

Register Number: .....

**MCA DEGREE EXAMINATIONS: APRIL 2015**

(Regulation 2009)

Fifth Semester

**MASTER OF COMPUTER APPLICATIONS**

MCA526: TCP/IP Protocol Suite

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 2 = 20 Marks)**

1. What is fast Ethernet? What is the advantage of using fast Ethernet?
2. What do you mean by private ip address?
3. A host with IP address 137.23.58.23/16 sends a packet to a host with IP address 137.23.59.22/16. Is the delivery direct or indirect? Assume no subnetting.
4. What is limited broadcast address?
5. What is flow control?
6. What is the role of urgent pointer in TCP header format?
7. What is the use of Network Virtual Terminal (NVT)?
8. What is the use of GET, POST method in http?
9. What is the use of GET, POST method in http?
10. What is role of SNMP?

**PART B (5 x 16 = 80 Marks)**

11. a) i) Suppose in your organization have four departments like accounts, purchase, sales and service. Assume that each department is located in four different locations like ground floor, first floor etc., and having more than 50 computers are being used by each department. Assume that you are the network administrator to setup the new network in your organization. What type of network components is going to be used? And why you preferred those components in computer networks? Explain. Draw the architecture of the above (8)

case study?

- ii) What are the various responsibilities of each layer in OSI model? Explain. (8)

**(OR)**

- b) Compare and contrast CSMA/CD with CSMA/CA. Draw the frame format for Ethernet 802.3 and explain its each field. Discuss in detail about local area network. (8)

12. a) i) What do you mean by dynamic mapping? Discuss in detail about ARP protocol with packet format. (8)

- ii) Discuss in detail about query messages are used in ICMP protocol with suitable examples. (8)

**(OR)**

- b) i) What is sub netting? How it is differ from super netting? Suppose in your organization having more than 1000 computers are used. What type of subnetting address can be used in your organization? (8)

- ii) What do you mean by IP fragmentation? Give the one suitable example for IP fragmentation. (8)

13. a) Suppose a TCP connection is transferred a file of 5,000 bytes. The first byte is numbered 10,001. What are the sequence numbers for each segment if data are sent in five segments, each carrying 1,000 bytes?

Discuss in detail about various services offered by UDP? Draw the header format for UDP? Explain.

**(OR)**

- b) Discuss in detail about TCP connection establishment and connection termination.

What you mean by congestion? Discuss any two congestion control methods in detail.

14. a) i) Draw the state transition diagram for DHCP and explain the operation of DHCP in detail?

**(OR)**

- b) i) What is need for DNS? What do you mean by Name Space? Discuss in detail about generic domain, country domain and inverse domain.

15. a) How the files can be transferred from one location to another location using File Transfer Protocol? Explain

**(OR)**

- b) Discuss in detail about Simple Mail Transfer Protocol and draw the format and architecture of e-mail.

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