National University

of Computer & Emerging Sciences, Chiniot-Faisalabad Campus

SDA Quiz:1 Section: Marks:20

Name:_____ Roll No:_____

Q1: What are the three layers in a 3-tier architecture, and what is the primary function of each layer? (5)

Q3: How we can achieve fault tolerance in master slave architecture? (3)

Q4. What is peer to peer architecture? (2)

Q5. MCQS (10)

1. Which of the following best describes the master in a master-slave architecture?

A) It is responsible for executing the same tasks as the slaves but on a higher priority.
B) It controls the operations of the slaves and coordinates data flow.
C) It performs independent tasks and does not communicate with the slaves.
D) It cannot assign tasks to slaves until they request them.

2. Which of the following is a potential drawback of using a master-slave system?

A) The system is highly scalable due to the central control.
B) There is a risk of system failure if the master device fails.
C) The slaves need to be highly autonomous to function properly.
D) It allows for independent control of each slave device.

3. In a master-slave architecture, which of the following factors would affect the performance of the system?

A) The number of slaves connected to the master.
B) The ability of slaves to perform parallel processing.
C) The communication speed between the master and slaves.
D) All of the above.

4. Which of the following scenarios would make a master-slave architecture less suitable?

A) A system with a single point of failure where reliability is critical.
B) A system with centralized control that requires high coordination between components.
C) A distributed system where independent components need to operate autonomously.
D) A system where the master is a powerful, highly available machine.

5. Which of the following is a key difference between a client-server model and a peer-to-peer model?

A) In client-server, clients and servers have equal roles, while in peer-to-peer, there is a distinct separation of roles.

B) In client-server, the server provides resources or services, whereas in peer-to-peer, all participants share resources equally.
C) Peer-to-peer systems are less prone to security issues than client-server systems.
D) Client-server systems are less scalable than peer-to-peer systems.

6. In a client-server system, what is the role of the server?

A) To initiate communication with clients and provide services.
B) To handle multiple requests from clients and manage data processing.
C) To execute tasks independently without client interaction.
D) To access resources, making them available to clients.

7. Which of the following actions would most likely result in a denial of service in a client-server system?

A) A large number of clients sending requests to the server at once.
B) The server responding with a delay due to heavy processing load.
C) The clients receiving responses too quickly.
D) Clients requesting updates from a non-responsive server.

8. In blackboard architecture, which of the following is true about the interaction between knowledge sources?

A) Knowledge sources must operate independently without interacting with one another.
B) Knowledge sources can share information by reading and writing to the blackboard.
C) The blackboard contains no shared data; each knowledge source has its own private workspace.
D) Knowledge sources can only read from the blackboard but cannot write to it.

9. What is a rule-based system primarily used for?

A) Image recognition
B) Decision-making
C) Data storage
D) File management

10. What is a knowledge base in a rule-based system?

A) A list of pre-programmed instructions
B) A database of facts and rules used to make decisions
C) The hardware on which the system runs
D) The programming language used in the system