Course: OE
Fundamentals of Business Mathematics

Semester: II	Credits: 2	Subject Code: OE1-22309	Lectures: 30

Course Outcomes:

At the end of this course, the learner will be able to:
- CO1-Demonstrate, determine and validate a given argument, and be able to construct mathematical proofs independently
- CO2- Recall and identify, prepare, analyze and execute mathematical tools in their careers.
- CO3-Remember, examine, analyze, formulate and solve linear systems/linear inequalities graphically/geometrically and algebraically (using matrices),
- CO4-Comprehend and explain the value of mathematical implementation in daily life and associating mathematical ideas to model/evaluate real-world problems.

Unit 1:Matrices & Determinants	15

- Introduction, Operations on Matrices
- Properties of Matrices
- Multiplication, Transpose, Inverse of a Matrix,
- Introduction to Determinants, Value, Minors and Cofactors
- Properties of Determinants
- Solution of a system of Linear Equations
- Numerical Problems
- Assignment: Internal Assessment

Unit 2:LPP, Transportation Problem & Assignment Problem	15

- Introduction, Formulation of an LPP, General Linear programming Problem Areas of Applications of LPP
- Introduction, The Transportation type problems in Standard Linear Programming Form
- A Set of Basic Feasible Solutions, Initial Basic Feasible Solution (a) North – West Corner Method (b)Matrix – Minima Method (c) Vogel's Approximation Method
- Variations in Transportation Problem
- Assignment Problems, Mathematical Formulation of the Problem
- Solution of the Assignment Problem, Computational Procedure, Variations in Assignment Problems
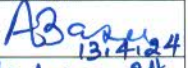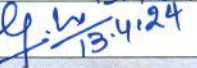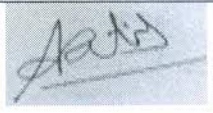- Numerical Problems
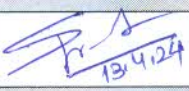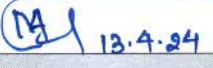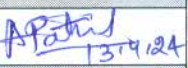
Board of Studies	Department	Name	Signature
Chairperson (HoD)	Mathematics and Statistics	Dr. Deepa Krishamurthy	Deepa 13/4/24

Recommended Text Books:

- Rayarikar A. V. and Dixit P. G., *Business Mathematics,* Nirali Prakashan, June 2019
- Dikshit Amarnath, KainJitendra Kumar,*Business Mathematics*, Himalaya Publishers
- Bari,*Business Mathematics*, New Literature Publishing Company
- Sancheti D C, Kapoor V K, *Basic Mathematics*, Sultan Chand, New Delhi, 2010
- Saha Suranjan, *Basic Business Mathematics and Statistics*, New Central, Calcutta, 1994

Reference Books:

- Chitale Ranjeet, *Statistical and Quantitative Methods,* Nirali Prakashan,2009
- SharmaJ K,, *Operations Research, Theory and Applications,* Macmillan Publishers, 2009
- Taha Hamdy A, *Operations Research, An Introduction* , Pearson; 2004
- Sharma S.D,*Operations Research*, Kedar Nath Ram Nath & Co Publishers; 2003
- Chakravorty & Ghosh, *Linear Programming*, Mansi Press, 2003
- Mohindra J P, *ABC of Mathematics*, Modern Publication, 2005
- Rao A B, *Basic Mathematics*, Himalaya Mumbai, 2005
- Zameruddin Qazi, Bhambri Vijay K, *Business Mathematics*, Vikas Publishing, New Delhi, 2009

Board of Studies	Name	Signature	
Chairperson (HoD)	Dr. Deepa Krishnamurthi	Deepa 13.4.24	
Faculty	Prof.Amrita Basu		ABasu 13.4.24
Faculty	Prof. Geetika Bhati		G.W 13.4.24
Subject Expert (Outside SPPU)	Dr. Avinash Patil	Aati	
Subject Expert (Outside SPPU)	Dr. Prashant Malavadkar		Pr 13.4.24
VC Nominee (SPPU)	Dr. Manish Agalave	M 13.4.24	
Industry Expert	Ms. Amruta Patil		APatil 13.4.24
Alumni	Ms. Janhavi Katkar	ABasu 13.4.24	

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Chairperson (HoD)	Mathematics and Statistics	Dr. Deepa Krishamurthy	Deepa 13/4/24