PAPER ID-420862

Roll No: | | | | | | | | | | | | |

BTECH
(SEM VI) THEORY EXAMINATION 2021-22
COMPUTER NETWORKS

Time: 3 Hours ***Total Marks: 100***

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2*10 = 20

Qno	Questions	CO
(a)	Discuss about transmission mediums in networking.	1
(b)	What do you understand by network topologies.	1
(c)	Explain transmission delay in flow control.	2
(d)	Write a note on round trip time (RTT) in networking.	2
(e)	Discuss the role logical addressing.	3
(f)	Define datagrams in switching.	3
(g)	Discuss about the IP ranges of Class A, B, C and D.	4
(h)	List out prime three functionality of transport layer.	4
(i)	Explain the use of RST flag in TCP header.	5
(j)	Explain HTTP.	5

SECTION B

2. Attempt any *three* of the following: 10*3 = 30

Qno	Questions	CO
(a)	Discuss encoding types in physical layer of ISO-OSI model.	2
(b)	Discuss each command in detail used in networking: a- ipconfig b- netstat c- ping d- hostname e- tracert	2
(c)	List out and discuss the disadvantages in STOP N WAIT protocol.	3
(d)	Calculate the total number of transmissions that are required to send 10 data packets through GBN-3 and every 5th packet is lost.	3
(e)	Discuss in detail about ICMP role in network layer.	4

SECTION C

3. Attempt any *one* part of the following: 10*1 = 10

Qno	Questions	CO
(a)	Define the relationship between transmission delay and propagation delay, if the efficiency is at least 50% in STOP N WAIT protocol.	2
(b)	Find out window size and minimum sequence number in sliding window protocol, if Transmission delay (Tt)= 1 ms, Propagation delay (Tp)= 24.5 ms. (ms= milliseconds).	2

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4. Attempt any *one* part of the following: 10 *1 = 10

Qno	Questions	CO
(a)	Explain distance vector routing (DVR) with working example in detail.	3
(b)	Sender's data D=11010, CRC generator polynomial= x^3+x+1. Apply CRC algorithm and perform calculations both at sender and receiver end.	3

5. Attempt any *one* part of the following: 10*1 = 10

Qno	Questions	CO
(a)	Assume we want to send a data from S to R and there are 2 routers in between. What will be the total time taken if total number of packets are 5. Data is like: Tp=0 ms, Data size=1000 bytes, BW=1 mbps, Header of the packet=100 bytes.	2
(b)	Explain CSMA/CD in detail.	2

6. Attempt any *one* part of the following: 10*1 = 10

Qno	Questions	CO
(a)	Divide the network with IP address 200.1.2.0 into 5 subnets.	4
(b)	Describe the role of application layer and session layer of OSI model in detail.	4

7. Attempt any *one* part of the following: 10*1 = 10

Qno	Questions	CO
(a)	Write detailed note on "TCP vs UDP".	5
(b)	Explain following application layer protocols: • FTP • SMTP • DNS	5

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