

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

**Term-End Examination**

**December, 2016**

00975

**BCS-061 : TCP/IP PROGRAMMING**

*Time : 2 hours*

*Maximum Marks : 60*

**Note :** *Question no. 1 is compulsory. Answer any three questions from the rest.*

1. (a) How is the TCP/IP model different from OSI model ? Compare the features of each layer in both the models. 8
- (b) What is the need of IP addressing ? Explain in detail. 5
- (c) Write the difference between interactive and concurrent programs using an example for each. 7
- (d) What are the data types defined by the socket interface ? Give an example for each data type. 6
- (e) Why does FTP use two connections ? Explain the working of FTP. 4

2. (a) Explain the significance and use of the following TCP/IP Protocols : ARP, RARP, ICMP and IGMP. 6
- (b) How does TCP handle out-of-order segments ? Explain the procedure with a suitable diagram. 4
3. (a) What is the maximum length of an IP address ? Explain the network and host part of the IP address. Also explain the classes used in IP addresses. 5
- (b) Differentiate between distance-vector and link-state routing algorithms. 5
4. Write an algorithm each for UDP client and UDP server with the following specifications : 10
- (a) Client program prompts the user to enter three numbers and sends their numbers to the server.
- (b) Server should be able to handle multiple clients and send the smallest number back to the respective client, prefixed with the user name.

*Note* : Assume you have the list of users in the server database.

**5. Write short notes on the following :**

**5×2=10**

- (a) **Dynamic DNS**
  - (b) **htons() System Call**
  - (c) **Byte Ordering**
  - (d) **TELNET**
  - (e) **HTTP**
-