BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – MCA-2020/MCA-2021
Course Name – Data Communication & Computer Networks
Course Code - MCA301
(Semester III)

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 physical layer concerns with
   a) bit-by-bitdelivery
   b) process toprocess delivery
   c) application toapplicationdelivery
   d) None of these

(ii) For n devices in a network and duplex mode transmission facility, recognize the number of cable links required for a mesh topology is
   a) n2
   b) 2n
   c) n(n-1)/2
   d) n(n-1)

(iii) Switches function identify layer(s) of OSI model?
   a) physical
   b) data link
   c) network
   d) both a and b

(iv) Define advantage of layering
   a) multi-vendorintegration
   b) data hiding &encapsulation
   c) easytesting
   d) all ofthese

(v) Identify 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

(vi) Identify the Manchester code is a
   a) Non-return to zero code
   b) Polar code
   c) Bipolarcode
   d) both a and c

(vii) Determine in which one of the following task is not done by data link layer?
   a) framing
   b) error control
   c) flow control
   d) channel coding

(viii) Determine in which sublayer of the data link layer performs data link functions that depend upon the type of medium?

a) logical link control sublayer
b) media access control sublayer
c) network interface control sublayer
d) None of these

(ix) Write the layer in which ,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

(x) Calculate size of a window in the stop-and-wait flow control method is the same as the sliding window method is

a) 0
b) 1
c) 2
d) None of the above

(xi) Conclude in the sliding window method of flow control, the sender window size when an ACK is received

a) Increase in
b) Decrease in
c) Doubles in
d) Remains its original

(xii) Choose the correct option --The network layer concerns with

a) bits
b) frames
c) packets
d) None of these

(xiii) Anticipate what each packet contains in virtual circuit network

a) full source and destination address
b) a short VC number
c) only source address
d) only destination address

(xiv) Write what the 4 byte IP address consists

a) network address
b) host address
c) both network address & host address
d) None of these

(xv) Justify which one of the following algorithm is not used for congestion control?

a) traffic aware routing
b) admission control
c) load shedding
d) None of these

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

2. Write the DNS. (3)
3. Illustrate the Local host. (3)
4. Mention the different network protocols that are supported by Windows RRAS services? (3)
5. Write the advantage of TCP/IP. (3)
6. What are Ipconfig and If config? (3)

OR

Define Piggybacking? (3)

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

7. Discover n devices and calculate the number of cable links required for a mesh, ring, bus, and star topology (5)
8. Judge between iterative query and recursive query (5)
9. Determine what are the advantages of digital transmission over analog transmission (5)
10. Evaluate a space division three-stage switch. There are 100 inputs and 100 outputs. Stage 1 has five switches, stage 2 has two switches and stage 3 has five switches (5)
11. What happens when you type www.google.com in the browser and press enter? (5)

OR

Compare congestion control and flow control (5)

12. Identify the functionality of repeater, bridge, and gateways. (5)