UNIVERSITY OF THE PUNJAB

Sixth Semester - 2018

Examination: B.S. 4 Years Programme

Roll No. .....

PAPER: Computer Networks (CMP) **TIME ALLOWED: 2 Hrs. & 45 Mints.**

Course Code: IT-309 Part – II **MAX. MARKS: 50**

Attempt this Paper on Separate Answer Sheet provided.

Question No 2: Give the short answers of the following short Questions? [2x10=20]

1: What is the size in Bytes of PORT address?

2: Which layer is responsible for the delivery of data from one process to another?

3: Which topology is the ideal one for point to point networks?

4: The attenuation of a signal is -10 Db. What is the final signal power if it was originally 5 Watt?

5: Calculate the bit rate for the baud rate of 1000 baud under 8-PSK modulation?

6: How many bits can be transmitted in 1 sec if 10 bits can be transmitted in 0.1 ms?

7: What are the three types of decision taken by a bridge for an incoming frame?

8: Using a 4 bit sequence number, what is the maximum size of the send and receive windows for each of the following protocol:

Selective Repeat ARQ
Go-Back-N ARQ

9: What is the type of the following MAC destination addresses?

i. 5E:30:10:21:10:1A
ii. FF:FF:FF:FF:FF:FF

10: How the hop by hop choke packets approach is better than the other choke packets approach (affect only the source)?

Question No 3: Give the answers of the following Questions? [6x5=30]

(1) Discuss three transmission Impairments?

(2) Encode the bit stream **01001101** into digital signal with the following encoding schemes?

NRZ-L
Manchester
Differential Manchester

(3) The code 11010101101 was received. Using the Hamming encoding algorithm, what is the original code sent?

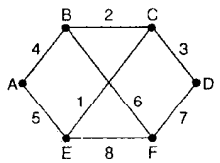
(4) Two nodes (assume 'A' is sender and 'B' is receiver) use a sliding window (go-back-N) protocol. Show the sender and receiver window positions for the following succession of events: (Assume that sender window size is 4)

a) Before 'A' sends any frame.
b) After 'A' sends frame 0, 1, 2 and receives acknowledgement from 'B' for 0 and 1
c) After 'A' sends frames 3, 4, and 5 and 'B' acknowledges 3, and 4 and the ACK of 4 is lost whereas ACK of 3 is received by 'A'.

(5) Determine the level of sensitivity ('High' or 'Low') of each application in the following table for given parameters.

Application	Reliability	Delay	Jitter	Bandwidth
Email				
File sharing				
Web access				
Audio on demand				
Video conferencing				

(6) From the following network find the shortest path from 'A' to all destinations using Dijkstra's Algorithm.



UNIVERSITY OF THE PUNJAB

Sixth Semester - 2018

Examination: B.S. 4 Years Programme

Roll No. .....

PAPER: Computer Networks (CMP) **TIME ALLOWED: 15 Mints.**

Course Code: IT-309 Part – I (Compulsory) **MAX. MARKS: 10**

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. Each MCQ carries 1 Mark. This Paper will be collected back after expiry of time limit mentioned above.

Question No 1: Multiple Choice Questions **[1x10=10]**

1. When data and acknowledgement are sent on the same frame ,this is called _____
   a) Back packing b) Piggybacking
   c) Piggypacking d) A good idea

2. If a sine wave completes one cycle in 7 seconds. what is its frequency?
   a) 1.14 HZ b) 0.14 HZ
   c) 0.25 HZ d) 1.25 HZ

3. In the _____ protocol we avoid unnecessary transmission by sending only frames that are corrupted.
   a) Stop and Wait b) Go-Back-N
   c) Selective Repeat d) none

4. In an optical fiber, the inner core is --------than cladding
   a)More dense b)Less dense
   c)Equally dense d)None of above

5. Which of the following is not a digital-to-analog conversion?
   a) ASK b) PSK
   c) FSK d) AM

6. _____ encoding has a transition at the middle of each bit.
   a) RZ b) Manchester
   c) Differential Manchester d) All

7. To solve the looping problem, bridges on LAN use the _____ algorithm, to create a loop less topology.
   a) Dijkstra's b) Distance Vector
   c) Spanning tree d) none

8. In _____ switching, there is no resource allocation for a packet.
   a) datagram b) virtual circuit
   c) message d) circuit

9. Which multiplexing technique transmit Digital signal.
   a)FDM b)TDM
   c)WDM d)None of above

10. In data communication ,ATM is acronym for _____
    a)Automated Teller Machine. b)Automatic Transmission Model.
    c)Asynchronous Transfer Mode. d)Asynchronous Telecommunication Method.