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|------------------------------|-------------------------------------------|
| <b>Branch Name:</b>          | Management (Business Analytics)           |
| <b>Program Code:</b>         | MS301                                     |
| <b>Course Name:</b>          | Business Analytics                        |
| <b>Course Code:</b>          | 2MS3010741T                               |
| <b>Pre-requisite Course:</b> | Form of Business Organization, Management |

### Course Objectives:

- 1) To Study core statistical techniques; data retrieval, analysis and mining
- 2) To effectively persuade in the project-oriented world of data-driven decisions.
- 3) To understand the purpose of using business analysis tools within an organization
- 4) To analyse a dataset for making a business decision.
- 5) To use R studio for data analysis.

### Teaching and Examination Scheme:

| Teaching Scheme<br>(Hours per week) |                 |                  |        | Evaluation Scheme (Marks) |                          |                          |                          |                  |
|-------------------------------------|-----------------|------------------|--------|---------------------------|--------------------------|--------------------------|--------------------------|------------------|
| Lecture<br>(L)                      | Tutorial<br>(T) | Practical<br>(P) | Credit | Theory (Marks)            |                          | Practical (Marks)        |                          | Total<br>(Marks) |
|                                     |                 |                  |        | University<br>Assessment  | Continuous<br>Assessment | University<br>Assessment | Continuous<br>Assessment |                  |
| 4                                   | -               | -                | 4      | 60                        | 40                       | -                        | -                        | 100              |

### Subject Contents:

| Sr No. | Topic                                                                                                                                                                                                                                                                                                                                                                                              | Total<br>Hours | Weightage<br>(%) |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|
| 1      | <b>Introduction to Business Analytics and Big Data:</b><br>Business Analytics - Definition - Need - Scope –<br>Acategorization of Analytical Methods - Analytics in action<br>- Big data - Businessanalytics inpractice - typesof data -<br>modifyingdata in Excel-creating Distributions from data-<br>measures of location.                                                                      | 10             | 20               |
| 2      | <b>Application of Business Analytics</b><br>Machine Learning - Introductionand Concepts -<br>Differentiatingalgorithmic and model-based frameworks,<br>Decision analytics. Descriptive analytics - Predictive<br>analytics - Prescriptive analytics.                                                                                                                                               | 10             | 20               |
| 3      | <b>Decision support and Data Visualisation</b><br>DSS- Executive and enterprise support- Automated decision<br>support - Web analytics- Data mining -Applied artificial<br>intelligence - Visual analysis: Data concepts – Data<br>Dashboards - Data exploration & visualization - Scorecards                                                                                                      | 10             | 20               |
| 4      | <b>Time Series and Forecasting</b><br>Time series pattern – forecasting accuracy – moving averages<br>and exponential smoothing - using regression analysis for<br>forecasting – determining the best forecasting model to use -<br>building good spreadsheet model – What-Ifanalysis –<br>someuseful Excel functions formodeling – auditing<br>spreadsheet model – a simple maximization problem. | 10             | 20               |
| 5      | <b>Data Analysis using R</b><br>R Studio: Introduction – R data types and objects, reading<br>and writing data - Data structures in R -R programming<br>fundamentals - Advantages and disadvantages of using R.                                                                                                                                                                                    | 08             | 20               |

### Text Books:

| Sr. No. | Books                                                                                                |
|---------|------------------------------------------------------------------------------------------------------|
| 1       | Majid Nabavi, David L.Olson, Introduction to Business Analytics, Business Expert Press, 2018         |
| 2       | Umesh R Hodeghatta and Umesha Nayak, Business Analytics Using R - A Practical Approach-Apress, 2017. |

**Reference Books:**

| Sr. No. | Books                                                                                                                                             |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Jeffery D.Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann, David R. Anderson, Essentials of Business Analytics, Cengage Learning, 2015 |
| 2       | Bernard Marr, Big Data: Using Smart Big Data, Analytics, and Metrics to Make Better Decisions and Improve Performance, Wiley, 2015                |
| 3       | Sandhya Kuruganti, Business Analytics: Applications To Consumer Marketing, McGraw Hill, 2015                                                      |

**Course Learning Outcomes (CLO): On completion of this course, the students will be able to:**

| CLO  | Description                                                                                                      | Bloom's Taxonomy Level |
|------|------------------------------------------------------------------------------------------------------------------|------------------------|
| CLO1 | Critically analyze the business problems and apply analytical knowledge in big data                              | Analyze                |
| CLO2 | Recognize, understand, and apply the language, theory, and models of the field of business analytics             | Understand             |
| CLO3 | Able to cultivate cognitive skills in the applications of business analytics                                     | Understand             |
| CLO4 | Commitment to sustainable development of data visualization and time series analysis related to various sectors. | Apply                  |
| CLO5 | Provide leadership in the application of R statistics                                                            | Apply                  |
| CLO6 | Cultivating cognitive skills acquired in forecasting methods                                                     | Evaluate               |

**Mapping of CLOs with Pos & PSOs**

| Course Learning Outcomes | Program Outcomes (POs) |     |     |     |     |     |     |     | Program Specific Outcomes (PSOs) |      |
|--------------------------|------------------------|-----|-----|-----|-----|-----|-----|-----|----------------------------------|------|
|                          | PO1                    | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1                             | PSO2 |
| CLO1                     | H                      | H   | M   |     |     |     |     |     | H                                | M    |
| CLO2                     | M                      |     |     |     |     |     | H   | H   | M                                |      |
| CLO3                     |                        | M   | H   |     |     |     |     | H   | H                                |      |
| CLO4                     |                        |     |     | H   |     | M   | H   |     |                                  | H    |
| CLO5                     | H                      |     | H   |     |     | H   |     |     |                                  | H    |
| CLO6                     |                        | H   | M   |     |     |     |     | M   | H                                |      |

**H: High, M: Medium, L: Low**

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