



Business Mathematics
Business Mathematics
[CORE COURSE]

Semester: I	Credits: 3	Subject Code: BB12005	Lectures: 48
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Course Outcomes:

At the end of this course the learner will be able to,

- Develop the ability to recall, relate and apply matrices to solve linear system business problems
- Develop the ability to recall, identify and apply permutations and combination to analyze business problems.
- Develop the ability to define the instruments of the equity market ,distinguish types of shares and use them to evaluate various business situations.
- Develop the ability to recall, recognize and apply the concepts of Interest , Annuity, Equated Monthly Installment to evaluate Financial problems
- Develop the ability to recall the concepts of L.P.P , formulate a suitable real-world problem as linear programming problem and solve .
- Develop the ability to comprehend the concept of a Transportation problem and use the concepts to evaluate solution for the same.

Unit 1: MATRICES AND DETERMINANTS	08
<ul style="list-style-type: none">• Definition of a Matrix, Types of Matrices• Algebra of Matrices• Determinant, Adjoint of a Matrix, Inverse of a Matrix using Adjoint Method (Up to 3rd order)• Solution of Linear System of equations using inverse of the coefficient matrix (Up to 2nd order)• Problems based on all above concepts	
Unit 2: PERMUTATION AND COMBINATION	08
<ul style="list-style-type: none">• Factorial Notation• Fundamental Principle of counting• Permutation• Combination• Elementary problems on Permutation and combination	
Unit 3: SHARES AND DIVIDEND	06
<ul style="list-style-type: none">• Introduction – concept of Shares, Stock Exchange• Share Capital , Face Value , Market value of a share• Dividend• Equity shares , Preferential shares Bonus shares	

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<ul style="list-style-type: none"> Problems based on all above concepts 	
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Unit 4: INTEREST AND ANNUITY	12
<ul style="list-style-type: none"> Simple Interest , Compound Interest Simple Annuity – Immediate Annuity , Annuity Due Equated Monthly Instalment – Interest on reducing balance , Flat rate of interest Problems based on all above concepts 	

Unit 5: LINEAR PROGRAMMING PROBLEMS	08
<ul style="list-style-type: none"> Meaning of L.P.P. Formulation of L.P.P Solution of an L.P.P by Graphical Method 	

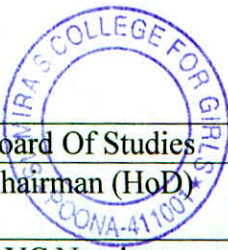
Unit 6: TRANSPORTATION PROBLEM	06
<ul style="list-style-type: none"> Statement and meaning of T.P Methods of finding the initial basic feasible solution by: <ul style="list-style-type: none"> North West Corner Rule Matrix Minimum Method Vogel's Approximation Method Simple numerical problems based on above methods 	



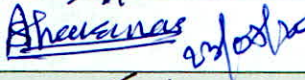
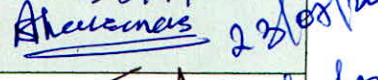


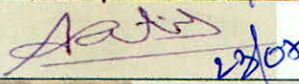
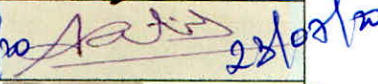


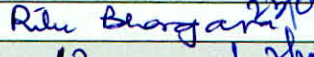
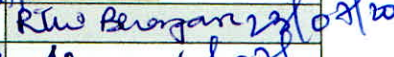
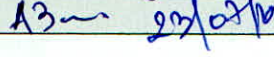

#12 hours for Library work, assignments, practical or field work

Recommended Text Books:
<ul style="list-style-type: none"> Rayarikar A. V. and Dixit P. G., <i>Business Mathematics</i>, NiraliPrakashan, June 2019

Reference Books:
<ul style="list-style-type: none"> Dikshit Amarnath , Jitendra Kumar Jain, <i>Business Mathematics</i>, Himalaya Publishers, 2009 Bari, <i>Business Mathematics</i>, New Literature Publishing Co Sharma S.D, <i>Operations Research</i>, KedarNath Ram Nath & Co Publishers; 2012 Sharma J K, <i>Operations Research, Theory and Applications</i>, Macmillan Publishers, 2009

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