T.E. (EXTC) (Sem-VI) (CBSGS) Date-10/12/19

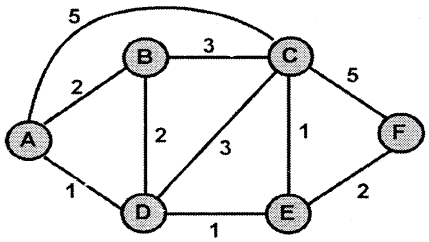
Paper / Subject Code: 37003 / COMPUTER COMMUNICATION AND TELECOM NETWORKS

Duration: 3 hours **Max marks: 80**

Note the following instructions.

(a) Question No.1 is compulsory(attempt any 4)
(b) Total 4 questions need to be solved
(c) Attempt any three questions from remaining five questions.
(d) Assume suitable data wherever necessary, justify the same

1.a	What is framing? How frames can be classified?	[5]
1.b	A pure ALOHA network transmits 200 bit frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces: (i) 1000 frames per second (ii) 500 frames per second (iii) 250 frames per second	[5]
1.c	Explain Three-Way Handshaking for connection establishment in TCP	[5]
1.d	What is the subnetwork address if the destination address is 200.45.34.56 and the subnet mask is 255.255.240.0?	[5]
1.e	Differentiate between Bus Topology and Ring Topology	[5]
2.a	Explain OSI model. Consider a source, destination machine and some intermediate nodes for the discussion.	[10]
2.b	i. Differentiate between TDM and FDM ii. Explain various addresses used in TCP/IP Layered Architecture.	[10]
3.a	What is DSL Technology? List different DSLs available. Discuss salient features of ADSL	[10]
3.b	Explain CSMA/CD in detail and also mention its use	[10]
4.a	Draw and explain TCP Header format.	[10]
4.b	What is sliding window protocol? Explain Stop and Wait ARQ in detail.	[10]
5.a	a) Using the below figure, apply the Bellman-Ford algorithm to find both the minimum cost from each node to the destination node (assume node F) and the next node along the shortest path. Also draw the tree diagram	[10]



5.b	Define Classful addressing scheme used in IPV4. What is a mask and range of addresses used for each class?	[10]
6	Write short notes on any two. 1. HFC 2. ATM 3. DNS	[20]