PES University, Bangalore

(Established under Karnataka Act No. 16 of 2013)

UC14MC563

MAY 2016: END SEMESTER ASSESSMENT (ESA) MCA. IV SEMESTER

UC14MC563 – Advanced Computer Networks

Time: 3 Hrs	Answer All Questions	Max Marks: 100

1.	a)	Explain the functionalities of each of the layers of the TCP/IP protocol suite.	2+5
	b)	Explain a multistage switch used in circuit switching. What is its drawback?	5+1
	c)	Discuss the characteristics of Datagram networks..	4
	d)	What is the role of ISOC, IAB and IETF in Internet administration?	3
2.	a)	What are the two sub-layers of the Data Link layer? Name their functions.	2
	b)	Name and explain the devices used in a simple SONET network.	1+5
	c)	Explain in detail Line Overhead (LOH) bytes of SONET.	4
	d)	Discuss the different APS schemes used in linear SONET networks for protection against failure.	8
3.	a)	Let us say there are 2 senders S1 and S2 who want to send data 01 and 10 to two receivers R1 and R2 respectively. The codes they use are as below. 1st sender: (+1,-1,+1,+1,+1,-1,+1,+1) 2nd sender: (+1,+1,+1,-1,+1,-1,-1,-1) Find the encoded signal using CDMA technique.	4
	b)	Explain CSMA/CA algorithm with NAV in detail with neat diagram.	4+2
	c)	Discuss the role of BSC, MSC, HLR and VLR in cellular networks.	4
	d)	What is handoff? Explain handoff with common MSC in GSM networks.	2+4
4.	a)	Discuss the four different approaches used for streaming stored audio/video files.	2+2+2+2
	b)	Discuss about RTP in detail with its packet format.	4+4
	c)	Explain weighted fair queuing with a neat diagram.	2+2
5.	a)	What is open loop and closed loop congestion control? Name and explain the different open loop congestion control policies.	2+6
	b)	What are the different techniques adapted by TCP to detect congestion? How it handles it?	2+2
	c)	Discuss the general header format of SCTP with the explanation of each field.	4
	d)	Discuss the features of RSVP.	4