

**BACHELOR IN COMPUTER
APPLICATIONS****Term-End Examination****June, 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) What is the need of protocols in communication ?
Draw the mapping of OSI & TCP/IP model
showing different protocols included in TCP/IP. 6
- (b) Explain what is an ICMP. List any four functions of
ICMP. 4
- (c) Explain the three-way handshake mechanism used by
TCP for connection establishment. 5
- (d) What is HTTP ? Explain any four methods used by
HTTP for data transfer. 5
- (e) What are the rules of determining IP address
classes ? Explain. 5
- (f) Differentiate between broadcasting and multicasting.
How are the socket options set for broadcasting and
multicasting ? 5

2. (a) What is count-to-infinity problem in distance vector routing ? Show with the help of an example. 5
- (b) What is the meaning of Type of Service field used in the header of IP datagram ? Also, explain the maximum number of hops that a datagram can remain in, in the network before it is discarded. 5
3. (a) What are the various services offered by TCP to a running process on application layer ? Explain. 5
- (b) Write the algorithm for connectionless and concurrent server. 5
4. (a) Differentiate between Stateful and Stateless programs (servers). Why is designing of stateful server difficult ? 5
- (b) What is byte ordering ? Explain the functions used for byte order conversion. 5
5. Explain the syntax of the following system calls along with meaning of parameters used by them : 10
- (a) getservbyname()
- (b) inet_addr()
- (c) recvfrom()
- (d) send()
- (e) shutdown()