DATA ANALYSIS AND DECISION MAKING - II

MANAGEMENT

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TYPE OF COURSE : New | Elective | PG
INTENDED AUDIENCE : M.E/M.Tech, M.S, PhD

COURSE OUTLINE :
This is the first part of the three part course (DADM-I, DADM-II, DADM-III) which covers Operations Research and its tools with applications. In general Decision Analysis and Decision Making (DADM) covers three main areas which are: Operations Research and its tools with applications, Other Decision Making Models like DEA, AHP, ANP, TOPSIS, etc., and Multivariate Statistical Analysis with its applications. This three part DADM course will be more practical and application oriented rather than theoretical in nature.

ABOUT INSTRUCTOR :
Raghu Nandan Sengupta completed his bachelors in engineering in Mechanical Engineering from Birla Institute of Technology Mesra, Ranchi INDIA and his FPM (PhD) from Indian Institute of Management Calcutta, INDIA with specialization in Operations Management. His research interests are in Sequential Analysis, Statistical & Mathematical Reliability, Optimization and its use in Financial Optimization. His research work has been published in journals like Metrika, European Journal of Operational Research, Sequential Analysis, Computational Statistics & Data Analysis, Communications in Statistics: Simulation & Computation, Quantitative Finance, etc. At Indian Institute of Technology Kanpur, INDIA he is a Professor in the Industrial & Management Engineering department and teaches courses like Probability & Statistics, Stochastic Processes & their Applications, Management Decision Analysis, Financial Risk Management, etc. He is also the recipient of IUSSTF Fellowship 2008 and visited Operations Research & Financial Engineering department at Princeton University, USA, ERASMUS MUNDUS Fellowship 2011 to Warsaw University, POLAND, EU-NAMASTE Fellowship 2015 to IST, University of Lisboa, PORTUGAL, DAAD Fellowship 2015 to TU Dresden, GERMANY.

COURSE PLAN :
Week 01 : MCDM, MAUT and related concepts
Week 02 : Utility theory, Pareto optimality and related concepts
Week 03 : Decision Trees
Week 04 : Data Envelopment Analysis (DEA)
Week 05 : Analytical Hierarchy Process (AHP) and Analytical Network Process (ANP)
Week 06 : TOPSIS
Week 07 : ELECTRE
Week 08 : PROMETHE
Week 09 : MACBETH
Week 10 : SWOT analysis and System analysis
Week 11 : Other Decision Making tools
Week 12 : Fuzzy Logic

EXAM DATE : 28 Apr 2019
INDUSTRIES APPLICABLE TO : Manufacturing industry, chemical industry, steel industry, cement industry, etc.

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