SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Master of Computer Applications

MCA Semester III

Subject Name: Business Intelligence & Analytics **Subject Code:** MTCA14308

Type of course: Professional Elective Course

Prerequisite: Basic Statistics

Rationale: Business Intelligence is used by most of the businesses to analyze their performance and hence help the management in making smart decisions. Usage of BI concepts is widely used in all the industries.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
2	1	0	3	60	25	15	00	00	100

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Content	Teaching Hrs.	Module Weightage
1	**Introduction to BI** Impact of BI, Types of BI, Tools for BI (Discussion on different Tools eg. Power BI, Tableau), Comparison of BI tools	**07**	**23%**
2	**Data preparation & ETL (data mining, modelling, warehousing, etc.):** Overview of data mining process, Data mining techniques in business analytics – classification, clustering, association rules, regression analysis, anomaly/outlier detection, Data modelling, Data Warehousing, Differences between OLTP and OLAP	**12**	**40%**

	Systems, ETL		
3	**Introduction to Data Visualization:** Data Visualization, Importance of Data Visualization, Uses of Data Visualization, Types of Basic and Composite Charts, Unconstrained Views, Guided Analysis, The Business Intelligence Two-Step, Handling Unstructured Data, Identifying Photographs	**05**	**17%**
4	**Introduction to Power BI:** Features of Power BI, Power BI fundamentals (Data set, Visualization, Reports etc.), Power BI architecture, Components of Power BI, Users of Power BI, Data connections in Power BI **Power BI Versions-** Desktop, Service(Cloud-Pro & Premium), Mobile, Embedded, Report Server(On Premise), Integration with Share Point, MS Teams, Power Automate)	**06**	**20%**
5	**For Tutorials** **Power BI Tutorial till Publish, Sharing+ Security** • Report Development in Power BI Desktop • Publishing report on Power BI Service • Sharing Reports & Dashboards • Security in Power BI • Data Modelling and DAX queries	**15**	**NA**

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
20	20	15	15	15	15

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr. no.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Data Mining for Business Intelligence	ShmueliGalit, Patel Nitin R.	Wiley Eastern Ltd. ISBN: 978-81-265-1758-9	2016	NA
2	Business Intelligence: Making Better Decisions Faster	Luckevich, Michael	Prentice Hall of India Ltd. ISBN: 81-203-2036-0	2002	NA
3	Data Mining: Concepts and Techniques	Han Jiawei,KamberMicheline	Elsevier India Pvt.Ltd. ISBN: 978-93-80931-91-3	2013	NA
4	Principles of Data Mining	Hand David,/Mannila, Heikki	Prentice Hall of India Ltd. ISBN: 978-81-203-2457-2	2009	NA

Course Outcomes:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Gain knowledge of Business Intelligence	23%
CO-2	Gain knowledge of Data Mining, modeling and warehousing	40%
CO-3	Gain knowledge of Data Visualization	17%
CO-4	Understand Power BI and its architecture and ability to generate reports using Power BI	20%

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO-1	3	3	1	0	3	0	3	0	0	1	2	3			
CO-2	3	3	3	2	0	2	3	0	0	1	2	3			
CO-3	3	3	3	3	2	3	3	3	2	0	2	3			
CO-4	3	3	3	3	3	3	3	3	2	2	2	3			
Rationale*															

Rationale*: Explaining why it is matching this particular program outcome

List of Open learning website:

- https://docs.microsoft.com/en-us/power-bi/fundamentals/
- https://powerbi.microsoft.com/en-us/desktop/
- https://powerbi.microsoft.com/en-au/what-is-power-bi/

List of Free Software:

- Power BI Desktop

Major Equipment Needed: NA