

BUSINESS MATHEMATICS & STATISTICS

COURSE / SUBJECT OBJECTIVES: To enable students to have a grasp of simple arithmetical calculations relating to topics on Commerce and Economics. To enable students to grasp the fundamentals of Statistics for interpreting business data.

TEACHING LESSON PLAN – 2017 – '18

I BBA (Entrepreneurship)

(Module wise)

| UNIT/ SESSION/ HOURS (TIME REQUIRED) | TOPICS FOR STUDENT PREPARATION (INPUT) | PROCEDURE (PROCESS) | LEARNING OUTCOME (OUTPUT) | ASSESSMENT |
|---|---|--|--|-------------------------------------|
| Module – 1 : Theories of Equations 10 hrs. | Theory of equations: Linear - Quadratic- Simultaneous- Application of equations in business and commerce | Explain with illustration problems | To be able to work out simple application oriented problems in these topics | Evaluation through test |
| Module-2: Interest and Annuities 10hrs | Laws of indices and logarithms- Simple interest - Compound Interest - Annuities - Meaning - Types - Present value and Future value of annuity -Applied problems on Perpetuity - loans - Sinking fund - Endowment fund using Annuity Tables | Explain with illustration problems | To be able to work out simple application oriented problems in these topics | Evaluation through test |
| Module-3: Introduction to Statistics | Meaning and Definition of Statistics, Functions, Scope, | <ul style="list-style-type: none"> • Lecture with illustrations • Discussion | To understand the significance of statistics in research purposes and its | Evaluation through assignment |

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|---|--|---|--|--------------------------|
| 8hrs | Limitation of statistics, Classification of Data, Tabulation of Data, Diagrammatic and Graphic Representation of Data using Excel | | applicability | |
| Module-4: Measures Of Central Tendency and Dispersion 14 Hours | Measures of Central Tendency: Meaning-Arithmetic, Weighted and Combined Mean, Median and Mode, Empirical Relationship, Measures of Dispersion: Meaning, Range, Quartile Deviation, Mean Deviation, Standard deviation and their coefficients | <ul style="list-style-type: none"> • Lecture • Solving Problems • Discussion | To understand the use of simple statistical tools like mean, median and mode | Evaluation through test |
| Module-5: Time Series 6 Hours | Components of time series, Trend analysis by Moving Averages, Least Squares Method (linear). | <ul style="list-style-type: none"> • Lecture • Solving Problems • Discussion | To understand the significance and usage of complex statistical tools and to interpret their results | Evaluation through tests |
| Module-6: Correlation and Regression 12 Hours | Correlation: Meaning, Karl Pearson's Coefficient of Correlation, Spearman's Correlation Coefficient Regression: Concept, Regression Equations | <ul style="list-style-type: none"> • Lecture • Solving Problems • Discussion | To understand the significance and usage of complex statistical tools and to interpret their results | Evaluation through tests |

UNIT WISE BREAK UP

LECTURE HOURS: 60

Objective: To give an understanding of simple mathematical and statistical concepts relevant to the business field

| | UNITS | No. of Lecture Hours | Methodology/Ins tructional techniques | Evaluation/ learning confirmation |
|---------------------|--|----------------------------|---|---|
| MODULE 3 | Introduction to Statistics | 8 | | Assignment |
| 1. | Meaning and Definition of Statistics, Functions, Scope, Limitation | 3 | Lecture and Discussion | |
| 2. | Classification and Tabulation of data | 2 | Lecture with illustration and work out problems | |
| 3. | Diagrammatic and Graphic Representation | 3 | Presentation and Computer Lab. | |
| MODULE 4 | Measures Of Central Tendency and Dispersion | 14 | | Test |
| 1. | Measures of Central Tendency: Mean | 3 | Illustrations and Problems | |
| 2. | Median and Mode | 3 | Illustrations and Problems | |
| 3. | Measures of Dispersion: Range, Quartile Deviation and their coefficients | 2 | Illustrations and Problems | |
| 4. | Mean deviation | 2 | Illustrations and Problems | |

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| 5. | Standard deviation and their coefficients | 4 | Illustrations and Problems | |
| | CIA I (10 marks) | | Statistics Assignment | |
| MODULE 2 | Interest and Annuities | 10 | | Test |
| 1. | Laws of indices and logarithms | 1 | Illustrations and Problems | |
| 2. | Simple interest – Compound Interest – Annuities – Definition – Types – Present value and amount of annuity | 4 | Illustrations and Problems | |
| 3. | Perpetuity applied problems on loans – Sinking fund – Endowment fund by use of formulae and Annuity Tables | 5 | Illustrations and Problems | |
| | Mid Term Test – Modules 3, 4, 2 | | | |
| MODULE 6 | Correlation and Regression | 12 | | Test |
| 1. | Correlation: Meaning, Karl Pearson’s Coefficient of Correlation | 5 | Illustrations and Problems | |
| 2. | Spearman’s Correlation Coefficient | 2 | Illustrations and Problems | |
| 3. | Regression: Concept, the two Regression Equations | 5 | Illustrations and Problems | |
| | CIA II (10 marks) | 1 | Test | |
| MODULE 1 | Theories of Equations | 10 | | Test |
| | Theory of equations (Linear, Quadratic, and Simultaneous) | 5 | Illustrations and Problems | |
| | Application of equations to business and commerce | 5 | Illustrations and Problems | |
| MODULE 5 | Time Series | 6 | | Test |
| 1. | Components of time series | 1 | Work out | |

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|----|-----------------------------------|---|-------------------|--|
| | | | problems | |
| 2. | Trend analysis by Moving Averages | 2 | Work out problems | |
| 3. | Least Squares Method (linear). | 3 | Work out problems | |