Roll No. ....

MCIT/MCSE–301(B)

M. Tech. (Third Semester)
EXAMINATION, Feb./March, 2009
WEB ENGINEERING

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. Answer should be laconic. Make suitable assumptions wherever necessary and clearly state the same.

1. (a) Explain the following design issues of client server model :   12
   (i) Addressing
   (ii) Blocking
   (iii) Buffering

   (b) How locality of principal is followed in DNS ? Explain.
                                                                                        8

2. (a) What is MTU ? How do IP routers handle the problem of networks with heterogeneous MTUs ? What information is added/changed in the IP Data gram header to enable destination to reconstruct the data gram sent by the source ?   · 10

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(b) How to differentiate between an ARP request packet and an ARP reply packet, as the Ethernet type field is same on both the packets ?   5

(c) What is the use of proxy ARP ?   5

3. (a) How ICMP is used to trace a route ? Explain by taking example.   10

(b) Give the format of UDP data gram and explain the semantics of every field. How is the checksum in the header computed ?   10

4. (a) Explain RARP packet format.   10

(b) How does RARP resolve an Ethernet MAC address to an IP address ?   6

(c) What will happen if more than one RARP server in a network responds to a RARP request ?   4

5. (a) Under what circumstances a router generates the following ICMP messages ?   15

   (i) Source Quench

   (ii) Redirect

   (iii) Destination Unreachable

(b) Explain the importance of resource record.   5

6. (a) How CIDR reduces the number of entries in a routing table ?   10

(b) How is a subnet mask formed ?   5

(c) What is the use of type of service field in the IP header ?   5

7. (a) Explain the role of the following in network management :   10

   (i) Structure of Management Information (SMI)

(b) How does TCP/IP decide the size of an IP fragment ? Explain.   5

(c) What is the difference between classful IP addressing and classless IP addressing ?   5

8. Write notes on any *two* of the following :   20

   (a) Open Shortest Path First

   (b) Trivial File Transport Protocol

   (c) SMTP