GANPAT UNIVERSITY									
FACULTY OF MANAGEMENT STUDIES									
Programme	Master of Business Administration					Branch/Spec.	Marketing/Finance/Human Resources Management/International Business/ Entrepreneurship/Supply Chain Management		
Semester	II					Version	1.0.0.0		
Effective from *Academic* Year			2024-25			Effective for the batch Admitted in			June 2024
Subject code	**IIA01BDA**		Subject Name			**BUSINESS DATA ANALYTICS**			
Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	4	0	0	0	4	Theory	60	40	100
Hours	4	0	0	0	4	Practical	-	-	-
Pre-requisites:									
Objective: This course advances an understanding of students with respect to data and data structures, along with the application of various tools, tactics, and strategies for exploration, analysis, delivery, and communication of data. This course has a strong practical orientation, routed in critical thinking, ability to design data analytics approach creatively with a convincing analysis delivery assisting the business decision making.									
Learning Outcomes:									
On successful completion of this subject the student will be able to: IIA01BDA.CO1: Understand business analytics concepts, statistical measures, visualization, and forecasting techniques for better decision0making. IIA01BDA.CO2: Apply R programming for data handling, statistical analysis, and visualization using various packages to generate meaningful insights. IIA01BDA.CO3: Analyze text0driven data using text mining and machine learning techniques in R and Python for meaningful insights. IIA01BDA.CO4Design and develop interactive, data0driven dashboards and analytical solutions using Tableau and Power BI.									
Theory syllabus									

Unit	Content	Hrs
1	Basics of business analytics: descriptive, predictive and prescriptive, Descriptive Statistical Measures: measures of location, dispersion, shape and association. Visualizing and Exploring Data: Overview, Tables, Charts, Advanced data visualization, data dashboards. Trendlines and Regression Analysis, Forecasting Techniques, Introduction to Data Mining	15
2	Overview of R Language, Installation of R and RStudio, Scripts, Data Types in R, Data Structure in R, Loading Packages, Operators and functions in R, Data Extraction and Wrangling, Exporting Data from R. Pre-processing of data, Basic Statistical testing (t-test, ANOVA, Regression). Perceptual mapping through Advanced R packages: Charts, Graphs, and Maps: ggplot2, RColorBrewer, Plotly, etc.	15
3	Analyzing the text-driven data: Text Mining, Text Mining Algorithms, Sentiment Analysis, Supervised Machine Learning Algorithms and Unsupervised Machine	15

	Learning Algorithms, R-packages for Machine Learning: dplyr, ggplot2, caret, e1071, boost, random Forest, data.table Python review: Toolbox, Visualization, machine learning	
4	Introduction to Tableau: Dimensions vs. Measures, Application of Discrete and Continuous Fields, Aggregation in Tableau. Working with Metadata, Filters in Tableau, Dashboard in Tableau, Modifications to Data Connections, Edit Data Source, Unions, Joins Data blending. Introduction to PowerBI: Working with data – Importing from flat files, Data Sources in Power BI Desktop, Loading Data, Views, Query Editor, Transform, Clean, Shape, and Model Data Manage Data Relationship, editing a Relationship, Cross Filter Direction, Saving Workfile Measures.	15
Practical content		
Textbooks		
1	Camm, J. D., Cochran, J. J., Fry, M. J. and Ohlman, J. W., (2023). Business Analytics (5th ed.). Boston, MA: Cengage Learning.	
Reference Books		
1	Wickham, Hadley, Mine Çetinkaya-Rundel, and Garrett Grolemund (2023). R for data science. O'Reilly Media, Inc.	
2	Lander, Jared P. (2014). R for everyone: Advanced analytics and graphics. Pearson Education.	
3	McKinney, Wes (2022). Python for data analysis, O'Reilly Media, Inc.	
4	Albright, S. Christian, and Wayne L. Winston, (2020). Business analytics: Data analysis and decision making. Cengage Learning, Inc.	
5	DataCamp.com. Available at https://www.datacamp.com	
6	Sarkar, Dipanjan (2016).Text analytics with python. Vol. 2. New York, NY, USA:: Apress.	
7	Shmueli, Galit, Peter C. Bruce, Inbal Yahav, Nitin R. Patel, and Kenneth C. Lichtendahl Jr. (2017). Data mining for business analytics: concepts, techniques, and applications in R. John Wiley & Sons.	
8	Ascher, David, and Mark Lutz. (1999). Learning Python. O'Reilly.	
9	Müller, Andreas C., and Sarah Guido (2016). Introduction to machine learning with Python: a guide for data scientists. O'Reilly Media, Inc.	
10	Rao, P.H. (2014), Business Analytics: An Application Focus, Prentice Hall India.	

Note:

Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme, Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

L=Lecture, TU=Tutorial, P= Practical/Lab., TW= Term work, DT= Direct Teaching, Lab.= Laboratory work

CE= Continuous Evaluation, SEE= Semester End Examination

Mapping of Co with Po and PSO:

Semester 2: Course Name: IIA01BDA BUSINESS DATA ANALYTICS							
Course outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
IIA01BDA.CO1	1	3	-	1	-	1	-
IIA01BDA.CO2	2	3	-	1	-	-	1
IIA01BDA.CO3	2	3	-	1	2	-	2
IIA01BDA.CO4	2	3	-	1	2	-	3

Semester 2: Course Name: IIA01BDA BUSINESS DATA ANALYTICS			
Course outcomes	**PSO1**	**PSO2**	**PSO3**
IIA01BDA.CO1	1	3	-
IIA01BDA.CO2	3	3	2
IIA01BDA.CO3	3	3	3
IIA01BDA.CO4	3	3	2