

**BACHELOR IN COMPUTER  
APPLICATIONS****Term-End Examination****June, 2007****BCS-061 (S) : TCP/IP PROGRAMMING***Time : 2 hours**Maximum Marks : 60*

**Note :** Question number 1 is **compulsory**. Answer any **three** questions from the rest.

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1. (a) Draw a TCP/IP Network that consists of two networks connected by a router. Show a computer attached to each network. Show the protocol stack used on the computers and the stack used on the router. 5
- (b) Explain the functioning of ARP protocol. Also differentiate between ARP and RARP. 5
- (c) What is SMTP ? Explain the services offered by the various components of SMTP. 6
- (d) What is MIME ? List any four header components of MIME. 4

- (e) Differentiate between DNS and dynamic DNS. 3
- (f) What are the different socket types ? Also, specify the protocols used by different types of sockets. 5
- (g) Explain the accept( ) system call with its parameters. 2
- 2.** (a) Differentiate between Distance vector and Link-state routing. 5
- (b) What does fragment offset field in the header of IP datagram represent ? Also explain the maximum number of fragments that can result from a single IP datagram. 5
- 3.** (a) Differentiate between TCP and UDP. Also, specify what changes an application (which is running over UDP) must undergo to provide reliability. 5
- (b) Write the algorithm for an iterative connection oriented server. 5
- 4.** (a) Close( ) and shutdown( ) functions are used to close a socket. With the help of examples show how these function calls differ. Also explain which one is graceful. 5
- (b) Differentiate among unicasting, broadcasting and multicasting. 5

5. Explain the syntax of following system calls along with the meaning of parameters used by them : 10

- (a) socket( )
- (b) select( )
- (c) read( )
- (d) sendmsg( )
- (e) inet\_aton( )

