✅ Unit-II: E-R Modeling – PYQ-Based MCQs (1–30)

1. In the E-R model, an entity is represented by:
A) Ellipse
B) Rectangle
C) Diamond
D) Line
Answer: B

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2. The symbol used to represent attributes in an ER diagram is:
A) Ellipse
B) Rectangle
C) Diamond
D) Square
Answer: A

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3. A weak entity must be associated with:
A) Another weak entity
B) A strong entity
C) A relationship
D) A key attribute
Answer: B

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4. The relationship between a weak entity and its identifying entity is called:
A) Ternary
B) Binary
C) Identifying relationship
D) One-to-one
Answer: C

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5. Total participation is shown in an ER diagram by:
A) Dashed line
B) Double rectangle
C) Double line
D) Thick diamond
Answer: C

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6. A multivalued attribute is represented by:
A) A dashed ellipse
B) A double ellipse

C) A rectangle
D) A diamond
Answer: B

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7. Which of the following best describes generalization?
A) Combining lower-level entities into a higher-level entity
B) Splitting higher-level entity into lower-level entities
C) Removing attributes
D) Adding redundant data
Answer: A

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8. Specialization means:
A) Combining multiple entities
B) Identifying common features
C) Creating sub-entities based on differences
D) Deleting entities
Answer: C

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9. The degree of a relationship is:
A) The number of attributes in the relationship
B) The number of entity sets participating
C) Always 2
D) The number of tuples
Answer: B

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10. Derived attributes are represented using:
A) Dashed ellipse
B) Rectangle
C) Bold diamond
D) Line
Answer: A

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11. In ER diagram, a diamond symbol represents:
A) Entity
B) Attribute
C) Relationship
D) Key
Answer: C

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12. Which of the following can have a partial key?
A) Strong entity
B) Weak entity
C) Relationship
D) Attribute
Answer: B

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13. Which of the following is an example of a binary relationship?
A) Works_For
B) Supplies
C) Manages
D) All of the above
Answer: D

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14. A key attribute:
A) Can have duplicate values
B) Uniquely identifies each entity
C) Cannot be part of a relationship
D) Is always derived
Answer: B

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15. Which of the following is *not* an attribute type in ER modeling?
A) Derived
B) Multivalued
C) Composite
D) Primary
Answer: D

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16. Which of the following symbols is used for a weak entity?
A) Double rectangle
B) Double ellipse
C) Dashed diamond
D) Bold circle
Answer: A

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17. Which is an example of a multivalued attribute?
A) Age
B) Phone numbers
C) Salary
D) ID
Answer: B

18. A super class can have:
A) No subclass
B) Only one subclass
C) One or more subclasses
D) Only weak entities
Answer: C

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19. Inheritance in ER model means:
A) Subclass inherits attributes from superclass
B) Superclass inherits from subclass
C) Relationship inherits from entity
D) Attribute inherits from key
Answer: A

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20. Composite attributes can be:
A) Divided into sub-parts
B) Only used in weak entities
C) Used as relationships
D) Always derived
Answer: A

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21. Role indicators in ER model are used when:
A) The same entity participates more than once in a relationship
B) Entities are weak
C) Relationship is binary
D) Relationship is unary
Answer: A

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22. Cardinality constraints in an ER model specify:
A) Number of attributes in an entity
B) Number of possible values for an attribute
C) Number of entities related in a relationship
D) None
Answer: C

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23. A ternary relationship involves:
A) One entity
B) Two entities
C) Three entities

D) Four entities
Answer: C

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24. Which of these is used to uniquely identify weak entity instances?
A) Foreign key
B) Partial key
C) Composite key
D) Surrogate key
Answer: B

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25. The ER model is mainly used for:
A) Storage management
B) Query optimization
C) Database design
D) Performance tuning
Answer: C

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26. Which of the following can be a relationship constraint?
A) Total participation
B) Weak entity
C) Derived attribute
D) Generalization
Answer: A

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27. Aggregation in ER modeling is used to:
A) Show hierarchy
B) Show a relationship involving a relationship
C) Simplify attributes
D) Show multivalued data
Answer: B

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28. Recursive relationships are those where:
A) Entities relate to themselves
B) Attributes relate to entities
C) Relationships are between three entities
D) Keys relate to multiple attributes
Answer: A

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29. The term "entity set" refers to:
A) A collection of similar entities
B) A tuple in a table
C) A group of relationships
D) A multivalued attribute
Answer: A

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30. Which of the following is true about weak entities?
A) They have their own primary key
B) They must be connected to a strong entity via a total participation relationship
C) They are independent of other entities
D) They cannot have attributes
Answer: B