

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

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

1. (a) Differentiate between functions of network layer in TCP/IP and OSI model. Also, explain the importance of different protocols in network layer of TCP/IP. 7
- (b) Explain the use of "Time to Live" field in IP protocol. 2
- (c) What is Socket descriptor ? Explain the importance of Socket descriptor table in network communication. 5
- (d) How is TELNET different from FTP ? Explain the working of TELNET with the help of a suitable diagram. 5

- (e) How does TCP establish the connection through three way handshaking ? Explain the importance of different messages exchanged between client and server during it. 6
- (f) Why is HTTP called as stateless protocol ? Explain different methods in HTTP used for request and response. 5
2. (a) Explain, how subnetting and supernetting are used to enlarge a network. Give suitable example for each. 6
- (b) Explain any four services offered by TCP to the processes running on application layer. 4
3. (a) Explain the importance of control and data connection in file transfer protocol. Also, explain the commands used by FTP to copy files between clients and servers. 6
- (b) What are the similarities and differences between file I/O (Input/Output) and networking I/O ? 4
4. (a) Write the difference between active and passive socket. 2
- (b) What is meant by "binding" in network programming ? Explain the three uses of bind system call. 4
- (c) Explain any four functions of Internet protocol. 4

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

- (a) `ntohl()`
- (b) `connect()`
- (c) `shutdown()`
- (d) `sendto()`
- (e) `gethostbyname()`

