Government College of Engineering, Amravati

(An Autonomous Institute of Government of Maharashtra)

Sixth Semester B. Tech (CS / IT)

Summer – 2016

Course Code: CSU603

Course Name: Computer Network

Time: 2 Hrs. 30 Min. **Max. Marks: 60**

Instructions to Candidate

1) All questions are compulsory.
2) Assume suitable data wherever necessary and clearly state the assumptions made.
3) Diagrams/sketches should be given wherever necessary.
4) Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5) Figures to the right indicate full marks.

1. **Solve any two**

a) Discuss the ISO - OSI layered model with functionalities of each layer. **6**

b) Define the term "Network". Explain different types of networks with specific diagram. **6**

c) List the differences between logical, physical and port addresses. **6**

2. **Solve any two**

a) What is HDLC? For what purpose it is used? Explain its frame format. **6**

b) Write short note on Token Bus and FDDI. 6

c) Explain in brief difference between pure ALOHA and slotted ALOHA 6

3. **Solve any two**

a) Explain difference between bridge and router. 6

b) Write short notes on LAN MAN and WAN. 6

c) What is connection oriented network? Explain X.25 in detail. 6

4. a) Explain mail System with message format and MIME structure. 6

b) What is TCP header structure? Explain with suitable diagram. 6

5. a) How TCP Connection is established? 6

b) Explain services of transport layer in detail. 6

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1		**Attempt any two of the following**	
	a	What are the connection oriented and connection less services?	**6**
	b	Compare the OSI with TCP/IP reference model.	**6**
	c	What are the design issues for the layers?	**6**
2		**Attempt any two of the following**	
	a	How multiple LANs connected by a backbone to handle a total load higher than the capacity of single LAN?	**6**

Contd..

	b	What are the versions of ALOHA? Compare them.	6
	c	What is frame format for HDLC? Explain it.	6
3		**Attempt any two of the following**	
	a	Compare the Datagram subnet with virtual circuit subnet.	6
	b	List the routing algorithms and explain any one in detail.	6
	c	How do you achieve good quality of service?	6
4		**Attempt the following**	
	a	How is connection established and connection release in TCP? Explain with diagram.	6
	b	Explain the Bridges and Routers in details.	6
		Attempt the following	
	a	What are the elements of transport protocols?	6
		What are the e-mail systems functions?	6