17/11/2022

BNBUSIT3T3 / 02 / 2022

Time 2½ hours

Total Marks: 60

N.B.: (1) **All** questions are **Compulsory.**
(2) Make **suitable assumptions** where ever necessary and **state the assumption made.**
(3) Answers to the **same questions** must be **written together** .
(4) Numbers to the **right** indicates **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary** .
(6) Use of **Non-programmable** calculators is **allowed**.

Q 1. Attempt *any Four* of the following : 16

a. Explain in detail star topology. What are advantages of star topology over Bus topology?
b. List and explain the functions of TCP/IP suite layers with neat labeled diagram.
c. Explain the terms: i) Message ii) Sender iii) Receiver iv) Protocol
d. What is Transmission medium? Explain the terms Guided medium and Unguided Medium
e. What is modulation? Explain Amplitude modulation
f. Explain the terms i) Analog Signals ii) Digital Signals iii) Attenuation
g. Discuss Time Division Multiplexing
h. Explain what do you mean by LAN, MAN and WAN

Q 2. Attempt *any Four* of the following : 16

a. Explain the working of Carrier Sense Multiple Access with Collision Detection (CSMA/CD)
b. Explain Token Passing for controlled access
c. What is error in communication? What are the types of Errors?
d. What is Cyclic Redundancy Check? Explain
e. Discuss the working of Bluetooth
f. Explain the meaning of Geostationary Satellites
g. Write a note on GPS
h. Explain the concept of sliding window with movements of both sender and receiver window.

Q 3. Attempt *any Four* of the following : 16

a. Write note on : IP Address
b. Explain the working of OSPF (Open Shortest Path First) Protocol
c. Explain the Three Way Handshake method to establish TCP Connection
d. Explain the working of Stop-and-Wait Protocol
e. Explain the working of RIP (Routing Information Protocol).
f. Explain the use of Time- to- Live field of IP Datagram
g. Explain the use of Ping
h. Differentiate between TCP and UDP.

Q 4. Attempt *any three* of the following : 12

a. Explain the following terms in relation with data communication:
   i. Half duplex
   ii. Full Duplex
b. Differentiate between synchronous and asynchronous transmission.
c. What is Checksum? Explain
d. Differentiate between a Switch and Bridge.
e. What is WWW (World Wide Web)? Explain in brief
f. Write a short note on HTTP.

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