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

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course : Descriptive Analytics for Oil and Gas
Semester : VI
Program : B. Tech - CS (OGI)
Course Code : CSIT341

Time 03 hrs.
Max. Marks: 100

Instructions: All questions are compulsory. Options are given for questions 9 and 11.

SECTION A

| S. No. | | Marks | CO |
|--------|---|-------|-----|
| Q 1 | What are the various types of Analytics? | 4 | CO1 |
| Q 2 | What are the benefits of Asset Analytics for Rotational Equipment in Oil and Gas? | 4 | CO4 |
| Q 3 | State difference between Scorecard and Dashboard. | 4 | CO3 |
| Q 4 | Explain about the Drill Up, Drill Down and Drill Through in BI Reports. | 4 | CO2 |
| Q 5 | Explain about the Data Backup and Restoring. | 4 | CO3 |

SECTION B

| | | | |
|-----|---|----|-----|
| Q 6 | What is Business Intelligence? Discuss Real Time BI, Collaborative BI and Mobile and Disconnected BI. | 10 | CO1 |
| Q 7 | Describe the Well logging information flow using suitable diagram. | 10 | CO4 |
| Q 8 | Explain the concept of authentication, authorization and access permission. | 10 | CO3 |
| Q 9 | Discuss the various types of BI Reports used in BI. <p style="text-align: center;">OR</p> A business organization needs to analyze its business to help highest level of company management. Given the situation, discuss the various types of dashboards and specify which dashboard the company should choose for best results in this situation. | 10 | CO2 |

SECTION-C

Q 10

- a) Data Warehouse is a subject-oriented, integrated, time-variant, and non-volatile collection of data. Explain these four characteristics of Data Warehouse in support of management's decision-making process.
- b) The 3D view of Sales data is shown below in tabular form. Represent the shown data in Data Cube.

15

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| Time | Location="Gurgaon" | | | Location="New Delhi" | | | Location="Mumbai" | | |
|------|--------------------|--------|-------|----------------------|--------|-------|-------------------|--------|-------|
| | Item | | | Item | | | Item | | |
| | Mouse | Mobile | Modem | Mouse | Mobile | Modem | Mouse | Mobile | Modem |
| Q1 | 788 | 987 | 765 | 786 | 85 | 987 | 986 | 567 | 875 |
| Q2 | 678 | 654 | 987 | 659 | 786 | 436 | 980 | 876 | 908 |
| Q3 | 899 | 875 | 190 | 983 | 909 | 237 | 987 | 100 | 1089 |
| Q4 | 787 | 969 | 908 | 537 | 567 | 836 | 837 | 926 | 987 |

CO1

Q 11

Every BI deployment has an underlying architecture. In this regard, discuss the centralized and decentralized architecture. Also, discuss the two factors Organization Culture and Structure, which drive the selection of centralized or decentralized architecture.

20

OR

What is Risk Management and Mitigation ? Explain BI Project Tasks in detail.

CO3

| | |
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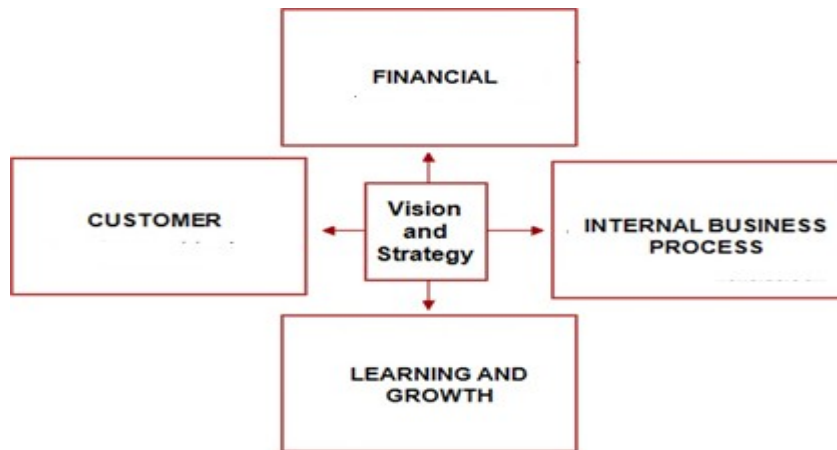
Instructions: All questions are compulsory. Options are given for questions 9 and 11.

SECTION A

| S. No. | | Marks | CO |
|--------|---|-------|-----|
| Q 1 | Differentiate between OLAP and OLTP. | 4 | CO1 |
| Q 2 | What are the components of IBM's Smarter Asset Management for Oil and Gas? | 4 | CO4 |
| Q 3 | Explain about the BI Scorecard. | 4 | CO3 |
| Q 4 | Explain about the relational and dimensional reporting style in BI Reports. | 4 | CO2 |
| Q 5 | Explain about the phased and incremental BI roadmap. | 4 | CO3 |

SECTION B

| | | | |
|-----------|---|----|-----|
| Q 6 | Discuss the three-tier Decision Support Systems? | 10 | CO1 |
| Q 7 | Discuss the components of Organization transformation for an Oil and Gas. | 10 | CO4 |
| Q 8 | Explain about the data backup and restoring. | 10 | CO3 |
| Q 9 | A business organization needs to analyze its business to help highest level of company management. Given the situation, discuss the various types of dashboards and specify which dashboard the company should choose for best results in this situation. | 10 | CO2 |
| OR | | | |
| | The Kaplan & Norton's (KN) Balanced Scorecard is shown below. Discuss how the four perspectives of KN Balance Scorecard help a business organization. | | |



SECTION-C

Q 10

- a) What is multi-dimensional data? Discuss the various OLAP Operations.
- b) The 3D view of Sales data is shown below in tabular form. Represent the shown data in Data Cube.

15
5

| Time | Location="Gurgaon" | | | Location="New Delhi" | | | Location="Mumbai" | | |
|------|--------------------|--------|-------|----------------------|--------|-------|-------------------|--------|-------|
| | Item | | | Item | | | Item | | |
| | Mouse | Mobile | Modem | Mouse | Mobile | Modem | Mouse | Mobile | Modem |
| Q1 | 788 | 987 | 765 | 786 | 85 | 987 | 986 | 567 | 875 |
| Q2 | 678 | 654 | 987 | 659 | 786 | 436 | 980 | 876 | 908 |
| Q3 | 899 | 875 | 190 | 983 | 909 | 237 | 987 | 100 | 1089 |
| Q4 | 787 | 969 | 908 | 537 | 567 | 836 | 837 | 926 | 987 |

CO1

Q 11

Every BI deployment has an underlying architecture. In this regard, discuss the centralized and decentralized architecture. Also, discuss the two factors Organization culture and structure, which drive the selection of centralized or decentralized architecture.

OR

Describe Planning a BI project ? Explain BI Project Tasks in detail.

20

CO3