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NVQ Level 05 –Semester II

Information & Communication Technology

Local Area Network – Theory

K72T001M08

Three Hours

Answer ONLY five (05) questions.

Question 01

- I. Fill in the following table with corresponding information about the transmission media. Use following words given within the bracket (**Low , High , Very High**) **(08 marks)**

	Copper cable	Fiber Optic cable	Radio Transmission
Speed			
Effect of Noise			
Attenuation			
Interference			

- II. Name connector type used for the following cables **(06 marks)**
- UTP or STP twisted pair cables
 - Coaxial Cable
 - Fiber Optics cable

- III. Briefly explain the following topics **(06 marks)**
- Synchronous communication
 - Asynchronous communication
 - EIA/TIA 568-B standard

Question 02

- I. Explain the following devices use in networking. Your answer should include **main task of devices. It operate in which layer of OSI model, number of collision and broad cast domain**

(a) HUB (b) switches (c) Router (06 marks)

- II. You are required to design a computer network. Following are the requirements. **(08 marks)**

- it has 10 computers to connect
- It should include one network printer
- Require internet connectivity for all computers

Draw a proposed network diagram indicating **all equipment, IP addresses, Gateway IP addresses**

- III. Write short note on

(a) DTE / DCE (b) Network Interface Card (NIC) (06 marks)

Question 03

- I. What is the advantage and Disadvantage of installing a Computer Network in training center?
- II. Switch is mostly using In a Star Topology than Hub, So what are the different between Hub & Switch?
- III. Name computer network Topologies. Describe two of them.
- IV. What is Network Operating System? What are the major functions of Operating System?
- V. Analogue Signal and Digital Signal two type of signal used in data communication. Compare ***Analogue Signal and Digital Signal*** (5 x 05 = 20marks)

Question 04

- I. Write two advantages / disadvantages of peer-to-peer networks. (04marks)
- II. Define Server - Client network system (04 marks)
- III. As a network person, what type of documents are to be handover to the customer after completing network installation, (04 marks)
- IV. Name three advantages of DOMAIN network system over the workgroup network (04 marks)
- V. List steps that you are going to follow after made any request to install new network system in any organization (04 marks)

Question 5

OSI layers have been introduced to network data communication.

- i. Define OSI Layers Models. (05 marks)
- ii. Write four (4) advantages of OSI layers. (04 marks)
- iii. Which layers are supported for the following
(NIC, MAC address, Manageable Switch(L3) , Telnet, FTP, PPT) (06 marks)
- iv. Write short note on
 - a. Connection Oriented Communication
 - b. Data encapsulation (05 marks)

Question 6

- I. 100001011001000000101000001010 /20 binary format is used to represent a one of the IP address assigned to any node of a network system. Write its (08 marks)
 - a) Decimal narration
 - b) Subnet Mask IP
 - c) Host and Network Parts
 - d) Number of host support for these network
- II. Explain difference of **Public** and **private IP** address (06 marks)
- III. Write short notes on
 - a) DHCP Server
 - b) Proxy Server (06 marks)

