

**BAHRIA UNIVERSITY (KARACHI CAMPUS)**

ASSIGNMENT # 3 – FALL SEMESTER – 2021

Computing Fundamentals (CSC-110)

Class: **BSE-1A/1B**

Course Instructor: **Engr. Mahawish**  Max Marks: 0**5 marks**

Date: **1/12/2022**

**Instructions: [CLO 4]**

**1. The activity is a group effort (Max. 4 members).**

**2. Write group member names and registration number under presentation title.**

**3. The presented materials must be uploaded in LMS.**

Prepare a 15 - 20 presentation slides in MS power point that would propose a solution for a real-

world problem while employing the Internet of Things (IoT) paradigm. A list of suggested real-

world challenges are provided below from which the students may choose or bring their own

problem to solve. However, you can only work on the presentation topic after being approved by

the course instructor.

The group needs to present that how IoT can help in solving the problem at hand. While finding

a suitable solution, the learning process should require students to investigate and critically

analyze the communication technologies available under the umbrella of IoT. This exercise

would require group activity where collaboration and group discussions should be involved.

Architectural diagrams, system design, hardware/software requirements, deployment

requirements, communication technologies along with other technical details should be

addressed. The presentation content should be technical in nature, i.e. going with the general

patterns adopted in the relevant course, Data Communication & Networking.

Technical contents of the presentation can only be prepared after conducting a thorough

investigation regarding the concerned topic. Each member is required to present his/her part,

where the presentation will be followed by cross-questioning from the course instructor and

session guest (if any). All student should have knowledge regarding the complete contents within

the presentation rather than focusing of the contents of his/her part only. Presentation MUST be

self-made, where its emailed softcopy will be checked for plagiarism.

Note: one topic can only be taken by one group at a time.Scenario #1: IP Allocation in a MAN

You are tasked by your supervisor with assigning IP addresses for your new MAN

(Metropolitan Area Network), which consists of 8 different buildings, each building will have

255 workstations. Your supervisor tells you to only use as much of the 164.10.0.0 network

as you need. Your supervisor will assign the IP addresses to the serial interfaces using a

different network. You will need to determine the following four items for each of the eight

buildings:

A) Subnet masks

B) Network addresses

C) Broadcast address for each subnet

D) Valid host ranges on each subnet

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Prepare 15 - 20 presentation slides in MS power point from given topics.

* 1. Virus
  2. Worm
  3. Trojan horse
  4. Mirai
  5. DoS
  6. Sybil
  7. Black hole
  8. Back door
  9. Man-in-the-middle
  10. Reconnaissance

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