Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

End Semester Examination

May 2019

Max. Marks: 60 **Duration: 3 Hrs.**

Class: M.Tech. **Semester: II**

Course Code: CE921 **Branch: Computer Engineering**

Name of the Course: Network Analysis And Design

Instruction:

(1) All questions are compulsary

(2) Draw neat diagrams

(3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1 (a)	What is Random Early Detection method of congestion avoidance? What is the significance of Average Queue length in this method?	06	CO1
	OR		
	What are the various issues involved in resource allocation and explain any one in detail?	06	CO1
(b)	Consider a RED gateway with $MaxP = 0.02$, and with an average queue length halfway between the two thresholds. 1. Find the drop probability Pcount for $count = 10$ and $count = 50$. 2. Calculate the probability that none of the first 10 packets are dropped.	06	CO1
Q.2 (a)	Illustrate with diagram Hidden and Exposed node problem? Identify the hidden and exposed nodes.	06	CO3
	OR		
	Differentiate between reactive and proactive routing protocols.	06	CO3
(b)	Illustrate with the help of state transition diagram the working of ATCP protocol.	06	CO3
Q.3 (a)	How does Border Gateway Protocol(BGP) work?	06	CO2

Q.3 (b)	How does Open Shortest Path First (OSPF) protocol work? What are the features of OSPF?	06	CO2
Q.4 (a)	What are the different types of IPv6 addresses give example of each type?	06	CO2
(b)	What is software defined networking (SDN)? Illustrate with diagram the working of SDN.	06	CO5
Q.5 (a)	What are the different layers of network design? Give functionality of each layer?	06	CO4
(b)	What is campus network? What are the design principles for campus network?	06	CO4
	OR		
	What is data center? Illustrate With diagram the design model for a data center?	06	CO4