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| Photo displaying partial image of two pie charts on a canvas-textured page |
| Clear Thinking Clinic  Presented by Khaing Yin Phu |
| |  |  |  | | --- | --- | --- | | NVL Institute |  | Computer Networks | |



**NCC Education**

**LEVEL 4 DIPLOMA IN COMPUTING**

**COMPUTER NETWORKS**

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| Centre Name : NVL INSTITUTE  Assignment Title : CLEAR THINKING CLINIC  Exam Cycle : DECEMBER 2018  Candidate Name : KHAING YIN PHU  NCC Education ID No : 00176344  Submission Date : 31.Oct.2018 |
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# INTRODUCTION

My name is……………

# ACKNOWLEDGEMENT

Thank you…………..

TASK-1

# Task1: Network Infrastructure and Protocols

## (a)

## (b) OSI 7-layer Model

The seven OSI 7-layer are

7.Application

6.Presentation

5.Session

4.Transport

3.Data link

2.Network

1.Physical

**Application layer layer-7)**

The application layer is responsible for the end users and it can provide many services such as file transfer, network management, electronic messaging, email, network sharing and virtual terminals access. This layer can handle error recovery for the applications and data movement from sender to receiver. The application layer is the gateway for its major network device or component.

**Presentation**

This layer is the sixth of the OSI 7-Layer. The presentation layer can provide data encryption/decryption, character/ string conversion, data compression, graphic handling. Data between application layer is translated by the presentation layer. This layer can handle the network connection of data-formatting formation. By using file transfer from Linux to a Pc which can convert the codes, presentation layer can handle the conversion.

**Session**

Session layer is the fifith layer of the OSI 7-layer. Between end-user application processes, the session layer is responsible for providing the mechanism of the opening, closing and a managing a session. That layer services are used that make use of remote procedure cells RPCs) in application environments. The session layer can handle data or message exchanges, session setup and teardown when the session ends.

**Transport**

Transport layer is the fourth layer of the OSI 7-layer. From source to destination, the entire message is to be delivered by transport layer. Transport layer can break the whole data or message into small units that can handle by network layer more efficiently and for ensure that message arrives in order by checking flow control and error.

Network

By a crossing multiple links networks), this layer is to deliver the packets from source to destination. Network layer can translate from logical network address into physical address which concerned with message or circuit or packet switching. It is the 3rd layer of the OSI 7-layer.

**Data link**

Data link layer use error detection bits and can also corrects errors. Its aim is node to node delivery of data that receive from network layer and gives it to the physical layer. Data links layer is the most responsible for sending message. And it is 2nd in OSI 7-layer.

**Physical**

Physical layer is 1st layer of the OSI 7-layer and it is the lowest layer. The rate of transmission which is the number of bits per second can be defined by physical layer. This layer defined how many pins that a network will consist, when the data would be transmitted or not and how that the data can be synchronized.

## (c) Seven Protocols

There are seven protocols. They are

1. UDP
2. IP
3. SMTP
4. HTTP
5. FTP
6. POP3
7. DHCP

UDP

User data program (UDP) is a communication protocols of transport layer. UDP is connectionless protocol and it is also undependable. UDP can provide least quantity of communication protocol machine.

IP

Internet protocol (IP) is the way of data that being sent from one to another computer on the network. Every computer must have at the least one IP address that can identify from all computers. It provides internetworking functions and supports for using local network. Internet protocol is often known as TCP/IP.

SMTP

Simple mail transfer protocol (SMTP) is used in sending and receiving email services. At the end of receiving SMTP limits its ability to queue mail.

HTTP

Hypertext transfer protocol (HTTP) is the foundation of data that can communicate with the world wide web. Hypertext including

FTP

FTP (file transfer protocol) can transfer files between sever and a client on a network of computer. By using FTP, users can do delete, upload, download and rename etc.

POP3

On mail sever, post office protocol 3 allows email receiving and can download any email. POP3 is the most popular standard protocol in receiving email and it is very humble.

DHCP

Assigning an internet IP address to a node or any device on the internet is dynamic host configuration protocol so that they can have communication by using IP addresses.

## (d) Hub, Switch, Wireless Access Point, Router

Hub

TASK-2

# Task 2: Addressing

## (a)Network Address and Host Address

Network address can identify on communications system for a node or a host. This address is in the range of IP address and it can be used to communicate with all internet devices on a specific network. The network address consists zeros within the host portion of IP address.

Host address is the host portion of the IP address and can be used to identify hosts.

## (b)Private IPV4 and Public IPV4 Address

Private IPV4 address

Private IPV4 address can be set aside by IANA (internet assigned numbers authority) that cannot be directly communicate within the internet. Private IPV4 cannot be overlap because these addresses are unique. To connect of the outside of your local network devices to private IP, you can used router public IP.

Ranges for private IP addresses­­;

* 10.0.0.0 to 10.25.255.255
* 172.16.0.0 to 172.31.255.255
* 192.168.0.0 to 192.168.255.255

Public IP4 addresses

The address that is assigned to networking devices or computers can access over the internet is public IPV4 address. Any sever device e.g. web server, email server directly accessible from the internet that is acceptable for public IPV4 address. This address can be assigned by ISP and is globally unique.

## (c)DHCP

DHCP (Dynamic Host Configuration) can be used to atomically assign (IP)addresses to all computers. So, they can also communicate using addresses. A DHCP sever can configure other information of network and used to assign exclusive IP addresses to any devices. DHCP runs at the application layer.

## (d)Difference between IPV4 & IPV6

IPV4 address

IPV4 address is version 4 of the internet protocol. IPV4 can use for packet-switched networks and is a connectionless protocol. All address is made with four decimal-notation between 0 and 255 and a dot separate them. IPV4 address uses 32 bits. IPV4l addresses blocks for private networks by reserving as special addresses. Possible addresses are 232=4294 967 296. Each of the addresses is in the form of 192.168.1.201 with a dotted quad.

IPV6 address

IPV6 address is different with IPV4 address. All these addresses are made up of 128 bits and

## (e)Gateway

## (f)Subnet mask

## (g)IP Routingority

TASK-3

# Task 3: Security

## (a)Three Main Security concepts

## (b)

## (c)

## (d)

## (e)

TASK-4

# Task 4: Diagram and Explanation

## (a)Logical Network Diagram

## (b)

## (c)

## (d)Local Price and Specification of Hardware and Software

TASK-5

# Task 5: Telephony

## (a)What is VOIP?

## (b)

## (c)

# CONCLUSION

In conclusion

# REFERENCE