ASSIGNMENT NO. 3

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Subject: Basic Networking	Professor: Sir Erick Campano

NETWORK STANDARDS AND PROTOCOL

1. Differentiate protocols and standards in network?

    A standard are instructions that should be adhered to when creating a new design, as it is believed. Protocol refers to a collection of regulations and requirements that are utilized to make something happen.

2. What is network standard?

    Networking standards govern the hardware and software that uses them and define the rules for data communications that are needed for the operation between devices.

3. How is the standard making process? Please Elaborate

    First is the specification that consist of developing a nomenclature and identifying the problems to be addressed. Then proceed to identification of choices stage to identify the various solutions. Then acceptance stage that consists of defining the solution and getting recognized industry leaders to agree on a uniform solution.

4. What are the two types of standards? Explain each.

    De facto is one of the type of standards, they are standard that are follow without any formal plant or approval by any organization. De jure are the

standards are the ones which have been adopted through legislation by any officially recognized standards organization.

5. Give some groups/organizations that defined and published different network standards/protocols. Define each.

International Standards Organization – A nongovernmental organization that compromises standards bodies from more than 160 countries.

International Telecommunication Union – Unites Nations specialized agency for information and communication technologies.

Institute of Electronics and Electrical Engineers – The world's largest technical organization dedicated to advancing technology for the benefit of humanity.

IP ADDRESS

1. What is an IP Address and how does it work?

IP Address is a unique address that identifies a device on the internet or a local network. They allow information to be sent between devices on a network. It indirectly connects to the internet by connecting at first to a network connected to the internet.

2. What are the types of IP Address? Explain each.

Private IP Address – It needs the router to find a way to identify these items separately and many items need a way to recognize each other.

Public IP Address – Primary address associated with your whole network. While each connected device has its own IP address, they are also included within the main IP Address for your network.

3. Differentiate Static IP Address and Dynamic IP Address. Please elaborate.

Static IP Address change automatically and regularly while the static remain consistent

4. Cite some examples where Static IP Addresses are used? Where Dynamic IP Addresses are used?

Static are used in Web Server, Email Server, Remote Access, and Hosting Services while the Dynamic Ip Address are used in Residential internet connections, small office, mobile network, and public wi-fi hotspots.

5. What is DCHP or Dynamic Host Configuration Protocol? How does it work?

It used to automatically assign IP Addresses and other network configuration parameters to devices on a network.

6. What is IANA? Elaborate?

Stands for Internet Assigned Numbers Authority, it is a global organization responsible for the coordination and management of various critical resources related to the Internet's functioning.

7. What is classful addressing? Explain.

Refers to the original method of dividing IP address space into different class based on the number of network and host bits.

8. What are the different IP Address classes and their range?
   Class A – Range: 1.0.0.0 to 126.0.0.0
   Class B – Range: 128.0.0.0 to 191.255.0.0
   Class C – Range: 192.0.0.0 to 223.255.255.0
   Class D – Range: 240.0.0.0 to 239.255.255.255
   Class E – Range: 240.0.0.0 to 255.255.255.255