Assignment 1 Guidance

# Task 1 - Discuss the benefits and constraints of different network types and standards (P1)

To answer this section, you have to follow the steps below.

First of all, you have to define what network is, list some types of network that are popular such as MAN, WAN, LAN and so on. Then, you state the benefits and constraints of each of these network types.

Next, about the protocols and standards, you have to define what a network protocol is, what its purpose is for, list some common protocols like: TCP/IP, HTTP, DNS, DHCP, ICMP and so on.

Finally, you list the international standard organizations and the names of the standards used in networking.

*(Word limit: 500 – 750 words)*

# Task 2 - Explain the impact of network topology, communication and bandwidth requirements (P2)

To answer this section, you have to follow the steps below.

First of all, you must define what a network topology is, what a physical topology is, what a logical topology is, the difference between physical topology and logical topology. You also give examples of popular topologies such as Mesh, Star, Bus, Ring, Tree and Hybrid. Then, explain the advantages and disadvantages of each of these topologies.

Next, about the communication and bandwidth requirements, you have to define what network communication is. You must explain the rules in the network and why these rules are needed. Then you define what bandwidth is and why bandwidth requirement is needed for networks.

*(Word limit: 500 – 750 words)*

# Task 2.1 - Compare common networking principles and how protocols enable the effectiveness of networked systems (M1)

To answer this section, you have to follow the steps below.

First of all, you introduce the common networking principles, namely circuit switching and packet switching. From here, you compare these two principles together, by saying the advantages and disadvantages of each of them.

Next, you specify how the protocols enable networked systems to connect efficiently using these principles. Then, you provide practical situations that are used for these switching principles for further illustration.

*(Word limit: 250 – 500 words)*

# Task 3 - Discuss the operating principles of networking devices and server types (P3)

To answer this section, you have to follow the steps below.

First, you should select one or two networking devices, such as switches and routers, to discuss how these devices operate in a network.

Then, you list some other common networking devices such as gateway and firewall, specify their uses, and under what circumstances.

Finally, you list some common types of servers such as DHCP server, DNS server, and so on. State the use of each server type and give illustrative examples.

*(Word limit: 500 – 750 words)*

# Task 4 - Discuss the inter-dependence of workstation hardware with relevant networking software (P4)

To answer this section, you have to follow the steps below.

First of all, you must explain the meaning of interdependence and give an illustrative example of this term.

Next, you need to define workstation hardware and networking software and explain the interdependence of the two. You should give examples for demonstration.

*(Word limit: 500 – 750 words)*

# Task 4.1 - Explore a range of server types and justify the selection of a server, considering a given scenario regarding cost and performance optimisation (M2)

To answer this section, you have to follow the steps below.

First of all, you explore a range of common server types and give a brief outline of their uses.

Next, you choose one of these servers, and justify your selection, based on a given scenario regarding cost and performance optimisation.

*(Word limit: 250 – 500 words)*

# Task 4.1.1 - Considering a given scenario, identify the topology protocol selected for the efficient utilization of a networking system (D1)

To answer this section, you have to follow the steps below.

First, you consider a specific scenario of a network system in which a topology protocol is chosen for networking.

Next, you must point out the choice of this protocol for the purpose of making effective use of the network in this particular situation.

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