Library, Mangalore MCA42

NEW SCHEME

USN	ļ	1				

Fourth Semester M.C.A Degree Examination, January/February 2005 **Master of Computer Applications**

Computer Networks

Time: 3 hrs.]

Max.Marks: 100

Note: Answer any FIVE full questions.

- 1. (a) Describe the terms
 - Distributed system.(ii)Computer network
 - iii) Middle ware (iv) World wide web.(v) Server.

(10 Marks)

- b) Describe the terms
 - LAN (ii) WAN (iii) Connection oriented service.
 - iv) Connection-less service.(v) Virtual Circuit.

(10 Marks)

- 2. (a) Describe the services rendered by the network layer to the transport layer.
 - b) Describe the terms adaptive and non-adaptive routing algroithms, with an example for each.

(10 Marks)

- 3. (a) What is hierarchial routing? What are its advantages and disadvantages? Design optimum two level and three level hierarchial routing systems for a (10 Marks) network consisting of 9600 nodes.
 - b) What is Congestion in networks? State the reasons. Describe a congestion control method.
- 4. (a) Describe the three standard techniques for achiveing good quality of service.
 - b) What is Internet working? Discuss the technical problems involved. What is (10 Marks) fragmentation? Explain.
- 5. (a) Describe the terms TDPU, Nesting of TDPUS, packets and frames and transport servive primitives.
 - b) What is 'Packet life time'?Describe the three methods used to restrict packet lifetime.

(10 Marks)

- **6.** (a) Describe the concepts of:
 - Flow control and buffering.
 - Crash recovery.

(10 Marks)

- b) Describe the terms:
 - DNS scheme.
 - Resource records.

(10 Marks)

- 7. (a) For the e-mail system, describe
 - User agents i)
 - Message transfer agents. ii)

(10 Marks)

Contd.... 2

MCA42

- b) Describe the following terms:
 - i) Web pages (ii)Hyperlinks.

Describe the steps involved in the usage of hyperlinks.

(10 Marks)

8. (a) Describe the terms secrecy, anthentication, nonrepudiation and integrity control.

(10 Marks)

b) Describe the DES method. What are its shortcomings? How the triple DES method overcomes the shortcomings? (10 Marks)

** * **

07MCA32

Srinivas institute of leconology

mination, Dec 08 / Jan 09 Third Semester MCA

Computer Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- a. What is Multiplexing? Explain the working of STDM and FDM with their limitations. 1
 - (05 Marks)
 - b. Explain the functionalities of OSI model and Internet Architecture.
- (10 Marks)
- e. Consider a point to point link 20km in length. At what bandwidth would propagation delay (at a speed of 2 × 108m/sec) equal transmit delay for 100-byte-packet? What about 512 – byte packets?
- What is encoding? Explain the different encoding schemes with waveforms. (10 Marks) 2
 - b. Suppose we want to transmit the message 11001001 and protect it from errors using the CRC polynomial $x^3 + 1$.
 - i) Use polynomial long division to determine the message that should be transmitted.
 - ii) Suppose the leftmost bit of the message is inverted due to noise on the transmission link. What is the result of the receivers CRC calculations? How does the receiver know that an error has occurred?
- a. Explain ARQ stop and wait algorithm with time lines showing various scenarios. (10 Marks)
 - b. Explain the functionality of Ethernet (802.3). Give its frame format and merits and (10 Marks) demerits.
- a. Discuss the spanning tree algorithm for a particular LAN. (07 Marks) ď.
 - b. Discuss IPV4 packet header with neat diagram.

- (06 Marks)
- c. Explain the functional block diagram of a Router with its implementation.
- (07 Marks)
- a. Describe the Routing for Mobile Hosts with the help of a neat diagram (10 Marks)
 - b. Explain Inter domain Routing (BGP). Give an example of a network running BGP.
 - (10 Marks)
- a. Explain the format for UDP header and UDP message Queue. (06 Marks) 6
 - b. Describe the process for connection establishment and connection termination using Three (08 Slarks) way Handshake protocol.
 - Explain briefly effective resource allocation scheme.

(06 Marks)

a. What is DNA? Explain the DNS message format 7

- (07 Marks)
- b. Explain how SMTP plays a role in transferring Internet e -- mail.
- (07 Marks)

e. Discuss the issues that affects the QoS of VoIP.

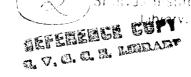
(06 Marks)

- Write short notes on: 8
 - a. SONET
 - ь. WiMAX (802.16)
 - c. Internet work.
 - d FTP.

(20 Martis)



23



alias institute of reconoragy

07MCA32

Third Semester MCA Degree Examination, June-July 2009 **Computer Networks**

USN

Max. Marks:100

Time: 3	hrs.	K5.100
Time. 5	Note: Answer any FIVE full questions.	
	Define multiplexing. Explain frequency division multiplexing, synchronous timmultiplexing and statistical multiplexing. With a suitable diagram, explain OSI network architecture. Compare it with TCP/I	(TO MATERIA)
2 a. b.	Explain a typical network adaptor with a block diagram. Encode the following using a)NRZ b)NRZ-I c)Manchester encoding 0 1 0 0 1 1 0 0 0 1 1 Discuss clock based framing.	(06 Marks) (06 Marks) (08 Marks)
b.	Given frame = $x^9 + x^8 + x^6 + x^4 + x^3 + x + 1$ and generator polynomial = $x^4 + x + 1$ the transmitted frame using CRC. Explain four different scenarios for stop and wait algorithm using timeline diagral Discuss physical properties, frame format and experience with IEEE 802.3.	(04 11111111)
c. 4 a. b.	With a suitable example, explain virtual circuit network. Compare virtual datagram.	circuit with (10 Marks) (10 Marks)
5 a.		(10 Marks) (10 Marks)
6 a		(10 Marks) (10 Marks)
	Explain TCP header format with a suitable diagram. Discuss three-way handshake algorithm for connection establishment. Elaborate on silly window syndrome.	(10 Marks) (06 Marks) (04 Marks)
!	Write short notes on the following: a. ARP b. DSPF c. VOIP d. E-mail	(20 Marks)



Ω	,
~	_
~	•

					æ				
HSN									
USN		1	1					i	

07MCA32

Third Semester MCA Degree Examination, Dec.09/Jan.10 Computer Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

1	b.	Draw the OSI network architecture. Explain each layer in detail. Define process model with diagram. Explain the internet protocol graph.	(10 Marks) (05 Marks) (05 Marks)
2	a. b. c.	What do you mean by Last-Mile links? Explain two dimensional parity. What is framing? What are the different types of framing approach?	(04 Marks) (06 Marks) (10 Marks)
3	a. b.	Explain to concept of stop and wait protocol with diagram. Discuss token ring network and its frame format.	(10 Marks) (10 Marks)
4	a. b. c.	Explain virtual circuit switching. What are the main limitations of bridges? Explain segmentation and reassembly in ATM.	(10 Marks) (05 Marks) (05 Marks)
5	a. b. c.	What do you mean by subnetting? Explain CIDR. Discuss in detail IPV6.	(05 Marks) (05 Marks) (10 Marks)
6	a. b.	Explain open shortest path first algorithm. Explain DHCP and its frame format.	(10 Marks) (10 Marks)
7	a. b. c.	- CTOD 11-in in detail	(05 Marks) (10 Marks) (05 Marks)
8	a. b. c. d.	FTP DNS	(05 Marks) (05 Marks) (05 Marks) (05 Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blooms pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

		 	 ,	,	 	Somivas institute of inclination	
USN						Library, Mangalore	07MCA32

Third Semester MCA Degree Examination, May/June 2010 Computer Networks

Time: 3 hrs. Max. Marks:100

Note: Answer any FIVE full questions.

1	a. b.	Define computer networks. Explain the internet architectures. With a neat block diagram, explain OSI architecture.	(10 Marks) (10 Marks)
2	a. b.	Define framing. Explain point-to-point protocol and SONET. Define piconet. With a neat block diagram, explain piconet networks.	(10 Marks) (10 Marks)
3	a. b.	Differentiate between connection oriented and connection less services. Define switching. Explain various types of switching.	(08 Marks) (12 Marks)
4	a. b.	Define an internet. With a block diagram, explain IPV4 packet format. Define routing. Explain distance vector routing.	(08 Marks) (12 Marks)
5	a. b.	Differentiate between TCP and UDP. With a neat block diagram, explain the state transition for connection establitermination. Explain how TCP manages byte streams.	(06 Marks) shment and (08 Marks) (06 Marks)
6	a. b.	Discuss the various problems in resource allocation. Explain fragmentation and reassembly.	(09 Marks) (11 Marks)
7	a. b.	Define DNS. Explain the hierarchy of name servers. Explain the manage gateway.	(10 Marks) (10 Marks)
8	a. b. c. d.	Write short notes for the following: Wi-Max (802 · 11) Routing for mobile holts Bridges and LAN switches Address resolution protocol (ARP).	(20 Marks)

* * * * *

