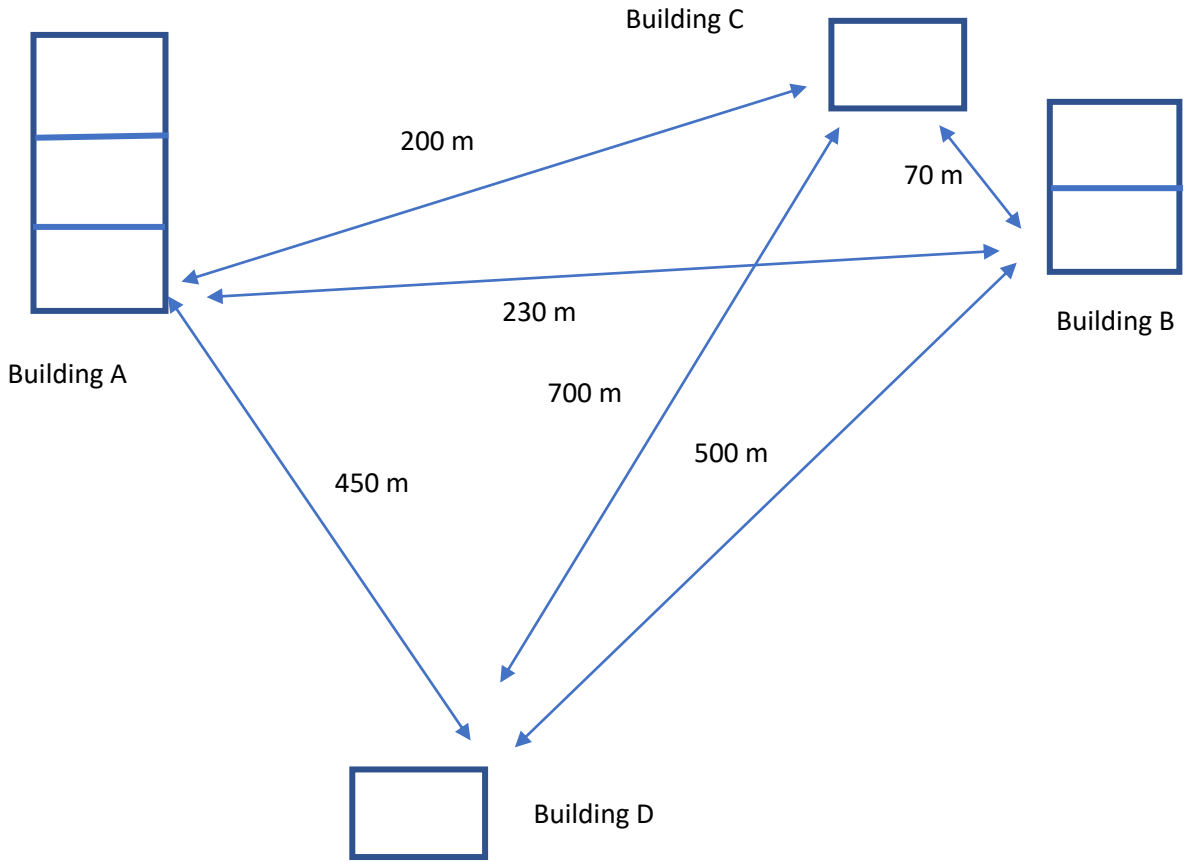
Final-Term Assignment

1. Deadline: Dec. 26.
2. Submission: By Email (Submission through Teams is not allowed).
3. Handwritten or screenshot will not be accepted.
4. File format: PDF
5. Your submitted file will undergo a plagiarism test; thus, if you copy even a single statement from anywhere, it will be revealed.
6. Write every command you need to provide in any device. Also shortly describe your design.

Consider a university, named Fun University. The university has four buildings:



- In A building, the ground and first floors belong to CSE department, and the third floor belongs to the Material science department. In addition to the CSE department, the few officers sit on the ground floor. In Building B, the ground floor belongs to the Psychology department, while the first

floor belongs to the theology department. In building C, VC, Pro-VC and other top-level officials sit. The D belong to the IT division.

- All teachers of a building belong to the same VLAN. All students of a department belong to the same VLAN, while students of different department belong to different VLANs. If there are officers in a building, all of them belong to the same VLAN. The VC's PC will belong to a special VLAN and it will consist of only one computer.
- There will be two DHCP servers: Students' computers will get IP and other configuration information from a DHCP server, while other computers will get IP and other information from another DHCP server.
- Each building will have its own DNS server.
- There are two web servers. One, www.fanu.ac.bd, is located in the D building, while the www.fanudistance.com, is located in the building A.
- Each floor will have at least one switch.
- You have to decide the IP requirement of each subnet/VLAN. You are encouraged to assume a pragmatic IP requirement for each subnet/VLAN.
- Router is costlier than switch. Thus, try to use as a smaller number of routers as possible. Design the network with the minimum cost with the highest possible security and flexible management.
- Whatever is not mentioned, you free to decide that.
- Consider Table I to get the IP block:

Table I

Student ID	IP block		Student ID	IP block
16-32575-2	10.5.0.0/16		18-37166-1	172.89.0.0/16
16-33019-3	110.5.0.0/16		18-37269-1	172.12.0.0/16
17-33753-1	10.56.0.0/16		18-37275-1	172.99.0.0/16
17-33823-1	130.5.0.0/16		18-37299-1	172.90.0.0/16
17-33907-1	190.5.0.0/16		18-37311-1	172.80.0.0/16
17-34166-1	10.5.0.0/16		18-37341-1	142.89.0.0/16
17-34292-1	210.5.0.0/16		18-37355-1	102.90.0.0/16
17-34754-2	10.115.0.0/16		18-37602-1	132.89.0.0/16
17-35403-3	10.90.0.0/16		18-37604-1	142.89.0.0/16
17-35409-3	145.89.0.0/16		18-37798-2	173.9.0.0/16
17-35617-3	195.89.0.0/16		18-37819-2	174.9.0.0/16
18-36263-1	148.89.0.0/16		18-37961-2	182.49.0.0/16
18-36303-1	145.19.0.0/16		18-38181-2	122.2.0.0/16
18-36362-1	145.199.0.0/16		18-38186-2	121.21.0.0/16
18-36452-1	145.92.0.0/16		18-38255-2	122.29.0.0/16
18-36546-1	145.1.0.0/16		18-38567-2	122.2.0.0/16
18-36610-1	145.9.0.0/16		18-38715-3	72.2.0.0/16
18-36736-1	121.89.0.0/16		18-38860-3	53.2.0.0/16
18-36785-1	100.89.0.0/16		18-36833-1	145.99.0.0/16
18-36819-1	175.179.0.0/16		18-36925-1	12.8.0.0/16