University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

THEORY EXAMINATION – JAN 2021	
B.TECH – CSE **Subject : Database Management Systems** **Subject code: PC-CS-301**	**SEMESTER - V**
Time : 3 Hrs 15 Min	**MM: 56**

INSTRUCTIONS TO BE FOLLOWED

- **Allotted time for examination is 3 hours 15 minutes that includes time for downloading the question paper, writing answers, scanning of answer sheets and E-mailing the PDF files to the designated Email ID.**
- **For CSE-A Regular Students, the Email ID is:- btech5thcsea@kuk.ac.in**
- **For CSE-B Regular Students, the Email ID is:- btech5thcseb@kuk.ac.in**
- **The candidates will be required to attempt 75% of the question paper (maximum) by choosing to their any best questions accumulating 56 marks.**
- **The PDF files should be saved as Roll No. and Subject Code. Proper attention should be given while sending the email and in the subject line, the Roll Number and Subject Code should be mentioned.**
- **Maximum Page Limit should be 20 (Twenty) for attempting the question paper on A4 sheets which could be downloaded and printed from the sample sheets given in the Kurukshetra University Examination guidelines.**
- **Over-attemptation should be avoided.**
- **Handwriting should be neat and clean and diagrams should be clear and contrasted.**
- **The candidate should not write their Mobile No. otherwise Unfair Means Case will be made.**
- **While attempting the paper, the candidate will use blue/black pen only.**
- **Before attempting the paper, the candidate will ensure that he/she has downloaded the correct question paper. No complaint for attempting wrong question paper by the candidate will be entertained.**
- **Candidate must ensure that he/she has put his/her signature on each page of the answer sheet used by him/her. Answer sheet without the signature of the candidate will not be evaluated.**

PART-A (15 Marks)

Q. No. – 1 Answer the following questions. **15x1=15**

(i)	Define Database management system.
(ii)	What do you understand by the tern 'entity' ?
(iii)	Explain primary key.
(iv)	Explain Operations on Relational Algebra .
(v)	Define the term 'view ' in context to SQL.
(vi)	Explain Normalization .
(vii)	What is meant by 4NF.
(viii)	Define lock base protocols.
(ix)	What do you mean by two phase locking.
(x)	Define validation.
(xi)	What is meant by commit and lock.
(xii)	Explain timestamp.
(xiii)	What is meant by Decomposition .
(xiv)	Explain Weak Entity Set.
(xv)	Define Administrator .

PART-B

2	Explain the Three Schema architecture of DBMS.	**5**
3	Discuss Stored procedures and triggers.	**5**
4	Describe Boyce-Codd Normal Form.	**5**
5	What do you understand by ACID Properties.	**5**

PART-C

6	Draw the Entity-Relationship Diagram by taking a suitable example.	**10**
7	Explain Network, Hierarchical and Relational Model in detail.	**10**
8	What do you understand by DDL, DML, DCL. Explain with the help of suitable example.	**10**
9	Define the following terms: (i) Referential Integrity Constraints **(ii)** Operations on Relational Calculus	**10**
10	Explain the following terms: (i) Different anomalies in designing a Database. **(ii)** Normalization using multi-valued dependencies	**10**
11	Explain Concurrency control and Recovery Management.	**10**
12	Describe Types of Failures, Recovery Techniques	**10**
13	Discuss Serializability and Recoverability.	**10**