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BCS-061

**BACHELOR IN COMPUTER  
APPLICATIONS**

**(BCA)**

**Term-End Examination**

**December, 2019**

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

*Time : 2 Hours*

*Maximum Marks : 60*

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

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1. (a) Why is IP called a best effort delivery protocol ? Explain. 5
  
- (b) Explain the differences between classful and classless IP addresses with a suitable example for each. 6

- (c) Suppose Class B network uses 20 out of the 32 bits to define a network address. How many hosts and networks are possible ? 3
- (d) Given the network address 132.20.0.0. Find the class and the range of the addresses. 4
- (e) What are the advantages of subnetting ? Illustrate through an example. 6
- (f) How does TCP manage corrupted segments and lost acknowledgement ? Explain through an illustration. 6
2. Write a client and a server program in C-language to establish a TCP connection between a client and a server. Once a connection is established. The client program sends a string to the server. The server program counts the length of the string and sends the reply to the client program. 10

3. (a) Differentiate between an active and a passive socket. 3
- (b) What is meant by binding in network programming ? Explain the *three* uses of bind system call. 5
- (c) Differentiate between TCP and UDP protocol. 2
4. (a) Write the syntax and purpose of each of the following system calls : 6
- (i) socket
- (ii) chmod
- (iii) listen
- (b) Why is HTTP called a stateless protocol ? Explain methods used in HTTP for request and response. 4
5. (a) How are ARP and RARP similar ? In what way do they differ ? 4
- (b) Explain the concept of recursive and iterative resolution in DNS. 6