BBA IV Year	BBA-C701		Semester-VII		
	Management Science				
Time Allotted for End Semester Examination	Marks Allotted for Internal Assessment	Marks Allotted for End Term Examination(ESE)	Maximum Marks (MM)	Total Credits	Maximum Hours
3 Hrs.	30(20+10)	70	100	04	40

	Course Outcomes:	Mapped Program Outcomes
CO.1	To understand the basic concepts of management science and its application in decision making and business model building.	**PO.1, PO.2, PO.3**
CO.2	Familiarity with model basic concept of model building for solving business problems and its uses in daily life .	**PO.1, PO.2, PO.3, PO.4**
CO.3	To help students aware and learn inventory management skills knowledge and technique and its practical implication in business filed	**PO.1, PO.2, PO.3, PO.8**
CO.4	To make understand the decision model development skills and analysis for decision making skills in adverse situation of life.	**PO.1, PO.2, PO.3**

- Management Science: Basic Concepts and its role in decision making, Applications of Management Science in Business Organizations, Introduction to Linear Programming, Non-Linear Programming, Graphical and Simplex Method.**Case Study1:** Kiwanis Pancake Day– a service operations management. (**8Hours)**
- Assignment Models: Mathematical Formulation of Assignment Fundamental theorems, Hungarian Method for Assignment Problem, Unbalanced Assignment Problem, Variations in Assignment Problem. (**8Hours)**
- Mathematical Formulation, Metric form Transportation Problem, Feasible Solution, Basic Feasible Solution and Optimum Solution, Moving towards Optimum Solution. Solution by N.W. Corner Rule, Least Cost Method & Vogel's Approximation Method. **Case Study2:** Bharat Tobacco: vendor selection and vendor rating. (**8Hours)**
- Simulation: Definition, Types, Uses, Limitations & Phases of Simulation, Even Type, Monte Carlo Simulation, Application of Simulation, Decision Theory: Types, Components of Decision Making, Decision Models, Decision Making under Uncertainty, Decision Tree Analysis. **Case Study3:** Customer asset management at DHL in Asia. (**8Hours)**
- Queuing Theory: Waiting Line Models, Inventory Management, Job Sequencing, Project Management by PERT and CPM.Game theory: Characteristic of Game Theory, Minimax Criterion & Optimal Strategy. Theoretical Introduction to Gamification. (**8Hours)**

SUGGESTED READINGS:



1. Barry, Render, Ralph, M. & Michael, E., Hanna (2016).*Quantitative analysis for Management* (12th edi). Pearsons India
2. Budnik ,Frank, S., Dennis, Mcleavey & Richard, Mojena (2018). *Principles of Operations Research.* New
3. Jain. K.C. Panddey,M. & Srivastwa , N. (2019*). Quantitative Technique for Management*. New age international publication
4. Sharma, J. K.(2017). *Operations Research.Theories and Applications*. New Delhi: Macmillian India Ltd.
5. Taha, H. A.(2018). *Operation Research.An Introduction*. NY:Mc.Millan.
6. Vohra, N. D. (2017).*Quantitative Management*. New Delhi: Tata McGraw Hill.
7. **CaseStudy1:**KiwanisPancakeDay–aserviceoperationsmanagement
8. **CaseStudy2:**BharatTobacco:vendorselectionandvendorrating.
9. **CaseStudy3:**CustomerassetmanagementatDHLinAsia

NOTE: The list of cases, specific references and books including recent articles will be announced in the class by concerned teachers from time to time.