



BRAINWARE UNIVERSITY

Term End Examination 2020 - 21

Programme – Bachelor of Technology in Computer Science & Engineering

Course Name – Computer Networks and Internet

Course Code - BCSE502

Semester / Year - Semester V

Time allotted : 85 Minutes

Full Marks : 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 70=70

1. (Answer any Seventy)

(i) High SNR value indicates to

- | | |
|----------------------|---------------------|
| a) High signal power | b) Low signal power |
| c) High noise power | d) High attenuation |

(ii) You want to verify VLAN membership on a Cisco Catalyst 2950 switch. You want to display VLAN assignment and membership type for all switch ports, however you do not want to view any extra information. Which command best displays this information?

- | | |
|--------------------|----------------------|
| a) show vlan brief | b) display vtp brief |
| c) show vlan short | d) display vtp short |

(iii) A switch typically operates at layer 2 of the OSI model. What layer 3 functionality can it utilize to help create broadcast domains?

- | | |
|----------------|----------|
| a) Full-duplex | b) VLANs |
| c) Half-duplex | d) RIP |

(iv) A set of rules that governs data communication is called

- | | |
|--------------|--------------|
| a) Protocols | b) Standards |
| c) RFC | d) Aggrement |

(v) In which topology there is a central controller or hub?

- a) Ring
- b) Star
- c) Hub
- d) Mesh

(vi) The method of communication in which transmission takes place in both directions, but only one direction at a time is called

- a) Simplex
- b) Four wire circuit
- c) Full duplex
- d) Half duplex

(vii) A decrease in magnitude of current, voltage or power of a signal in transmission between points, is known as

- a) Attenuation
- b) Amplitude
- c) Aloha
- d) Carrier

(viii) Which of the following is not a cause of LAN congestion?

- a) Too many hosts in a broadcast domain
- b) Adding switches for connectivity to the network
- c) Broadcast storms
- d) Low bandwidth

(ix) A virtual local area network(VLAN) is configured by

- a) Hardware
- b) Software
- c) Protocol Stack
- d) None

(x) OSI stands for

- a) Open Systems Interconnection
- b) Online Systems Interconnection
- c) Online SystemsInterconnection
- d) Open Systems Internet

(xi) Select the wrong data communication system component

- a) Medium
- b) Receiver
- c) Protocol
- d) Transits

(xii) Select the correct cable that transport signals in the form of light :

- a) Twisted-Pair cable
- b) Fiber-optic cable
- c) Co-Axial cable
- d) Shielded Twisted Pair cable

(xiii) The DoD Model (also called TCP/IP stack) has four layers. Which layer of the DoD model is equivalent to the Network layer of the OSI Model?

- a) Application
- b) Internet
- c) Host-to-Host
- d) Network Access

(xiv) Ethernet frame consists of

- a) MAC address
- b) IP address
- c) Both MAC and IP address
- d) None

(xv) To create a loopless technology, a bridge can use

- a) Prim's algorithm
- b) Spanning tree algorithm
- c) Marshall's algorithm
- d) None

(xvi) Which of the following allows devices on one network to communicate with devices on another network?

- a) Multiplexer
- b) Gateway
- c) T-switch
- d) Modem

(xvii) Which of the following contention mechanisms is used by Ethernet?

- a) Token passing
- b) CSMA/CD
- c) CSMA/CA
- d) Host polling

(xviii) In the operation of CSMA/CD, which host(s) have priority after the expiration of the backoff algorithm?

- a) All hosts have equal priority
- b) The two hosts that caused the collision will have equal priority
- c) The host that sent the jam signal after the collision
- d) The host with the highest MAC address

(xix) MAC address consists of

- a) 24
- b) 32
- c) 42
- d) 48

(xx) Which layer 1 device can be used to enlarge the area covered by a single LAN segment?

- a) Hub
- b) NIC
- c) Bridge
- d) Router

(xxi) To join the Internet, the computer has to be connected to a

- a) Internet society
- b) Internet service provider
- c) Internet architecture board
- d) ATM

(xxii) Hamming code is a

- a) Congestion control method
- b) Forward error detection method
- c) Forward error correction method
- d) Backward error correction method

(xxiii) Parity checking is a

- a) Error controlling method
- b) Error correcting method
- c) Flow controlling method
- d) Error detecting method

(xxiv) Pure ALOHA has a maximum efficiency of

- a) 18%
- b) 36%
- c) 50%
- d) 72%

(xxv) Modulo-2 division arithmetic used in

- a) Parity checking method
- b) Checksum method
- c) CRC method
- d) Orthogonal method

(xxvi) Persistence method used in

- a) ALOHA protocol
- b) CSMA protocol

c) Point to point protocol

d) CDMA protocol

(xxvii) Maximum throughput capacity available for slotted ALOHA in percentage is

a) 10

b) 18

c) 24

d) 36

(xxviii) Network congestion occurs

a) In case of traffic overloading

b) When a system terminates

c) When connection between two nodes terminates

d) When next hop blocked

(xxix) Which device forwards packets between networks by processing the routing information included in the packet.

a) Bridge

b) Router

c) Hub

d) Switch

(xxx) Which of the following is not a function of a router?

a) Packet Switching

b) Maintain access control lists

c) Path selection

d) Maintaining a filter table

(xxxii) Which of the following is a dynamic mapping method that finds a physical address, given a logical address?

a) ARP

b) RARP

c) BootP

d) IP

(xxxii) You are working with a network that has the network ID 172.16.0.0 , and you require 25 subnets for your company and an additional 30 for the company that will merge with you within a month. Each network will contain approximately 600 hosts. What subnet mask should you assign?

a) 255.255.192.0

b) 255.255.224.0

c) 255.255.248.0

d) 255.255.252.0

(xxxiii) Metric of Routing Information Protocol is

- a) Bridging
- b) Hop count
- c) Branching
- d) Split horizon

(xxxiv) What does RIP version2 use to prevent routing loops?

- a) CIDR
- b) Split horizon
- c) Classless masking
- d) Authentication

(xxxv) For a switch to forward frames out of its network segment, what command must be issued in global configuration mode?

- a) ip default-gateway
- b) routing enabled
- c) router rip
- d) router ip

(xxxvi) A router is connected to the 10.4.0.0 network. This link fails. It immediately set the metric on this route to infinity. What did the router just engage in?

- a) Route poisoning
- b) Triggered update
- c) Poison reverse
- d) Split horizon

(xxxvii) Which one of the following routing algorithm can be used for network layer design?

- a) Shortest path algorithm
- b) Link state algorithm
- c) Distance vector algorithm
- d) All of the mentioned

(xxxviii) What is the default subnet mask for a class C network?

- a) 255.255.255.0
- b) 127.0.0.1
- c) 255.0.0.0
- d) 255.255.0.0

(xxxix) In OSI network architecture, the routing is performed by

- a) Presentation layer
- b) Session layer
- c) Application layer
- d) Network layer

(xl) What is the address range of a class B network address in binary?

- a) 01xxxxxx
- b) 10xxxxxx
- c) 0xxxxxxx
- d) 110xxxxx

(xli) DSL refers to

- a) Data Subscriber Line
- b) Data Suppression Layer
- c) Digital Suppression Layer
- d) Digital Subscriber Line

(xlii) In a network, If P is the only packet being transmitted and there was no earlier transmission, which of the following delays could be zero?

- a) Propagation delay
- b) Queuing delay
- c) Transmission delay
- d) Processing delay

(xliii) You type debug ip rip on your router console and see that the 172.16.10.0 is being advertised to you with a metric of 16. What does that mean?

- a) The route is 16 hops away
- b) The route has a delay of 16microseconds
- c) The route is inaccessible
- d) The route already covered 16 hops

(xliv) Subnet mask in class A has 14 1's. How many subsets does it define?

- a) 8
- b) 32
- c) 64
- d) 128

(xlv) Which one of the following is a transport layer protocol used in networking?

- a) TCP
- b) UDP
- c) Both TCP and UDP
- d) FTP

(xlvi) Which of the following commands sets the secret password on a router to Cisco?

- a) enable secret password cisco
- b) enable password cisco
- c) enable secret cisco
- d) enable pwd cisco

(xlvii) Ranges of Well-known ports are

- a) 1 to 80
- b) 0 to 256
- c) 1 to 512
- d) 0 to 1023

(xlviii) The combination of IP address and port number is known as

- a) MAC address
- b) Socket address
- c) Network address
- d) Host address

(xlix) UDP stands for

- a) User Data Protocol
- b) User Datagram Protocol
- c) Unlimited Data Protocol
- d) Unified Data Protocol

(l) Which of the following TCP/IP protocol allows an application program on one machine to send a datagram to an application program on another machine?

- a) UDP
- b) VMTP
- c) X.25
- d) SMTP

(li) Which of the following protocols uses both TCP and UDP?

- a) FTP
- b) SMTP
- c) TELNET
- d) DNS

(lii) Port number within a data packet indicates

- a) LAN card number
- b) NIC card number
- c) Specific service point address
- d) Host identification number

(liii) Two broad categories of congestion control are

- a) Open-loop and Closed-loop
- b) Active loop and Passive loop
- c) Open-control and Closed-control
- d) Active control and Passive control

(liv) When using TCP, after a session is open, the applications can adjust the amount of segments they receive before sending an acknowledgement. This

behavior is known as

- a) MTU adjustment
- b) Flexible send path
- c) Windowing
- d) FCS

(lv) Prevent before congestion occurs related to which method?

- a) Open-loop
- b) Closed-loop
- c) Active control
- d) Passive control

(lvi) Retransmission of packets must not be done when

- a) Packet is lost
- b) Packet is corrupted
- c) Packet is needed
- d) Packet is error-free

(lvii) What is the header size range in TCP segment?

- a) 0 to 40 bytes
- b) 20 to 60 bytes
- c) 20 to 80 bytes
- d) 40 to 160 bytes

(lviii) The packet sent by a node to the source to inform it of congestion is called

- a) Choke
- b) Discard
- c) Explicit
- d) Backpressure

(lix) Selective Repeat window, the sender resends which types of packets?

- a) Which are not lost
- b) All the packets
- c) Packets which are lost or corrupted
- d) Packet from starting

(lx) Which protocol reduces administrative overhead in a switched network by allowing the configuration of a new VLAN to be distributed to all the switches in a domain?

- a) STP
- b) VTP
- c) DHCP
- d) ISL

(lxi) When you issue the ping command, which protocol you are using?

- a) DNS
- b) DHCP
- c) ARP
- d) ICMP

(lxii) Split-horizon states that no advertisements will be sent back through the interface on which they were received. What mechanism overrides that behavior?

- a) Triggered updates
- b) Poison reverse
- c) Hold-down timers
- d) Nothing overrides split-horizon

(lxiii) The transfer of data from a CPU to peripheral devices of a computer is achieved through

- a) Modems
- b) Computer ports
- c) Buffer memory
- d) None

(lxiv) What is autonegotiation?

- a) A security algorithm
- b) A routing algorithm
- c) A procedure by which two connected devices choose common transmission parameters
- d) None

(lxv) Electronic mail uses which Application layer protocol?

- a) FTP
- b) HTTP
- c) SCTP
- d) SMTP

(lxvi) The ASCII encoding of binary data is called

- a) base 8 encoding
- b) base 16 encoding
- c) base 64 encoding
- d) base 32 encoding

(lxvii) In SMTP, the command to write receiver's mail address is written with which command?

- a) RCVR TO
- b) MAIL TO

c) RCPT TO

d) SEND TO

(lxviii)

If the number of nodes in a mesh topology is n , then the total number of links in the topology will be

a)

n

c)

n^2

b)

$n(n+1)/2$

d)

$n(n-1)/2$

(lxix)

Sender window size with n bit sequence number in case of Go-Back-N ARQ is

a)

n

c)

$2^n + 1$

b)

$2n$

d)

$2^n - 1$

(lxx)

Throughput for slotted ALOHA is

a)

$G X e^{-G}$

c)

$G X 2e^{-G}$

b)

$G X e^{-2G}$

d)

$2G X e^{-2G}$