**LF5 IT ENGLISH FINAL ASSESSMENT TEST 04.12.2020**

**Name: --------------------------------------------------------------**

**TIME: 2HRS**

1. **State the difference between RAM and ROM (2 marks)**

RAM contains volatile memory while Rom contains involatile memory

RAM can be written and read while ROM can only be read

1. **Explain what encapsulation and de-capsulation in packet-switching means? (2marks)**

**Encapsulation means that the data receives headers from all the Layers of the TCP/IP model until it can be transported in form of bits.**

**De-capsulation describes how the received bits are translated and find their destination by their headers being read and removed up the Layers of the TCP/IP model.**

1. **Name four methods of Data back up? (4 marks)**

**A) Incremental Backup**

**B) Mirror- Backup**

**C) Full Backup**

**D) Differential Backup**

**BIOS and UEFI are both useful in computer booting processes. Explain how they work and state their differences. (6 Marks)**

**BIOS is the Basic Input Output System. It’s the firmware of the motherboard and lets you check if all connected components are recognized and working.**

**The UEFI on the other hand does the same as the BIOS and more. It has a graphical interface and you can navigate there with a mouse.**

1. **What is the difference between system software and the application software? (2 Mark)**

**A system software is a hardware application**

**An application is for th**

1. **Fill in the layers of the TCP/IP and OSI models. (10 marks)**

|  |  |  |
| --- | --- | --- |
| **TCP / IP model** | **Protocols & services** | **OSI model** |
| **Application Layer** | **HTTPS, HTTP, FTTP, Telnet, NTP, DHCP, PING** | **Application Layer** |
| **Presentation Layer** |
| **Session Layer** |
| **Transport Layer** | **TCP, UDP** | **Transport Layer** |
| **Internet Layer** | **IP, ARP, ICMP, IGMP** | **Network Layer** |
| **Link Layer** | **Ethernet** | **Data Link Layer** |
| **Physical layer** |

1. **State four network topologies and mention an advantage and a disadvantage for each. (4 Marks)**

**Line topology Advantage: It is very cheap. Disadvantage: Several devices share one connection, so data collision is a problem**

**Ring topology Advantage: If one device or connection is broken, the data can still be routed to its destination. Disadvantage: Data collision still is a problem.**

**Star topology Advantage: cheaper than the meshed topology and less fragile than the ring or line topology Disadvantage: If the central unit is broken the network is completely down.**

**Mesh topology Advantage: A broken device does not impact the functionality of the network. Disadvantage: expensive**

1. **What happens during the POST process of the network booting? (2 Marks)**

**Is the process that initializes the self-check of the hardware**

1. **Mention the differences between the first three generations of the World Wide Web (6 Marks)**
2. **Name an IT profession, the skills, responsibilities, and qualification that are required for the profession you mentioned. (6 marks)**

**An IT-system integrator must be able to plan a network infrastructure and select hardware depending on his costumers needs.**

**He is responsible for the computers health maintenance and data backups.**

1. **What is the purpose of the Motherboard (2 marks)**

**The Motherboard is the heart of a computer and its purpose is to physically connect the other components.**

1. **VPN and Firewalls are both methods of internet security. Explain how they function. (4Marks)**

VPN uses a VPN-Server to connect a computer with a network using that servers IP-Address. The VPN-Server uses tunnel protocols to hide the path the data takes and also uses encryption as another layer of security.

1. **Mention 5 departments of a company and their responsibilities. (10 marks)**

**1 Human Resources – Holiday planning, and Job interviews**

**2 Customer Service – talking to customers, surveys,**

**3 Production – Produce products**

**4**

**5**

1. **What is the difference between the volatile and the non-volatile data storage. (2 Marks)**
2. **State 3 advantages and disadvantages of the cloud storage. (2 marks)**
3. **What is the difference between the HDD and the SSD (2 marks)**
4. **Diagram

   Description automatically generatedWhat type of network topology is illustrated below? Name its advantages and disadvantages. (6marks)**
5. **What do the following acronyms stand for? (10 marks)**
6. **HTTP**
7. **UDP**
8. **UEFI**
9. **DHCP**
10. **AI**
11. **BI**
12. **ERP**
13. **POST**
14. **BIOS**
15. **FTP**
16. **Compare wired and wireless connection. What are the advantages and the disadvantages of each? (6 marks)**
17. **What is referred to as the single point of failure in the Star topology (4 marks)**