BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Bachelor of Computer Applications
Course Name – Computer Networks
Course Code - BCAC401
(Semester IV)

Time allotted : 1 Hrs.15 Min.   **Full Marks : 60**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)   1 x 60=60

Choose the correct alternative from the following :

(1) The data link layer provides which delivery.
   a) host to host   b) port to port
   c) process to process   d) hop to hop

(2) The layer responsible for encryption technique in OSI model is
   a) Network   b) Session
   c) presentation   d) Data Link

(3) Switches function in which layer(s) of OSI model?
   a) physical   b) Data Link
   c) Network   d) Application

(4) Which topology requires a multipoint connection?
   a) Mesh   b) Star
   c) Ring   d) Bus

(5) The physical layer provides
   a) Bit to signal transmission   b) mulyiplexing
   c) circuit switching   d) all of these

(6) Transport layer provide which delivery?
   a) bit to signal transmission   b) multiplexing
   c) process to process delivery   d) bit synchronization

(7) Manchester code is a–
   a) Non-return to zero code   b) Polar code
   c) Bipolar code   d) Non-return to zero code and Bipolar code

(8) Baud means –
   a) number of bits transmitted per unit time   b) number of bytes transmitted per unit time
   c) rate at which the signal changes   d) none of these

(9) If the maximum value of a signal is 31 and minimum value is -32, how many bits are used for coding?

a) 4

b) 5

c) 6

d) 8

(10) Which statement among the following is FALSE ?

a) CSMA/CD should be used when the transmitter and the receiver cannot be turned on simultaneously

b) CSMA/CD have less collision probability than that of Aloha

c) Slotted Aloha does not sense before sending data

d) A node can start transmitting data only at beginning of a slot in slotted aloha

(11) The topology with highest reliability is

a) Bus topology

b) Star topology

c) Mesh topology

d) Ring topology

(12) The dedicated physical layer devices are

a) Hub & Switch

b) Hub & multiplexer

c) ATM switch & MUX

d) d.Repeater & Router

(13) Aloha (slotted or pure) used in wireless medium because ….

a) It is not always possible to detect collision apriori due to hidden node

b) It can detect collision faster than CSMA/CD

c) It detects hidden nodes before transmitting data

d) It clears the paths before any transmission.

(14) Advantage of layering includes

a) multi-vendor integration

b) data hiding & encapsulation

c) easy testing

d) All of these

(15) What is the difference between a repeater and a hub?

a) A repeater relays/ amplifies/ regenerates incoming signals and forwards. Hub forwards incoming signal to all the outgoing ports.

b) A repeater allows multiple computers to be connected. A hub increases the coverage of a signal.

c) A repeater is an analog device, while a hub is a digital device.

d) A repeater operates in physical layer while a Hub operates in data link layer.

(16) What are the properties of switched ethernet?

a) Filter segments based on IP address

b) High utilization of computer networks

c) Collision rate is very high

d) None of these

(17) What does preamble do in an ethernet frame?

a) Provides packet-level synchronization

b) Provides frame-level synchronization

c) Provides byte-level synchronization

d) Provides bit-level synchronization

(18) What is true for bridged ethernet?

a) Collision is not at all possible in bridged ethernet

b) Bridged ethernet breaks the collision domain by separating LAN

c) Bridged network reduce the overall throughput as result of excess overhead

d) None of these

(19) What is the purpose of random exponential backoff?

a) It guaranteed that collision will not happen on next try

b) It decreases the chance of collision during next try

c) It increases congestion in the network

d) It decreases latency in packets

(20) Which of the following is true for Time-Division multiple access (TDMA)?

a) Provides different frequency bands to

b) Provides different code to different spreading

different data streams   code radios

c) Provides different time slots to different transmitters.   d) None of them

(21) Communication between a computer and a keyboard involves

a) Simplex   b) Half duplex

c) Duplex   d) Automatic

(22) The Hamming code is used for -

a) Error Detection   b) Error Correction

c) Error Encapsulation   d) Error detection and error correction

(23) The key elements of a protocol are

a) Syntax   b) Semantics

c) Timing   d) All of these

(24) If a protocol specifies that data should be sent at 100 Mbps, what is the issue?

a) Syntax   b) Semantics

c) Timing   d) None of these

(25) A router works on which layer?

a) Physical   b) Data Link

c) Network   d) Transport

(26) Which of the following network device is used for interconnecting two LANs working on the same protocol?

a) Repeater   b) Hub

c) Bridge   d) None of these

(27) Which of the following is a transport layer protocol?

a) SMTP   b) UDP

c) ICMP   d) SSH

(28) In which layer NICs work?

a) Network   b) Data link

c) Transport   d) Application

(29) Which of the following network device filters network traffic based on the MAC addresses?

a) bridge   b) hub

c) repeater   d) switch

(30) Telephone system network is the one of example of

a) Circuit switching   b) Packet switching

c) Message switching   d) None of these

(31) Datagram switching is

a) Connection-oriented packet switching   b) Connectionless packet switching

c) Both Connection-oriented and Connectionless packet switching   d) None of these

(32) Which protocol is used to acquire the MAC address of a host whose IP address is known?

a) Dynamic Host Control Protocol   b) Address Resolution Protocol

c) User Datagram Protocol   d) Reverse Address Resolution Protocol

(33) Which of these following protocols prevents out-of-order delivery of data?

a) TCP   b) UDP

c) DNS   d) DHCP

(34) Which of the following is a remote login application?

a) Telnet
b) HTTP
c) DNS
d) FTP

(35) Which of the following network management command is used for querying the DNS?

a) netstat
b) nslookup
c) whois
d) None of these

(36) Which of the following file is used to configure DNS in the client side?

a) hosts
b) nsswitch.conf
c) resolv.conf
d) ntp.conf

(37) Which of the following system call puts the server socket in a passive mode and waits for the client to approach the server to make a connection? a.b. c.d.

a) connect
b) accept
c) listen
d) bind

(38) FTP control connection is initiated on port number

a) 20
b) 21
c) 80
d) 143

(39) In Ethernet when Manchester encoding is used, the bit rate is

a) Half the baud rates
b) Twice the baud rate
c) Same as the baud rate
d) Three times the baud rate

(40) Trailer is added to frame in

a) Session layer
b) Application layer
c) Data link layer
d) Network layer

(41) HTTP uses port in transport layer

a) 80
b) 443
c) 20
d) 21

(42) Error detection at the data link layer is achieved by -

a) Bit stuffing
b) CRC
c) Hamming code
d) Equalization

(43) SMTP servers commonly use the TCP on port number

a) 21
b) 22
c) 23
d) 25

(44) Different WANs are connected to each other by a _____

a) Modem
b) Switch
c) router
d) gateway

(45) For Stop-and-Wait ARQ, for n data packets sent ………acknowledgements are needed.

a) n
b) 2n
c) n(n-1)
d) n-1

(46) What is the difference between MAC sublayer and LLC sublayer?

a) LLC multiplexes data from network layer and demultiplexes data to network layer, MAC layer provides mechanism to access the physical medium to receive and transmit data

b) LLC allows a network device to be uniquely identified in a LAN, MAC multiplexes data from network layer and demultiplexes data to network layer.

c) LLC is optional if error control is not required, MAC is optional if flow control is not required.

d) None of these

(47) As per 802.3 standard, what is the length of MAC address?

a) 128 bits

b) 32 bits

c) 48 bits

d) 64 bits

(48) When a protocol specifies that the address of the sender must occupy the first 4 bytes of a message, what is this issue?

a) syntax

b) semantics

c) timing

d) none of these

(49) Repeaters function in which layer(s)?

a) physical

b) data link

c) network

d) physical and data link

(50) Bridges/Switches function in which layer(s)?

a) physical

b) data link

c) network

d) both a and b

(51) Routers function in which layers?

a) physical and data link

b) physical, data link and network

c) data link and network

d) network and transport

(52) The two parameters used for measuring the performance of a network are –

a) throughput and delay

b) power and delay

c) power and throughput

d) throughput and buffer size

(53) Bit Stuffing inserts a 0 bit after ……………consecutive 1 bits in the message data.

a) 4

b) 5

c) 6

d) 7

(54) The 1-persistent CSMA / CD is a special case of the p-persistent approach with p =

a) 0.5

b) 0.1

c) 1.0

d) 100

(55) Pure ALOHA has a maximum efficiency of

a) 10%

b) 18%

c) 37%

d) 50%

(56) In the ……. random-access method there is no collision

a) ALOHA

b) CSMA / CD

c) CSMA / CA

d) Token passing

(57) How much channel throughput of Slotted ALOHA will be in comparison to Pure ALOHA?

a) Same

b) Half

c) Double

d) Three times

(58) A bridge has access to which address of a station on the same network?

a) physical

b) network

c) service access point

d) All of these

(59) Bluetooth uses…………… to communicate between two devices

a) Radio wave

b) Microwave

c) Infrared

d) Satellite

(60) What is the Hamming distance between 11100110 and 10100011?

a) 2

b) 3

c) 4

d) 5