		
32	8/3	22/02/2016	Database Backup And Recovery	”		
33	9/3	23/02/2016	Demo of BI Tools	”		
34	10/3	23/02/2016	Demo of BI Tools	”		
35	11/3	23/02/2016	Demo of BI Tools	”		
36	12/3	29/02/2016	Demo of BI Tools	”		60%
37	1/4	29/02/2016	Growth Management	”		
38	2/4	01/03/2016	Application Release Concept	”		
39	3/4	01/03/2016	Post Implementation Reviews	”		
40	4/4	01/03/2016	Release Evaluation Activities	”		
41	5/4	08/03/2016	The Information Asset and Data Valuation	”		
42	6/4	08/03/2016	Actionable Knowledge – ROI	”		

43	7/4	09/03/2016	Actionable Knowledge – ROI	”		
44	8/4	09/03/2016	BI Applications	”		
45	9/4	09/03/2016	BI Applications	”	Assignment 3	
46	10/4	21/03/2016	The Intelligence Dashboard	”		
47	11/4	21/03/2016	The Intelligence Dashboard	”		
48	12/4	22/03/2016	The Intelligence Dashboard	”		80%
49	1/5	22/03/2016	Business View of Information technology Applications	”		
50	2/5	22/03/2016	Business Enterprise excellence	”		
51	3/5	28/03/2016	Key purpose of using IT	”		
52	4/5	28/03/2016	Key purpose of using IT	”		
53	5/5	29/03/2016	Type of digital data	”		
54	6/5	29/03/2016	Type of digital data	”		
55	7/5	29/03/2016	basics f enterprise reporting	”		
56	8/5	04/04/2016	basics f enterprise reporting	”		
57	9/5	04/04/2016	BI road ahead	”		
58	10/5	05/04/2016	BI road ahead	”		
59	11/5	05/04/2016	BI road ahead	”		
60	12/5	05/04/2016	BI road ahead	”		100%
61-70	Extra Curriculum	11/04/2016 To 20/04/2015	Learning Business Intelligence Tools	Projector		

Syllabus for Internal Assessment Tests (IAT)*

IAT #	Syllabus
IAT-1	Class # 01 – 30
IAT-2	Class # 30 – 54

Text Book Details

Book Type	Code	Author & Title	Publication information	
			Edition // Publisher	ISBN
Text Book	TB1	Larissa T Moss and ShakuAtre Business Intelligence Roadmap : The Complete Project Lifecycle for Decision Support Applications	Addison Wesley Information Technology Series	
Text Book	TB2	R N Prasad, Seema Acharya Fundamentals of Business Analytics	Wiley India, 2011	
Reference	RB1	David Loshin Business Intelligence	Morgan Kaufmann	
Reference	RB2	Brian Larson Delivering Business Intelligence with Microsoft SQL Server 2005	McGraw Hill	