March 2021

COMPUTER NETWORK – I

Time Allowed: 2 Hours   *Full Marks: 35*

Answer to Question No.1 is compulsory and Answer <u>any five</u> questions from the rest.

1.   Choose the correct answer from the given alternatives (any ten):   10x1

   i)   Bluetooth is an example of – a) personal area network, b) local area network, c) virtual private network, d) none of the mentioned.

   ii)   FDDI is a – a) ring network, b) star network, c) mesh network, d) bus network.

   iii)   A _____ is a device that forwards packets between networks by processing the routing information included in the packet –a) bridge, b) firewall, c) router, d) all of the mentioned.

   iv)   X.25 generally for _____ communications – a) LAN, b) MAN, c) WAN, d) PAN.

   v)   Network congestion occurs – a) in case of traffic overloading, b) when a system terminates, c) when connection between two nodes terminates, d) none of the mentioned.

   vi)   Which one of the following task is not done by data link layer? – a) framing, b) error control, c) flow control, d) channel coding.

   vii)   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 the mentioned.

   viii)   The technique of temporarily delaying outgoing outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is called – a) piggybacking, b) cyclic redundancy check, c) fletcher's checksum, d) none of the mentioned.

   ix)   When collection of various computers seems a single coherent system to its client, then it is called – a) computer network, b) distributed system, c) both (a) and (b), d) none of the mentioned.

   x)   Loss in signal power as light travels down the fiber is called – a) attenuation, b) propagation, c) scattering, d) interruption.

   xi)   Which one of the following computer network is built on the top of another network? – a) prior network, b) chief network, c) prime network, d) overlay network.

   xii)   Communication channel is shared by all the machines on the network in – a) broadcast network, b) unicast network, c) multicast network, d) none of the mentioned.

2.   Write short note on the following (any one):   5
   a)   Automatic repeat request
   b)   ATM banking system

3.   What is flow control? Briefly explain sliding window method.   1+4

4.   Make a comparative study among circuit switching, packet switching and message switching technique.   5

5. Differentiate IPV4 and IPV6. Explain about public key encryption. 2+3

6. Make a comparison between Logical Address, MAC Address and Port Address. 5

7. Discuss about two important features of a network system. 5

8. Make a comparative study between bridge and gateway. What are the applications of cryptography? 3+2

9. Write one advantage and two disadvantages of bus topology. What is 'WWW'? What is Workstation? 3+1+1

10. Draw and briefly explain TCP/IP protocol architecture. 5

11. Briefly discuss about one error correction technique. What is the significance of the twisting in twisted pair cable? 4+1

———————————