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No. of Printed Pages : 4

BCS-052

BACHELOR OF COMPUTER APPLICATION (BCA)

Term-End Examination

December, 2019

BCS-052 : NETWORK PROGRAMMING AND ADMINISTRATION

Time : 3 Hours *Maximum Marks : 100*

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

1. (a) Explain the purpose of system call "*getservbyname*( )" used in socket programming. Also, explain its syntax and parameters taken by it. 5

(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 RAT 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