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**BCS-052**

**BACHELOR OF COMPUTER**

**APPLICATION (BCA)**

**Term-End Examination**

**December, 2019**

**BCS-052 : NETWORK PROGRAMMING AND  
ADMINISTRATION**

*Time : 3 Hours*

*Maximum Marks : 100*

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*Note : Question number 1 is compulsory. Attempt  
any three questions from the rest.*

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1. (a) Explain the purpose of system call  
“*getservbyname( )*” used in socket  
programming. Also, explain its syntax and  
parameters taken by it.

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- (b) Discuss the cloud computing model. What are the advantages of cloud computing ? 6
- (c) Explain the methods used by HTTP for data transfer. Give an example for each method. 6
- (d) How does TCP handle out-of-order segments ? Explain the procedure with a suitable diagram. 8
- (e) Compare connection-oriented and connectionless services using examples for each. 5
- (f) The following is TCP header in hexadecimal format :  $2 \times 5 = 10$
- 043721A9 16A02B12 7926AB21 6209A216  
00346A2B

(i) What is the sequence number ?

- (ii) What is the destination port number ?
- (iii) What is the source port number ?
- (iv) What is the length of TCP header ?
- (v) What is the acknowledgement number ?
2. (a) How is the "Disc User" checked in Linux ?  
Explain with the help of an example. 5
- (b) What is the purpose of byte ordering in network communication ? Also, write the functions used by byte ordering. 10
- (c) Differentiate between FAT 16 and FAT 32. 5
3. Write an algorithm for TCP client and server each using the following specifications : 20
- Client program will send any random number to the TCP server.

- TCP server program will return “Yes” if the given number is a prime number else return “No” to the respective client.
4. (a) How does a DNS server work ? Explain with the help of a suitable example for recursive and iterative solutions. 10
- (b) What is the significance of SNMP ? Discuss the different security levels implemented in SNMP. 10
5. Differentiate between the following :  $5 \times 4 = 20$
- (a) TCP and UDP
  - (b) Broadcasting and Multicasting
  - (c) IPv4 and IPv6
  - (d) BOOTP and DHCP