



## Bahria University, Islamabad Campus

### Department of Computer Science

Final Examination

Class/Section: BSCS (4 A & B)

(Fall 2021 Semester)

Paper Type: Descriptive

Course: Data Communication and Networking

Date: 07/02/2022

Course Code: CEN 222

Time: 1300 to 1530

Faculty's Name: Dr. Moazam Ali

Max Marks: 50

Time Allowed: 2.5 hours

Total Pages: 2 (including this)

#### INSTRUCTIONS:

- I. All questions are compulsory.
- II. There are total five questions.
- III. The paper is closed book.
- IV. The students are not allowed any helping material (books, tables, formulas, etc).
- V. Calculators are allowed. Programmable Calculators are NOT allowed.
- VI. Use blue, black or blue-black ink only. Do NOT use lead pencil especially.

Student's Name: \_\_\_\_\_ Enroll No: \_\_\_\_\_  
(USE CAPITAL LETTERS)

#### Question # 1 (10 Marks)

- a. Explain the Cyclic Redundancy Check (CRC) in detail.
- b. Using CRC solve the following question step-wise:

$$C(x) = x^3 + x^2 + 1$$

$$M(x) = x^7 + x^4 + x^3 + x$$

#### Question # 2 (10 Marks)

- a. What are Multiple Access protocols? Explain the channel partitioning in MAC protocols using TDMA and FDMA.
- b. Briefly explain the working of CSMA (Carrier Sense Multiple Access) protocol?

#### Question # 3 (10 Marks)

- a. Briefly explain the three transition strategies from IPv4 to IPv6 with examples?
- b. What is indirect routing in Mobile IP, explain with the help of example?

### **Question # 4 (10 Marks)**

Enrollment Number: \_\_\_\_\_

- a. What is subnetting, why subnetting is important?
- b. What are the network address, broadcast address, and the subnet mask for a host with the IP Address below?  
IP Address: 35.201.58.39 / 28

### **Question # 5 (10 Marks)**

- a. Explain Delivery, Forwarding, and Routing with the help of example.
- b. What is Pipelined protocols, also explain Go Back N and selective repeat protocol with the help of example.

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**End of Question Paper**

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