**Practice Questions**

1. Explain the client-server model in distributed systems. How does this model structure the interaction between clients and servers?

2. Discuss the relationship between middleware and the client-server model. How does middleware enhance the functionality of the client-server architecture?

3. Compare and contrast the TCP/IP and OSI models in relation to distributed systems. How do these network models support distributed communication?

4. Describe the concept of Remote Procedure Call (RPC). What are its key components, and how does it simplify communication in distributed systems?

5. Explain the significance of group communication in distributed systems. Discuss the IS-IS protocol and how it facilitates efficient group communication.

6. Discuss how ATM (Asynchronous Transfer Mode) relates to distributed systems. What advantages does it offer in terms of performance and reliability?

7. Discuss the motivation behind the development of distributed systems. What problems do they aim to solve in computing environments?

8. What are the primary goals of distributed systems? Explain at least three advantages that distributed systems have over centralized systems.

9. Identify and explain three disadvantages or challenges associated with distributed systems. How do these challenges impact their adoption?

10. Describe the essential hardware components that form the backbone of distributed systems. How do these components interact to provide distributed services?

11. Explain the key software concepts relevant to distributed systems. Discuss the role of operating systems, middleware, and application software in this context.