1. Which of the following is not a Software Architecture Description Language (ADL)?
a) UML
b) Struts
c) AADL
d) Wright

Answer: b) Struts
Explanation: Struts is a framework for developing web applications, not a Software Architecture Description Language (ADL).

2. Which technology is commonly used for object-relational mapping in Java applications?
a) Struts
b) Hibernate
c) Node.js
d) AngularJS

Answer: b) Hibernate
Explanation: Hibernate is a popular framework for mapping Java objects to relational database tables.

3. Which technology is primarily used for server-side JavaScript development?
a) J2EE – JSP
b) Node.js
c) AngularJS
d) Servlets

Answer: b) Node.js

Explanation: Node.js allows developers to use JavaScript for server-side scripting.

4. Which technology is used for developing dynamic web applications in Java?
a) JDBC
b) JNDI
c) Servlets
d) EJBs

Answer: c) Servlets
Explanation: Servlets are Java programs that run on a web server, handling client requests and generating dynamic web content.

5. Which technology is commonly associated with building single-page web applications?
a) J2EE – JSP
b) Servlets
c) AngularJS
d) EJBs

Answer: c) AngularJS
Explanation: AngularJS is a JavaScript framework primarily used for building single-page web applications.

6. Which technology is used for managing database connections in Java applications?
a) JMS
b) RMI
c) JDBC
d) CORBA

Answer: c) JDBC
Explanation: JDBC (Java Database Connectivity) is an API for Java that allows programs to interact with databases.

7. What does UML stand for in software development?
a) Unified Modeling Language
b) Universal Markup Language
c) Unified Methodology Language
d) Unified Management Language

Answer: a) Unified Modeling Language
Explanation: UML is a standardized modeling language used in software engineering for visualizing, specifying, constructing, and documenting software systems.

8. Which of the following is not a role of UML in software architecture?
a) Visualization
b) Specification
c) Construction
d) Compilation

Answer: d) Compilation
Explanation: UML is not involved in the compilation process of software. It is used for visualization, specification, and construction of software systems.

9. Which UML diagram is used to represent the static view of a system, showing classes and their relationships?
a) Sequence diagram

b) Activity diagram
c) Class diagram
d) State diagram

Answer: c) Class diagram
Explanation: Class diagrams in UML represent the static structure of a system, showing classes, attributes, operations, and their relationships.

10. Which UML diagram is used to depict the flow of control in a system, showing sequences of messages exchanged between objects?
a) Class diagram
b) Sequence diagram
c) Use case diagram
d) Collaboration diagram

Answer: b) Sequence diagram
Explanation: Sequence diagrams in UML represent the interactions between objects in a sequential order, depicting the flow of control in a system.

11. Which UML diagram is used to model the dynamic behavior of a system, particularly the state changes of objects?
a) Collaboration diagram
b) State diagram
c) Deployment diagram
d) Component diagram

Answer: b) State diagram

Explanation: State diagrams in UML depict the various states of an object and transitions between these states in response to events.

12. Which UML diagram is used to model the interactions between objects within a system's context?
a) Deployment diagram
b) Collaboration diagram
c) Activity diagram
d) Component diagram

Answer: b) Collaboration diagram
Explanation: Collaboration diagrams in UML illustrate the interactions between objects within the context of a system, showing the messages exchanged between them.

13. Which UML diagram is used to represent the flow of activities in a system, typically used for modeling business processes?
a) State diagram
b) Activity diagram
c) Sequence diagram
d) Communication diagram

Answer: b) Activity diagram
Explanation: Activity diagrams in UML represent the flow of activities in a system, showing actions, decisions, and parallel activities.

14. Which UML diagram is used to depict the interactions between actors and a system to achieve specific goals?

a) Sequence diagram
b) Use case diagram
c) Collaboration diagram
d) Class diagram

Answer: b) Use case diagram
Explanation: Use case diagrams in UML depict the interactions between actors (users) and a system to achieve specific goals or functionalities.

15. Which UML diagram is used to represent the physical deployment of components in a system’s architecture?
a) Class diagram
b) Deployment diagram
c) Sequence diagram
d) Component diagram

Answer: b) Deployment diagram
Explanation: Deployment diagrams in UML illustrate the physical deployment of software components to hardware nodes in a system’s architecture.

16. Which UML diagram is used to represent the static structure of a system, showing the organization of its components?
a) Deployment diagram
b) Class diagram
c) Component diagram
d) Package diagram

Answer: b) Class diagram
Explanation: Class diagrams in UML represent the static structure of a system, showing classes, attributes, operations, and their relationships.

17. Which UML diagram is used to model the structure and relationships of software components within a system?
a) Class diagram
b) Component diagram
c) Deployment diagram
d) Package diagram

Answer: b) Component diagram
Explanation: Component diagrams in UML model the structure and relationships of software components within a system, showing how they are interconnected.

18. Which UML diagram is used to represent the organization and dependencies between packages in a system?
a) Class diagram
b) Component diagram
c) Deployment diagram
d) Package diagram

Answer: d) Package diagram
Explanation: Package diagrams in UML represent the organization and dependencies between packages in a system, showing how they are structured and related.

19. Which UML diagram is used to model the allocation of classes to implementation

components in a system?
a) Package diagram
b) Deployment diagram
c) Class diagram
d) Component diagram

Answer: d) Component diagram
Explanation: Component diagrams in UML can be used to model the allocation of classes to implementation components in a system’s architecture.

20. Which UML diagram is used to represent the physical distribution of software artifacts to deployment targets?
a) Class diagram
b) Deployment diagram
c) Package diagram
d) Component diagram

Answer: b) Deployment diagram
Explanation: Deployment diagrams in UML are specifically used to represent the physical distribution of software artifacts to deployment targets, such as hardware nodes.

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