

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

Term-End Examination

December, 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) Differentiate between active and passive sockets. 5
- (b) What is a DNS server ? Differentiate between primary and secondary DNS servers. 5
- (c) List and explain the fields which are similar between TCP and UDP headers. 4
- (d) Assume a subnet mask "255.255.0.0" is assigned to an address of Class B. How many hosts are possible per subnet and how many subnets are possible ? 4
- (e) What is SNMP ? Explain the different security levels implemented in SNMP. 5

- (f) What is flow control in networking ? Which are the layers that need to have flow control mechanisms in TCP/IP suite ? Describe the mechanisms used by TCP for flow control. 7
2. (a) What is byte ordering ? Explain the function used by byte ordering conversion. 5
- (b) Differentiate between Link State Routing and Distance Vector Routing. 5
3. Write an algorithm each for UDP client and UDP server, as per the following specifications : 10
- UDP client will send a number to the server between 1 to 100 randomly.
 - UDP server will return the factorial of that number.
4. (a) Explain the purpose of the following fields of TCP header format : $3 \times 2 = 6$
- (i) Urgent Pointer
 - (ii) Window Size
 - (iii) Sequence Number
- (b) Why does FTP use two connections ? Also, briefly explain the working of FTP. 4

5. Write the syntax of the following system calls along with the meaning of parameters used by them : $5 \times 2 = 10$

(a) `htons()`

(b) `bind()`

(c) `connect()`

(d) `listen()`

(e) `sendto()`
