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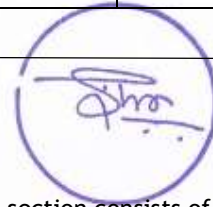
Branch: Signature of Invigilator:

Semester: VIth Date: 28/04/2022 (MORNING)

Subject with Code: CS325 DATABASE MODELLING

Marks Obtained	Section A (30)	Section B (20)	Total Marks (50)

INSTRUCTION TO CANDIDATE



1. The booklet (question paper cum answer sheet) consists of two sections. First section consists of MCQs of 30 marks. Candidates may mark the correct answer in the space provided / may also write answers in the answer sheet provided. The Second section of question paper consists of subjective questions of 20 marks. The candidates may write the answers for these questions in the answer sheets provided with the question booklet.
2. The booklet will be distributed to the candidates before 05 minutes of the examination. Candidates should write their roll no. in each page of the booklet.
3. Place the Student ID card, Registration Slip and No Dues Clearance (if applicable) on your desk. All the entries on the cover page must be filled at the specified space.
4. Carrying or using of mobile phone / any electronic gadgets (except regular scientific calculator)/chits are strictly prohibited inside the examination hall as it comes under the category of unfair means.
5. No candidate should be allowed to enter the examination hall later than 10 minutes after the commencement of examination. Candidates are not allowed to go out of the examination hall/room during the first 30 minutes and last 10 minutes of the examination.
6. Write on both side of the leaf and use pens with same ink.
7. The medium of examination is English. Answer book written in language other than English is liable to be rejected.
8. All attached sheets such as graph papers, drawing sheets etc. should be properly folded to the size of the answer book and tagged with the answer book by the candidate at least 05 minutes before the end of examination.
9. The door of examination hall will be closed 10 minutes before the end of examination. Do not leave the examination hall until the invigilators instruct you to do so.
10. Always maintain the highest level of integrity. Remember you are a BITian.
11. Candidates need to submit the question paper cum answer sheets before leaving the examination hall.

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS : IMSC
BRANCH : IMSC**

**SEMESTER: VI
SESSION: SP/2022**

SUBJECT: CS325, Database Modelling

TIME : 2 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 20 questions in two sections A and B. Candidates may attempt all questions.
 2. The missing data, if any, may be assumed suitably.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
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Section A (Marks 15*2 = 30)

1. The type of diagram in which the operations are specified on objects is considered as:

- a) Functional diagrams
- b) Class diagrams
- c) Attribute diagrams
- d) Entity diagrams

2. In a Hierarchical database model, records are organized as _____ structure.

- a) Graph
- b) List
- c) Links
- d) Tree

3. What type of relationship does the phrase "Teachers work in school" express?

- a) One-to-one
- b) One-to-many
- c) Many-to-one
- d) Many-to-many

4. A logical schema -

- a) Is the entire database
- b) It is a standard way of organizing information into accessible parts.
- c) Describes how data is actually stored on disk
- d) Both(a) and (c)

5. When an entity instance must be a member of only one subtype, it is which of the following?

- a) Disjoint with total specialization
- b) Disjoint with partial specialization
- c) Overlap with total specialization
- d) Overlap with partial specialization

6. Point out the correct statement.
- a) The detailed component diagnostics makes it possible to configure a more flexible failover policy.
 - b) The diagnostic information is stored to database
 - c) The detailed component diagnostics disables better troubleshooting of automatic failovers retroactively
 - d) All of the mentioned
7. Attributes are chosen for an object by examining the problem statement and identifying the entities that appear to be related
- a) True
 - b) False
8. Which of the following is not an objective For building a requirement model?
- a) define set of software requirements that can be validated
 - b) describe customer requirements
 - c) develop an abbreviated solution for the problem
 - d) establish basis for software design
9. In which form of function there is no partial functional dependencies.
- a) BCNF
 - b) 2NF
 - c) 3NF
 - d) 4NF
10. Define the function of BCNF?
- a) dependency preserving and lossless join
 - b) not dependency and lossless join
 - c) dependency preserving and not lossless join
 - d) none of these
11. Constraints of functional dependencies are based on.
- a) key
 - b) revisited key
 - c) superset key
 - d) none of these
12. Which one is false about normal foam?
- A. BCNF is stricter than 5 NF
 - B. dependency preserving decomposition into 3 NF is always possible-Lossless
 - C. preserving decomposition into BCNF is always possible-Loss less
 - D. Any relation with two attributes is BCNF

13. What is true about data mining?

- a) Data Mining is defined as the procedure of extracting information from huge sets of data
- b) Data mining also involves other processes such as Data Cleaning, Data Integration, Data Transformation
- c) Data mining is the procedure of mining knowledge from data.
- d) All of the above

14. The data is stored, retrieved and update in _____

- a) OLAP
- b) OLTP
- c) SMTH
- d) FTP

15. Which of the following can be considered as the drawback of the query-Driven approach in data warehousing?

- a) This approach is expensive for queries that require aggregations
- b) This approach is expensive insufficient, and very frequent queries
- c) This approach requires a very complex integration and filtering process
- d) All of the above

Section B (Marks 5*4 = 20)

1. Construct an ER diagram for a company database and explain briefly.
2. What is entity clustering? Explain with an example.
3. Write a short note of View integration.
4. Differentiate between 3NF and BCNF.
5. Describe data mining. Write down the steps of the KDD process.