True OR False Questions:

1) Information is processed data.(T)
2) Metadata are data that describe the properties of other data(T).
3) Databases were developed as the first application of computers to data processing.(F)
4) File processing systems have been replaced by database systems in most critical business applications today. (T)
5) Unplanned duplicate data files are the rule rather than the exception in file processing systems. (T)
6) Organizations that utilize the file processing approach spend only 20 percent of development time on maintenance. (F)
7) Many of the disadvantages of file processing systems can also be limitations of databases. (T)
8) With the traditional file processing approach, each application shares data files, thus enabling much data sharing. (F)
9) Development starts from scratch with the traditional file processing approach because new file formats, descriptions, and file access logic must be designed for each new program. (T)
10) A data model is a graphical system used to capture the nature and relationships among data. (F)
11) A well-structured database establishes the entities between relationships in order to derive the desired information. (F)
12) A person is an example of an entity. (T)
13) The data that you are interested in capturing about an entity is called an instance. (F)
14) A relational database establishes the relationships between entities by means of a common field. (T)
15) Separation of metadata from application programs that use the data is called data independence. (T)
16) Data redundancy is used to establish relationships between data but is never used to improve database performance. (F)
17) The E-R model is used to construct a conceptual model. (T)
18) A business rule is a statement that defines or constrains some aspect of the business. (T)
19) One of the roles of a database analyst is to identify and understand rules that govern data. (T)
20) The intent of a business rule is to break down business structure. (F)
21) Enforcement of business rules can be automated through the use of software tools that can interpret the rules and enforce them. (T)
23) When systems are automatically generated and maintained, quality is diminished. (F)
24) A business rule is a statement of how a policy is enforced or conducted. (T)
25) While business rules are not redundant, a business rule can refer to another business rule. (T)
26) A business rule should be internally consistent. (T)
27) Business rules are formulated from a collection of business ramblings. (F)
28) Data names should always relate to business characteristics. (T)
29) An example of a term would be the following sentence: "A student registers for a course." (F)
30) A fact is an association between two or more terms. (T)

31) A good data definition is always accompanied by diagrams, such as the entity-relationship diagram. (F)
32) An entity is a person, place, object, event, or concept in the user environment about which the organization wishes to maintain data. (T)
33) A single occurrence of an entity is called an entity instance(T)

34) A subtype is a generic entity that has a relationship with one or more entities at a lower level. (F)
35) An entity instance of a subtype represents the same entity instance of the supertype. (T)
36) A member of a subtype does NOT necessarily have to be a member of the supertype. (F)
37) Supertype/subtype relationships should be used when the instances of a subtype participate in no relationships which are unique to that subtype. (F)
38) One of the major challenges in data modeling is to recognize and clearly represent entities that are almost the same. (T)
39) The total specialization rule states that an entity instance of a supertype is allowed not to belong to any subtype. (F)
40) Generalization is a top-down process. (F)
41) A completeness constraint may specify that each entity of the supertype must be a member of some subtype in the relationship. (T)
42) When the total specialization rule is set for a supertype/subtype relationship, one could roughly compare the supertype to an abstract class in object-oriented programming. (T)
43) The disjoint rule specifies that if an entity instance of the supertype is a member of one subtype, it MUST simultaneously be a member of another subtype. (F)

44) Data structures include data organized in the form of tables with rows and columns. (T)
45) A composite key consists of only one attribute. (F)
46) A primary key is an attribute that uniquely identifies each row in a relation. (T)
47) A foreign key is a primary key of a relation that also is a primary key in another relation. (F)
48) Sample data are useful for developing prototype applications and for testing queries. (T)
49) An enterprise key is a foreign key whose value is unique across all relations. (T)
50) One property of a relation is that each attribute within a relation has a unique name. (T)
51) There can be multivalued attributes in a relation. (F)
52) The columns of a relation can be interchanged without changing the meaning or use of the relation. (T)
53) Unlike columns, the rows of a relation may not be interchanged and must be stored in one sequence(F).
54) All values that appear in a column of a relation must be taken from the same domain. (T)
55) View integration is the process of merging relations together(F).
56) A synonym is an attribute that may have more than one meaning. (F)
57) When two or more attributes describe the same characteristic of an entity, they are synonyms. (F)
58) CASE tools can model more complex data relationships, such as ternary relationships. (T)
59) When a regular entity type contains a multivalued attribute, two new relations are created(T)

60) Requirements for response time, data security, backup and recovery are all requirements for physical design. (T)
61) One decision in the physical design process is selecting structures. (T)
62) The logical database design always forms the best foundation for grouping attributes in the physical design. (T)
63) Efficient database structures will be beneficial only if queries and the underlying database management system are tuned to properly use the structures. (T)

64) Adding notations to the EER diagram regarding data volumes and usage is of no value to the
physical design process. (F)
65) The smallest unit of named application data is a record. (F)

66) Security is one advantage of partitioning(T).
67) Reduced uptime is a disadvantage of partitioning. (T)
68) Hash partitioning spreads data evenly across partitions independent of any partition key value. (T)
69) Free range partitioning is a type of horizontal partitioning in which each partition is defined(T)
by a range of values for one or more columns in the normalized table.
70) Vertical partitioning means distributing the columns of a table into several separate physical records. (T)
71) Parallel query processing speed is not significantly different from running queries in a nonparallel
mode. (F)
72) Along with table scans, other elements of a query can be processed in parallel. (T)
73) The query processor always knows the best way to process a query. (F)

Multichoice Questions:

1) A database is an organized collection of _____ related data.
A) logically
B) physically
C) loosely
D) badly

2) Older systems that often contain data of poor quality are called _____ systems.
A) controlled
B) legacy
C) database
D) mainframe

3) Program-data dependence is caused by:
A) file descriptions being stored in each database application.
B) data descriptions being stored on a server.
C) data descriptions being written into programming code.
D) data cohabiting with programs.

4) Because applications are often developed independently in file processing systems:

A) the data is always non-redundant.
B) <mark>unplanned duplicate data files are the rule rather than the exception</mark>.
C) data can always be shared with others.
D) there is a large volume of file I/O.

5) Relational databases establish the relationships between entities by means of common fields
included in a file called a(n):
A) entity.
B) relationship.
C) <mark>relation</mark>.
D) association.
6) A(n) _____ is often developed by identifying a form or report that a user needs on a regular basis.
A) enterprise view
B) reporting document
C) <mark>user view</mark>
D) user snapshot
7) A graphical system used to capture the nature and relationships among data is called a(n):
A) XML data model.
B) hypertext graphic.
C) relational database
D) <mark>data model</mark>.
8) Data that describe the properties of other data are:
A) relationships.
B) logical.
C) physical.
D) <mark>metadata</mark>.
9) All of the following are properties of metadata EXCEPT:
A) data definitions.
B) <mark>processing logic</mark>.
C) rules or constraints.
D) data structures.
10) A person, place, object, event, or concept about which the organization wishes to maintain
data is called a(n):
A) relationship.
B) object.
C) attribute.
D) <mark>entity</mark>.

11) _____ are established between entities in a well-structured database so that the desired
information can be retrieved.
A) Entities
B) <mark>Relationships</mark>
C) Lines
D) Ties

12) All of the following are primary purposes of a database management system (DBMS) EXCEPT:
A) creating data.
B) updating data.
C) storing data.
D) providing an integrated development environment.
13) With the database approach, data descriptions are stored in a central location known as a:
A) server.
B) mainframe.
C) PC.
D) repository.
14) A user view is:
A) what a user sees when he or she looks out the window.
B) a table or set of tables.
C) a logical description of some portion of the database.
D) a procedure stored on the server.
15) Which organizational function should set database standards?
A) Management
B) Application development
C) Technical services
D) Database Administration
16) _____ is a tool even non-programmers can use to access information from a database.
A) ODBC
B) Structured query language
C) ASP
D) Data manipulation query language
17) Which of the following is NOT an advantage of database systems?
A) Redundant data
B) Program-data independence
C) Better data quality
D) Reduced program maintenance
18) The most common source of database failures in organizations is:
A) lack of planning.
B) inadequate budget.
C) inadequate hardware.
D) failure to implement a strong database administration function.
19) A rule that CANNOT be violated by database users is called a:
A) password.
B) constraint.
C) program.
D) view.
20) In a file processing environment, descriptions for data and the logic for accessing the data are
built into:
A) application programs.
B) database descriptors.

C) fields.
D) records.

21) The logical representation of an organization's data is called a(n):
A) database model.
B) entity-relationship model.
C) relationship systems design.
D) database entity diagram.
22) A good data definition will describe all of the characteristics of a data object EXCEPT:
A) subtleties.
B) examples.
C) who determines the value of the data.
D) who can delete the data.
23) A fact is an association between two or more:
A) words.
B) terms.
C) facts.
D) nuggets.
24) Data modeling may be the most important part of the systems development process because:
A) data characteristics are important in the design of programs and other systems components.
B) the data in a system are generally less complex than processes and play a central role in development.
C) data are less stable than processes.
D) it is the easiest.
25) The most common types of entities are:
A) strong entities.
B) weak entities.
C) associative entities.
D) smush entities.
26) In an E-R diagram, there are/is _____ business rule(s) for every relationship.
A) two
B) three
C) one
D) zero
27) Business policies and rules govern all of the following EXCEPT:
A) managing employees.
B) creating data.
C) updating data.
D) removing data.
28) A _____ defines or constrains some aspect of the business.
A) business constraint
B) business structure
C) business control
D) business rule
29) Which of the following is NOT a characteristic of a good business rule?
A) Declarative
B) Atomic

C) Inconsistent
D) Expressible
30) Which of the following is NOT a good characteristic of a data name?
A) Relates to business characteristics
B) Readable
C) Repeatable
D) Relates to a technical characteristic of the system

31) The property by which subtype entities possess the values of all attributes of a supertype is
called:
A) hierarchy reception.
B) class management.
C) attribute inheritance.
D) generalization.
32) Which of the following is a generic entity type that has a relationship with one or more subtypes?
A) Megatype
B) Supertype
C) Subgroup
D) Class

33) An entity cluster can be formed by:
A) deleting a supertype and its subtype.
B) combining metadata.
C) combining a strong entity and its weak entities.
D) deleting metadata.
34) Packaged data models:
A) are ready to use right out of the box.
B) require customization.
C) allow partial specialization.
D) cannot be used for most applications.
35) Which of the following is true of packaged data models?
A) Relationships are connected to the highest-level entity type in an order that makes sense.
B) All subtype/supertype relationships follow the total specialization and disjoint rules.
C) No entities on the many sides of a relationship can be weak.
D) All weak entities are considered strong.
36) A generic or template data model that can be reused as a starting point for a data modeling
project is called a(n):
A) packaged data model.
B) universal data model.
C) enterprise data model.
D) collection data model.
37) Using a packaged data model, projects take less time and cost because:
A) less personnel are required.
B) essential components and structures are already defined.
C) there is more time taken to model the enterprise.

D) packaged data models only run in Oracle.
38) All of the following are advantages of packaged data models EXCEPT:
A) packaged data models can be built using proven components evolved from cumulative experiences.
B) projects take less time and cost less.
C) the data model is easier to evolve.
D) more one-to-one relationships give the data model more flexibility.
39) All of the following are steps to using a packaged data model EXCEPT:
A) identify the parts of the data model that apply to your data modeling situation.
B) utilize all business rules that come with the packaged data model.
C) rename the identified data elements.
D) map data to be used in packages with existing data in the current databases.
40) When identifying the parts of the packaged data model that apply to your organization, one
should first start with:
A) entities.
B) attributes.
C) primary keys.
D) relationships.
41) The third step in the data modeling process with a packaged data model is:
A) rename identified data elements.
B) rename relationships.
C) map data to be used from package to data in current databases.
D) interview users.

42) _____ database specification indicates all the parameters for data storage that are then
input to database implementation.
A) Logical
B) Physical
C) Schematic
D) Conceptual
43) A form of database specification which maps conceptual requirements is called:
A) logical specifications.
B) response specifications.
C) security specifications.
D) physical specifications.
44) Data is represented in the form of:
A) data trees.
B) tables.
C) data notes.
D) chairs.
45) A two-dimensional table of data sometimes is called a:
A) group.
B) set.
C) declaration.
D) relation.
46) _____ is a component of the relational data model included to specify business rules to

maintain the integrity of data when they are manipulated.
A) Business rule constraint
B) Data integrity
C) Business integrity
D) Data structure
47) An attribute (or attributes) that uniquely identifies each row in a relation is called a:
A) column.
B) foreign field.
C) primary key.
D) duplicate key.
48) An attribute in a relation of a database that serves as the primary key of another relation in the
same database is called a:
A) link attribute.
B) link key.
C) foreign key.
D) foreign attribute.
49) A primary key whose value is unique across all relations is called a(n):
A) global primary key.
B) inter-table primary key.
C) enterprise key.
D) foreign global key.
50) A primary key that consists of more than one attribute is called a:
A) foreign key.
B) composite key.
C) multivalued key.
D) cardinal key.
51) In the SQL language, the _____ statement is used to make table definitions.
A) create session
B) create table
C) create index
D) select

52) A requirement to begin designing physical files and databases is:
A) normalized relations.
B) physical tables created.
C) implementation complete.
D) all datatypes determined.
53) A key decision in the physical design process is:
A) ignoring the size of the database.
B) selecting structures.
C) deciding on the monitor.
D) deciding the e-r diagrams.
54) Designing physical files requires _____ of where and when data are used in various ways.
A) maps
B) descriptions
C) keys
D) hints

55) Database access frequencies are estimated from:
A) transaction volumes.
B) user logins.
C) security violations.
D) random number generation.
56) A detailed coding scheme recognized by system software for representing organizational data
is called a(n):
A) DBMS code.
B) data type.
C) SQL.
D) DB layout.
57) All of the following are objectives when selecting a data type EXCEPT:
A) represent all possible values.
B) improve data integrity.
C) support all data manipulations.
D) use a lot of storage space.
58) All of the following are valid datatypes in Oracle 11g EXCEPT:
A) varchar2.
B) boolean.
C) blob.
D) number.

59) The smallest unit of application data recognized by system software is a:
A) field.
B) row.
C) data type.
D) column.
60) An appropriate datatype for one wanting a fixed-length type for last name would include:
A) VarChar.
B) Char.
C) Blob.
D) Date.