**UPES**
UNIVERSITY WITH A PURPOSE

## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
### Online End Semester Examination, Dec 2020

Course: Business Intelligence  Semester:  V
Program:  BTech- CSE-BAO  Time 03 hrs.
Course Code: CSBA 3003  Max. Marks: 100

**Instructions: All questions are compulsory. Options are given for questions 12**

### SECTION A

1. Each question will carry 5 marks.
2. Complete the statement/ Select the correct answer/ True false

| S. No. | | Marks | CO |
|---|---|---|---|
| Q 1 | **(A) Statements given below:** <br> (i) Databases configured for OLAP do not allow complex analytical and ad hoc queries. <br> (ii) The ETL function permits the consolidation of multiple data sources into a well-structured database for use in complex analysis. <br> (iii) In computing, a data warehouse or enterprise data warehouse (DW, DWH, or EDW) is a database not used for reporting and data analysis. <br> (iv) OLAP is part of the broader category of business intelligence, which also encompasses relational database, report writing and data mining. <br> Which of the given statements are TRUE : <br> **(a)** Statement (i) & (iii)   **(b)** Statement  (ii) & (iv) **(c)** Statement (i) & (iv) <br> **(d)** Statement (ii) & (iii) <br><br> **(B) Statements given below:** <br> (i) As the use of information technology increases in business the number of knowledge workers will decrease. <br> (ii) Management information systems deals only with the use of information technology tools to help people perform tasks related to information processing and management. <br> (iii) An executive information system (EIS) is a highly interactive IT system that allows you to first view highly summarized information and then choose how you would like to see greater detail, which may alert you to potential problems or opportunities. <br> (iv) Ubiquitous computing refers to limited information access during business hours. <br> Which of the given statements are FALSE : <br> **(a)** Statement (i), (iii) & (iv) <br> **(b)** Statement (i), (ii) & (iii) | **5** | **CO1** |

| | | | |
|---|---|---|---|
| | (c) Statement (ii), (iii) & (iv) <br> (d) Statement (i), (ii) & (iv) | | |
| Q 2 | **Fill in the Blanks** <br> **(A)** _____utilities for the moving of data from the diverse data sources to the common data warehouse. <br> **(B)** The first data warehouses were fed by _____ prepared by the various systems inside the association. <br> **(C)** An _____was required for data exchange, collection, and analysis that could supply a unified view of an enterprise's data. <br> **(D)** A_____ is a special type of a data warehouse focused on a single (or functional area), such as Sales, Finance, or Marketing. <br> **(E)** The primary use for a data mart is in _____applications | 5 | CO2 |
| Q 3 | What is analytics? Also, Define Descriptive Analytics, Predictive Analytics and Prescriptive Analytics. | 5 | CO1 |
| Q 4 | (a)List the functional areas of Business Intelligence tool. <br> (b) Difference between OLTP and OLAP | 5 | CO1 |
| Q 5 | **TRUE/FALSE**: <br> (a) OLAP refers to the new Online Application Program utilized by many companies to automatically process job applications. <br> (b) Personal dimensions of information include information flows and information granularity. <br> (c) Strategic management is the second level in the traditional organization pyramid. <br> (d) The horizontal flow of information consists of information that is communicated to customers, suppliers, distributors, and other partners for the purpose of doing business. <br> (e) Business intelligence is knowledge about your customers, your competitors, your partners, your competitive environment, and your own internal operations. | 5 | CO2 |
| Q 6 | **Multiple choice questions:** <br> **(A)** In What-if Scenario, which components have to be determined in specific values <br> (i) Input      (ii)Output      (iii) Metric      (iv) Both (a) & (b) <br> **(B)** OLAP operation that selects two or more dimensions from a given cube and provides a new sub-cube is <br> (i) Pivot      (ii) Dice      (iii) Slice      (iv) Roll up <br> **(C)** Operation that can be thought of as viewing a slice of data cube, is referred to as <br> (i) Drill down      (ii) Pivoting      (iii) Dicing      (iv) Slicing <br> **(D)** Which server has better scalability but Query performance is poor? <br> (i) ROLAP      (ii) MOLAP      (iii) HOLAP      (iv) Both (i & (ii) <br> **(E)** ASUG Model allows Business Intelligence maturity to be classified as per certain practices. These practices are Information and Analytics, Standards and Processes, Application Architecture and _____ <br> (i) Leadership      (ii) Governance      (iii) Supervision      (iv) Analytics | 5 | CO3 |

**SECTION B**

1. Each question will carry 10 marks
2. Instruction: Write short / brief notes

| Q 7 | What are the classes of mathematical models for decision making? Explain any two. | 10 | CO2 |
|---|---|---|---|
| Q 8 | Describe the process of building reports and different reporting styles. | 10 | CO4 |
| Q 9 | (a) Suppose you have been given the following data cube(a) from a company and hierarchies on dimensions(b):  Explain how to perform the dicing and slicing operation on the given data cube? (b) Difference between Snowflake schema and Star schema. | 10 | CO3 |
| Q 10 | Explain Kaplan-Norton Balanced Scorecard & Strategy framework. | 10 | CO4 |
| Q. 11 | (a) Briefly explain about multidimensional OLAP. (b) "Dimension tables consist of attributes that describe fact records in the fact table". Discuss. | 10 | CO3 |

<div align="center">

**SECTION-C**
</div>

1. Each Question carries 20 Marks.
2. Instruction: Write long answer.

| Q 12 | Explain Dashboard and its types. Write the steps to create a dashboard and dashboard design principles with the help of example. <div align="center">OR</div> Dealing with BI solution architecture, you are asked to create an architecture of UPES. Explain how Centralized and Decentralized architecture will differ. Explain other alternative architectures. How can you expand UPES BI potential? | 20 | CO5 |