**DIRECTORATE OF DISTANCE EDUCATION**

**INTEGRAL UNIVERSITY, LUCKNOW**

**Subject Name: Business Mathematics**

**Subject Code: B.COM- 104 Paper Code: BM/B**

**(W.e.f. JULY 2018 Session)**

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**UNIT-1 BASIC MATHEMATICS**

* + - Introduction
    - Mathematical operations and brackets
    - Different types of numbers
    - Rounding
    - Significant figures
    - Decimal places
    - Rounding up or rounding down
    - Powers and roots
    - Mathematical operations in excel
    - Rounding numbers in excel
    - Variables and functions
    - Quadratic equations with only one variable
    - Exponential numbers
    - Manipulating inequalities
    - Percentages and ratios
    - Accuracy and approximations
    - Errors form rounding
    - Accuracy and approximation

**UNIT-2 OBTAINING DATA**

* + Introduction
  + Information and data
  + Primacy data sampling
  + Probability sampling methods
  + Simple random sampling
  + Stratified random sampling
  + Other sampling methods
  + Multistage sampling

**UNIT-3 Presentation of data**

* + Introduction
  + Linear graphs
  + Quadratic graphs
  + Tallying frequency
  + Discrete and continuous variables
  + Cumulative frequency distributions
  + Histograms and ogives
  + Pei charts
  + Bar charts
  + Creating bar charts using excel
  + Tabulation
  + Pareto analysis
  + Crating a histogram in excel
  + Radings
  + Gee whiz graph

**UNIT-4 DESCRIPTIVE STATISTICS**

* + Introduction
  + Arithmetic mean
  + The median
  + Mode
  + Measures of spread
  + Range
  + Deciles
  + Standard deviation
  + Coefficient of variation
  + Measures of spread

**UNIT-5 INDEX NUMBERS**

* + Introductions
  + Definitions
  + Chain base index numbers
  + Relative price indices
  + Aggregative price indices
  + Quantity indices
  + Using the RPI

**UNIT-6 FINANCIAL MATHEMATICS**

* + Introduction
  + Simple interest
  + Compound interest
  + Equivalent rates of interest
  + Depreciation
  + Geometric progression
  + Present values
  + Net present values
  + PV of a perpetuity
  + Loans and montages
  + Internal rate of return

**UNIT-7 CORRELATION AND REGRESSION**

* + Introduction
  + Correlation
  + Pearson’s correlation coefficient
  + Interpreting correlation coefficients
  + Rack correlation spearman coefficient
  + Which correlation coefficient
  + Regression
  + Least squares criterion
  + Forecasting
  + Judging the validity of forecasts

**UNIT-8 TIME SERIES**

* + Introduction
  + Components and models of time series
  + Forecasting linear trends
  + Producing the final forecast
  + Seasonal adjustment
  + Moving average trends
  + Types of data
  + Judging the validity of forecasts
  + Computations involving the additive model

**UNIT-9 PROBABILITY**

* + Introduction
  + Definitions of probability
  + Addition rules of probability
  + Multiplication rules of probability
  + Discrete probability distributions
  + Expectation and decision making
  + Limitations of this approach
  + Characteristics of the distribution normal
  + Venn diagrams
  + Uncertainty and risk
  + Marketing risks

**UNIT-10 SPREADSHEET SKILLS USING EXCEL**

* + Introduction
  + Spreadsheet terminology
  + Workbooks and worksheets
  + Workbooks of files
  + Worksheets
  + Scroll bards
  + Status bar
  + Toolbar
  + Good spreadsheet design
  + Getting started
  + Problems with this spreadsheet
  + Positive aspects of this spreadsheet
  + Ownership and version
  + Problems with this spreadsheet
  + Positive aspects of this spreadsheet
  + Formatting
  + Positive aspects of this spreadsheet
  + Documentation
  + Charts
  + Templates
  + Data input forms