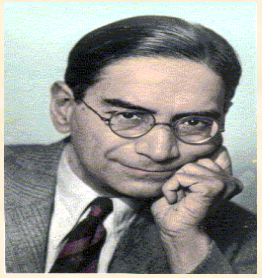
Indian Statistical Institute

SQC & OR Unit, Hyderabad



Announces Certification Program for

Business Analytics
with
Six Sigma MBB

Phase – I : 16th to 21st May 2016
Phase – II : 13th to 18th June 2016

Last Date for Registration
6th May 2016

Street No 8, Habsiguda, Hyderabad – 500007
Phone: (040) 27153984/2171906 Fax: (040) 27173602
Website: www.isihyd.ac.in Email: bassmbbhyd@gmail.com

Note : Any changes/cancellation of the program offering will be at the discretion of the Institute and will be intimated accordingly.

Introduction

Indian Statistical Institute, Hyderabad announces a unique certification program for "Business Analytics with Six Sigma Master Black Belt" during May/June 2016. "DATA" is gradually becoming the fundamental corporate resource and new driver of Business. Efficient analysis of it (BIG DATA) is the objective of Business Analytics and is the need of the hour for effectively identifying those hidden but highly impactful CTC & CTB requirements of an organization for initiating breakthrough improvements. This program is aimed at assisting already trained personnel (Black Belts etc.) to Master Business Analytics and Big Data handling skills along with Six Sigma so that they can play a strategic role in Business Excellence.

Big Data (BD)

Big data is a collection of large data sets (size, dimensionality, complexity etc.) archived across all stake holders of an organization over a number of years and made available for analysis. The need for analysis of big data arises from the fact that it has the potential to provide the hidden and generally unknown information which has the potential to transform an organization in the market. These large and complex data sets cannot be processed efficiently using traditional methods & tools. Challenges in analysis include understanding, cleaning, searching, visualization, modelling, prediction etc. Statistical Methods, both advanced as well as simple provide excellent techniques to analyse big data efficiently

Business Analytics (BA)

Present day Business is being driven by 3 D's (Data, Dimensions and Discovery). In this highly competitive, customer dominating and cost sensitive market, success of an organization is becoming directly proportional to its ability to extract maximum information from the tera/penta… bytes of complex **Data** on multiple **Dimensions** of customers/organizational processes for **Discovering** the unknown strategies of achieving Business Excellence. Business analytics can be efficiently executed by individuals trained in Statistical and Optimization Techniques for effectively handling Big Data. Traditional data analysis methods are no doubt required but they are not efficient for handing multidimensional big data for predictive analytics. This program is so designed to build the Statistical & Analytical skills of already trained Six Sigma Black Belts to enable them to analyse Big and multidimensional complex data in the most efficient & effective manner and building predictive business models for developing business strategies.

Six Sigma Master Black Belt (MBB)

Six Sigma is not just a Quality/Productivity improvement methodology; it aims at achieving Business Excellence using Data as a primary driver and Statistics as a key technology. Six Sigma MBB possessing Business Analytics skills will be in a perfect position to understand business requirements, analyse the big data in a structured manner by associating the key issues of the customer & organization and finally deliver most efficient solutions. The strength of Six Sigma methodology (DMAIC/DFSS/Lean) comes from its focus on voice of customer and achieving breakthroughs by performing analytics on customer/organizational data in a structured manner using statistical thinking and optimization techniques. Master Black Belts (MBBs) are the central pillar of Six Sigma and analytics initiative of an organization and has the potential to play the role a data scientist. They install a new mind-set of driving business improvements through statistical thinking, building statistical skill sets, and a structured/disciplined project execution approach that helps an organization towards achieving Business Excellence.

The curriculum of this BA with MBB certification program is meticulously designed to enable a Black Belt to develop the necessary analytical skills to handle big data by understanding, cleaning, structuring, building predictive models and finally providing an optimal solution to a strategic business issue of an organization. Business Analytics along with their Mastering Six Sigma Skills will enable an individual to provide cutting edge solutions.

Eligibility Criteria

Six Sigma Black Belt : Certified by Indian Statistical Institute **OR** any reputed Institution /Organization /Association /Certification body **AND/OR** successfully completed the **"Part-Time Course in SQC"** of Indian Statistical Institute OR at least six months specialized course in Quality Management science from any recognized Institution with **Advanced Six Sigma Green Belt Certification. Preference will be given to those having** experience in Quality/Analytics related functions and successfully executed/mentored/guided Six Sigma Black Belt/Green Belt OR Quality/Productivity Improvement/Analytics projects leading to significant organizational benefits (customer/bottomline).

Program Structure

The whole program is designed under **FOUR** fundamental skill/knowledge dissemination modes. **1. Class Room Teaching 2. Individual/Group Assignments/Presentations 3. Project Works and 4. Teaching Work.** Live as well as simulated Datasets (Small/Big)/Case Studies/Published Papers will be used for teaching as well as assignment works. During the two phases and Final Exam, the participants need to submit assignments on a regular basis. Statistical Software such as Minitab, R, Statistica, JMP, SPSS etc. will be used depending on the requirement during the program. The participants are expected to have a good knowledge of Minitab & R Programming before joining the program.

Certification Criteria

Participation Certificate

- Minimum 75% attendance and 80% Marks in the Overall Assessment. The assessment consists of 1. Submission of all Assignments 2. Teaching/presentation Assignments 3. Defending a Project (Six Sigma/Analytics) 4. Written Examination on the last day (18th June 2016).

(BA with MBB Card) : **The Following requirements to be submitted within one year of receiving the participation certificate.**

1. Proof of Execution of **TWO (2)** Analytics Projects - Submission of Project Reports for evaluation (Business Analytics Requirement)
2. Proof of Execution/Mentoring/Guidance of Six Sigma Projects : Submission of Executive Summary & Presentation Slides of **THREE (3)** Six Sigma Improvement Projects for evaluation.

3. Teaching/Training Experience : Proof of adequate credential indicating a minimum of **50 hours** of Teaching/Training in Six Sigma/Quality related topics.

4. Attended at least **ONE** conferences/workshops/seminars on Business Analytics/Six Sigma/Quality related topics **AND/OR** publishing a paper in a reputed national or international journal / presenting a paper in an international or national conference.

Program Fee : **Rs 60,000/- (per participant)** (In addition applicable Service Tax & SBC, presently 14.5%)

Discount (per participant) : A discount of Rs 5,000/- will be given to Group Participation (3 or more participants from the same organization or Self-sponsoring individual participants. An **additional** Discount of Rs 5,000/- will be given to the self-sponsoring past students of Indian Statistical Institute who have successfully completed the Part-Time Certificate Course in Statistical Quality Control.

Accommodation : **Twin Sharing** Guest House Facility may be made available to outstation participants (Rs 500/- per day with Breakfast & Dinner)

Payment Mode : Selected/eligible candidates need to pay the fee along with the applicable taxes in full at the beginning of the program (Part payment is not acceptable) in the form of **Demand Draft drawn in the favour of Indian Statistical Institute, Payable at Hyderabad or Online Bank Transfer(NEFT ONLY).**

Online Transfer Details : (ONLY NEFT) **Bank Address - Syndicate Bank, J S N Colony, Habsiguda, Hyderabad.**
Account No : 30451010000079 / IFSC Code : SYNB0003045

Venue : Lecture Hall, Indian Statistical Institute, Hyderabad **Timings** : 0930 to 1730 hrs

Faculty : Senior Faculty members with over 30 years of Industrial Consultancy and Teaching/Training Experience.

Registration/Nomination Procedure : Registration Forms along with the details as specified in the registration form need to be sent along with the fee to the Program Facilitator on or before **6th May 2016**. (Fee will not be refunded subsequent to confirmation of registration).

K Venkata Ramana
Program Facilitator

For any further details Contact / Mail :
bassmbbhyd@gmail.com
(040) 27153984 / 27171906

Prof. G Murali Rao
Program Director

BA with MBB Curriculum

1. **Business Analytics & Big Data Preliminaries/Overview**
   - An over view of Big Data & Business Analytics
   - Understanding Business & its Management
   - Over view of Statistical Software for BA

2. **Quality & Six Sigma Preliminaries/Overview**
   - Present Day Business Scenario and Driving need for Analytics
   - Six Sigma & Statistical Thinking
   - An overview of Six Sigma methodologies, DMAIC, DFSS and Lean Six Sigma
   - Product/Process Understanding : SIPOC, VSM, FMEA etc
   - Master Black Belt –Roles & Responsibilities of Six Sigma MBB/Skills/Projects/Trainer etc.

3. **Business Analytics – I (Descriptive Analytics)**
   a. Data Aggregation/Scrutiny/Cleaning
   b. Data visualization/Graphical Methods - EDA
   c. Descriptive Statistics
   d. Data and Text Mining techniques etc.
   e. Theory of Probability & Probability Distributions
   f. Product & Process Characterization
   g. Understanding & Identifying the distributional behaviour of business processes.

4. **Business Product/Process Evaluation**
   a. Measurement System Analysis (Continuous & Discrete)
   b. Stability Diagnostics & Analysis
   c. Statistical Process Control
   d. Process Capability Analysis and

5. **Advanced Statistical/Analytical Methods**
   a. Introduction to inferential statistics & decision making
   b. Theory of Estimation and Sampling Distributions
   c. Tests of Hypotheses
   d. Non Parametric Methods

6. **Business Analytics - II (Predictive Analytics- Univariate)**
   a. Introduction to Statistical Modelling of Business
   b. Analysis of Variance & Generalized Linear Models etc.
   c. Correlation & Regression Analysis, Different modelling methods
   d. Logistic Regression Models etc.
   e. Regression and modelling Diagnostics
   f. Time series Analysis and Models

7. **Business Analytics – II (Predictive Analytics - Multivariate)**
   a. Introduction multidimensional aspects of Business
   b. Principal Component Analysis
   c. Discriminant Analysis
   d. Factor & Cluster Analysis
   e. Partial Least Squares
   f. Support Vector Machines
   g. Market Basket Analysis & Segmentation
   h. Classification & Regression Tree (CART)

8. **Business Analytics – III (Prescriptive Analytics)**
   a. Business Process Optimizations – DOE/ Response Surface Methodology /Robust Designs
   b. Business Process Optimizations – Operations Research Methods
   c. Business Process Optimizations – Simulation Methods
   d. Machine Learning/Signal Processing etc.

About the Institute

The Indian Statistical Institute (I.S.I.), founded by Professor Prasanta Chandra Mahalanobis, grew out of the Statistical Laboratory set up by him in the Presidency College in Kolkata in the year 1931. In 1959, in recognition of the role of statistics as a key technology of the modern times and the importance of the Institute in the development and application of statistics, the Parliament of India enacted the Indian Statistical Institute Act, declaring it an Institution of National Importance. The Institute is now considered as one of the foremost centres in the world for training and research in statistics and related sciences. In keeping with this long tradition, the Institute has been engaged in developing statistical theory and methods and their practical applications in various branches of science and technology.

The major objectives of the Institute, as given in its Memorandum, are

to promote the study and dissemination of knowledge of statistics, to develop statistical theory and methods, and their use in research and practical applications generally, with special reference to problems of planning of national development and social welfare;

to undertake research in various fields of natural and social sciences with a view to the mutual development of statistics and these sciences;

to provide for, and undertake, the collection of information, investigation, projects and operational research for purposes of planning and the improvement of efficiency of management and production.

The Institute initiated the Quality Movement in India as early as 1947. Through its SQC & OR Division the Institute is providing assistance to Indian industry relentlessly since then to achieve high quality and productivity at an affordable cost.

About the SQC & OR Unit, Hyderabad

The Statistical Quality Control and Operations Research (SQC & OR) Unit at Hyderabad of the Indian Statistical Institute was established in the year 1974 with the objective of helping industries in Andhra Pradesh and also industries of other states close to Hyderabad for promoting and propagating statistical and quality management methodologies.

The SQC & OR Unit, Hyderabad is one of the major Units of the SQC & OR Division of the Indian Statistical Institute. SQC & OR Division was created by Professor Mahalanobis exclusively for helping the Indian industries in managing quality and productivity problems with the application of Statistical as well as Quality Management methodologies.

SQC & OR Unit, Hyderabad has immensely contributed to the SQC & OR Division's activities such as

- Playing a pioneering role in the Quality Movement in India and setting path for quality control and improvement activities for the Indian industries through promotion and applications of statistical and operations research methodologies.
- Serving the industries in India and abroad over the last five decades by providing training and consultancy on quality concepts and methodologies such as TQM, Taguchi Methods, Quality Function Deployment, Six Sigma, and Quality Systems.
- Collaborating and exchanging ideas with quality gurus. Some experts like Shewhart, Deming, Juran, Taguchi, Ishikawa, Ott, Tippet and Suda visited ISI at various points of time and interacted with ISI faculty.

A large number of Manufacturing, Service, IT, BPO & KPO industries have been benefitted by the services of SQC & OR Unit Hyderabad. Reliance, ITC, Wipro, HSBC, BHEL Dr. Reddy's etc. to name a few.

Indian Statistical Institute, SQC & OR Unit, Hyderabad

Certification Program for

Business Analytics with Six Sigma Master Black Belt

Phase – I : 16th to 21st May 2016
Phase – II : 13th to 18th June 2016

Registration Form

Participant (s) Details

Sl. No	Name	Organization	Designation	Age	Highest Qualification	Years of Experience (Analytics/Six Sigma/Quality)
1						
2						
3						

The following details need to be provided for each participant

a. Brief (max : one or two pages) resume of the participant describing his/her experience in Analytics/Six Sigma/Quality/Application of Statistical Methods related areas.

b. Title and one page write up (Executive Summary) for each of the Analytics/Six Sigma/Improvement Projects executed (Minimum Two)

c. Photo copy of the certificates (Six Sigma Black Belt/Statistics or Quality related Academic/Training Programs.)

Details of Program Fee (Demand Draft drawn in the favour of Indian Statistical Institute, Payable at Hyderabad.)

No. of Participants	Program Fee	Discounts Availed (if any)	Payable Program Fee	Applicable Taxes	Draft Amount	Draft No. & Date

Details of Bank Transfer : Bank Name/Date/Transaction Details

Contact Details : Postal Address

Mobile : Email :

Name & Signature