Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

1st Semester Examination Dec, 2021

Program: BBA (A&BD) **Semester: 1st**
Subject/Course: Business Analytics **Max. Marks: 100**
Course Code: DSBA1002 **Duration: 3 Hours**

IMPORTANT INSTRUCTIONS

1. *The student must write his/her name and enrolment no. in the response sheet.*
2. *All the questions as part of 4 sections have to be answered.*
3. *After attempting the questions, the student has to upload the response sheet on CodeTantra.*

Q.No		Marks	COs
	Section A	**10Qx2M=20Marks**	
1	Share the Analytics Lifecycle using an example		CO1
2	Discuss at least 3 differences between OLAP and OLTP systems (e.g., in Retail - POS vs Data Warehouse for Sales or Inventory)		CO1
3	Provide one example each from AI (Artificial Intelligence), ML (Machine Learning) and DL (Deep Learning) from any industry		CO2
4	Share at least 2 business scenarios when one needs to apply Supervised Learning models (e.g., logistic regression, k-nearest neighbor for classification; linear regression for regression)		CO2
5	Share at least 2 business scenarios when one needs to apply Un-Supervised Learning models (e.g., k-means for clustering; PCA for dimensionality reduction)		CO2
6	Share at least 2 business scenarios when one needs to apply Reinforcement Learning models (e.g., learn the model for model-based; Q-learning for model-free)		CO2
7	Provide one example/business scenario each from Descriptive, Predictive as well as Prescriptive Analytics		CO1
8	Why we need to design for Descriptive, Predictive as well as Prescriptive Analytics for any enterprise?		CO2
9	Provide one example/business scenario from Data Warehouse		CO2
10	Provide one example/business scenario from Data Lakes.		CO2
	Section B	**4Qx5M= 20 Marks**	

11	Discuss the differences of SQL vs No-SQL Databases	5	CO1
12	Why we need to design APIs or Views on top of our available data sources?	5	CO3
13	Discuss Data Modeling needed for Descriptive, Predictive as well as Prescriptive Analytics	5	C04
14	Discuss how to build Prediction Dashboards from data sources (e.g., DB Layer, Meta Data/Data Access Layer/Views, Consuming Views, Visualization Layer)	5	C04
	Section C	**3Qx10M=30 Marks**	
15	Mention at least 5 parameters each from the 3 clusters (Business/Market, Process/Operations, Technology/System) to support any prediction use case (e.g., stock price prediction or say asset failure prediction or say customer churn prediction)	10	CO1
16	Describe the advantages and differences between OLAP and OLTP systems.	10	CO2
17	Discuss BI Architecture Framework in modern business using Data Warehouse and Data Lakes.	10	C03
	Section D	**2Qx15M= 30 Marks**	
18	Discuss BI Architecture Framework in modern business using Data Warehouse and Data Lakes. Provide examples at least from one industry in your response.	15	CO4
19	Describe the Data Science Workflow with any given use case (e.g., Customer Churn Prediction, Stock Price Prediction, etc.)	15	C03

ANSWERS