IH Used Paper BTECH-IT-11-20

R16

Code No: 135AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, October - 2020
DATA COMMUNICATION AND COMPUTER NETWORKS
(Common to CSE, IT)

Time: 2 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

1.a) Differentiate the OSI and TCP/IP reference models.
b) Compare and contrast ATM and Frame relay networks. [7+8]

2.a) Elucidate the design issues of data link layer.
b) Discuss MAC frame structure for IEEE 802.3. [7+8]

3.a) Convert the IP address whose hexadecimal representation is C22F1582 to dotted decimal notation and explain.
b) Explain the shortest path routing with an example. [8+7]

4.a) Explain about QoS in switched networks.
b) Differentiate integrated and differentiated services in the internet. [7+8]

5.a) Explain the HTTP request method.
b) Explain about WWW. [8+7]

6.a) Explain the characteristics of narrowband ISDN.
b) Describe permanent and switched virtual circuits. [7+8]

7.a) Explain the sliding window protocol with a neat sketch.
b) Frames of 1000 bits are sent over a 1-Mbps-satellite channel. Acknowledgements are always piggybacked onto data frames. The headers are very short. Three-bit sequence numbers are used. What is the maximum achievable channel utilization for (i) Stop-and-wait (ii) Go-back n (iii) Selective Repeat? [7+8]

8.a) Differentiate classful and classless addressing in IPv4.
b) Describe any one multicast routing protocol. [7+8]

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