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SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
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MAIN CAMPUS

COURSE CODE: ITB 9204

COURSE TITLE: Database Systems

DATE:

TIME:

TIME: 2 HOURS

Instructions:

1. Attempt **ALL questions**
2. Select the most correct alternative

1. ER model is used in which phase?

- A. Conceptual database.
- B. Schema refinement.
- C. Physical refinement.
- D. Applications and security.

2. A _____ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

- A) Referential
- B) Referencing
- C) Specific
- D) Primary

3. An instance is _____.

- A. A set of relationships.
- B. Set of attributes.
- C. Set of entities.
- D. Schema.

4. The entity set that participates in a relationship are.

- A. Distinct.
- B. Need not be distinct.
- C. May or may not be distinct.
- D. None.

5. The owner entity set and weak entity set should participate in.

- A. Many to many relationship set.
- B. Many to one relationship set.
- C. One to many relationship set.
- D. One to one relationship set.

6. The language used application programs to request data from the DBMS is referred to as the?

- A. DML.
- B. DDL.
- C. Query language.
- D. None.

7. 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 choices.

8. Which of the following levels of abstraction involves the views of data?

- A. External level.
- B. Conceptual level.
- C. Physical level.
- D. None.

.

9. The hierarchical DBMS organizes data elements into?

- A. Segments.
- B. Data compartments.
- C. Data units.
- D. Objects.

.

10. A collection of operations that performs a single logic function is called?

- A. Schedule.
- B. Transaction.
- C. DBA.
- D. None of the choices.

.

11. Large collection of files are called?

- A. Fields.
- B. Records.
- C. Database.
- D. Sectors.

12. What is not a feature of Hierarchical model?

- A. Child having a parent.
- B. Parent having parent.
- C. Parent may have any number of Childs.
- D. Child having more than one parent.

13. The relational database environment has all of the following components except?

- A. Users.
- B. Separate files.
- C. Database.
- D. Query languages.

14. The language associated with a database management system that is employed by end users and programmers to manipulate data in the database is the?

- A. Data definition language.
- B. Data presentation language.
- C. Data manipulation language.
- D. Data translation language.

15. The ascending order of a data hierarchy is?

- A. Bit-byte-record-field-file-database.
- B. Byte-bit-field-record-file-database.
- C. Bit-byte-field-record-file-database.
- D. Bit-byte-file-record-field-database.

16. Related fields in a database are grouped to form a?

- A. Data file
- B. Data record.
- C. Menu.
- D. Bank.

17. The database environment has all of the following components except.

- A. Users.
- B. Separate files.
- C. Database.
- D. Database administrator.

18. The way a particular application views the data from the database that the application uses is a?

- A. Module.
- B. Relational model.
- C. Schema.
- D. Sub schema.

19. A report generator is used to?

- A. Update files.
- B. Print files on paper
- C. Data entry.
- D. Delete files.

20. The property / properties of a database is / are:

- A. It is an integrated collection of logically related records.
- B. It consolidates separate files into a common pool of data records.
- C. Data stored in a database is independent of the application programs using it
- D. All of the choices

.
21. A relational database developer refers to a record as?

- A. A criteria.
- B. A relation.
- C. A tuple.
- D. An attribute.

.
22. The relational model feature is that there?

- A. Is no need for primary key data.
- B. Is much more data independence than some other database models.
- C. Are explicit relationships among records.
- D. Are tables with many dimensions

.
23. What is Conceptual design?

- A. Is a documentation technique.
- B. Needs data volume and processing frequencies to determine the size of the database.
- C. Involves modelling independent of the DBMS.
- D. Is designing the relational model.

.
24. The method in which records are physically stored in a specified order according to a key field in each record is

- A. Hash.
- B. Direct.
- C. Sequential.
- D. All of the choices.

.
25. A subschema expresses

- A. The logical view.
- B. The physical view.
- C. The external view.

D. All of the choices.

.

26. Which one of the following statements is false?

- A. The data dictionary is normally maintained by the database administrator.
- B. Data elements in the database can be modified by changing the data dictionary.
- C. The data dictionary contains the name and description of each data element.
- D. The data dictionary is a tool used exclusively by the database administrator.

.

27. An advantage of the database management approach is?

- A. Data is dependent on programs.
- B. Data redundancy increases.
- C. Data is integrated and can be accessed by multiple programs.
- D. None of the choices.

.

28. A DBMS query language is designed to?

- A. Support end users who use English-like commands.
- B. Support in the development of complex applications software.
- C. Specify the structure of a database.
- D. All of the choices.

.

29. E-R model uses this symbol to represent weak entity set?

- A. Dotted rectangle.
- B. Diamond.
- C. Doubly outlined rectangle.
- D. None of the choices.

.

30. SET concept is used in:

- A. Network Model.
- B. Hierarchical Model.
- C. Relational Model.

D. None of the choices.

.

31. Relational Algebra is

A. Data Definition Language.

B. Meta Language.

C. Procedural query Language.

D. None of the choices.

.

32. Key to represent relationship between tables is called?

A. Primary key.

B. Secondary Key.

C. Foreign Key.

D. None of the choices.

.

33. DBMS helps achieve?

A. Data independence.

B. Centralized control of data.

C. Control redundancy.

D. All of the choices.

.

34. Which of the following are the properties of entities?

A. Groups.

B. Table.

C. Attributes.

D. Switchboards.

.

35. It is better to use files than a DBMS when there are?

A. Stringent real-time requirements.

B. Multiple users wish to access the data.

C. Complex relationships among data.

D. All of the choices.

.

36. The conceptual model is?

A. Dependent on hardware.

B. Dependent on software.

C. Dependent on both hardware and software.

D. Independent of both hardware and software.

.

37. What is a relationship called when it is maintained between two entities?

A. Unary.

B. Binary.

C. Ternary.

D. Quaternary.

.

38. The RDBMS terminology for a row is?

A. Tuple.

B. Relation.

C. Attribute.

D. Degree.

.

39. Which of the following is an advantage of view?

A. Data security.

B. Derived columns.

C. Hiding of complex queries.

D. All of the choices.

.

40. A collection of conceptual tools for describing data, relationships, semantics and constraints is referred to as

A. Data Model

B. E-R Model

C. DBMS

D. All of the choices

.

41. Dr.E.F. Codd represented rules that a database must obey if it has to be considered truly relational.

A. 10

B. 15

C. 14

D. 12

.

42. The ER model is relevant to which of the following steps among the 6 steps in database.

A. Requirement analysis.

B. conceptual database design.

C. logic database design.

D. all the choices.

.

43. The method in which records are physically stored in a specified order according to a key field in each record is?

A. Hash.

B. Direct.

C. Sequential.

D. All of the choices.

.

44. A subschema expresses?

A. The logical view.

B. The physical view.

C. The external view.

D. All of the choices.

.

45. Relational Algebra is.

- A. Data Definition Language.
- B. Meta Language.
- C. Procedural query Language.
- D. None of the choices.

.
46. In E-R Diagram, weak entity is represented by.....

- A. Rectangle
- B. Square
- C. Double Rectangle
- D. Circle

.
47. An entity that is related with itself is known as.....

- A. binary relationship
- B. recursive relationship
- C. ternary relationship
- D. None of the choices

.
48 is a bottom-up approach in which two lower level entities combine to form a higher level entity.

- A. Aggregation
- B. Specialization
- C. Generalization
- D. None of the choices

.
49. An entity set that does not have sufficient attributes to form a primary key, is a

- A. Primary entity set
 - B. Weak entity set
 - C. Strong entity set
 - D. None of the choices
- .

50. Which SQL command delete all the records and does not remove the structure?

- A. Drop
- B. Insert
- C. Truncate
- D. None of the choices

.

51. Which of the following is a Data Definition Language (DDL) command?

- A. Delete
- B. Insert
- C. Drop
- D. Merge

.

52. In..... database, data is organized in the form of trees with nodes.

- A. Hierarchical
- B. Relational
- C. Network
- D. None of the choices

.

52. Which command is used to retrieve records from one or more table?

- A. Delete
- B. Insert
- C. Drop
- D. Select

.

53. Rows of a relation are called _____?

- A. entity
- B. degree
- C. tuples
- D. None of the choices

.

54. The number of tuples in a relation is termed as _____?

A. cardinality

B. entity

C. column

D. None of the choices

.

55. In SQL which of the following is a Data Manipulation Language(DML) command?

A. create

B. alter

C. merge

D. drop

.

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

A. Hierarchical

B. Relational

C. Network

D. Transition

.

57. In a relational database, each tuple is divided into fields called_____.

A. Relations

B. Domains

C. Queries

D. None of the choices

.

58. In E-R Diagram, attribute is represented by.....

A. Rectangle

B. Square

C. Double Rectangle

D. eclipse

.

59. The language used in application programs to request data from the DBMS is referred to as the _____.

- A. DML
- B. DDL
- C. DCL
- D. None of the choices

.

60. In SQL, which command is used to update existing row in a table?

- A. Insert
- B. Delete
- C. Update
- D. None of the choices

.

61. A _____ contains the smallest unit of meaningful data, so you might call it the basic building block for a data file.

- A. Record
- B. Field
- C. Table
- D. None of the choices

.

62. A relation between two entities is treated as a single entity is called _____

- A. Aggregation
- B. Specialization
- C. Generalization
- D. None of the choices

.

63. In Relational table, the term "Attribute" is also used to represent _____

- A. row
- B. column (or) field
- C. entity

D. None of the choices

.

64. Which of the following categories of the data integrity RDBMS will enforce specific business rules?

A. Entity Integrity

B. Domain Integrity

C. User-Defined Integrity

D. None of the choices

.

65. E-R Modelling technique is a _____.

A. top-down approach

B. bottom-up approach

C. User-Define

D. None of the choices

.

66. The number of attributes in a relation is called its _____.

A. row

B. column

C. degree

D. None of the choices

.

67. A top to bottom relationship among the items in a database is established by a _____.

A. Network Schema

B. Relational Schema

C. Hierarchical Schema

D. None of the choices

.

68. Aggregation is a special form of _____.

A. Specialization

B. Association

C. Generalization

D. None of the choices

.

69. In E-R Diagram, _____ represents Key Attribute.

A. Ellipse with underlying line

B. Rectangle with underlying line

C. Double rectangle

D. None of the choices

.

70. Which TCL command is used to permanently save any transaction into database?

A. rollback

B. savepoint

C. commit

D. None of the choices

.

71. Which TCL command restores the database to last committed state?

A. rollback

B. savepoint

C. commit

D. None of the choices

.

72. _____ is used to control privilege in Database.

A. Data Manipulation Language

B. Data Definition Language

C. Data Query Language

D. Data Control Language

.

73. Which of the following is another name for weak entity?

A. Dominant

B. Child

- C. Owner
- D. None of the choices

.

74. ODBC is based on _____.

- A. C++ language
- B. RDBMS
- C. Structured Query Language
- D. C language

.

75. _____ is used to save permanently any transaction into database.

- A. commit
- B. rollback
- C. savepoint
- D. None of the choices

.

76. Which SQL statement is used to extract data from a database?

- A. EXTRACT
- B. GET
- C. OPEN
- D. SELECT

.

77. Which of the following keyword can be used to return different values?

- A. SELECT
- B. GET
- C. OPEN
- D. DISTINCT

.

78. _____ keyword sorts the record in ascending order by default.

- A. ORDER BY
- B. SORT BY

C. SORT

D. None of the choices

.

79. Which operator is used to select values within a range?

A. WITHIN

B. RANGE

C. BETWEEN

D. None of the choices

.

80. Which operator allows to specify multiple values in a WHERE Clause?

A. LIKE

B. IN

C. BETWEEN

D. None of the choices

.

81.....are used to temporarily rename a table or heading of a column.

A. Wildcards

B. Constraints

C. Joins

D. Aliases

.

82. _____ is the process of organizing data into related tables.

A. Generalization

B. Normalization

C. Specialization

D. None of the choices

.

83. The candidate key is that you choose to identify each row uniquely is called_____?

A. Primary Key

- B. Foreign Key
- C. Alternate Key
- D. None of the choices

.

84. Which of the following is a special type of integrity constraint that relates two relations and maintains consistency across the relations?

- A. Entity Integrity Constraints
- B. Referential Integrity Constraints
- C. Domain Integrity Constraints
- D. None of the choices

.

85. Each modification done in database transaction are first recorded into the_____?

- A. Hard Drive
- B. Disk
- C. Log File
- D. Data Mart

.

86. Which of the following is preferred method for enforcing data integrity?

- A. Cursors
- B. Constraints
- C. Triggers
- D. None of the choices

.

87. Which allows to make copies of the database periodically to help in the cases of crashes and disasters?

- A. Recovery utility
- B. Data loading utility
- C. Monitoring utility
- D. Backup Utility

.

88. _____ allows a unique number to be generated when a new record is inserted into a table.

- A. Insert Into Select
- B. Insert Into
- C. Select Into
- D. Auto Increment

.

89. Which of the following constraint is used to limit the value range that can be placed in a column?

- A. Check
- B. Default
- C. Unique
- D. None of the choices

.

90. A Foreign key in one table points to a _____ key in another table.

- A. Alternate
- B. Default
- C. Primary
- D. None of the choices

.

91. Domain constraints, functional dependency and referential integrity are special forms of _____.

- A. Foreign key
- B. Primary key
- C. Referential constraint
- D. Assertion

.

92. 4NF stands for _____.

- A. Fourth Normal File
- B. Fourth Normal Form
- C. Fourth Normal Fraction

D. Fourth Negative File

.

93. Which of the following field type is used to store photograph of employees?

A. Memo

B. Picture

C. OLE

D. Photo

.

94. Which of the following field type is the best to store serial numbers?

A. Number

B. Auto Number

C. Text

D. Memo

.

95. The feature that database allows to access only certain records in database is _____?

A. Queries

B. Reports

C. Forms

D. Tables

.

96. The first step in the transaction processing cycle is _____?

A. Audit

B. Database operations

C. User inquiry

D. Data entry

.

97. The following are components of a database except _____.

A. reports

B. indexes

C. metadata

D. user data

.

98. _____ is one reason for problems of data integrity.

A. Data redundancy

B. Security constraints

C. Data inconsistency

D. Data availability constraints

.

99. Forms that are used to organize business data into rows and columns are called _____.

A. transaction sheets

B. business forms

C. registers

D. spreadsheets

.

100. is a bottom-up approach in which two lower level entities combine to form a higher level entity.

A) Aggregation

B) Specialization

C) Generalization

D) None of the choices

.

101. A collection of conceptual tools for describing data, relationships, semantics and constraints is referred to as?

A) Data Model

B) E-R Model

C) DBMS

D) All of the choices

.

102. A relation between two entities is treated as a single entity is called _____?

- A) Aggregation
- B) Specialization
- C) Generalization
- D) None of the choices

.

103. A transaction is a single unit of operation. This property of a transaction is?

- A) Atomicity
- B) Isolation
- C) Durability
- D) Entropy

.

104. An entity set that does not have sufficient attributes to form a primary key is a.....?

- A) Primary entity set
- B) Weak entity set
- C) Strong entity set
- D) None of the choices

.

105. An entity that is related with itself is known as?

- A) binary relationship
- B) recursive relationship
- C) ternary relationship
- D) None of the choices

.

106. Dr.E.F. Codd represented . rules that a database must obey if it has to be considered truly relational.

- A) 10
- B) 15
- C) 14
- D) 12

.

107. In Relational table, the term Attribute is also used to represent _____?

- A) row
- B) column (or) field
- C) entity
- D) None of the choices

.

108. In _____ database, data is organized in the form of trees with nodes.

- A) Hierarchical
- B) Relational
- C) Network
- D) None of the choices

.

109. Name the process which refers to the analysis and alteration of a database relation in order to get more concise and organized data structures.

- A) Database design
- B) Query processing
- C) Normalization
- D) Serialization

.

110. The dependency of a non-key attribute on another non key attribute is ...?

- A) Functional dependency
- B) Transitive dependency
- C) Partial dependency
- D) Non-functional dependency

.

111. The method in which records are physically stored in a specified order ...?

- A) Hash.
- B) Direct.
- C) Sequential.
- D) All of the choices.

.
112. The number of participating entities in a relationship defines the.....?

- A) Cardinality
- B) Multiplicity
- C) Key
- D) Degree

.
113. The overall description of a database is called_____.

- A) Database integrity
- B) Database manipulation
- C) Database schema
- D) Database definition

.
114. The third stage of designing a database is when we create a _____ between tables?

- A) Relationship
- B) Join
- C) Query
- D) None of the above

.
115. The way a particular application views the data from the database that the. ...?

- A) Module.
- B) Relational model.
- C) Schema.
- D) Sub schema.

.
116. This key that uniquely identifies each record in a database is called?

- A) Key Record
- B) Unique Key
- C) Field Name
- D) Primary Key

.
117. Which of the following can be categorized as an SQL data manipulation command?

- A) GRANT
- B) UPDATE
- C) REVOKE
- D) CREATE

.
118. Which of the following is not a feature of a database?

- A) Provides enhanced data security
- B) Ensures easy data accessibility
- C) Does not support data sharing
- D) Supports backup and data recovery

.
119. Which of the following is not a type of attribute?

- A) Single value
- B) Simple
- C) Complex
- D) Composite

.
120. A _____ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.

- A) Rows
 - B) Key
 - C) Attribute
 - D) Fields
- .