Distributed systems viva Questions related to theory

1. Define distributed systems? Examples of distributed system?

2. List and explain characterstics of distributed systems?

3. What are the goals (advantages disadvantages) of distributed systems?

4. What is the difference between multiprocessors & multicomputers?

5. Difference between loosely coupled &tightly coupled systems?

6 .what are the design issues of distributed systems?

7. What is the transparency in distributed systems ?types of transparency?8. Give a definition of middleware and show in a small diagram where it is positioned.9. what is the main purpose of middleware? list the services of middleware?10. what are the software layers in ds?

11. what are Architectural models?

12. what are the system architectures in ds?

13.what is the difference between proxy server &peer –peer architectures

14 What are the design requirements to the ds?

15. what are fundamental models?

16.Define jitter?

17.what are the communication primitives in client server communication?

18 . what is group communication?

19.Define RMI?&RPC

20. Expalin about RPC With examples

20. What are stub and skeleton and why are they needed in remote prodecure calls?21. What are the differences between a local call and a remote call?22. Difference between centralized systems & distributed systems?

23.Define synchronous &asynchronous ds?

24.List the types of failures?

25. Define process& thread?

26.What is the use of Thread?

27.what is the use of multithreading?

28.what is the use of threads in chat server program?

29. what is the thread life cycle?

30. Define Execution environment?

31.Define IPC?

32.List the characterstics of IPC?

33.what are the JAVA API protocols?

34. List the services provided by CORBA

35.chararacteristics of TCP and UDP

36.Issues of TCP and UDP

37.Define RPC and PMI

38.Design issues of RMI

39What is namespace, implementation of name space

40.What is the importance of time in DS?

41.Advantages of cloc synchronization algorithms

42.What is Einstein theory?

43.How to order the vents at a single process? Example

44.Define clock, clock resolution, clock skew, clock drift rate, faulty, correctness condition, monotonicity condition

45.Define external and internal synchronization

46.What are clock-synchronization algorithms. (Christian’s alg. Berkley unix, multicast protocol)

47.What is happened before relation?

48.Write about Lamport logical clocks, totally ordered logical clocks, vector clocks

49.what is distributed debugging

50.Explain about goal states

51.What is cut? Define consistent and inconsistent cut

52.Define global state predicates, stability, safety and liveness

53.What is Byzantine Agreement Problem?

54.what are failure detector

55.what are mutual-exclusion algorithms.

56.what are Election algorithms.

57.What is multicast comm.? (efficiency, delivery guarantees, B-multicast, B-deliver. Reliable multicast, ordered multicast – fifo, casual and total ordering)

58.What is atomic operation in synchronization?

59.Explain about failure model for transactions

60.what is atomic transaction ( or ACID properties)

61List operations in coordinator interface

62.what is t transaction life history

63.what are the problems in concurrency control in banking

64.what is dirty read/ premature writes problem

65.what is flat& nested transactions

66.what about Locks (2 phase locking – growing and shrinking phase). Drawbacks of locks

67.what is deadlocks & phantom dead locks

68.Explain about optimistic concurrency control (forward and backward validation)

69.Explain about time stamp ordering (write rule and read rule)

70.Difference between flat and nested transactions

71.Explain about atomic commit protocols (2 phase commit protocol)

72.Concurrency control in distributed transactions

73.What is distributed deadlocks

74.Explain about transaction recovery of the 2 phase commit protocol

75.Explain about fault tolerant services (active and passive replication)

76.What is DSM – implementation issues and approaches to DSM

77.Define sequential and release consistency

78.Define thrashing and granularity

79.Distributed file system requirements

80.UNIX file system operations

81.Explain about file service architecture

82.what about NFS

83.List out directory service operations

84. Define H/W clock,S/W clock

85.what is the advantage of NFS