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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S,FE) Examinations September 2026 (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		List and briefly define the "5 V's" of Business Analytics.	(3)
2		Distinguish between Structured and Unstructured data with one example for each.	(3)
3		List the four main components of a Time Series.	(3)
4		A call centre receives an average of 3 calls per minute. Calculate the probability that in any given minute, they receive exactly 5 calls.	(3)
5		How does Tableau handle blended data from multiple sources?	(3)
6		What is the purpose of a "calculated field" in Tableau?	(3)
7		Name three common Success Metrics used to evaluate the results of an A/B test on an e-commerce site.	(3)
8		Briefly describe click stream analytics and its importance for website optimization.	(3)
9		What is clustering? Mention any two applications.	(3)
10		What is DBSCAN? Mention its key features.	(3)

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

Module I

11	a)	Describe the Data Analytics framework and its essential stages from data collection to insight generation.	(8)
	b)	Compare and contrast Licensed vs. Open Source analytics tools. Mention at least two popular tools for each category.	(6)

OR

12	a)	How is business analytics applied in Risk Management and Portfolio Stress Testing?	(9)
	b)	Explain the process of Data Cleaning.	(5)

Module II

13 a) Compare and contrast the Binomial and Poisson distributions. Under what conditions does a Binomial distribution tend toward a Poisson distribution? (9)

b) What does a Pearson's Correlation Coefficient indicate about the relationship between two variables? (5)

OR

14 a) Explain the steps involved in analysing a time series. Why Forecasting is for Management Decisions considered a critical application of time series analysis? (7)

b) A data analyst is reviewing the daily processing times (in minutes) for 8 different machine learning models. The times recorded are: 45, 52, 48, 60, 52, 55, 120, 50 (7)

a) Calculate the Mean, Median, and Mode for this dataset.

b) Identify which measure of central tendency is most affected by the value "120" and explain why.

Module III

15 a) Describe the steps to create a dual-axis chart in Tableau. (7)

b) How do filters enhance data visualization in Tableau dashboards? (7)

OR

16 a) Explain the process of joining and blending data from Excel and SQL sources in Tableau. (7)

b) Demonstrate how to use parameters for dynamic filtering in Tableau. (7)

Module IV

17 a) Describe the Monte Carlo Simulation technique and provide a business scenario where it is particularly useful. (8)

b) Define Data Abstractions and explain their necessity when analysing large-scale social media data. (6)

OR

18 a) Discuss how Text Mining from opinion platforms is used to decode customer sentiments and consumer intent. (6)

b) Explain the step-by-step process of performing Sentiment Analysis on comments from opinion platforms. (8)

Module V

19 a) Explain Hierarchical clustering and Agglomerative clustering. (7)

b) Explain Factor Analysis and its steps. (7)

OR

20 a) Explain the ID3 algorithm and its splitting criterion with example (10)

b) A firm has the following details: Fixed Cost = ₹80,000, Selling Price per unit = ₹500, Variable Cost per unit = ₹300. Calculate the Break-Even Point in units and sales value. Interpret the result. (4)





