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Old

Total No. of Pages 2

FIFTH SEMESTER(Old Scheme)
END SEMESTER EXAMINATION

Roll No.....
B.TECH. [IT]
(NOV-DEC2018)

IT-304 COMPUTER NETWORKS

Time: 3:00 Hours **Max. Marks: 70**

Note: Answer any *FIVE* questions.
Assume suitable missing data, if any.

Q.1[a] With the help of a suitable block diagram explain concept of layered architecture of a computer network, showing node to node, hop to hop and layer to layer communication.
[b] Draw the TCP/IP protocol and explain functions of each layer briefly. **(7+7=14)**

Q.2[a] How does HTTP use DNS for resolution of URLs ? What role does IP have in this transaction?
[b] Explain the mechanism of sending and receiving e-mails and associated protocols SMTP, POP and IMAP. **(7+7=14)**

Q.3[a] What are the shortcomings of Distance Vector Routing? How does Link state routing overcome them?
[b] What are medium access and Random access protocol? Compare Aloha, CSMA and CSMA/CA/CD. **(7+7=14)**

Q.4[a] Explain the 3-way handshake in TCP, considering all scenarios of packet/acknowledgement loss and necessary retransmissions. Why is this necessary?
[b] Draw and explain the TCP header format. What is the pseudo header and why is it required? **(7+7=14)**

Q.5 [a] Explain (with diagram) the IPv4 protocol header in detail.
[b] What is the advantage of IPv6 over IPv4 ? Explain fragmentation. **(7+7=14)**

Q.6 [a] HDLC is a suitable data link layer protocol , Justify.
[b] Taking 2 bit sequence numbers , explain all scenarios for a go-back-N ARQ for flow control. **(7+7=14)**

P.T.O.

Q.7 Write Short notes on:

a] Direct and Indirect delivery, forwarding mechanisms and optimality principle.

b] Hubs, switches and routers (7+7=14)

END