

TWO WEEK ISTE WORKSHOP ON DATABASE MANAGEMENT SYSTEM

UNDER THE NATIONAL MISSION OF EDUCATION THROUGH ICT (MHRD, GOVT. OF INDIA)
CONDUCTED BY INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY
AT REMOTE CENTER POORNIMA COLLEGE OF ENGINEERING (1107)
ORGANIZED BY DEPARTMENT OF COMPUTER ENGINEERING



WORKSHOP DURATION: 21ST MAY 2013- 31ST MAY 2013

Working Team of the Workshop from Poornima College of Engineering

S.No.	Name	Designation
1	Prof. Mahesh Bundele	Centre Coordinator
2	Mr Ganpat Singh Chauhan	Workshop Coordinator
3	Md. Nawaid Anjum	Teaching Assistant
4	Mr Shivraj Singh Rajawat	System Administrator
5	Mr Manish Sharma	Network & A - View Coordinator
6	Mr Girdhari Singh	Supporting Staff
7	Jagdish Meena	Supporting Staff

Workshop Objective:

The basic aim of this workshop course was to expose those who have taught, or may be teaching, a course on databases to the way IITs do, with an emphasis on hands-on work through assignments, tutorials and projects. During this workshop tutors have the textbook Database System Concepts, 6th Edition, by Silberschatz, Korth, and Sudarshan. For the purpose of this workshop, all the slides are provided in the workshop website <http://www.it.iitb.ac.in/moodle/>.

During this main workshop Live lectures were given by Prof. S. Sudarshan, IIT Bombay. All the participating teachers have attended Lecture session at a remote centre, and also attended tutorial and lab sessions conducted in the same centre. The lecture transmission and live interaction took place through distance mode using the AVIEW technology and the Internet. The Workshop Coordinator supervised the conduct of tutorials and Labs. All the lectures and tutorial sessions are recorded. The final edited audio-visual contents, along with other course material will be released under Open Source. These contents can be freely used later by all teachers and students.

There were some quizzes also during morning lecture sessions. To attend the entire quiz we required Aakash Tablet with clicker software. We have provided each participant one Aakash tablet.

There were rigorous lab assignments during post lunch session from 2pm-5pm every day. We have used **PostgreSQL on Ubuntu12.04** during lab sessions. We used Eclipse IDE for building JAVA programs and used Apache Tomcat for building Java Based web applications. All the participants have to submit one project within 15 days of completion of this main workshop. There are some phases regarding project submission (like proposing project, ER model, database design). Projects will be submitted in teams of size of 3-4 members in each team.

We would love to see students all across India exposed to a hands-on approach to database systems, which complements theory with practise.

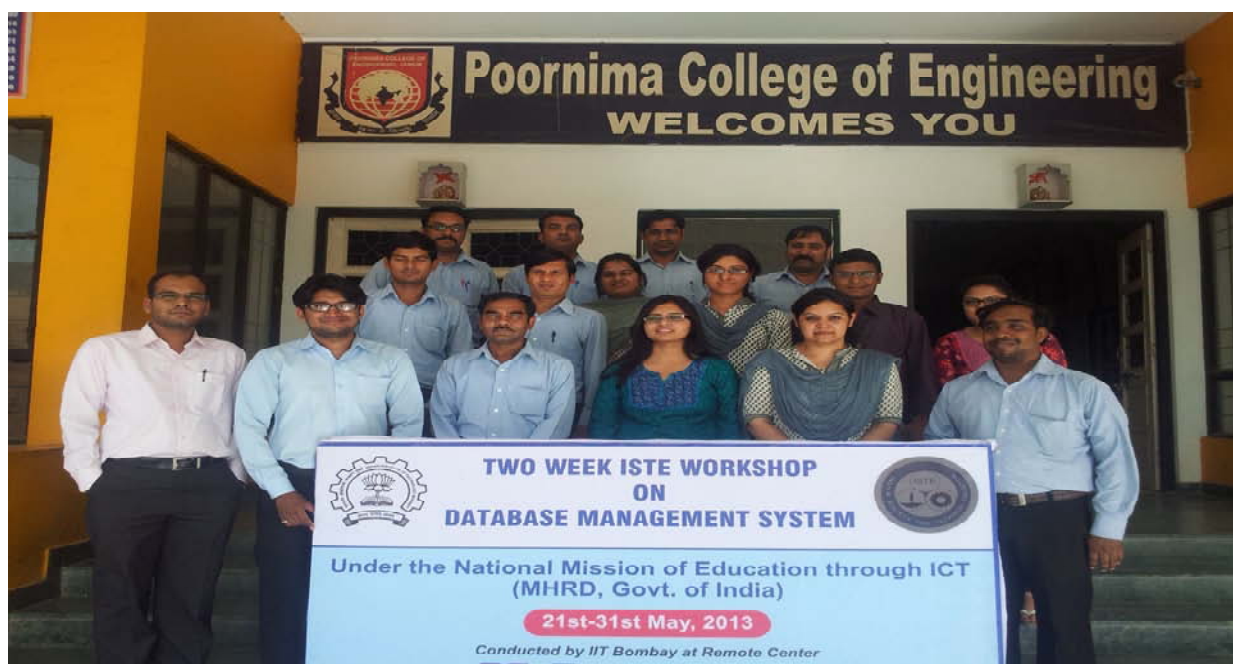
Around 24 participants registered for this workshop at remote centre PCE but only 15 participants attended this workshop. The details of the attended are as below:

Sr.No	cid	Name	Last name	Organization
1	499295	Manish kumar	Sharma	Poornima College of Engineering, Jaipur
2	501545	Sunali	Sharma	Poornima College of Engineering, Jaipur
3	501832	Pradeep	Natani	Poornima Institute of Engineering and Technology
4	501829	Ekta	Arora	Poornima Institute of Engineering and Technology
5	501828	Deepak	Moud	Poornima Institute Of Engineering & Technology
6	501845	Krutibash	Nayak	Poornima College of Engineering, Jaipur
7	502082	Madhuri	Gupta	Poornima Institute of Engineering & Technology
8	502836	Ranjana	Rathore	Poornima Institute of Engineering & Technology
9	503058	Amol	Saxena	Poornima College of Engineering, Jaipur
10	503857	Devendra	Gupta	Poornima College of Engineering, Jaipur
11	504737	Mahesh	Bundeale	Poornima College of Engineering, Jaipur
12	505123	Shikha	Gautam	Poornima university
13	505337	Ajay	Khunteta	Poornima College of Engineering, Jaipur
14	505656	Gyan	Singh	Govt. Engineering College Ajmer
15	505650	Vivek	Dubey	Govt. Engineering College Ajmer

The Course contents of Database Management System:

Overview of data management systems. Relational model and query languages (relational algebra and calculus, SQL). Database design using the ER Model, ER Diagrams, UML Class Diagrams. Relational database design and normalization. Integrity and Security. Design and development of Web based information systems.

- Overview of storage structures, indexing. Query processing and optimization, and transaction processing.
- A brief introduction to decision support and data analysis, data warehousing and data mining and Information Retrieval. BIG data (Hadoop).



A brief description of Day wise Activities

Day 1: Tuesday, 21 May 2013

Time: 9:00 - 17:00

1: Welcome to all the Participants with Welcome Kit and Registration of the participants.

2: Local Inaugural Ceremony at PCE Level

“Q-Sheet – Inaugural Ceremony 21st May-13”

Time: 8:30AM - 9:00AM

Inaugural remarks at IIT Bombay (15 mins)

Morning session: Relational Model, SQL Part 1: Relations and Relational Algebra, Basic SQL, Joins, Set operations (Chapters 1, 2 and 3) . (Last 30 min discussion/quiz)

Post-Lunch Session: **Lab 1: Basic SQL Installing**, administering and using PostgreSQL and pgAdmin3; Basic SQL queries.

Day 2: Wednesday, 22 May 2013

Time: 9:00 - 18:00

Morning session: SQL Part 2: Aggregate functions, Nested Sub queries, Database modification (Chapters 3 and 4). (Last 30 min discussion/quiz)

Post-Lunch Session: **Lab 2: Intermediate SQL Aggregation**, nested sub queries, database modification.
Linux System Admin. (IITB CSE Sysadms)

Day 3: Thursday, 23 May 2013

Time: 9:00 - 17:00

Morning session SQL Part 3: Outer joins, Transactions, Integrity constraints, Triggers, Authorization, JDBC (Chapters 4 and 5). (Last 30 min discussion/quiz)

Post-Lunch Session: **Lab 3: Advanced SQL**
Outer joins, DDL: integrity constraints, authorization

Day 4: Friday, 24 May 2013

Time: 9:00 - 18:00

Morning session: ER Design (Chapter 7) (last 30 min discussion/quiz)

Post-Lunch Session: **Lab 4: ER Design Tutorial** (Last 45 mins for solutions discussion, broadcast). **Setting up Moodle** (Abhilash K.S.)



Day 5: Saturday, 25 May 2013

Time: 9:00 - 17:00

Morning session: Normalization (chapter 8) (last 30 min discussion/quiz)

Post-Lunch Session: Lab 5: Normalization Tutorial (Last 45 mins for solutions discussion, broadcast)



Day 6: Monday, 27 May 2013

Time: 9:00 - 18:00

Morning session: Building Web Applications, Storage Servlets, Sessions, Application Security (Chapters 9, 10),(last 30 min discussion/quiz)

Post-Lunch Session: Lab 6: Database Access using JDBC, Database Research Directions: Part 1

Day 7: Tuesday, 28 May 2013

Time: 9:00 - 17:00

Morning session: Indexing and Query Processing (Chapters 11 and 12),(*last 30 min discussion/quiz*)
Post-Lunch Session: Lab 7: Building Web Applications using Servlets

Day 8: Wednesday, 29 May 2013

Time: 9:00 - 18:00

Morning session: Big Data and Parallel Processing; Query Optimization (Chapter 13, notes) (*last 30 min discussion/quiz*)
Post-Lunch Session: Lab 8: Indexing/Query Processing Lab, Database Research Directions: Part 2

Day 9: Thursday, 30 May 2013

Time: 9:00 - 17:00

Morning session: Transactions, and Concurrency Control (Chapters 14, 15) (*last 30 min discussion/quiz*)
Post-Lunch Session: Lab 9: Big Data and Hadoop

Day 10: Friday, 31 May 2013

Time: 9:00 - 17:00

Morning session: Recovery; Intro to Data Mining & Information Retrieval (Chapters 16, 20, 21) (*last 30 min discussion/quiz*)
Post-Lunch Session: Lab 10: Transactions and Concurrency

16:30 – 17:00 Valedictory

