DECISION SUPPORT SYSTEM FOR MANAGERS

MULTI-FACULTY

PRE-REQUISITES : Interested Learners

INTENDED AUDIENCE : Management, Industrial and Systems Engineering, Mechanical Engineering, and related disciplines.

INDUSTRIES APPLICABLE TO : Tata Group of Industries, Multinationals, L&T, and similar such manufacturing and service organizations including IT companies

COURSE OUTLINE :
This course is designed with the purpose of making the participant an effective user as well as a builder of Decision Support systems (DSS). The course is application oriented and particularly focused towards solving semi-structured decision problems faced by managers in manufacturing and service organizations.

ABOUT INSTRUCTOR :
Prof. Kunal Kanti Ghosh has over three decades of experience at various levels in the automobile industry. He was the "Corporate Initiatives Head" of Tata Technologies Ltd and was adjudged the "Best Young Materials Manager" by the Indian Institute of Materials Management in 1986.

Prof. Anupam Ghosh obtained Masters Degrees with specializations in Supply Chain Management, Accounting, and Commerce. His PhD is on Information Visibility in Supply Chain. He has about 13 years of teaching experience in Supply Chain Management, Supply Chain Analytics, and International Marketing.

Prof. Sujoy Bhattacharya is working in the area of Business Analytics. He teaches Business Analytics, Advanced Business Analytics and Data Science Lab courses in IIT Kharagpur.

COURSE PLAN :

Week 1**:** Introduction to Decision Support Systems (DSS) – Different types of Managerial Decision Problems and the Role of a DSS in solving them. Management Information System versus DSS, Range of Capabilities of a DSS, Components of a DSS, Examples of DSS, Basics of DSS Design Cycle.

Week 2**:** Models in Decision Support Systems – What is a Model? Classification of Models, Purpose of Modeling in DSS, Solution Techniques: Optimization, Heuristics, and Simulation, Traditional approach to modeling and its weaknesses, Desirable features for Models in DSS, Models and Managers: The Concept of a Decision Calculus'

Week 3**:** Decision Support System for Evaluation of Investment Proposals

Week 4**:** Decision Support System for Materials Managers

Week 5**:** Decision Support System for Forecasting Demand for Independent Items – single and multi-period forecasting, forecasting for products with intermittent demand

Week 6**:** Decision Support System for Determination of Product Mix – product choice and bundling decisions, product mix decisions

Week 7**:** Decision Support System for Production Distribution Problem for a Multi-Product and a Multi-Unit Organization

Week 8**:** Decision Support System for Vehicle Scheduling

Week 9**:** Decision Support System for Customer Centric Value Driven Decisions – designing the service system

Week 10**:** Decision Support System for Human Resources Function

Week 11**:** Decision Support System for Distribution Network Design in a Supply Network

Week 12**:** Decision Support System for Pricing Decisions