Laxdu Singh Charitable Trust's (Regd.)
THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai*)
(Accredited Programmes by National Board of Accreditation, New Delhi**)
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*Permanent Affiliated UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology (w.e.f.: A.Y. 2015-16 onwards)
**1st time Accredited UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology
**2nd time Accredited UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology • Electronics Engineering (3 years w.e.f.: 01-07-2016)
ISO 9001 : 2008 Certified

TCET/FRM/IP-02/09 | **Semester Plan (Theory)** | **Revision: A**

Semester: III | **Course: IT**

Subject: ITC- 304: Database Management System | **Class: SE IT -A**

S.No.	Prerequisite/ Bridge course:	Duration (Week /Hrs)	Modes of Learning	Recommended Sources
1	Basic knowledge of operating systems and file systems and C Programming	2 hours	Self Learning/ Revision	**Textbooks:** 1. Programming in C, Balagurusamy 2. Operating system concepts by Galvin

Class Room Teaching

Sr. No	Module No.	Lesson No	Topics Planned (Technology to be used)	Teaching Aids Required	Planned /Completion Date	Resource Book Reference	Remarks
1		L1	SOP-Theory	Power point presentation, Chalk & Board	07/10/2017		
2		L2	SOP-Practical	Chalk & Board, Animation	07/11/2017		
3		L3	SOP-OBE	Chalk & Board, Animation	07/12/2017		
4	Module 1	L1.1	Introduction, Characteristics of databases	Chalk & Board, Animation	13/7/2017	1.6.2	
5	Module 1	L1.2	File system V/s Database system, Users of a Database system	Chalk & Board, Animation	13/07/2017	1.6.3	
6	Module 1	L1.3	Data Models, Schemas, and Instances	Chalk & Board, Animation	17/07/2017	1.6.4	
7	Module 1	L1.4	Three-Schema Architecture and Data Independence	Chalk & Board, Animation	18/07/17	1.6.5	
8	Module 1	L1.5	Database Administrator (DBA), Role of a DBA	Power point presentation, Chalk & Board	19/07/17	1.6.6	
9	Module 2	L2.1	Using High-Level Conceptual Data Models	Chalk & Board, Animation	20/07/17	2.6.2	
10	Module 2	L2.2	A Sample Database Application	Chalk & Board, Animation	20/7/2017	2.6.3	

11	Module	2	L2.3	Entity Types, Entity Sets, Attributes, and Keys	Chalk & Board, Animation	21/7/2017	2.6.4	
12	Module	2	L2.4	Relationship Sets, Roles, and Structural Constraints	Chalk & Board, Animation	24/7/2017	2.6.5	
13	Module	2	L2.5	Weak Entity Types	Power point presentation, Chalk & Board	26/7/2017	2.6.6	
14	Module	2	L2.6	Refining the ER Design for the COMPANY Database	Chalk & Board, Animation	27/7/2017	2.6.7	
15	Module	2	L2.7	ER Diagrams, Naming Conventions, and Design Issues	Chalk & Board, Animation	28/7/2017	2.6.8	
16	Module	2	L2.8	Examples and Case studies	Chalk & Board, Animation	31/7/2017	2.6.9	
17	Module	2	L2.9	Relationship Types of Degree Higher than Two	Chalk & Board, Animation	08/02/2017	2.6.10	
18	Module	3	L3.1	Introduction to Relational Model	Power point presentation, Chalk & Board	08/03/2017	3.6.1	
19	Module	3	L3.2	Relational Model Constraints and Relational Database Schemas	Chalk & Board, Animation	08/04/2017	3.6.2	
20	Module	3	L3.3	Concept of Keys: Primary Kay, Secondary key, Foreign Key	Chalk & Board, Animation	08/07/2017	3.6.3	
21	Module	3	L3.4	Mapping the ER and EER Model to the Relational Model	Chalk & Board, Animation	08/09/2017	3.6.4	
22	Module	3	L3.5	Examples and Case studies	Chalk & Board, Animation	08/10/2017	3.6.5	
23	Module	3	L3.6	Introduction to Relational Algebra	Power point presentation, Chalk & Board	08/11/2017	3.6.6	
24	Module	3	L3.2	Relational Algebra expressions for • Unary Relational Operations, • Set Theory operations	Chalk & Board, Animation	14/8/2017	3.6.7	
25	Module	3	L3.2	Relational Algebra expressions for Binary Relational operation	Chalk & Board, Animation	16/8/2017	3.6.8	
26	Module	3	L3.6	Relational Algebra Queries	Chalk & Board, Animation	18/8/2017	3.6.9	
27	Module	4	L4.1	Overview of SQL , Data Definition Commands	Chalk & Board, Animation	30/8/2017	4.7.1	
28	Module	4	L4.2	Set operations , aggregate function , null values	Power point presentation, Chalk & Board	31/8/2017	4.7.2	

29	Module	4	L4.3	Data Manipulation commands	Chalk & Board, Animation	09/01/2017	4.7.3	
30	Module	4	L4.4	Data Control commands	Chalk & Board, Animation	09/04/2017	4.7.4	
31	Module	4	L4.5	Views in SQL, Complex Retrieval Queries using Group By	Chalk & Board, Animation	09/06/2017	4.7.5	
32	Module	4	L4.6	Recursive Queries, nested Queries	Chalk & Board, Animation	09/07/2017	4.7.6	
33	Module	4	L4.7	Referential integrity in SQL	Chalk & Board, Animation	09/08/2017	4.7.7	
34	Module	4	L4.8	Referential integrity in SQL	Power point presentation, Chalk & Board	09/08/2017	4.7.7	
35	Module	4	L4.9	Event Condition Action (ECA) model (Triggers) in SQL	Chalk & Board, Animation	09/11/2017	4.7.8	
36	Module	4	L4.10	Database Programming with JDBC	Chalk & Board, Animation	13/9/2017	4.7.9	
37	Module	4	L4.11	Security and authorization in SQL Functions and Procedures in SQL and cursors	Chalk & Board, Animation	14/9/2017	4.7.10	
38	Module	5	L5.1	Design guidelines for relational schema	Chalk & Board, Animation	15/9/2017	5.6.1	
39	Module	5	L5.2	Functional Dependencies	Chalk & Board, Animation	18/9/2017	5.6.2	
40	Module	5	L5.3	Definition of Normal Forms-1NF, 2NF, 3NF, BCNF	Power point presentation, Chalk & Board	20/9/2017	5.6.3	
41	Module	5	L5.4	Definition of Normal Forms-1NF, 2NF, 3NF, BCNF	Chalk & Board, Animation	21/9/2017	5.6.4	
42	Module	5	L5.6	Converting Relational Schema to higher normal forms.	Chalk & Board, Animation	22/9/2017	5.6.5	
43	Module	5	L5.7	Converting Relational Schema to higher normal forms.	Chalk & Board, Animation	25/9/2017	5.6.6	
44	Module	5	L5.8	Examples & Case studie	Chalk & Board, Animation	10/04/2017	5.6.7	
45	Module	6	L6.1	Operation on Files	Chalk & Board, Animation	10/04/2017	6.11.1 , 6.11.2	
46	Module	6	L6.2	hashing Techniques	Power point presentation, Chalk & Board	10/05/2017	6.11.3,6.11.4	

47	Module 6	L6.3	Types of Indexes	Chalk & Board, Animation	10/06/2017	6.11.5	
48	Module 6	L6.4	Overview of B-Trees and B+-Trees	Chalk & Board, Animation	10/06/2017	6.11.5	
49			Revison / Practice Session for DMS Code	Chalk & Board, Animation	10/12/2017		
50			Revison / Practice Session for DMS Code	Chalk & Board, Animation	13/10/17		
51			University Paper Discussion	Chalk & Board, Animation	16/10/17		
Remark: Course:		Syllabus Coverage:		Practice Session: 2		**Content Beyond Syllabus:** Introduction to Data Mining with Weka Tool	
No. of (lectures planned)/(lecture taken): 51							

Advanced course: Fundamental of Database System	20 Hours	Online NPTEL videos with Hands on Training in Laboratory	**Web sources:** 1. NPTEL-https://onlinecourses.nptel.ac.in 2. www.tutorialpoint.com1. Instructor's study material, **Textbook reference:** Elmasri and Navathe, " Fundamentals of Database Systems", 6th Edition, PEARSON Education.

Text Books:

1. Korth, SIberchatz,Sudarshan, "Database System Concepts", 6th Edition, McGraw – Hill
2. Elmasri and Navathe, " Fundamentals of Database Systems", 6th Edition, PEARSON Education.
3. G. K. Gupta :"Database Management Systems", McGraw – Hill

References:

1. Raghu Ramkrishnan and Johannes Gehrke, " Database Management Systems",TMH
2. Hector Garcia-Molina, Jeffrey D. Ullman, Jennifer Widom "Database System Implementation", Pearson Ltd. 1/ e
3. Thomas M. Connolly Carolyn Begg, Database Systems : A Practical Approach to Design, Implementation and Management, 4/e, Pearson Education.

Digital Reference:

3.1 www.nptel.ac.in
3.2 www.tutorialpoint.com

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Name & Signature of Faculty Signature of HOD Signature of Principal /Dean (Academics)

Date: Date: Date:

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.
3. Planning is to be done for 15 weeks where 1st week will be AOP, 2nd -13th for effective teaching and 14th -15th week for effective university examination oriented teaching, mock practice session and semester consolidation.
4. According to university syllabus where lecture of 4 hrs/per week is mentioned minimum 55 hrs and in case of 3 lectures per week minimum 45 lectures are to be engaged are required to be engaged during the semester and therefore accordingly semester planning for delivery of theory lectures shall be planned.
5. In order to improve score in NBA, faculty members are also required to focus course teaching beyond university prescribed syllabus and measuring the outcomes w.r.t learning course and programme objectives.
6. Text books and reference books are available in syllabus. Here only additional references w.r.t. non –digital/ digital sources can be written (if applicable)

7. Technology to be used in class room during lecture shall be written below the topic planned within the bracket.