August 2021

COMPUTER NETWORK-II

Time Allowed: 1 Hour *Full Marks: 35*

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

1. A. Choose the correct answer from the given alternatives (any five): 2x5

   i) TCP/IP protocol suite was developed _____ the OSI model (prior to/after/ simultaneous to).
   ii) The 4-byte IP address consists of _____ (Network address/ Host address/ both network and host address).
   iii) In asymmetric key cryptography, the private key is kept by _____ (sender/receiver/ both sender and receiver).
   iv) Which of the following device is used for Internet connection? a) Switch, b) Router, c) modem, d) None of these.
   v) Which address identifies a process on a host?- a) logical address, b) port address, c) physical address, d) application-specific address.
   vi) Which of the following is used only in LAN?- a) Modem, b) Router, c) Gateway, d) NIC.

   B. State whether the following statements are true or false (any five): 5×2

   i) 255.0.0.0 is subnet mask for Class A IP address.
   ii) MAC address is port address.
   iii) Bridge is associated with layer -1 of the OSI model.
   iv) DES is not a symmetric encryption algorithm.
   v) FTP is used for remote login.
   vi) 222.145.90.45 is a class B address.
   vii) In a n-nodes public key environment total number of keys are 2n.

2. a) What is protocol?
   b) Distinguish physical and logical address. 3+4.5

3. Illustrate frame format of Ethernet. 7.5

4. What are the differences between Symmetric and asymmetric key cryptography? 7.5

5. What do you mean by subnetting? Find the address range for class B type IP address. 3.5+4

6. What is NAT? Explain responsibilities of NAT router. 3.5+4

7. What are the limitations in Classful IP addressing scheme? What are the solutions of those limitations? 3.5+4

8. Write short note on digital signature. 7.5

9. What is VSAT? Explain it's working principles. 3.5+4