1) Time → A concept of order in which event occurred

2) Clocks → These are electronic devices that counts oscillations occurring in a crystal at definite frequency

(or).

An ~~electronic~~ electronic devices to measure time.

3). Clock skew: Instantaneous difference between the reading of any two clocks

4.) Clock drift: Clock count time at different rate.

5). Internal Synchro.: Measuring 2 synchronized clock interval b/w 2 events occurring at different computer.

6). External Synchro: To know at what time of day events occur at the process in a DS, it is necessary to synchronize the processes' clock C_i with an C_i authoritative, external source of time.

7). Synchronization: In synchronous system a process send a t time in message there will be t_{trans} transmit time b/w receiving process..

Then the min & max bound on the time taken to transmit a msg is Synchronization

8. In Berkeley algorithm, a coordinator computer is chosen to act as master. This computer periodically polls the other computers whose clocks are to be synchronized, called slaves

9). Logical clock: A mechanism for capturing chronological and causal relationships in DS.

10). Deadlock: a set of processes have requests for resources that can never be satisfied.

11). ~~Multicast: one or more servers periodically~~

11) Multicast Mode: A server within a high speed LAN multicasts time to others which set clocks assuming some delay.

12). Vector clock: It is an algorithm for generating a partial ordering of events in DS.

13. Distributed Mutual Exclusion:

If a collection of processes shares a resource or collection of resources, then mutual exclusion is required to prevent interference and ensure consistency when accessing the resource

14.).

ME 1 (Safety) → At most 1 process may execute in Critical section (CS) at a time.

ME 2 (liveness) → Requests to enter and exit the CS eventually succeed

ME-3 (ordering) → If 1 request to enter the CS happened-before another, then entry to CS is granted.

15. A deadlock would involve 2 or more of the processes becoming stuck indefinitely while attempting to enter on exit the CS

Starvation is the indefinite postponements of entry for a process that has requested it.

16. Debugging: A standard approach to gaining insight into system activity is to analyze system logs.

17. Global States: The set of local states of each individual processes involved in the system plus the state of communication channel.

18. Refer Ans 7.

Types of Synchronization.

→ Lamport's logical clock.
→ vector clock

19. ① FIFO Ordered multicast
② Casual Ordered "
③ Total " "

20. A distinguished process supplies a value that the others must agree upon.