

IV. CORE COURSE -C 5:

(Credits: Theory-05, Tutorial-01)

Marks : 25 (MSE: 1Hr) + 75 (ESE: 3Hrs)=100**Pass Marks (MSE + ESE) =40*****Instruction to Question Setter for******Mid Semester Examination (MSE):***

There will be **two** group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. **Group B will contain descriptive type** six questions of five marks each, out of which any four are to answer.

End Semester Examination (ESE):

There will be **two** group of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type** six questions of fifteen marks each, out of which any four are to answer.

Note: There may be subdivisions in each question asked in Theory Examinations.

BUSINESS MATHEMATICS**Theory: 75 Lectures; Tutorial:15 Lectures**

Objective: The objective of this course is to familiarize the students with the basic mathematical tools with emphasis on applications to business and economic situation.

Unit 1 : Matrices and Determinants:

Meaning of Matrix, types, addition of matrices, product of matrices, inverse of matrix and solution of Simultaneous linear equation using matrix method.

Determinants: Concept of determinants, basic properties of determinants

(11 Lectures)**Unit 2 : Progression:**

Arithmetic Progression – Basic concept of A.P, finding n^{th} term, sum up of n terms, Arithmetic mean, word problem based on A.P.

Geometric Progression – Basic concept, finding n^{th} term and sum up of n terms, Geometric mean, Word problem based on G.P.

Harmonic Progression – Basic concept of H.P, problem based on the relation of AM, GM and HM.

(17 Lectures)**Unit 3: Permutation and Combination:****(10 Lectures)**

Basic concept of permutation and combination and simple problems based on permutation and combination.

(10 Lectures)**Unit 4: Basic Mathematics of Finance:**

Ratio and Proportion, Simple interest, Compound interest, annuities, discount- Banker's discount, Trade discount.

(9 Lectures)**Unit 5: Differentiation and Integration:**

Differentiation and Integration of a function, Application in Business and commerce.

(9 Lectures)**Unit 6: Linear Programming Problem:**

Formulation of Linear Programming Problem (LPP), Graphical Solution to LPP.

In addition the students will work on a software package for solving linear programming problems analyze the results obtained there from. This will be done through internal assessment.

(9 Lectures)

Session 2019-22 onwards