R16

Code No: 135AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, May/June - 2019
DATA COMMUNICATION AND COMPUTER NETWORKS
(Common to CSE, IT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	List out the topologies used in networks.	[2]
b)	Differentiate circuit switched networks and datagram networks.	[3]
c)	Explain flow control.	[2]
d)	Describe the differences between PPP and HDLC.	[3]
e)	Differentiate broadcasting and flooding.	[2]
f)	Define tunneling.	[3]
g)	Differentiate between TCP and UDP.	[2]
h)	Why three way handshake is used in TCP.	[3]
i)	What is the use of FTP?	[2]
j)	What is the header format of HTTP reply message?	[3]

PART - B

(50 Marks)

2.a) Explain the ATM reference model and describe the functions performed by each layer.
b) What are the advantages and disadvantages of ring topology? [5+5]

OR

3.a) Elicit types of transmission media with their merits and demerits.
b) Describe the characteristics of layered architecture. [5+5]

4.a) What are the different types of error detection methods? Explain the CRC error detection technique using generator polynomial x^4+x^3+1 and data 11100011.
b) Explain the CSMA schemes with diagrams. [5+5]

OR

5.a) Elucidate PCF and DCF in 802.11 format.
b) A very heavily loaded 1 km long, 10-Mbps token ring has propagation speed of 200m/μsec. Fifty stations are uniformly spaced around the ring. Data frames are 256-bits, including 32 bits of overload. Acknowledgements are piggybacked onto the data frames and are included as spare bits within the data frames and are effectively free. The token is 8 bits. Is the effective data rate of this higher or lower than the effective data rate of a 10-Mbps CSMA/CD NETWORK? [5+5]

6.a) Differentiate DVR and OSPF.
b) How count to infinity problem is resolved in DVR. [5+5]

OR

7.a) Explain ARP an RARP with examples.
b) What is purpose of ICMP? Explain its messages in detail. [5+5]

8.a) Explain the features and applications of UDP.
b) Elucidate congestion control in datagram subnets. [5+5]

OR

9.a) Elucidate the congestion prevention policies.
b) Explain the TCP header fields in detail. [5+5]

10.a) What is an Electronic mail? Explain the two scenarios of architecture of E-Mail.
b) Explain the architecture of WWW. Discuss client and server side functionality of this architecture. [5+5]

OR

11.a) What is SNMP? Briefly discuss the SNMP model components.
b) What is the use of DNS? Explain how it works? [5+5]

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