**Certificate Course on “Spread Sheet Modelling for Business Optimization: A Case Based Approach”**

**April 15-19, 2016 (Module 1&2)**

**May 16-21, 2016 (Module 3&4)**

**Venue: SOB Computer Lab**

**Introduction**

Today the business world becomes more complex and competitive in nature. The business decision depends not only on the internal environment but also the macro economic factors play a significant role. Therefore quick and error free decisions are the driving factors for enhancing the value of a business.

Electronic Spread sheet software can be considered as software with financial statistical, Statistical and Mathematical functions that helps to take better business decisions. Graphics features of the packages enable the improved the presentation of the results and data. The data management function offered by these packages provide good interface with spread sheet data bases. The table handling facilities such as table look up, result tabulation by substitution of the given values in the specified cells enable the user to perform complex what-if analysis. These features qualify the Spread Sheet packages to be used as Decision Support Systems (DSS) generators in a limited sense. Today these packages are extensively used in development Decision Support Systems for cash flow projections, project investment analysis, budgeting, resource optimization and business planning and forecasting. These packages have replaced the use of conventional programming languages for almost all modelling problems, since they can be modelled and solved on spread sheets without writing a single line of code.

The popular Electronic Spread Sheet packages are: Excel (MS Excel), Quattro, Lotus-123, IFPS, VP Planner, Multi-Plan, Super Calc and Visi Calc. Almost all these packages have windows versions now.

**Programme Content:**

**Module-1 (12 hours)**

Elementary Spreadsheet and Problem Solving Concepts, Financial Modelling with Spreadsheet (what-if, goal-seek, data tabulation, scenario building, NPV, IRR), Table look-up in Spreadsheet (index, match, v-lookup, h-lookup, lookup)

**Module-2 (12 hours)**

Data Management with Spreadsheet (sort, filter, D-functions, pivot table, composite criteria in filtering, conditional formatting), Date and Time in spreadsheet (day month, year, hour, minute)

**Module-3 (10 hours)**

Character Strings in Spreadsheet, Matrix and Regression in spreadsheet (array function, matrix arithmetic, regression)

**Module-4 (06 hours)**

Formulation and solving optimization problem in Spreadsheet (Solver)

**Module-5**

Enhancement of Excel functionality through VBA: User Defined Functions, Constructs for iteration in VBA, Algorithms and Pseudo codes; arrays in VBA.

**Objectives of the Short Term Course:**

* To provide an understanding of information Technology and its managerial applications.
* To introduce electronic spreadsheet as a decision support tool for management applications and to build capabilities to model management applications for analysis on spread sheets.
* To introduce basic concepts of programming methodology and to provide skills to develop algorithmic application, extensions to spreadsheet functionality.

**Pedagogy**

The topics will be deal through a mix of case discussions and spreadsheet exercises.

**Programme Fee**

Rs. 3600/- per participant

 **Eligibility and Selection Criteria**

Open to persons from Industry, Ph.D. Scholars from Universities, Research Institutes, Young Faculty members of Colleges/Universities and students (PG and UG Final Year) in India. The candidates are required to attach a Demand Draft (as a course fee, non-refundable) of Rs. 3600/- in favor of ITM University-Gwalior payable at Gwalior and clearly mentioning the participant’s name at the back (overleaf) with duly filled application form with One page CV and One page Letter of Expression of Interest and send to the Coordinator by 8th April, 2016.

Fees can be paid online with following details. Please inform transaction id after payment.

A/c Name - REGISTRAR, ITM UNIVERSITY GWALIOR

A/C NO. - 24660210000090

IFSC CODE- UCBA0002466

BANK NAME - UCO BANK

BRANCH NAME - SITHOLI BRANCH, GWALIOR (M.P.)

 **Programme Coordinator**

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