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 THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
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 (Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai")
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 **Permaent Affiliated UP Pogrammes: Computer Engineering * Electronics & Telecommunication Engineering * Information Technology (wc.f: A7.2015-16 Gawards)

 **It time Accredited UP Pogrammes: Computer Engineering * Electronics & Telecommunication Engineering * Information Technology * Electronics Engineering * Information * Electronics E



| TCET/FRM/IP-08/10 | | | | | | | | | |
|--------------------------------------|---|---|--|-----------------|----|---------|--|--|--|
| Semester Plan | | | | | | | | | |
| (Practical / Tutorials / Assignment) | | | | | | | | | |
| Semes | ter: V Course: B.E.(| IT) | Batches: LAB 203 A1, 206 A4 | | | | | | |
| Subjec | t: Advanced Database Management Systen | ı | Class: T.E(IT) A Batch Size: 24 | | | 20 | | | |
| Labora | tory faculty in charge: Mrs. Mary Margarat | Lab. Assistant /Attendant: Mr. Vinod Mourya | | | | | | | |
| Sr. No. | TITLES Experiments / Tutorials / Assignment | Planned Date | | Completion Date | | Remarks | | | |
| | (Planning with use of Technology) | A1 | A4 | A1 | A4 | | | | |
| 1 | Problem Definition and draw ER /EER diagram. | 26-07-17 | 26-07-17 | | | | | | |
| 2 | To Study SQL: A) To Study DDL, DML, DCL commands. B) To Study Order By, Group By, nested and recursive queries. C) To Study SQL Joins. | 26-07-17 | 26-07-17 | | | | | | |
| Design/ Development Experiments: | | | | | | | | | |
| 3 | To Study Advanced SQL 1: A) To Study Views, Constrains B) To Study Triggers and Assertions C) To Study SQL Store Procedure | 2-08-17 | 2-08-17 | | | | | | |
| 4 | To Study Advanced SQL 2: A) To Study Embedded SQL, Dynamic SQL and SQLJ. B) Implementation of integration of an application with database using JDBC. C) Implementation of Language Integrated Query (LINQ). | 9-08-17 | 9-08-17 | | | | | | |
| 5 | To Study database security techniques – SQL injection, inference attacks etc. | 16-08-17 | 16-08-17 | | | | | | |
| 6 | To implement Database Indexing and Hashing. | 30-08-17 | 30-08-17 | | | | | | |
| 7 | To Study Distributed Database: A) Implement Horizontal, Vertical and Hybrid fragmentation on Database. B) To study Query Processing and Optimization in Distributed Databases. | 13-09-17 | 13-09-17 | | | | | | |
| 8 | Creating and querying an Object database using ODL and OQL. | 13-09-17 | 13-09-17 | | | | | | |



Advanced course:

2

Database Application development

using open source database.

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| 9 | A. Problem Definition for a Data Warehouse, Construction of Star Schema Model. B. Creation of a DW and running OLAP operations on them (Roll up, Drill down, Slice, Dice, pivot) | 20-09-17 | 20-09-17 | | | | | | |
|--|--|------------|-----------|------------------------------------|---|--|--|--|--|
| Group Learning Activity: | | | | | | | | | |
| 10 | A) To Study ETL process. B) To Perform Data Loading, Cleansing and retrieval using Python and MySQL. | 20-09-17 | 20-09-17 | | | | | | |
| 11 | A) To Study Open Source Databases.B) To Study NoSQL. | 4-10-17 | 4-10-17 | | | | | | |
| 12 | Mini Project (Mini project based on entire curriculum of ADBMS) | 4-10-17 | 4-10-17 | | | | | | |
| Bridge courses Objective: Bridging of gaps with respect to prerequisites and industry skills or to carryout research in that particular field. (30 Hrs / Semester / student) | | | | | | | | | |
| S. No. | Bridge courses/Technology | Duration (| Week/hrs) | Modes of Learnin g | Recommended Sources | | | | |
| 1. | Prerequisite course: Database Management Systems | 2 Weeks / | 3 Hrs | Self- Learnin g/ Revision | Korth, Slberchatz, Sudarshan, :"Database System Concepts", 6th Edition, McGraw – Hill | | | | |

06 Weeks / 2 Hrs

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http://blog.capterra.co m/free-database-

http://opensourceforu.c

om/2015/01/developin g-applications-usingnosql-databases/

https://www.mongodb.

https://www.osalt.com/

https://www.mysql.com

com/scale/opensource-softwaredevelopment

databases

software/



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 **Permanent Affiliated UG Programmes: 'Computer Engineering - Electronics & Telecommunication Engineering - Information Technology (w.cf: A12015-16 onwards)

 **11 time Accredited UG Programmes: 'Computer Engineering - Electronics & Telecommunication Engineering - Information Technology ve.f: A12015-16 onwards)

 **2nd time Accredited UG Programmes: 'Computer Engineering - Electronics & Telecommunication Engineering - Information Technology ve.f: A12015-16 onwards)





| Mini /Minor Projects Objective: To get hands on experience to execute projects with respect to student choice in the following areas. (30 Hrs / Semester / Student). (Total 120 Hrs) | | | | | | | | | | | | |
|--|---|---------|-----------|--------------------------------------|----------------------------|----------------------------------|---|----------|-----------|--|--|--|
| The areas are : | | | | | | | | | | | | |
| | 1. Research 2. Core 3. Interd | | | | 3. Interdi | isciplinary | 4. Application | | | | | |
| Minor project : As per University Scheme | | | | | | | | | | | | |
| Sr. No | Project Title/Group Size | | Class | | Type / Project Hours | Modes of Learnin g | Modes of Learnin g | | | | | |
| 07 | Implementation of Database design with ER diagram, Star Schema, Snowflake Schema and Fact Table. Implementation data warehousing operations and ETL operation's for Open Source Databases. Database Application development using open source database. Group Size- 2 Students Per Group | | TE IT A | | Application / 120 Hrs | Project Based Learnin g | <u>http://searchsqlserver.t</u> <u>echtarget.com/definitio</u> <u>n/database-</u> <u>management-system</u> <u>http://datawarehouse4</u> <u>u.info/ETL-</u> <u>process.html</u> <u>https://www.osalt.com/</u> <u>databases</u> <u>http://www.dbta.com/C</u> <u>olumns/DBA-</u> <u>Corner/The-DBAs-</u> <u>Guide-to-Application-</u> <u>Development-</u> <u>92526.aspx</u> | | | | | |
| No. of Prac. | Plar | Planned | Completed | No. of | Planned | Completed | No. of | Planned | Completed | | | |
| | | 12 | | | Assign. | 03 | | Iutorial | | | | |
| DOSLNE: | | | | DOSLE (engaged in some other dates): | | | | | | | | |



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Group activities are required to be added with the practical related to course to enhance the learning activity of the student in the course. Group activity includes: Group presentation, new experiment design, mini projects etc.

Note:

1. The practical plan date and completion date shall be in compliance. For any non-compliance reason(s) required to be stated

in remark column.

2. Learning objective and outcome shall be clearly stated with each of experiments/ tutorials/ assignments and are required to be

mapped at the end of the semester.

3. Entry for DOSLE (engaged on some other date) shall be done with proper mapping to DOSLNE.

Mr. Shridhar Kamble Name & Signature of Faculty **Dr. Rajesh Bansode** Signature of HOD **Dr. R. R. Sedamkar** Signature of Principal/Dean (Academics)

Date:

Date:

Date: