

## Self-Learning Assignment

Multinational Corporation IT company want to establish a new overseas branch in Sri Lanka. This company newly constructed a three story building: Length: 60 meters, Width: 30 meters, Height: each floor 4 meters.

You are requested to design a computer network to this company building with optimum use of network IP addresses. Available IP address range is 10.10.0.0/16.

You should submit a report with the following details:

- Network diagram (subnets and VLANs – provide IP addresses for each of them)
- Write the steps on how to configure Routers and switches.
- WiFi Access points configuration details

### **Background information**

#### **Management Office:**

Number of data points 6:

CEO Office – will be equipped with one desktop computers with network connection and WiFi Coverage.

Staff Office – will be equipped with 1 Computer with network connection and WiFi Coverage.

Board Room- 2 data points ( one for Video Conference Facility and one data points to connect computer) and WiFi Coverage

Lobby area – WiFi Coverage

Printing Room – will be equipped with two printers with network connection.

#### **Admin department:**

Number of data points 52:

Finance Section – will be equipped with 15 Computers with network connection.

Human Resource Section - will be equipped with 25 Computers with network connection.

Assistant Section - will be equipped with 10 Computers with network connection.

Printing Room – will be equipped with two printers with network connection.

#### **Technology department:**

Number of data points 172:

Meeting Room – 2 data points ( one for Video Conference Facility and one data points to connect computer) and WiFi Coverage.

R&D Section - will be equipped with 25 Computers with network connection.

Design Section- will be equipped with 125 Computers with network connection.

Test Section- will be equipped with 20 Computers with network connection.

**Operations department:**

Number of data points 58:

Branding Section – will be equipped with 8 Computers with network connection.

Reporting Section - will be equipped with 10 Computers with network connection.

Sales Section - will be equipped with 40 Computers with network connection.

**Marketing department**

Number of data points 15:

Marketing Strategies Section – will be equipped with 5 Computers with network connection.

Public Relations Section - will be equipped with 10 Computers with network connection.

**Requirement**

- Printers available at the admin department can only be accessed by the computers installed at the admin department.
- Printer available at the management office printing room can only be accessed by the computers installed at the management office.
- Computers available at management office can't be accessed from other departments such as admin, technology, operations and marketing (for security reason).
- Computers available at the admin department can't be accessed from the technology, operations and marketing departments.
- Each network node can only be accessed by the administrator, not others.

Dead line : 4.00 pm on 14<sup>th</sup> December 2023