Programme	:	**Master of Commerce [M.Com]**
Course Code	:	**COM-604**
Course Title	:	**Business Analytics**
Number of Credits	:	**4**
Effective from AY	:	**2022 – 2023**

Pre-requisites for the Course:
Research Methodology
Objectives of the Course:
1. To apprise the learners about the Business analytics process and provide exposure to relevant applications and Programmeming used in Business analytics. 2. To develop expertise in learners in using data visualization tools and techniques for obtaining business insights. 3. To train learners in Python. 4. To enable learners to apply machine learning techniques.

Course Content		
Unit 1	**Introduction to Business Analytics**	**10 Hours**
Meaning and significance of business analytics - What is a business analyst and what value do they provide-Responsibilities of Business Analyst- Applications of business analytics – Types of business analytics - Descriptive analytics - Predictive analytics – Prescriptive analytics - Building analytics capability – Business analytics process – Role of business analytics in strategy – Deployment of business analytics model – Requirements for effective implementation of business analytics models – Big data analytics – Challenges in data-driven decision making – Application software in business analytics.		
Unit 2	**Exploratory Data Analysis**	**15 Hours**
Meaning of EDA – Applications of EDA - Data collection and data management – Data classification – Dealing with missing data - Data visualization: Univariate visualization, Bivariate visualization, Multivariate visualization - Graphical exploratory data analysis (Box-plots, heatmap, Histograms, Scatterplots) – Building business intelligence dashboard – Mapping – Interactive data charts – Data Mining.		
Unit 3	**Introduction to Machine Learning**	**20 Hours**
Concept and applications of machine learning —Understanding the python platform-working with python-Obtain and understanding basic information about the dataset (shape, size, and type) using python-Graphs-Crosstabs- Identify the features and target.		
Unit 4	**Applications of Machine Learning using Python**	**15 Hours**
Supervised Machine Learning using Python - Dummy classifier, Logistic regression, Decision tree, and Random forest - Confusion Metrix - ROC curve.		

Pedagogy:
Lectures / case analysis / assignments / classroom interaction / lab. Practical problems may be solved using available open source software.
Reference / Readings:
1. Abbott, D., ***Applied Predictive Analytics***, Wiley, May 2014. 2. Baesens, B., ***Analytics in a Big Data World***, Wiley, 1st edition, 9th May 2014. 3. Gujarati, D, ***Basic Econometrics***, McGraw Hill, New Delhi, 5th edition, 1st July 2017. 4. Hayashi, F, ***Econometrics,*** Princeton University Press, Princeton, 19th November 2000. 5. Kang, M. and Choi, E, ***Machine Learning: Concepts, Tools and Data Visualization***, World Scientific, 29th March 2021.

6. Kumar, U, ***Business Analytics: The Science of data-Driven Decision Making***, Wiley, 1st January 2017.
7. Laursen, G. and Thorlund, J, ***Business Analytics for Managers***, Wiley, 2nd edition, 28th October 2016.
8. Mitchelle, T, ***Machine Learning***, McGraw Hill, 1st edition, 1st July 2017.
9. Rao, P., ***Business Analytics: An Application Focus***, PHI Learing, Delhi, 30th October 2013.
10. Tatsat, H., Puri, S., Lookabaugh, B, ***Machine Learning and Data Science Blueprints for Finance***, O'Reilly Media Inc., Boston, USA, 30th November 2020.
11. Winston, W, ***Microsoft Excel Data Analysis and Business Modeling***, Pearson, 7th edition, 26th February 2022.

Online Resources:

1. https://www.coursera.org/specializations/analytics#courses
2. https://www.python.org/
3. https://www.udemy.com/course/python-for-data-science-and-machine-learning-bootcamp/
4. https://www.udemy.com/course/python-for-data-analysis-step-by-step/
5. https://www.youtube.com/watch?v=y4S2gNbl9Ec
6. https://numpy.org/

Course Outcomes:

CO1: Explain the concepts in business analytics, its process, and strategic significance.
CO2: Perform descriptive analytics on data with techniques of descriptive statistics and data visualization.
CO3: Learn how to work with Python.
CO4: Apply techniques of Dummy classifier, Logistic regression, Decision tree, and Random forest