Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

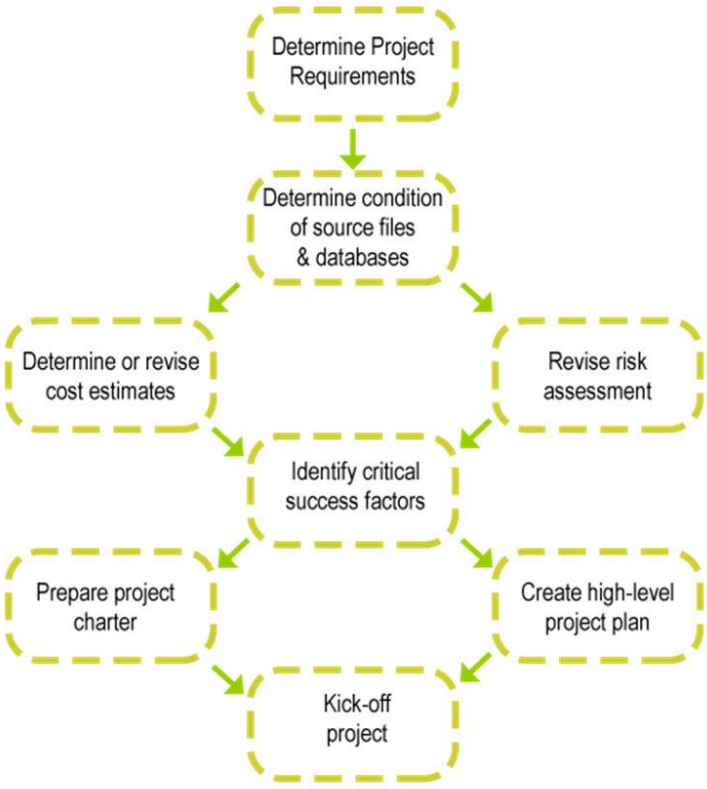
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Business Intelligence **Semester: VIII**
Program: B. Tech. (BFSI+OG) **Time : 03 hours**
Course Code: CSBA3003P **Max. Marks: 100**

SECTION A

1. Each Question will carry 5 Marks
2. Instruction: Complete the statement / Select the correct answer(s)/ Type the short Answers

Q1	R-J performance score card defines articulating business strategy as – a) Customer Sales, Customer Feedback and Customer acquisition b) Business model, implementation and evaluation c) Market opportunity assessment, market capturing and market making d) Implementation, Change management and customer feedback	**CO2**
Q2	**State True or False: (T/F)** A. A vertical bar chart is sometimes called a column bar chart. B. The basis of Business Intelligence is not data. C. A Scatter (XY) Plot has points that show the relationship between two sets of data. D. Metrics are parameters or measures of quantitative assessment used for measurement, Comparison or to track performance or production. E. In a bar chart, the arc length of each slice (and consequently its central angle and area), is Proportional to the quantity it represents.	**CO4**
Q3	What are the characteristics of a Data Warehouse? A. Subject oriented; Integrated and Non-volatile B. Subject oriented; Integrated, Time variant and Non-volatile C. Subject oriented; Time variant and Non-volatile D. Objective, Time variant; Integrated and Non-volatile	**CO1**
Q4	What are the three conditions that lead to an analytics based organization? A. Nature of the industry, need of the management, and responding to a problem B. Seizing an opportunity, responding to a problem, and need of the customers C. Responding to a problem, the nature of the industry, and seizing an opportunity D. Need of the customers, need of the management ,and nature of the industry	**CO1**
Q5	_____ is a performance management tool that recapitulates an organization's performance from several standpoints on a single page. A. Balanced Scorecard B. Data Cube C. Dashboard	**CO4**

	D. All of the mentioned	
Q6	You got a dataset depicting the popularity of two graphic novels given by a critic which contains three variables. 1) Time of survey (in dd-mm-yy format) 2) Rating of 'Marvel' (in range between 0 to 10) 3) Rating of 'DC' (in range between 0 to 10) The data is collected every day since 1970. You need to just write how you will represent the data in a chart. What will you use? And why? (NO DIAGRAM TO BE DRAWN)	**CO3**
SECTION B **1. Each question will carry 10 marks** **2. Instruction: Write short / brief notes**		
Q7	• Explain the terminology Analytics and explain its types. (7) • Steve Rogers is a Business Analyst and Tony Stark works as a Data Scientist in IBM. Describe how their roles differ. Do you think they will collaborate for any project taken by the company? (3)	**CO1**
Q8	• Define the term dashboard and scorecard and how it is used as a solution in Business Intelligence. (7) • Write short note on metadata model with diagram.(3)	**CO2**
Q9	The steps are required to plan a BI project are given in the figure below. The company that you are working for is a stocks investment firm. How are you going forward to implement a BI project? (10)  	**CO3**

Q10	Describe the full process of building report including proper diagram and explanation.	**CO4**
Q11	Write Short note on : (5+5=10) • Text Mining. • SSO (Single Sign on). **OR** Write Short note on : (5+5=10) • Predictive Analytics. • Difference between Centralized and De-centralized architecture of BI.	**CO5**
Section C **1. Each Question carries 20 Marks.** **2. Instruction: Write long answer.**		
Q12	Suppose that a data warehouse for Big-University consists of the following four dimensions: student, course, semester, and instructor, and two measures count and avg_grade. When at the lowest conceptual level (e.g., for a given student, course, semester, and instructor combination), the avg_grade measure stores the actual course grade of the student. At higher conceptual levels, avg_gradestores the average grade for the given combination. (5+5+5+5=20) a. Draw a snowflake schema diagram for the data warehouse. (5) b. Starting with the base cuboid [student, course, semester, instructor], what specific OLAP operations (e.g., roll-up from semester to year) should one perform in order to list the average grade of CS courses for each Big-University student.(5) c. If each dimension has five levels (including all), such as student < major < status < university < all, how many cuboids will this cube contain (including the base and apex cuboids)? (5) d. For a data cube with three dimensions time, location, and product, which category does the function variance belong to? Describe how to compute it if the cube is partitioned into many chunks. (5) **OR** What are the pros and cons of the top-down and bottom-up approaches to data warehouse development. Explain the concept of data cube with a diagram. And define star, snowflake and fact consolation schemas for multidimensional data models to design. (5+5+10=20)	**CO5** **CO5**