

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2018**

**Course: Advanced Database Management Systems**

**Program: B.Tech.-CSE with all specialization**

**Course Code: CSEG2017**

**Semester : III**

**Time : 03 hrs.**

**Max. Marks : 100**

**Instructions:**

**SECTION A (Attempt all questions)**

S. No.	Question	Marks	CO
Q 1	Explain the difference between logical and physical data independence.	4	CO1
Q 2	Design a generalization–specialization hierarchy for a motor-vehicle sales company. The company sells motorcycles, passenger cars, vans, and buses. Justify your placement of attributes at each level of the hierarchy.	4	CO2
Q 3	Differentiate between primary, secondary and cluster indexing.	4	CO3
Q 4	Discuss the steps involved in query processing.	4	CO4
Q 5	How does granularity of data items affect the performance of concurrency control? What factor affect selection of granularity size for data items?	4	CO6

**SECTION B (Attempt all questions)**

Q 6	State the different advantages of DBMS in comparison to file system.	8	CO1
Q 7	Consider the following information about a university database: <ul style="list-style-type: none"><li>Professors have an SSN, a name, an age, a rank, and a research specialty.</li><li>Projects have a project number, a sponsor name (e.g., UPES), a starting date, an ending date, and a budget.</li><li>Graduate students have an SSN, a name, an age, and a degree program (e.g., B. Tech., M.S. or Ph.D.).</li><li>Each project is managed by one professor (known as the project's principal investigator).</li><li>Each project is worked on by one or more professors (known as the project's co-investigators).</li><li>Professors can manage and/or work on multiple projects.</li><li>Each project is worked on by one or more graduate students (known as the project's research assistants).</li><li>When graduate students work on a project, a professor must supervise their work on the project. Graduate students can work on multiple projects, in which case they will have a (potentially different) supervisor for each one.</li></ul>	8	CO2



**SECTION-C (Attempt all questions)**

[illegible]