BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – MCA-2022
Course Name – Data Communication & Computer Networks
Course Code - MCA204
(Semester II)

Full Marks : 60   **Time : 2:30 Hours**

[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 15=15

1.   *Choose the correct alternative from the following :*

(i)   Identify in which transmission media the highest transmission speed in a network is found

     a) coaxial cable   b) twisted paircable
     c) optical fibre   d) electricalcable

(ii)   Name the topology requiring a central controller or hub

     a) Mesh   b) star
     c) ring   d) bus

(iii) Determine the layer in which Routers functions ?

     a) physical anddata link   b) physical, datalink and network
     c) data link andnetwork   d) network andtransport

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

     a) Multiplexer   b) Gateway
     c) Switch   d) Modem

(v)   In Ethernet when Manchester encoding is used, Calculated bit rate is

     a) Half the baud rates   b) Twice the baud rate
     c) Same as the baud rated   d) none of these

(vi)   Identify the switching system all the packets of a message follow the same channels of a path in

     a) packet switching   b) circuit switching
     c) message switching   d) virtual circuit

(vii) In in the sliding window method of flow control, the sender window size is esimated when an ACK is received

a) Increase in   b) Decrease in

c) Doubles in   d) Remains its original

(viii) A multistation access unit is most often used in _____ LAN . Choose the option.

a) An Ethernet   b) A Token Ring

c) An FDDI   d) An Ethernet and A Token Ring

(ix) Categorize one of the following algorithm which is not used for congestion control?

a) traffic aware routing   b) admission control

c) load shedding   d) None of these

(x) Categorize the correct option --ICMP is primarily used for

a) ethernet   b) internet protocol

c) hypertext transfer protocol   d) None of these

(xi) Identify which physical layer concerns with

a) bit-by-bitdelivery   b) process toprocess delivery

c) application to application delivery   d) None of these

(xii) For n devices in a network and duplex mode transmission facility, recognize the number of cable links required for a mesh topology

a) n2   b) 2n

c) n(n-1)/2   d) n(n-1)

(xiii) the transport layer is estimated to provide _____ delivery.

a) bit-to-signaltransmission   b) bit Synchronization

c) process-to-process   d) hop-to-hop

(xiv) Identify the dedicated physical layer devices

a) Hub &Switch   b) Hub &multiplexer

c) ATM switch& MUX   d) Repeater &Router

(xv) Define advantage of layering

a) multi-vendorintegration   b) data hiding &encapsulation

c) easytesting   d) all ofthese

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Describe comparatively datalink layer and network layer   (3)
3. Illustrate Stop and wait protocol in comparison to the ARQ   (3)
4. Analyse the Leaky bucket algorithm   (3)
5. Compare between the guided and unguided media   (3)
6. Show the explanation of VPN.   (3)

OR

Categorize the types of errors?   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Appraise Subnet Mask and its importance   (5)
8. Distinguish between congestion control and flow control?   (5)
9. Describe the various modes of communication   (5)
10. Explain the utility of MAC sub layer.   (5)
11. Compare OSI and TCP/IP reference model.   (5)
12. Discuss the responsibilities of data link layer   (5)

OR

For n devices, calculate the number of cable links required for a mesh, ring, bus and star topology. (5)

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