BSc IT 2009 : IT

MUMBAI UNIVERSITY (BSc IT)

IT - 2009

361 : D-m

Con. 1319-09.

LG-7170

(3 Hours) [**Total Marks : 100**

N.B. (1) Question No. **1** is **compulsory**.
(2) From Question Nos. **2 to 7**, attempt any **four** questions.
(3) Make **suitable** assumptions wherever **necessary** and state the assumptions made.
(4) Answer to the **same** question must be written **together**.
(5) **Numbers** to the **right** indicates marks.
(6) Draw **neat** labeled diagrams wherever **necessary**.

1. Answer the following questions :—
   (a) Explain the features of Java TCP programming. 5
   (b) What is fragmentation ? Which are the fields of IP datagram related to fragmentation ? How ? 5
   (c) What are the parameters in RMI ? 5
   (d) Write a short note on ARP packet format. 5

2. (a) Write a simple client-server application using UDP where a client sends a number to the server, the server reverses the number and sends the reversed number back to the client. 8
   (b) What is CORBA ? Explain the CORBA architecture. What is Distributed CORBA object ? 8
   (c) What are the components of WLAN ? How can it be set up ? 4

3. (a) Write a RMI system to display whether the entered number is odd or even. 8
   (b) Describe error control mechanism in TCP. 8
   (c) An IP datagram has arrived with the following information in IP header (in Hexadecimal) :— 4

   49 01 00 30 00 05 00 00 40 17 00 01 7C 4E 03 02 B4 0E F0

   Give answers for the following with proper justification.
   (i) How many more routers can the packet travel to ?
   (ii) What is the type of service ?

4. (a) Explain the TCP connection establishment and termination processes. 8
   (b) Explain the following terms in OSPF :— 8
   (i) Links
   (ii) Link state routing
   (iii) Link state database.
   (c) Explain any two technologies of WLAN. 4

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5. (a) What is RMI ? What are its principles ? What is its genesis ? 8

(b) A router has the following RIP routing table :— 8

N12	6	P
N13	4	Q
N14	3	R
N15	8	S

What would be the contents of the table if the router receives the following RIP message from router R :—

N11	4
N12	3
N13	9
N15	5

(c) Compare TCP and UDP programming. 4

6. (a) Why does network running RIP become unstable ? Explain the split horizon technique to overcome instability in RIP. 8

(b) What are the benefits of CORBA ? 8

(c) Differentiate between CORBA and RMI. 4

7. (a) Explain the architectural view of RMI model. 8

(b) Draw and explain the different fields in IP header. 8

(c) What are the components of ARP package ? 4
