	S J P N Trust's **HirasugarInstituteofTechnology, Nidasoshi.** *Inculcating Values, Promoting Prosperity* Approved by AICTE, Recognized by Govt. of Karnataka and Affiliated to VTU, Belagavi	ECE Dept Exam. Internal Assessment Even Sem(2017-18)

FIRST INTERNAL ASSESSMENT

Sem: VIII **Sub: High Performance Computer Network** **Sub. Code: 10EC834**
Date: 07/03/18 **Time: 11:00am-12:00noon** **Max. Marks: 25**

Note: Answer two full questions, draw sketches wherever necessary.

Q. No		Discription of Question	Marks	CO	RBT Level
1	a	Describe the key innovations in computer network with relevant diagrams	6	C411D4.1	L1,L2
		OR			
	b	Describe cable television network with relevant diagram.	6	C411D4.1	L1,L2
	c	Describe the key innovations in telephone network with relevant diagrams.	6	C411D4.1	L1,L2
		OR			
	d	Explain the four networking principles that underlie the growth of communication network services.	6	C411D4.1	L1,L2
2	a	Explain layered architecture with relevant diagrams.	7	C411D4.2	L1,L2,L3
		OR			
	b	Explain open data network model.	7	C411D4.2	L1,L2,L3
	c	Explain network elements with relevant diagrams.	6	C411D4.2	L1,L2,L3
		OR			
	d	Distinguish between connection oriented service and connectionless service.	6	C411D4.2	L1,L2,L3

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SCHEME OF EVALUATION

Sem : VIII | Subject : High Performance Computer Network | Sub Code : 10EC834 | Date : 8/3/2018

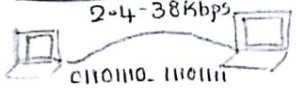
Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
1	a	Describe the key innovations in Computer Network with relevant diagram	6	C411D4 • 1	L1 L2 's

Key innovations in Computer Network

1] Organization of data in packet
2] Packet switching
3] Internet Protocol
4] Multiple access
5] Service Integration

2

★ RS-232:

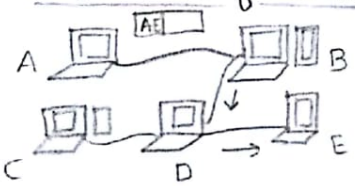


→ Serial line Transfer
→ 8 bit characters at a time
→ Speed 2.4 - 38Kbps
→ 30m distance

★ Synchronous Data link control:

→ Data is sent in packet
→ Packet consist of Header, Data & cyclic Redundancy checkes.

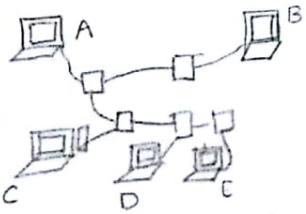
★ Store and forward switching:



→ Packet header specifies source and destination address which helps in transfer of data to proper destination in between computers store & forward data to destination

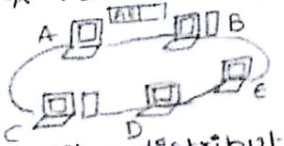
4

★ Ethernet:



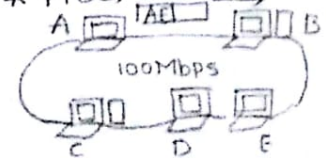
→ Multiple access computers attached to common coaxial cable Every computers read the data only destination computer copies it

★ Token Ring:



→ Ring shape Network 4/16 Mbps speed
Token Ring Protocol

★ Fibes distributed Data Interface (FDDI)



→ Timed Token Passing Protocol
→ Speed 100Mbps

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SCHEME OF EVALUATION

Sem : VIII | Subject : High Performance Computer Network | Sub Code : 10EC834 | Date : 27/3/2018

Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
		→ ATM Transfer Mode (ATM) Network → 25Mbps - 2.5Gbps → Network Transport 53 byte cell			
1	b	Describe Cable television network with relevant diagram	6	C411 D4.1	L1, L2
		Amplifier, Head Station, Coax, Video data voice, Data voice, Fiber	3		
		CATV networks have improved in two steps 1] Coax distribution system is replaced by fibes. 2] Channels are provided from user to head station	1		
		Key innovations * optical feeder link * Digital Compression Technique * service Integration. Explanation	2		
1	c	Describe the key innovations in telephone network with relevant diagrams	6	C411 D4.1	L1, L2
		Key Innovations : 1] Digitization 2] Circuit switching 3] Separation of call control from Voice Transfer 4] Optical links 5] Service Integration	1.5		

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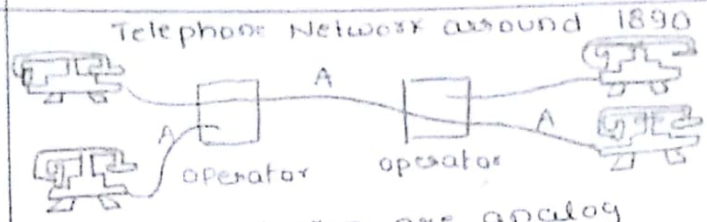
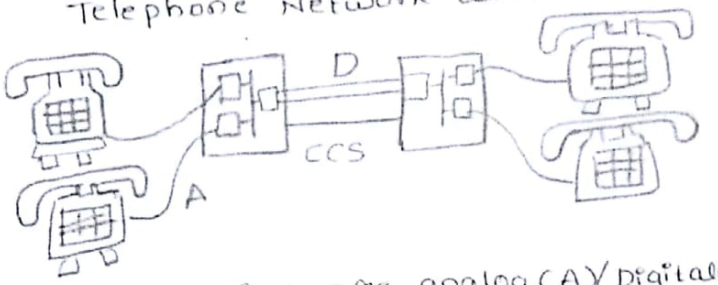
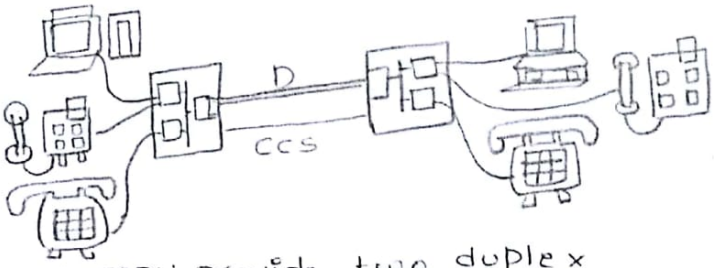
SCHEME OF EVALUATION

Sem : VIII | Subject : High Performance Computer Network | Sub Code : 10EC834 | Date : 8/3/2018

Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
		Telephone Network around 1890  ★ Transmission are analog ★ switches are manually operated ★ Circuit switching ★ operator helps in communication	1·5		
		Telephone Network around 1988  ★ Transmission are analog (A)/ Digital(D) ★ switches are electronic ★ common channel signalling (CCS) ★ Call control from voice transfy.	1·5		
		 ★ ISDN provide two duplex 64 kbps link and one 16 kbps link ★ Links used to transmit voice/data	1·5		
1	d	Explain the four networking principles that underlie the growth of communication network services. Networking Principles : 1] Digitization 2] Economies of scale 3] Network Externalities 4] Service Integration.	2	C411 D4-1	

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SCHEME OF EVALUATION

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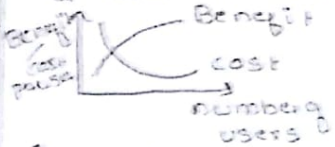
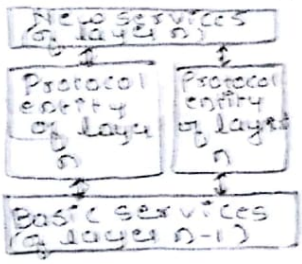
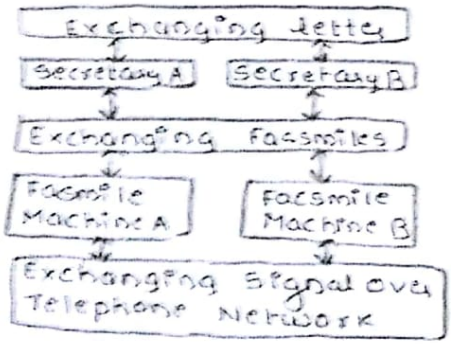
Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
		1] Digitization Information bearing signal can be represented by binary string '0' & '1' sampling quantization	1		
		2] Economies of scale Average cost per user of the network decreases as the network size increases	1		
		3] Network Externalities Network service is said to have positive externalities if its value to a user increases with number of users	1		
					
		4] service Integration explanation	1		
2	a	Explain layered architecture with relevant diagram	7	C411 D4.2	L1, L2 L3
					
		Computer functions are organized into layers	1		
		New services of layer n are implemented by protocol entity of layer n by using services of layer n-1	3		
		Example :			
					
		Secretaries exchange message by using facsimile machine The Machines transmit facsimile by using the services of telephone Network	3		

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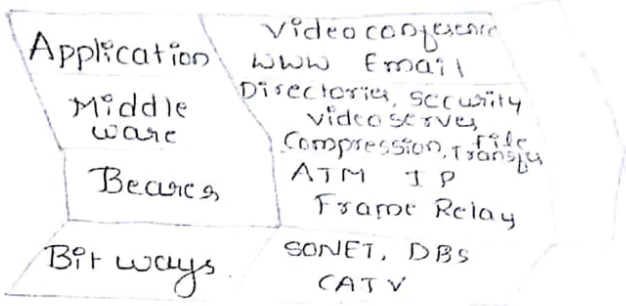
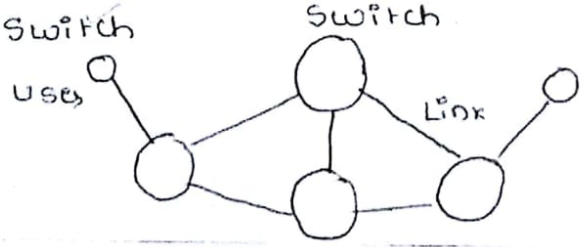
SCHEME OF EVALUATION

Sem : VIII | Subject : High Performance computer Network | Sub Code : 10EC834 | Date : 8/3/2018

Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
2	b	Explain open data network Model	7	C411 D4-2	L1, L2 L3
			3		
		It has four layers			
		1] Application layer	1		
		Provide services like videoconference Email, WWW			
		2] Bearer layer	1		
		It provide end to Transport of bit			
		Ex : ATM IP			
		3] Middleware layer	1		
		These are used by large number of application			
		Ex : compression, security File Transfer			
		4] Bit ways	1		
		Transport of bit stream over a link			
		Ex : SONET, DBS, CATV			
2	C	Explain network elements with relevant diagrams	6	C411 D4.2	L1, L2 L3
		Network elements are two			
		1] Link	1		
		2] Switch	2		
					

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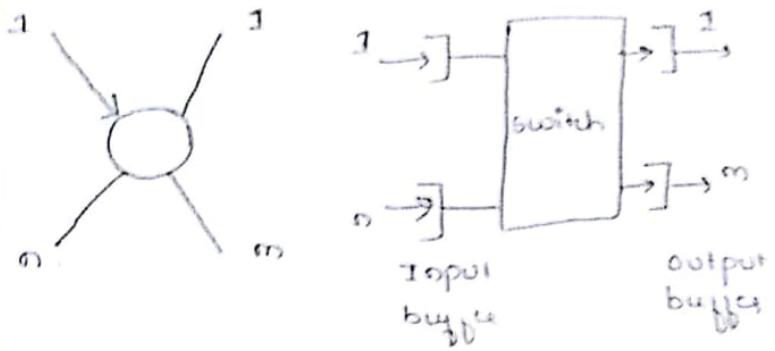
SCHEME OF EVALUATION

Sem : VIII | Subject : High Performance Computer Networks | Sub Code : | Date : 8/3/2018

Q. No.	Bit	Description	Marks	CO's	RBT LEVEL
2	d	Queuing Model  switch transfer bits/packets from input buffer to appropriate output buffer	2 1		
		Distinguish between connection oriented service and connectionless service	6	CH1 DL-2	L1 L2 L3

Connection Oriented Service	Connectionless Service	
1] Authentication is needed	1] Authentication is not needed	1
2] More Reliable	2] Less Reliable	1
3] It provide more QOS service	3] It provide less QOS service	1
4] Provide traffic information	4] No knowledge of traffic	1
5] Link is present	5] Link is absent	1
6] Message based	6] Stream based	1
Ex: Telephone Network	Ex: cellphone Network	

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