Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2018

Course: Advanced Data Base Management System **Semester: 1**
Programme: M.Tech. (Computer Science)
Time: 03 hrs. **Max. Marks: 100**
Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Explain the term "Set Difference" and apply to list all the authors written books and not the articles.	4	CO1
Q 2	Explain the types of Single-level Ordered Indexes.	4	CO2
Q 3	What are long duration transactions? What are the adverse effects of 2-phase locking concurrency protocols on long duration transactions?	4	CO3
Q 4	Differentiate between fragmentation and replication and their respective advantages for the availability of data.	4	CO4
Q 5	What is the difference between attributes and elements in XML? List some of the important attributes used to specify elements in XML schema	4	CO5
	SECTION B		
Q 6	Explain the usage of Heap Sort in Data Base Management. Demonstrate Max Heap Construction algorithm for following data: 35 33 42 10 14 19 27 44 26 31	10	CO4
Q 7	Create the insertions sequence of following data 8,5,1,7,3,12,9,6 on B+ tree with order 3 and leaf order 2. Mention all the steps involved in the process.	10	CO2
Q 8	Demonstrate the process of extendible hashing for following data set 4, 24, 16, 6, 22, 10, 7, 31, 9, 20, 26	10	CO3
Q 9	Explain the term Conflict Serializibility along with recoverable schedules.	10	CO4
	OR		
	Write all the phases applied in the technique of query optimization. Explain the approaches to Query optimization. Mention all the steps involved while processing a high level query.	10	CO4
	SECTION-C		
Q 10	Explain the term ECA and Demonstrate how triggers extends the information processing capabilities of DBMS with the insights towards types of triggers and their usage under various situations. Write a trigger to update the commissions for sales team with 10% of their product sales once achieved the target of Rs.100,000 and above.	20	CO5
Q 11	Explain the usage of deductive databases while handling complex data types for future databases. Provide the insights used while recovering data from the complex	20	CO3

	datasets.		
	OR		
	Explain the usage of ARIES recovery algorithm, with the steps mentioned all the phases involved for this process.	**20**	**CO3**