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BCS-041

BACHELOR OF COMPUTER APPLICATIONS

(BCA) (Revised)

Term-End Examination, 2019

BCS-041 : FUNDAMENTALS OF COMPUTER NETWORKS

Time : 3 Hours **Maximum Marks : 100**

Note : Question **no. 1** is **compulsory**. Attempt **any three** questions from the rest.

1. (a) Explain two modes of wireless communication. [6]

(b) What is Synchronous Communication ? Briefly explain its advantages and disadvantages. [6]

(c) What is Star Topology ? Explain its advantages and disadvantages. Also describe use of switch in star topology. [7]

(d) Explain leaky bucket algorithm for congestion control. Also list its advantages and disadvantages. [8]

(e) What is Social Networking ? Explain its advantages. [6]

(f) Explain how Authentication can be proved through Identification. [7]

2. (a) Differentiate between public key cryptography and private-key cryptography. Assume two prime numbers p and q are 13 and 17 respectively. Calculate private key and public key using RSA algorithm. [10]

(b) Calculate CRC, if the message is 110101001 and the generator is 1011. [10]

3. (a) What is Transparent Fragmentation ? How it is different from non-transparent fragmentation method ? Explain. [8]

(b) What is Frame Relay ? Explain network architecture of frame relay with the help of a diagram. Also draw format of frame. [12]

4. (a) What is DNS ? Explain its advantages. [5]

(b) What is Internet Group Message Protocol (IGMP) ? Briefly explain types of query messages in IGMP. [8]

(c) What is E-Governance ? Explain any three characteristics of E-Governance. [7]

5. Write short notes on the following : [4×5=20]

(a) Applications of Computer Networking

(b) Working of Asynchronous Transfer Mode (ATM)

(c) Electronic Mail

(d) Network Interface Card (NIC)

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