Name :
Reg No :

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

07 THRISSUR CLUSTER

FIRST SEMESTER M.TECH. DEGREE EXAMINATION DEC 2017

Computer Science and Engineering

Computer Science and Engineering

07CS6109 ADVANCED NETWORKING TECHNOLOGIES

Time : 3 hours **Max.Marks: 60**

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1a	Define the different components of latency in packet switched networks. Consider a point-to-point link 20 km in length. At what bandwidth would propagation delay (at a speed of 2 × 108 m/sec) equal transmit delay for 1024-byte packets?	**4**
	Answer b or c	
b	Compare Input queuing and output queuing in packet switched networks.	**5**
c	Draw a 8X8 batcher banyan switch fabric and give its perfect shuffling to overcome internal blocking.	**5**

Q.no.	Module 2	Marks
2a	Explain in detail with neat diagram elements of a router.	**4**
	Answer b or c	
b	Compare and contrast the exact matching and longest prefix matching algorithms for IP address lookup.	**5**
c	Consider the following set of prefixes: Draw: (a) Binary Trie; (b) Binary Trie with Path Compression also explain their time and space complexity	**5**

Prefix Label	Prefix
P_1	0*
P_2	10*
P_3	111*
P_4	10001*
P_5	1*
P_6	1001*
P_7	101000*
P_8	1010000*

Q.no.	Module 3	Marks
3a	Explain the slow start mechanism in TCP with suitable diagrams?	**4**
	Answer b or c	
b	Explain original algorithm and Karn/Partridge algorithm for adaptive retransmission timers.	**5**
c	Explain fast retransmit and fast recovery mechanisms in TCP congestion control.	**5**

Q.no.	Module 4	Marks
4a	Explain the random early detection algorithm with suitable diagrams	**4**
	Answer b or c	
b	Explain the weighted random early detection algorithm with suitable diagrams	**5**
c	Briefly explain explicit feedback schemes in TCP congestion control.	**5**

Q.no.	Module 5	Marks
5a	Explain the different types of addressing supported by IPv6, give Example for each.	**5**
	Answer b or c	
b	Compare and contrast IPv4 and IPv6 header structure in detail with suitable diagrams.	**7**
c	Explain the techniques adopted for transition IPv4 to IPv6.	**7**

Q.no.	Module 6	Marks
6a	Define Instant messaging and discuss about various forms of collaboration that comprise interactive content delivery?	**5**
	Answer b or c	
b	Explain in detail about the reference model for presence and instant messaging system.	**7**
c	Explain the technical challenges in peer to peer networks.	**7**

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