खण्ड–अ (व्याख्यात्मक)
Section-A (Descriptive)

For Office Use Only

CSC 104

B.Sc. IInd SEMESTER EXAMINATION, 2023

COMPUTER SCIENCE

(Database Management System)

Credit (4+0)

(CBCS Mode)

Important Instruction :	महत्वपूर्ण निर्देश :
The question paper is in two sections : Section-A (Descriptive) will be of 15 marks and Section-B (Objective) will be of 60 marks. Section-A will be deposited at the end of the examination and answer sheet (OMR) of Section-B will be deposited.	**प्रश्न पत्र दो भागो में है : खण्ड–अ (व्याख्यात्मक) 15 अंकों का होगा एवं खण्ड–ब (बहुविकल्पीय) 60 अंक का होगा।** खण्ड–अ परीक्षा के अन्त में जमा कर लिया जायेगा एवं खण्ड–ब का उत्तर पत्रिका (OMR) जमा होगा।

अनुक्रमांक (अंकों में) / **Roll No. (In Figures)** :

①	①	①	①	①	①	①	①	①	①	①	①	①	①	①
②	②	②	②	②	②	②	②	②	②	②	②	②	②	②
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⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨
⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪	⓪

Time : 1 Hour
समय : 1 घण्टा

Max. Marks : 15
अधिकतम अंक : 15

3572

अनुक्रमांक (शब्दों में) : _____

Roll No. (In Words) : _____

अभ्यर्थी का नाम : _____

Student Name : _____

पिता का नाम : _____

Father Name : _____

कक्ष परिप्रेक्षक के हस्ताक्षर / Invigilator's Signature : _____

Note : (i) Total No. of Questions are **Six.**
(ii) Answer **Three** questions in all.
(iii) All Questions carry equal marks.

नोट : (i) कुल **छः** प्रश्न दिए गये हैं।
(ii) किन्हीं **तीन** प्रश्नों के उत्तर दीजिए।
(iii) सभी प्रश्नों के अंक समान हैं।

1. What do you mean by DBMS ? Explain its different characteristics.
2. What are join ? Give various types of join with suitable example.
3. What do you understand by data model in database ?
4. What is ER modal ? Explain its symbol and characteristics.
5. Describe the various level of abstraction of DBMS.
6. What is the need of normalization ? Explain the difference between 3NF and BCNF in brief.

खण्ड–ब (बहुविकल्पीय)
Section-B (Objective)

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AFFIX PRESCRIBED RUBBER STAMP

Date (तिथि) : _____

Paper ID
(To be filled in the OMR Sheet)

3572

अनुक्रमांक (अंकों में) :
Roll No. (In Figures) : | | | | | | | | | | | | | | | |

अनुक्रमांक (शब्दों में) : _____

Roll No. (In Words) : _____

Time : 1 Hour
समय : 1 घण्टा

Max. Marks : 60
अधिकतम अंक : 60

नोट : पुस्तिका में 40 प्रश्न दिये गये हैं, सभी प्रश्न करने होंगे। प्रत्येक प्रश्न 1.5 अंक का होगा।

Important Instructions :

1. The candidate will write his/her Roll Number only at the places provided for, i.e. on the cover page and on the OMR answer sheet at the end and nowhere else.
2. Immediately on receipt of the question booklet, the candidate should check up the booklet and ensure that it contains all the pages and that no question is missing. If the candidate finds any discrepancy in the question booklet, he/she should report the invigilator within 10 minutes of the issue of this booklet and a fresh question booklet without any discrepancy be obtained.

महत्वपूर्ण निर्देश :

1. अभ्यर्थी अपने अनुक्रमांक केवल उन्हीं स्थानों पर लिखेंगे जो इसके लिए दिये गये हैं, अर्थात् प्रश्न पुस्तिका के मुख्य पृष्ठ तथा साथ दिये गये ओ०एम०आर० उत्तर पत्र पर, तथा अन्यत्र कहीं नहीं लिखेंगे।
2. प्रश्न पुस्तिका मिलते ही अभ्यर्थी को जाँच करके सुनिश्चित कर लेना चाहिए कि इस पुस्तिका में पूरे पृष्ठ हैं और कोई प्रश्न छूटा तो नहीं है। यदि कोई विसंगति है तो प्रश्न पुस्तिका मिलने के 10 मिनट के भीतर ही कक्ष परिप्रेक्षक को सूचित करना चाहिए और बिना त्रुटि की दूसरी प्रश्न पुस्तिका प्राप्त कर लेना चाहिए।

1. Which SQL function is used to count the number of rows in a SQL query?

   (A) COUNT()

   (B) NUMBER()

   (C) SUM()

   (D) COUNT

2. Which SQL keyword is used to retrieve a maximum value?

   (A) MOST

   (B) TOP

   (C) MAX

   (D) UPPER

3. Which of the following SQL clause is used to delete tuples from a database table?

   (A) DELETE

   (B) REMOVE

   (C) DROP

   (D) CLEAR

4. Which of the following is not a DDL command?

   (A) UPDATE

   (B) TRUNCATE

   (C) ALTER

   (D) None of the Mentioned

5. Which data type can store unstructured data in a column?

   (A) RAW

   (B) CHAR

   (C) NUMERIC

   (D) VARCHAR

6. Which of the following must be enclosed in double-quotes?

(A) Dates

(B) Column Alias

(C) Strings

(D) All of the above

7. Which of the following command makes the updates performed by the transaction permanent in the database?

(A) ROLLBACK

(B) COMMIT

(C) TRUNCATE

(D) DELETE

8. Which of the following do you need to consider when you make a table in SQL?

(A) Data types

(B) Primary keys

(C) Default values

(D) All of the above

9. In RDBMS, two or more tables can be linked by using _____ key.

(A) Private

(B) public

(C) Primary

(D) Secondary

10. What is used to accept unique values and avoid null values?.

(A) Composite key

(B) Foreign key

(C) Primary key

(D) Unique key

11. A row in relational database table is called _____.

(A) Tuple

(B) Record

(C) Entity

(D) Both (A) & (B)

12. Advantage of DBMS is.

(A) Single user interface

(B) Providing backup and recovery

(C) Redundancy is not controlled

(D) Unauthorized access is not restricted

13. Which of the following is not a type of database?

(A) Hierarchical

(B) Network

(C) Distributed

(D) Decentralized

14. Which of the following in not an example of DBMS?

(A) MySQL

(B) Microsoft Access

(C) IBM DB2

(D) Google

15. The DBMS acts as an interface between _____ and _____ of an enterprise-class system.

(A) Data and the DBMS

(B) Application and SQL

(C) Database application and the database

(D) The user and the software

16. _____ Operations do not preserve non-matched tuples.

(A) Left outer join

(B) Inner join

(C) Natural join

(D) Right outer join

17. Which of the following establishes a top-to-bottom relationship among the items ?

(A) Relational schema

(B) Network schema

(C) Hierarchical schema

(D) All of the mentioned

18. In E-R diagram generalization is represented by:

(A) Ellipse

(B) Dashed ellipse

(C) Rectangle

(D) Triangle

19. An_____ is a set of entities of the same type that share the same properties, or attributes.

(A) Entity set

(B) Attribute set

(C) Relation set

(D) Entity model

20. The operation which is not considered a basic operation of relational algebra is:

(A) Join

(B) Selection

(C) Union

(D) Cross product

21. Before use of DBMS information was stored using _____.

(A) Cloud Storage

(B) Data System

(C) File Management System

(D) Pen drive

22. _____ Property will check whether all the operation of a transaction completed or none.

(A) Atomicity

(B) Consistency

(C) Isolation

(D) Durability

23. One of the following is a valid record-based data model:

(A) Object-oriented model

(B) Relational model

(C) Entity-relationship model

(D) None of the above

24. A view of database that appears to an application program is known as:

(A) Schema

(B) Subschema

(C) Virtual table

(D) None of the above

25. A top-to-bottom relationship among the items in a database is established by a:

(A) Hierarchical schema

(B) Network schema

(C) Relational schema

(D) All of the above

26. The level of data abstraction which describes how the data is actually stored is:

(A) Conceptual level

(B) Physical level

(C) File level

(D) None of these

27. Collection of information stored in a database at a particular moment is:

(A) View

(B) Schema

(C) Instance

(D) None of the above

28. Which one of the following design is both software and hardware independent?

(A) Logical

(B) Physical

(C) Conceptual

(D) None of the above

29. Object based data models are used in describing the abstraction of the following level:

(A) Only physical

(B) Conceptual and view

(C) Physical and conceptual

(D) None of the above

30. An abstraction concept for building composite object from their component object is called:

(A) Specialization

(B) Normalization

(C) Generalization

(D) Aggregation

31. Between the users and the database itself, a DBMS will act as:

(A) Barrier

(B) Interface

(C) Referee

(D) Obstacle

32. The set of all possible values of data items is called:

(A) Domain

(B) Attribute

(C) Tuples

(D) None of these

33. The ER model includes additional concepts like:

(A) Specialization

(B) Generalization

(C) Categorization

(D) All of the above

34. Every weak entity set can be converted into a strong entity set by:

(A) Using generalization

(B) Adding appropriate attributes

(C) Using aggregation

(D) None of the above

35. The number of entities to which another entity can be associated via a relationship set is expressed as:

(A) Entity

(B) Cardinality

(C) Schema

(D) Attributes

36. The file organization that provides very fast access to any arbitrary record of a file is:

(A) Ordered file

(B) Unordered file

(C) Hashed file

(D) B-tree

37. In a relational database a referential integrity constraint can be specified with the help of:

(A) Primary key

(B) Foreign key

(C) Secondary key

(D) None of the above

38. Anomalies imply additional work to be done for:

(A) Insertion into relation

(B) Modification of a relation

(C) Loss of information due to deletion

(D) All of the above

39. One limitation of the entity-relationship model is that it cannot:

(A) Use generalization

(B) Express relationship among relationship

(C) Use single primary key

(D) None of the above

40. Which of the following is not a logical database structure?

(A) Tree

(B) Relational

(C) Network

(D) Chain

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