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QUESTION BANK

Title of the Paper

COMPUTER NETWORKS

Course: III BCA
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CORE COURSE VIII

COMPUTER NETWORKS

Unit I

Overview and Physical Layer: Introduction: Data Communications - Networks - Network Types, Network Models: TCP/IP Protocol Suite- The OSI Model, Bandwidth utilization : Multiplexing- Spread Spectrum, Transmission Media: Guided Media-Unguided Media, Switching: Circuit Switched Network-Packet Switching-Structure of a switch

Unit II

Data Link Layer: Error Deduction and Correction : Introduction- Cyclic codesForward error correction, Data link Control: Data link layer protocols- Media Access Control: Random Access- Controlled Access, Wireless Networks: IEEE 802.11- Bluetooth-Cellular Telephone- Satellite network- Connection devices,

Unit III

Network Layer Services : Packet Switching- Network layer performance- IPV4 Addresses- Internet Protocol-Routing Algorithms - IPV6 Addressing

Unit IV

Transport Layer : Transport Layer Protocols- User Datagram Protocol - TCP:TCP Services TCP features - Windows in TCP - Flow Control - Error Control- TCP Congestion Control - TCP timers

Unit V

Application Layers : Client Server Programming - Word Wide Web & HTTP - FTP - Email - DNS

Unit - I
Choose the Correct Answer

1. Which data communication method is used to send data over a serial communication link?

   a. simplex
   b. half duplex
   c. full duplex
   d. all of these

2. The interactive transmission of data within a time sharing system may be best suited to_____
   a. simplex line
   b. half duplex lines
   c. full duplex line
   d. bi-flex lines

3. Coaxial cable has conductors with….

   a. common axis
   b. equal resistance
   c. the same diameter
   d. none of these

4. The physical layer is concerned with _____

   a. bit-by-bit delivery
   b. process to process delivery
   c. application to application delivery
   d. port to port delivery

5. Which transmission media provides the highest transmission speed in network?
   a. coaxial cable
   b. twisted pair cable
   c. optical fiber
   d. electrical cable

6. Bits can be sent over guided and unguided media as analog signal by _____
   a. digital modulation
   b. amplitude modulation
   c. frequency modulation
   d. phase modulation

7. The physical layer provides _____
   a. mechanical specifications of electrical connectors and cables
   b. electrical specification of transmission line signal level
   c. specification for IR over optical fiber
   d. all of the mentioned

8. Single channel is shared by multiple signals by _____
   a. analog modulation
   b. digital modulation
   c. multiplexing
   d. phase modulation

9. Wireless transmission of signals can be done via _____
   a. radio waves
   b. microwaves
   c. infrared
   d. all of the mentioned

10. Which devices besides computer excogitate their applications in the form of DTEs (Digital Terminal Equipments) for official purposes while accessing through LANs?
    a. Plotters
    b. Printers
    c. Electronic databases
    d. All of the above

Answers: 1.c   2.b   3.a   4.a   5.c   6.a   7.d   8.c   9.d   10.d

Short question (2 Marks)

11. What is data communication?
12. Define networks?
13. List the types of networks.
14. Define bandwith utilization.
15. What is Multiplexing?
16. What is Spread Spectrum?
17. What are the two types of Transmission Media?
18. What is mean by Switching?
19. Define packet switching.
20. Define Network Switching.

Paragraph Questions (5 Marks)

21. Explain the Applications of physical layer.
22. Discuss Spread Spectrum in computer network.
23. What are the applications of Computer Networks?
24. Advantages of IPv6 over IPv4.
25. Explain Circuit Switched Network.
26. What are the advantages of digital communications.
27. Explain Packet Switching.

28. Discuss about Introduction to Data Communications.
29. Explain the known applications of Multiplexing.
30. Discuss about the Structure of a switch.

Essay Type Questions (10 Marks)

31. Various types of networks topologies in computer network.
32. Discuss the OSI Model?
33. Explain about the different types of Guided transmission Medias in computer networks?
34. What are the various types of error correcting techniques?
35. Discuss various types of networks topologies in computer network.
36. Explain about multiplexing in detail.
37. Explain about band width utilization.
38. Explain about the different types of UnGuided transmission Medias in computer networks?
39. Explain about Virtual network circuits.
40. Discuss About Datagram Networks.

Unit - II

Choose the Correct Answer

1. The data link layer takes the packets from _____ and encapsulates them into frames for transmission.
    a. network layer
    b. physical layer
    c. transport layer
    d. application layer

2. Which of the following tasks is not done by data link layer?
    a. framing
    b. error control
    c. flow control
    d. channel coding

3. When 2 or more bits in a data unit has been changed during the transmission, the error is called _____
    a. random error
    b. burst error
    c. inverted error
    d. double error

4. CRC stands for _____
    a. cyclic redundancy check
    b. code repeat check
    c. code redundancy check
    d. cyclic repeat check

5. Which of the following is a data link protocol?
- a. ethernet
- b. point to point protocol
- c. hdlc
- d. all of the mentioned

6. The technique of temporarily delaying outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is called _____
- a. piggybacking
- b. cyclic redundancy check
- c. fletcher's checksum
- d. parity check

7. The service primitives provide a way for the data link layer on the requesting side to learn whether the request was successfully carried out.
- a. Request
- b. Indication
- c. Response
- d. Confirm

8. _____is the technique in which the receiver detects the occurrence of an error and asks the sender to resend the message.
- a. Forward error correction
- b. Backward error correction
- c. Transmission
- d. Retransmission

9. _____ control in the data link layer is based on automatic repeat request, which is the retransmission of data.

- a. Flow
- b. Error
- c. Transmission
- d. none of the above

10. ARQ stands for _____.

- a. Acknowledge repeat request
- b. Automatic retransmission request
- c. Automatic repeat quantization
- d. Automatic repeat request

Answers: 1.a   2.d   3.b   4.d   5.a   6.d   7.d   8.d   9.b   10.d

Short question (2 Marks)

11. What is Error Deduction ?
12. What is Error Correction?
13. Define Cyclic codes?
14. Define MAC.
15. Define blueooth?
16. What is the Range of bluetooth?

17. What is Random Access?
18. What is Controlled Access?
19. Define satelite network.
20. List some Connection Devices.

Paragraph Questions (5 Marks)

21. Describe about hamming distance.
22. Explain about CHECKSUM.
23. Distinguish between flow control vs error control.
24. Describe about Time-Division Multiple Access
25. State the IEEE STANDARDS.
26. Write short Notes on:
  a.   Radio Layer
  b.   Baseband Layer
27. Distinguish between passive and active hubs.
28. Write short notes on CELLULAR TELEPHONY Generations.
29. Explain about SONET LAYERS.
30. Explain the BACKBONE NETWORKS types.

Essay Type Questions (10 Marks)

31. Discuss about Error Detection with example.
32. Describe about Data Link Control
33. Explain about Wireless LANs
34. Discuss about cyclic codes in detaill.
35. Explain about Media Access Control
36. Explain about Wireless Networks in detail
37. Explain about Error Correction with example.
38. Briefly explain the various layers of bluetooth.
39. Discuss the various connecting devices in detail.
40. Explain about the various types of satelite networks.

Unit - III

Choose the Correct Answer

1. The network layer is concerned with _____ of data.
  a. bits
  b. frames
  c. packets
  d. bytes

2. Which one of the following is not a function of network layer?
  a. Routing
  b.   inter-networking
  c. congestion control

d. error control

3. 4 byte IP address consists of _____
   a. only network address
   b. only host address
   c. network address & host address
   d. network address & MAC address

4. Which of the following routing algorithms can be used for network layer design?
   a. shortest path algorithm
   b. distance vector routing
   c. link state routing
   d. all of the mentioned

5. Which one of the following algorithm is not used for congestion control?
   a. traffic aware routing
   b. admission control
   c. load shedding
   d. routing information protocol

6. Which one of the following is not used for data transfer?
   a. Frames
   b. Packets
   c. Links
   d. Bits

7. The ability of a single network to span multiple physical networks is known as
_____
   a. Subnetting
   b. Masking
   c. Fragmenting
   d. Hopping

8. The _____ protocol is the transmission mechanism used by the TCP/IP suite.

   a. ARP
   b. IP
   c. RARP
   d. none of the above

9. Which of the following is a necessary part of the IPv6 datagram?

   a. Base header
   b. Extension header
   c. Data packet from the upper layer
   d. (a) and (c)

10. IP is _____ datagram protocol.

   a. an unreliable
   b. a connectionless
   c. both a and b

d.   none of the above

Answers: 1.c   2.d   3.c   4.d   5.d   6.c   7.a   8.b   9.a   10.c

Short question (2 Marks)

11. What is Packet Switching?
12. Define Routing Algorithm.
13. What are the responsibilities of Network Layer??
14. Why IPv6 is preferred than IPv4??
15. Define ICMP?
16. What is a virtual circuit?
17. What are data grams?
18. Define IP address.
19. What is time-to-live or packet lifetime?
20. Define Gateway.

Paragraph question (5 Marks)

21. Explain the Need for Network Layer.
22. Indicate differences between Classful Addressing vs Classless Addressing.
23. Describe IPv6 ADDRESSES Space.
24. Explain Internet as a Connectionless Network.
25. Describe IPv6 Advantages
26. Explain the purpose of TRANSITION FROM IPv4 TO IPv6.
27. Explain various Types of Messages in ICMP.
28. Describe Forwarding Techniques.
29. State the Intra- and Interdomain Routing.
30. Explain the following
       i.   a.Link State Routing
      ii.   b.Path Vector Routing

Essay Type Questions (10 Marks)

31. Discuss about IPv4 ADDRESSES.
32. Discuss about IPv6 ADDRESSES.
33. explain in detail about Internet Protocol.
34. Describe about ADDRESS MAPPING.
35. explain ICMP in detail.
36. describe in detail about UNICAST ROUTING PROTOCOLS.
37. Explain the concepts MULTICAST ROUTING PROTOCOLS.
38. Compare Direct Versus Indirect Delivery.
39. Briefly explain about Packet Switching.
40. Discuss in detail about Routing Algorithms.

Unit - IV
Choose the Correct Answer

1. Transport layer aggregates data from different applications into a single stream before passing it to _____
   a. network layer
   b. data link layer
   c. application layer
   d. physical layer

2. Which of the following are transport layer protocols used in networking?
   a. TCP and FTP
   b. UDP and HTTP
   c. TCP and UDP
   d. HTTP and FTP

3. An endpoint of an inter-process communication flow across a computer network is called _____
   a. socket
   b. pipe
   c. port
   d. machine

4. Which one of the following is a version of UDP with congestion control?
   a. datagram congestion control protocol
   b. stream control transmission protocol
   c. structured stream transport
   d. user congestion control protocol

5. A _____ is a TCP name for a transport service access point.
   a. Port
   b. Pipe
   c. Node
   d. protocol

6. Transport layer protocols deals with _____
   a. application to application communication
   b. process to process communication
   c. node to node communication
   d. man to man communication

7. Which of the following is a transport layer protocol?
   a. stream control transmission protocol
   b. internet control message protocol
   c. neighbor discovery protocol
   d. dynamic host configuration protocol

8. Which mechanism/s is/are extremely essential in data link and transport layers in accordance to operational services offered by the transport protocols?
   a. Buffering
   b. Flow Control
   c. Both a & b
   d. None of the above

9. Which among the below specified design issues should not be minimized while designing the system of a computer network?

a. Bandwidth
b. Content Switching
c. Software Overhead
d. All of the above

10. Which mechanism in transport layer supplies multiple network connections along with the distribution of traffic over them in a round-robin basis/ fashion?
    a. Upward Multiplexing
    b. Downward Multiplexing
    c. Buffering & Flow Control
    d. Crash Recovery

Answers: 1.a   2.c   3.a   4.a   5.a   6.b   7.a   8.c   9.a   10.b

Short question (2 Marks)

11. Define Transport Layer.
12. Define TCP.
13. Define Flow control.
14. Define Error control.
15. Define TCP Timers.
16. What is UDP?
17. Define Congestion Control
18. What is meant by quality of service?
19. Define Gateway.
20. What is meant by segmentation?

Paragraph question (5 Marks)

21. Explain the UDP Operation.
22. State the TCP Features
23. Draft the notice of Resource Reservation
24. Distinguish between CONGESTION and DATA TRAFFIC.
25. State the Congestion Control in TCP.
26. Differences between a "motion" and a "resolution".
27. Flow Characteristics in QUALITY OF SERVICE
28. Explain the SCTP Features
29. QoS IN SWITCHED NETWORKS
30. What is the Open-Loop Congestion Control

Essay Type Questions (10 Marks)

31. Explain the User Datagram Protocol
32. Describe the TCP Services TCP features
33. Flow Control.
34. Error Control
35. Discuss the TCP Congestion Control
36. Explain the TCP timers
37. Explain the DATA IRAFFIC

38. Enumerate the types CONGESTION CONTROL

39. SCTP Services

40. What is an Client/Server Paradigm.

Unit - V

Choose the Correct Answer

1. The _____ translates internet domain and host names to IP address.
   a. domain name system
   b. routing information protocol
   c. network time protocol
   d. internet relay chat

2. Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host?
   a. HTTP
   b. FTP
   c. Telnet
   d. TCP

3. Application layer protocol defines _____
   a. types of messages exchanged
   b. message format, syntax and semantics
   c. rules for when and how processes send and respond to messages
   d. all of the mentioned

4. Which one of the following protocol delivers/stores mail to reciever server?
   a. simple mail transfer protocol
   b. post office protocol
   c. internet mail access protocol
   d. hypertext transfer protocol

5. Which one of the following is an internet standard protocol for managing devices on IP network?
   a. dynamic host configuration protocol
   b. simple network management protocol
   c. internet message access protocol
   d. media gateway protocol

6. Which one of the following is an internet standard protocol for managing devices on IP network?
   a. dynamic host configuration protocol
   b. simple network management protocol
   c. internet message access protocol
   d. media gateway protocol

7. Which one of the following is not correct?

a. Application layer protocols are used by both source and destination
b. HTTP is a session layer protocol
c. TCP is an application layer protocol
d. All of the mentioned

8. Which one of the following is an architecture paradigms?

a. Peer to peer
b. Client-server
c. HTTP
d. Both Peer-to-Peer & Client-Server

9. E-mail is _____

a. Loss-tolerant application
b. Bandwidth-sensitive application
c. Elastic application
d. None of the mentioned

10. To deliver a message to the correct application program running on a host, the _____ address must be consulted.

a. IP
b. MAC
c. Port
d. None of the mentioned

Answers: 1. a   2.c   3.d   4.a   5.a   6.b   7.b   8.d   9.c   10.d

Short question (2 Marks)

11. Define Application Layers.
12. What is WWW?
13. What is DNS?
14. What is HTTP?
15. Define FTP.
16. What is the function of SMTP?
17. Define User Agent.
18. What is the purpose of HTML?
19. Define CGI
20. What is a digital signature?

Paragraph   questions (5 Marks)

21. Explain the types of NAME SPACE.
22. How do you Mapping Names to Addresses?
23. What is DNS MESSAGES?
24. Write about DDNS.
25. Describe about ENCAPSULATION
26. Explain about TELNET.
27. What is mean by Anonymous FTP
28. Bring out Cookies in WWW.
29. Write a short notes on Proxy Server
30. Explain the purpose of Application layers.

Essay Type Questions (10 Marks)

31. Explain Client Server Programming.
32. Explain Word Wide Web.
33. Describe about FTP.
34. Explain the process of Email
35. What is DNS? How its is implemented?
36. Briefly explain DNS IN THE INTERNET.
37. Explain the RESOLUTION in DNS.
38. Explain the DISTRIBUTION OF NAME SPACE
39. Briefly give details about WEB DOCUMENTS.
40. Explain about application layer with its applications.