

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

02363

June, 2015

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) Write the differences between class-full and class-less addressing using an example for each. 6

- (b) Write an algorithm for distance vector routing. Also, write its two advantages and one disadvantage. 8

- (c) Explain, how ARP resembles with RARP. Also, give at least two differences between ARP and RARP. 5

- (d) What is the significance of ICMP in TCP/IP protocol suite ? What type of network information does it carry ? Explain. 7

- (e) Explain the purpose of "127.0.0.1" and "255.255.255.255" IP addresses. 4

2. Explain the purpose and importance of the following header fields of TCP and IP : $5 \times 2 = 10$
- (a) Type of Service
 - (b) Sequence Number
 - (c) Header Checksum
 - (d) Version
 - (e) Protocol
3. (a) What is the use of “**getservbyname()**” function in socket programming ? Explain its syntax and different parameters taken by it. 5
- (b) Draw and explain the 3-way handshaking mechanism used by TCP for connection establishment. 5
4. Write an algorithm each for TCP client and TCP server with the following specifications : 10
- TCP client will send 3 numbers to the server after connection is established.
 - TCP server will return the largest number back to the respective client.
5. Write short notes on the following : $4 \times 2 \frac{1}{2} = 10$
- (a) Raw Sockets
 - (b) SMTP
 - (c) Concurrent Servers
 - (d) Byte Ordering
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