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Total No. of Pages : 02

Total No. of Questions : 08

B.Sc. (Information Technology) (Sem.-4)

COMPUTER NETWORKS

Subject Code : UGCA1913

M.Code : 79439

Date of Examination : 28-06-21

Time : 2 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE question(s), each question carries 12 marks.

1. Explain the Bus-type topology and Ring-type topology networks. Compare their performance.
2. a) A block of 32-bits has to be transmitted. Discuss how the thirty-two-bit block is transmitted to the receiver using the Longitudinal Redundancy Check.
b) Consider a 32-bit block of data 11100111 11011101 00111001 10101001 that has to be transmitted. If Longitudinal Redundancy Check is used what is the transmitted bitstream?
c) In the Hamming code, for a data unit of m bits how do you compute the number of redundant bits 'r' needed?
3. Discuss the MAC layer functions of IEEE 802.11. Explain in detail the types of bridges.
4. What are the different kinds of Multicast Routing? What is a Hostid and Netid? How does a netid differ from a network address?
5. Explain the distance vector routing algorithm. Mention the limitations of the distance vector routing algorithm.
6. What are the two categories of Cryptography methods? What is the main difference between the categories? What are the advantages of public-key encryption/decryption?
7. a) In classful addressing, how is an IP address in Class A, Class B, and Class C divided?
b) Given the address 23.56.7.91 and the default class A mask, find the beginning address (network address).
c) Given the address 201.180.56.5 and the default class C mask, find the beginning address (network address).
8. Explain the architecture and services of e-mailing system. With a relevant example discuss how the domain space is divided.

Note: Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.

Student found sharing the question paper(s)/answer sheet on digital media or with any other person or any organization/institution shall also be treated under UMC.

Any student found making any change/addition/modification in contents of scanned copy of answer sheet and original answer sheet, shall be covered under UMC provisions.