|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COMPUTER SYSTEM OPERATION** | | | | |
| **Competency Unit (CU): SERVER INSTALLATION** | | **Code: IT-020-3:2013-C04** | | |
| **Work Activity 1: Analyse job order / change request** | | **Duration:** 11 Hour | | |
| **Learning Objectives**  At the end of learning session, the apprentice will be able to:  1.1. Identify type of server, such as:  1.1.1. Database server  1.1.2. File server  1.1.3. Mail server  1.1.4. Print server  1.1.5. Web server  1.1.6. Application server  1.1.7. Virtual Server (eg. Hyper-V, VMWARE, etc) 1.1.8. Etc  1.2. Define type of server Operating system, such as:  1.2.1. Licensed  1.2.2. Open source  1.3. Explain server configuration details :  1.3.1. Server host name  1.3.2. Network address configuration (IP address, DNS, Gateway, subnet mask)  1.3.3. Security configuration (firewall setting, administrator privilege)  1.4. Define types of server software, such as:  1.4.1. Anti-virus/Anti Malware/ Anti Spam  1.4.2. Hardware drivers  1.4.3. Server Health Check Monitoring Software  1.4.4. Etc  1.5. Explain server peripherals  1.5.1. Monitor  1.5.2. Keyboard  1.5.3. Mouse  1.5.4. KVM Switch  1.5.5. Server Rack  1.5.6. UPS Backup Battery  1.5.7. Etc  1.6. List of tools and materials, such as:  1.6.1. Screwdriver  1.6.2. Anti-Static wrist strap  1.6.3. Etc | | | | |
| **Work Activity 2: Execute hardware installation** | | | **Duration: 29** Hours | |
| **Learning Objectives**  At the end of learning session, the apprentice will be able to:  2.1. List types of server form factor, such as:  2.1.1. Tower unit  2.1.2. Rack mount unit  2.1.3. Blade unit  2.2. Explain server handling procedure according to types of server as below:  2.2.1. Tower unit  2.2.2. Rack mount unit  2.2.3. Blade unit  2.3. List type of server components, such as:  2.3.1. Motherboard  2.3.2. Network Card  2.3.3. Hard Disk  2.3.4. Power Supply  2.3.5. Memory (RAM)  2.3.6. Processor  2.3.7. Etc  2.4. Explain server hardware components compatibility as below:  2.4.1. Minimum OS requirement  2.4.2. Server hardware specification  2.5. Describe procedure of server hardware installation  2.5.1. Cable connectivity, such as:  2.5.1.1. Power supply  2.5.1.2. Display  2.5.1.3. Network  2.5.1.4. Keyboard  2.5.1.5. Mouse  2.5.1.6. Etc  2.5.2. Rack mount  2.5.2.1. Rack mount Size (eg: 1U,2U,etc)  2.5.3. Server Components Installation, such as:  2.5.3.1. Motherboard  2.5.3.2. Network Card  2.5.3.3. Hard Disk  2.5.3.4. Power Supply  2.5.3.5. Memory (RAM)  2.5.3.6. Processor  2.5.3.7. Etc | | | | |
| **Work Activities 3: Carry out software installation** | **Duration: 22** Hours | | | |
| **Learning Objectives**  At the end of learning session, the apprentice will be able to:  3.1. Describe procedure of server operating system installation  3.1.1. Windows Server (eg: Windows Server 2012,etc)  3.1.2. Linux Server  3.1.3. Etc  3.2. Explain installation, configuration and testing of device drivers  3.2.1. Version  3.2.2. Compatibility  3.2.3. Firmware  3.3. Describe configuration of server parameter:  3.3.1. Server host name  3.3.2. Network address configuration, such as:  3.3.2.1. IP address  3.3.2.2. DNS  3.3.2.3. Gateway  3.3.2.4. Subnet mask  3.3.3. Security configuration  3.3.3.1. Firewall setting  3.3.3.2. Administrator  3.3.3.3. Privilege  3.4. Describe operating system patches installation and testing  3.4.1. Security bulletin/ Log File  3.5. Describe server security configuration  3.5.1. Firewall configuration  3.5.2. User access control  3.5.3. Admin privilege  3.6. Describe procedure of perform server initialisation  3.6.1. Hardware Parts  3.6.2. Software Parts  3.7. Explain server operation status inspection  3.7.1. Internal server inspection checklist  3.7.2. External server inspection checklist | | | | |
| **Work Activity 4: Perform server functionality test** | | | **Duration: 7** Hours | |
| **Learning Objectives**  At the end of learning session, the apprentice will be able to:  4.1. Understand server status verification:  4.1.1. Power boot cycle status  4.1.2. Hardware Connectivity status (eg: LED blinking light, LED error light)  4.1.3. Server Manager (eg: Log file)  4.1.4. Anti-virus protection status  4.1.5. Network connectivity status | | | | |
| **Work Activity 5: Prepare server installation set-up report** | | | **Duration: 4** Hours | |
| **Learning Objectives**  At the end of learning session, the apprentice will be able to:  5.1. Define documentation of server configuration information  5.1.1. Server network configuration detail  5.1.2. Administrator information  5.1.3. Design Architecture  5.1.4. Storage configuration  5.1.5. Etc  5.2. List company asset documentation, such as:  5.2.1. Types of asset:  5.2.1.1. Operating system  5.2.1.2. Software  5.2.1.3. Drivers  5.2.1.4. Data backup  5.2.1.5. Warranty cards  5.2.1.6. Server Hardware  5.3. List final as-built diagram, such as:  5.3.1. Server design architecture  5.3.2. Network architecture  5.3.3. Server rack and air flow architecture  5.3.4. Cabling architecture (Eg: Network, Power, etc)  5.3.5. Fire protection architecture  5.3.6. Remoting control architecture  5.3.7. Security architecture (eg: door access, cctv, etc)  5.4. List electrical schematic diagram, such as:  5.4.1. Main power source  5.4.2. Genset power source  5.4.3. UPS power source  5.5. List server installation job order / change request report, such as:  5.5.1. User acceptance report (UAT)  5.5.2. Maintenance service report  5.5.3. Change request report | | | | |
| **TOTAL** | | | | **73 Hours** |