

One Week ISTE Workshop for Coordinators

on

Database Management Systems

Under the

**National Mission on Education through ICT
(MHRD, Govt. of India)**

6th – 10th May, 2013

Conducted by IIT Bombay



Coordinator:

Prof. S. Sudarshan

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Introduction to the Workshop

An important initiative has been taken by IIT Bombay to work with Engineering Colleges in the country, to enhance the teaching skills of our faculty colleagues in core Engineering and Science Subjects. Under this project called "Empowerment of Students & Teachers through Synchronous & Asynchronous Instruction," IIT Bombay conducts two-week ISTE workshops during the vacation period in summer and winter. Live lectures are given by IIT faculty. The participating teachers attend at a remote center close to their own college, and also attend tutorial and lab sessions conducted in the same center. The lecture transmission and live interaction takes place through distance mode using the AVIEW technology and the internet, at selected remote centers across the country. This initiative is part of the National Mission on Education through ICT, supported by MHRD. Faculty coordinators are appointed at each remote center, to handle the technology infrastructure and other operational logistics. Additionally, for each workshop, there is a workshop faculty coordinator for that subject who will help in the conduct of labs and tutorials at that center.

We invite expert faculty from various remote centers for a five-day Coordinators' training workshop which is held in IIT Bombay, before the main workshop. These Coordinators then act as Workshop Coordinators during the main workshop, liaising between the participants at their Remote Centers and IIT Bombay from where the workshop is transmitted live. During the main workshop, the Workshop Coordinator at every center supervises 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.

Since December 2009, we have conducted two-week ISTE workshops on "Effective teaching/ learning of Computer Programming," "Database Management Systems," "Basic Electronics," "Thermodynamics," "Software Development Techniques for Teachers of Engineering and Science Colleges," "Heat Transfer," "Solar Photovoltaics," "Introduction to Research Methodology", and "Engineering Thermodynamics" We have reached more than 30,000 teachers and helped them to enhance their teaching skills at around 235 distinct Remote Centers across the country.

In the backdrop of the success of these workshops, we now announce another two-week ISTE workshop, on **Database Management Systems**, to be held in **May 2013**.

One Week Coordinators' Workshop

The proposed Coordinators' Workshop, to support the above, is being organized at IIT Bombay from **6th to 10th May 2013**. This workshop will provide a complete orientation to the prospective Workshop Coordinators, on the methodology to be followed in this project. This will include the delivery of live lectures through the AVIEW mechanism of interaction with participants, and the local conduct of tutorials and labs. Since the final contents are meant to be adopted by most colleges across the country, this workshop will finalize the following for the subject of **Database Management Systems**:

- (a) Definition of common syllabus to be covered.
- (b) Graded coverage from simple to difficult levels for each topic and subtopic.
- (c) Nature of tutorials, keeping the above gradation and the typical examination pattern in mind, but leading to the typical advanced levels reached in such subject teaching, at the top institutions of the world.
- (d) Discussion of laboratory environment and the experiments to be conducted, if any.
- (e) Use of the learning management system, audio-visual equipment, editing tools.
- (f) Other logistic details for conducting the main workshop.

Tentative syllabus, proposed for Database Management Systems, is given below. The final course content will be finalized later.

Teaching Faculty

Prof. S. Sudarshan, Department of Computer Science
<http://www.cse.iitb.ac.in/~sudarsha/>

Duration and Venue

The duration of the workshop is one week (**6th – 10th May, 2013**), and it will be conducted in IIT Bombay.

Note

Please note that this workshop is conducted under the eOutreach project of IIT Bombay. Live recording of the course and other created contents would be released under Open Source, through a portal. The recorded CD/DVD of the course lectures would be available for distribution at cost, to any individual/ institution. All participants are required to sign a No Objection certificate for such release of contents contributed by them during and after the workshop. All contributors will be acknowledged.

Accommodation & other support

Shared Guest House accommodation with standard boarding will be provided free to the participants depending on availability. However, accommodation is not guaranteed.

Course Fee

Since the workshop is funded by the National Mission on Education through ICT (MHRD, Government of India), there is no course fee for participation. Travel fare reimbursement will be made for up to A/C 2-tier or lowest return airfare, as per GOI entitlement.

Who may benefit

The workshop is likely to benefit faculty colleagues, who are willing to be prospective Workshop coordinators for the larger main workshop to be held on **21st – 31st May, 2013**.

It is mandatory that the prospective coordinators should have taught a course on Database Management Systems. The coordinators who have attended the earlier workshop of 2010 may attend the workshop scheduled in May 2013, but it is not mandatory for them. Updates to the coordinators of the earlier workshop will be provided online in moodle.

The prospective coordinator should be familiar with the syllabi and examination pattern of their own college or university. It is preferable that they should have at least 3 years of experience in conduct of ISTE, QIP workshops.

Course Content

- *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.*
- *Querying Big Data using Hadoop.*

Important Note:

It is mandatory that the participant's Institute is well equipped to conduct the workshop through the NKN/ internet for a minimum of 30 participants. For a remote center a primary requirement is provision of one computer per participant, with Linux (preferable) or Windows as the operating system. This is for the laboratory component of the course.

It is also mandatory that the participants bring a document from the Heads of their institutes to the effect that the institute is willing to be part of this project.

The prospective coordinators are expected to read all the relevant material available on moodle before coming to IIT Bombay.

How to Apply

Those wishing to attend this course should register online at <http://www.it.iitb.ac.in/nmeict>

Confirmation of registration will be sent by email. **Enrollment will be strictly online.**

LAST DATE FOR ONLINE ENROLLMENT:

18th March, 2013

Address for Communication:

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