

MULTIPLE CHOICE QUESTIONS IN DATA COMMUNICATIONS AND NETWORKING

A Complete Chapter Quiz

Switching

Compilation of all the quizzes (MCQs) for each and every chapters in the book of Data Communications and Networking 4th Edition by Behrouz A. Forouzan.

1. Packet-switched networks can also be divided into _____ subcategories: virtual-circuit networks and datagram networks.

- A) five
- B) three
- C) two
- D) four

2. In _____, each packet is treated independently of all others.

- A) circuit switching
- B) datagram switching
- C) frame switching
- D) none of the above

3. Based on the Clos criteria, if $N = 200$, then k must be equal to or greater than _____.

- A) 19
- B) 21
- C) 31
- D) 41

4. In _____, resources are allocated on demand.

- A) circuit switching
- B) datagram switching
- C) frame switching
- D) none of the above

5. In _____ switching, the paths in the circuit are separated from one another spatially.

- A) time-division
- B) two-dimensional
- C) space-division
- D) three-dimensional

6. In a _____ network, two types of addressing are involved: global and local.

- A) datagram
- B) virtual-circuit

- C) circuit-switched
- D) none of the above

7. In a three-stage space division switch, if $N = 200$, the number of crosspoints is _____.

- A) 40,000
- B) less than 40,000
- C) greater than 40,000
- D) greater than 100,000

8. A _____ network is made of a set of switches connected by physical links, in which each link is divided into n channels.

- A) circuit-switched
- B) line-switched
- C) frame-switched
- D) none of the above

9. In a banyan switch, for 8 inputs and 8 outputs, we have _____ microswitches at each stage.

- A) 2
- B) 3
- C) 4
- D) 8

10. In _____, there is no resource allocation for a packet.

- A) circuit switching
- B) datagram switching
- C) frame switching
- D) none of the above

11. A _____ network is a cross between a circuit-switched network and a datagram network. It has some characteristics of both.

- A) packet-switched
- B) frame-switched
- C) virtual-circuit
- D) none of the above

12. The most popular technology in time-division switching is called the _____.

- A) TSI
- B) STI
- C) ITS
- D) none of the above

13. A switched WAN is normally implemented as a _____ network.

- A) virtual-circuit
- B) datagram
- C) circuit-switched
- D) none of the above

14. We can say that a packet switch has _____ types of components.

- A) four
- B) three
- C) two
- D) none of the above

15. In a one-stage space division switch, if $N = 200$, the number of crosspoints is _____.

- A) 20,000
- B) 40,000
- C) 30,000
- D) 10,000

16. In a banyan switch, for 8 inputs and 8 outputs, we have _____ stages.

- A) 2
- B) 3
- C) 4
- D) 8

17. A switch in a datagram network uses a routing table that is based on the _____ address.

- A) destination
- B) source
- C) local

D) none of the above

18. Traditionally, _____ methods of switching have been important.

- A) six
- B) five
- C) four
- D) three

19. The network layer in the Internet is designed as a _____ network.

- A) circuit-switched
- B) datagram
- C) virtual-circuit
- D) none of the above

20. A _____ switch combines space-division and time-division technologies to take advantage of the best of both.

- A) SSS
- B) TST
- C) TTT
- D) none of the above

21. In _____, the resources need to be reserved during the setup phase; the resources remain dedicated for the entire duration of data transfer phase until the teardown phase.

- A) frame switching
- B) datagram switching
- C) circuit switching
- D) none of the above

22. Based on the Clos criteria, if $N = 200$, then n must be equal to or greater than _____.

- A) 40
- B) 30
- C) 20
- D) 10

23. Circuit switching takes place at the _____ layer.

A) physical

B) data line

C) network

D) transport

24. A _____ switch combines crossbar switches in several (normally three) stages.

A) multiple path

B) multiple crossbar

C) multistage

D) none of the above

25. In _____ there are no setup or teardown phases.

A) circuit switching

B) datagram switching

C) frame switching

D) none of the above

26. We can divide today's networks into _____ broad categories.

A) five

B) four

C) three

D) two

27. A _____ switch is a multistage switch with microswitches at each stage that route the packets based on the output port represented as a binary string.

A) TSI

B) banyan

C) crossbar

D) none of the above

28. The _____ address in the header of a packet in a datagram network normally remains the same during the entire journey of the packet.

A) destination

B) source

C) local

D) none of the above

29. Based on the Clos criteria, if $N = 200$, then the minimum number of crosspoints is greater than or equal to _____.

A) 42,000

B) 20,000

C) 18,000

D) 15,200

30. The simplest type of switching fabric is the _____ switch.

A) crossbar

B) crosspoint

C) TSI

D) STS