Bachelor of Business Administration(Information System Management)
(BBA ISM Ist Sem)

| **Course Code** | **UM01DBBA72** | **Title of the Course** | **BUSINESS MATHEMATICS-1** |
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| Total Credits of the Course | 03 | Hours per Week | 03 |

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| **Course Objectives:** | 1 To develop and enhance analytical ability in students for processing and interpreting statistical data.<br>2 To familiarize students with applications of Mathematical and Statistical methods in business management decision making problems |

**Course Content**

| **Unit** | **Description** | **Weightage* (%)** |
|---|---|---|
| **1.** | **Function , Limit , Continuity**<br>• Concept of a function of single variable (linear, quadratic and exponential function only) Domain, co-domain and range of a function, Concept of real function, Application of function to cost, demand, revenue, profit function, break-even point, concept of limit of a function, Rules of limit, Simple examples where f (x) is in a polynomial or rational function of two polynomials. Continuity of f(x), where f (x) is a polynomial of x, rational function of 'two polynomials of x. | 25% |
| **2.** | **Derivatives and Applications of Derivatives**<br>• Derivatives of explicit, composite and implicit functions, Derivatives of<br>• exponential and arithmetic functions,<br>• Rules of differentiation(without proof),<br>• Higher order derivatives<br>• maxima and minima of a function in economic<br>• Theory (demand, supply, consumption, revenue and cost function) | 25% |
| **3.** | **Set Theory & Determinants**<br>• -Set Theory: Sets, Subsets, equality of two sets, null set, universal set, power set,<br>• Complement of a set, union and intersection of sets, difference of two sets. Venn<br>• diagram (Concept only), Laws of algebra of sets,<br>• De' Morgan laws and Cartesian product of two sets.<br>• -Determinants : Meaning, Determinants and their basic properties of | 25% |

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| | • determinant(Without Proof, without examples), Cramer's Method(For two<br>• equations) | |

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| **4.** | **Matrix**<br>• Types of matrices: Square, null, identity, transpose of Matrices, Symmetric, skew<br>• symmetric, Singular, non-singular, inverse, Ad joint of a matrix.<br>• Matrices- scalar multiplication, Addition, Subtraction, Multiplication.<br>• Solution of a system of two and three linear equations using matrix. | 25% |

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| Teaching-Learning Methodology | Lectures, Assignments, Quiz and Seminars |

**Evaluation Pattern**

| Sr. No. | Details of the Evaluation | Weightage |
|---|---|---|
| 1. | Internal Written / Practical Examination (As per CBCS R.6.8.3) | 15% |
| 2. | Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3) | 15% |
| 3. | University Examination | 70% |

| Course Outcomes: Having completed this course, the learner will be able to | |
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| 1. | To analyze and interpret mathematical and statistical methods and develop and enhance analytical ability for processing and interpreting statistical data. |
| 2. | Understand applications of Mathematical and Statistical methods in business management decision making problems |

**Suggested References**

| Sr. No. | References |
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|---|---|
| 1. | (1)Sancheti& Kapoor: Statistics: Theory, Methods and Applications, Sultan Chand & sons,New Delhi<br>(2) Kapoor, V.K.: Business Mathematics, Sultan Chand and sons, New Delhi.<br>(3) Soni, R.S.: Business Mathematics, Pitamber publishing House.<br>(4) Vohra N.D.: Quantitative Techniques in Management, Tata McGraw Hill, New Delhi. |

Online resources: https://youtu.be/Dstf6uzWcY4?list=PLFClNVOTycUW5YpwtaTnV2x

https://youtu.be/DY3AEUdznwc?list=PLFClNVOTycUW5YpwtaTnV2x

https://youtu.be/VM3_86Algkw?list=PLFClNVOTycUW5YpwtaTnV2x-NJCZVnulG

https://youtu.be/owsh077YeVA?list=PLFClNVOTycUW5YpwtaTnV2x-NJCZVnulG

https://youtu.be/vTM-EE9EyV8?list=PLFClNVOTycUW5YpwtaTnV2x-NJCZVnulG

https://youtu.be/jpRMMBFzPjY?list=PLFClNVOTycUW5YpwtaTnV2x-NJCZVnulG

https://youtu.be/-AgOoFeccRU?list=PLFClNVOTycUW5YpwtaTnV2x-NJCZVnulG

https://www.youtube.com/watch?v=duZ4MVh5VX0&list=PLFClNVOTycUXOnNYGc

https://youtu.be/duZ4MVh5VX0?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

https://youtu.be/0Fddg6iyZFM?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

https://youtu.be/0Fddg6iyZFM?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

https://youtu.be/0h8Cf3TAvIc?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

https://youtu.be/0h8Cf3TAvIc?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

https://youtu.be/t4zGxq_Uv5E?list=PLFClNVOTycUXOnNYGc70DheoGDqnU8ufA

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