



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

## COMPUTER SCIENCE AND ENGINEERING

### ASSIGNMENT QUESTIONS

<b>Course Name</b>	:	<b>DATABASE MANAGEMENT SYSTEMS</b>
<b>Course Code</b>	:	A40507
<b>Class</b>	:	II B. Tech II Semester
<b>Branch</b>	:	Computer Science and Engineering
<b>Year</b>	:	2016-2017
<b>Course Faculty</b>	:	Dr. M, Madhu Bala, Professor Ms. K Mayuri, Assistant Professor Mr. A V Srinivas, Assistant Professor

#### OBJECTIVES

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

S. No.	Question	Blooms Taxonomy Level	Programme Outcome
<b>UNIT – I</b>			
1	<b>Define</b> (i) Database (ii) DBMS (iii) database Applications?	Knowledge	2
2	<b>Discuss</b> about Data Definition language, commands with example?	Understand	9
3	<b>Discuss</b> about Data Manipulation language, commands with example?	Understand	9
4	<b>List</b> various types of attributes?	Knowledge	3
5	<b>Discuss</b> how can you change the data in the table?	Understand	9
6	<b>Explain</b> data model and list the types of data model used?	Understand	2
7	<b>Define</b> instance, schema and data abstraction and give the levels of data abstraction?	Understand	2
8	<b>Discuss</b> about the Concept Design with the ER Model?	Understand	4
9	<b>Define</b> the terms i) Entity ii) Entity set iii) weak entity set iv) strong entity set?	Knowledge	3
10	<b>Explain</b> different types of database users and write the functions of DBA?	Understand	2

S. No.	Question	Blooms Taxonomy Level	Programme Outcome
<b>UNIT – II</b>			
1	<b>Illustrate</b> different set operations in Relational algebra with an example?	Apply	8
2	<b>Discuss</b> about Domain Relational calculus in detail?	Understand	8
3	<b>Define</b> trigger and explain its three parts? Differentiate row level and statement level triggers?	Knowledge	10
4	<b>Illustrate</b> Group by and Having clauses with examples?	Apply	10
5	<b>List</b> the table modification commands in SQL?	Knowledge	10
6	<b>Discuss</b> about the operators SELECT, PROJECT, UNION?	Knowledge	10
7	<b>Discuss</b> about the operators renaming, joins, division?	Knowledge	10
8	<b>Demonstrate</b> how to add a NOT NULL column to a table with example?	Apply	10
9	<b>Define</b> a nested query? Write a nested query to find the names of sailors who have reserved both a red and green boat?	Knowledge	10
10	<b>Discuss</b> correlated nested queries? Write a query to find the names of sailors who have reserved a red boat?	Understand	10
<b>UNIT – III</b>			
1	<b>Define</b> decomposition and how does it address redundancy? Discuss the problems that may be caused by the use of decompositions?	Knowledge	5
2	<b>Define</b> functional dependencies. How are primary keys related to FD's?	Knowledge	5
3	<b>Define</b> normalization? Explain 1NF, 2NF, 3NF Normal forms?	Knowledge	5
4	<b>Compare and contrast</b> BCNF with 3NF?	Apply	5
5	<b>Describe</b> properties of decompositions?	Understand	5
6	<b>Illustrate</b> Multivalued dependencies and Fourth normal form with example?	Apply	5
7	<b>Discuss</b> about Join dependencies and Fifth normal form?	Understand	5
8	<b>Illustrate</b> Inclusion dependencies with example?	Apply	5
9	<b>Illustrate</b> fully functional dependency with example?	Apply	5
10	<b>Demonstrate</b> transitive dependency? Give an example?	Apply	5
<b>UNIT – IV</b>			
1	<b>Explain</b> ACID properties and Illustrate them through examples?	Understand	7
2	<b>Illustrate</b> Concurrent execution of transaction with examples?	Apply	7
3	<b>Discuss</b> two phase locking protocol and strict two phase locking protocols?	Understand	7
4	<b>Describe</b> Timestamp based locking protocols?	Understand	7
5	<b>Describe</b> Validation-based locking protocols?	Understand	7
6	<b>Explain</b> Buffer Management?	Understand	7
7	<b>Explain</b> different types of Advanced Recovery Techniques?	Understand	7
8	<b>Write</b> in detail about Remote Backup systems?	Apply	7
9	<b>Discuss</b> the failures that can occur with loss of Non-volatile storage?	Understand	7
10	<b>Define</b> a Transaction? List the properties of transaction	Knowledge	7
<b>UNIT – V</b>			

<b>S. No.</b>	<b>Question</b>	<b>Blooms Taxonomy Level</b>	<b>Programme Outcome</b>
1	<b>Write</b> in detail about Hash based Indexing and Tree based Indexing?	Apply	11
2	<b>Compare</b> I/O costs for all File Organizations?	Understand	11
3	<b>Explain</b> in detail about ISAM?	Understand	11
4	<b>Explain</b> B+ trees? Discuss about this Dynamic Index Structure?	Understand	11
5	<b>Demonstrate</b> searching a given element in B+ trees? Explain with example?	Understand	11
6	<b>Illustrate</b> insertion and deletion of an element in B+ trees with example?	Apply	11
7	<b>Write</b> in detail about Static Hashing?	Apply	11
8	<b>Explain</b> in detail about Extendible Hashing?	Understand	11
9	<b>Explain</b> in detail about Linear Hashing?	Understand	11
10	<b>Compare and Contrast</b> Extendible Hashing with Linear Hashing?	Apply	11

**Prepared by:** Dr. M, Madhu Bala, Professor.

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