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### UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
### End Semester Examination, December 2019

**Course: Data Ware Housing and Multidimensional Modeling**  **Semester: V**
**Program: B.Tech(CSE-BAO)**  **Time : 03 hrs.**
**Course Code: CSBA3002**  **Max. Marks: 100**

**Instructions: Answer all questions**

| | SECTION A | | |
|---|---|---|---|
| S. No. | | Marks | CO |
| Q 1 | Dimension reduction is one of the very important phase during data preprocessing. Justify. | 4 | CO1 |
| Q 2 | Compare data base and data warehouse. | 4 | CO1 |
| Q 3 | What is the level of granularity in the fact table? Discuss with example. | 4 | CO2,CO5 |
| Q 4 | Propose an algorithm in pseudo code or in any programming language for the automatic generation of concept hierarchy schema. You can take any example to represent this fact. | 4 | CO4,CO5 |
| Q 5 | Compare ROLAP and MOLAP. | 4 | CO3 |
| | **SECTION B** | | |
| Q 6 | Write an algorithm and pseudo code to represent drill down data cube computation technique with suitable example. | 10 | CO3,CO4,CO1 |
| Q 7 | A data cube consists of a lattice of cuboids, each corresponding to a different degree of summarization of the given multidimensional data. Justify with suitable example. | 10 | CO4,CO1 |
| Q 8 | Design a three tier architecture of data ware house, considering any example and brief the responsibilities of each tier. | 10 | CO1,CO5 |
| Q 9 | Consider a data ware house for a big university consists of the four dimensions students, course, semester and instructor, and two measures count and avg_ grade. Draw a snow flake schema diagram for the data ware house and explain in brief. <br><br> OR | 10 | CO2,CO5 |
| | Discuss the similarities and differences in star and snow flake schema with suitable example. | 10 | CO2,CO5 |
| | **SECTION-C** | | |
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| Q 10 | Design a data ware house for any financial institution using top down and bottom up approach. Discuss in detail the various incremental phases during your design process in each approach. | **20** | **CO1,CO2,CO3,CO5** |
|------|------|------|------|
| Q 11 | Discuss in detail the various design principles of local and global data ware houses with suitable example and their architectural topology.<br>OR | **20** | **CO1,CO5** |
| | Discuss in detail IBM Cognos three tier architecture. Which component is responsible for modeling? | **20** | **CO1,CO5** |