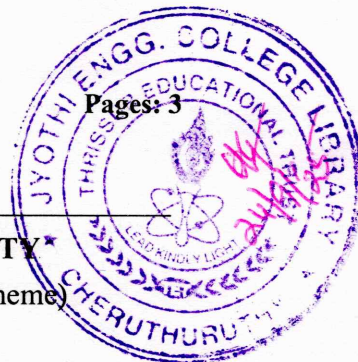Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S) Examination September 2025 (2019 Scheme)

Course Code: ADT402

Course Name: BUSINESS ANALYTICS

Max. Marks: 100   **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks.   Marks

1	Define Business Analytics (BA) and explain its importance in modern businesses.	(3)
2	Explain the significance of Portfolio Stress Testing in Business Analytics.	(3)
3	Explain different types of sampling methods with examples.	(3)
4	Explain Karl Pearson's Coefficient of Correlation and its significance.	(3)
5	Why is Data Preparation important in Tableau?	(3)
6	Differentiate between Tableau Workbooks (.twb) and Tableau Packaged Workbooks (.twbx).	(3)
7	Explain Association Rules in Market Basket Analysis with an example.	(3)
8	What are some benefits of Clickstream Data Analysis for digital marketing?	(3)
9	Describe the steps involved in performing Factor Analysis	(3)
10	What are the key components of Break-Even Analysis?	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Explain the process of Data Modelling and its importance in Business Analytics.	(9)
	b)	Compare and contrast Open Source vs Licensed Analytics Tools.	(5)

OR

12	a)	What is Outlier Analysis? How can outliers be detected and handled?	(7)
	b)	Explain the 5 V's of Business Analytics.	(7)

Module II

13 a) Define probability and explain its significance in business analytics   (7)

b) A factory produces light bulbs, and the probability that a bulb is defective is 0.05. If   (7)
a sample of 10 bulbs is selected, find the probability that:

a) Exactly 2 bulbs are defective

b) At most 3 bulbs are defective

OR

14 a) Describe the ARIMA model and its role in time series forecasting   (7)

b) What are the key steps involved in data collection for forecasting?   (7)

Module III

15 a) What is Tableau, and how does it help in Business Analytics?   (7)

b) Explain the Tableau Design Flow with all its steps.   (7)

OR

16 a) Why is Data Preparation important in Tableau?   (7)

b) How do you handle missing values in Tableau? List different techniques.   (7)

Module IV

17 a) Explain the process of conducting an A/B test step by step.   (7)

b) How does A/B testing work in web page optimization?   (7)

OR

18 a) What is the CART Algorithm? How does it work in classification and regression?   (7)

b) How do websites use Clickstream Analytics to improve user engagement?   (7)

Module V

19 a) Explain the process of creating a Data Model in Excel.   (7)

b) What are the key tools of What-If Analysis in Excel?   (7)

OR

20 a) Describe the steps involved in performing Exploratory Factor Analysis (EFA).   (7)

b) A company wants to segment its customers based on annual spending and frequency of purchases. The following data is given (7)

Customer	Annual Spending ($)	Purchase Frequency
A	5000	12
B	3000	8
C	7000	15
D	2000	6
E	6000	14

Apply K-Means Clustering with k=2 to segment the customers. Use the Euclidean distance formula to find the initial cluster assignments.

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