جامعة القاهرة الجديدة التكنولوجية NEW CAIRO TECHNOLOGICAL UNIVERSITY

Sub.	Re-Sub

Scenario

You are assigned as a network administrator at Sera Company has two Floors, the first floor consists of 100 user devices and the second floor consists of 120 user devices, if Sera company bought a Network IP address of 192.168.1.0 from IANA Organization, and your supervisor wants to configure the simple network. This network consists of multiple LANs, do the following:

Task No.01

1) Identify the main function of the network layer **P**

2) Describe the characteristics of IP protocol **P**

3) Message segmentation into packets increase the efficiency, explain. **M**

4) Efficiently design "Build" Your own Network. **D**

2) How many routers and switches you use in your design.

3) Show the number of Subnets.

4) Show in this Network (for each subnet) : **M**

- ✓ CIDR "Subnet mask".
- ✓ Network address "Subnet address ".
- ✓ Number of IPs you can use in this Network.
- ✓ Number of hosts that will be available to be used in the future.
- ✓ Broadcast Address.
- ✓ First Host Address.
- ✓ Last Host Address.

Task No.02

1) Define the function of data link layer. **P**
2) Explain the meaning of **Contention-based access** **P**
3) Differentiate between CSMA/CD and CSMA/CA **M**
4) Differentiate between different frame forwarding methods on Cisco Switches. **M**
5) List the three types of routes in a router's routing table. **M**
6) Change the host name of each router to "R n"

Note : n is the number of router **P**

7) Change the host name of each switch to "S n" **P**

Note : n is the number of switch

8) Make an encrypted password for the privilege mode for each router and switch in this Network. **P**
9) Show all configurations of routers and switches of this Network. **M**
10) Use ICMP protocol to check the connectivity between the end devices in this Network. **D**