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| **COMPUTER SYSTEM OPERATION** | | | | |
| **Competency Unit (CU) : COMPUTER SYSTEM SET-UP** | **Code : IT-020-3:2013-C01** | | | |
| **Work Activity 1: Analyse job order / change request** | **Duration :** 9 Hours | | | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Describe types of computer, such as:      1. Desktop      2. Laptop         1. ultra book         2. net book         3. etc      3. Thin client   2. Describe type of computer system software:      1. Computer software         1. Operating system         2. Licensed         3. Open source      2. Productivity suite:         1. Licensed         2. Open source      3. Application:         1. Licensed         2. Open source   3. List of computer peripherals, such as:      1. Input: Keyboard, mouse, scanner, etc      2. Output: Monitor, Printer, speaker, etc   4. Understand type of computer system to fullfill job scope      1. Administrative works      2. Multimedia (e.g: animator, designer, etc)      3. Engineering works      4. Sales works      5. Etc   5. Understand type of computer system to fullfill mobility requirement      1. Mobile      2. in-house   6. Understand type of computer system to suit user’s venue      1. Internal (Indoor use)      2. External (Outdoor use) | | | | |
| **Work Activity 2 : Prepare computer set-up tools, computer hardware parts and computer software** | | | **Duration : 13** Hours | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Describe computer hardware compatibility check-up, such as:      1. Understand main computer components specification:         1. Processor         2. RAM         3. Motherboard         4. Hard disk      2. Understand type of power supply specification:         1. Voltage - 110V         2. Voltage - 240V      3. Describe type of Computer Operating system and software information, such as:         1. Software Version         2. Chips Architecture            1. 32 bit            2. 64 bit      4. List types of computer wired and wireless network availability, such as:         1. Network connector RJ45         2. WiFi card 2.4Ghz / 5Ghz      5. Describe type of connector orientation, such as:         1. Power cable         2. USB (1.1, 2.0, 3.0, etc)         3. Monitor cable         4. Network cable (RJ45)         5. etc      6. Explain types of computer monitor connector, such as         1. VGA         2. DVI         3. HDMI         4. etc      7. Describe type of Plug layout         1. Three pins         2. Two pins         3. International adaptor      8. Explain electric safety computer protection requirements         1. Electrostatic precaution            1. Anti-electrostatic wristband            2. Anti-static mat      9. Describe Computer system set-up tools :         1. Screw driver         2. Multi meter         3. Anti-electrostatic wristband         4. Vacuum cleaner         5. etc      10. Understand computer hardware components arrangement concept:          1. Last In First Out (LIFO)          2. First In First Out (FIFO)          3. Last In Last Out      11. Explain Work area cleanliness and hygiene          1. Works place          2. Tools arrangement          3. etc | | | | |
| **Work Activity 3 : Set-up computer hardware** | | **Duration : 27** Hours | | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. List Computer hardware components installation such as      1. Processor      2. Mother board      3. Network card      4. Memory module      5. Graphic card      6. Sound card      7. Power supply      8. Cooling Fan      9. Hard disk      10. Storage media      11. Optical drive      12. Casing      13. Heat sink      14. Thermal paste      15. etc   2. Describe types of computer casing, such as:      1. Mini tower      2. Medium tower      3. Desktop casing      4. Full tower      5. etc   3. Define types of computer casing/cover installation      1. Plug and play casing      2. Customised casing, such as:         1. Cooling system:            1. System Fan: 2 fans, 6 fans, etc            2. Air-condition         2. Hard disk bays:            1. 2 bays            2. 6 bays            3. 8 bays   4. Describe types of computer warning alarm, such as:      1. Long beep      2. Short beep   5. Understand types of power on self test (POST) messages, such as      1. Keyboard not connected      2. BIOS date      3. Processor bus speed error      4. Memory module incorrect configuration   6. Understand manufacturer instruction manual      1. CPU manual      2. Casing manual      3. etc | | | | |
| **Work Activity 4 : Carry out computer software installation** | | | **Duration : 18** Hours | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Describe computer operating system installation      1. List types of operating system and its version         1. Licensed         2. Open source      2. Explain types operating System Licensing         1. Open source         2. Licensed products   2. Identify computer driver compatible with operating system, such as:      1. Graphic driver      2. Sound card driver      3. Chipset driver      4. Network/WiFi/Bluetooth driver      5. Monitor driver   3. Understand Software application installation requirement :      1. Minimum specification for operating system (OS) installation requirement         1. Hard disk space         2. Memory         3. Processor         4. Optical drive   4. Define method of Installation license key      1. Online registration/activation      2. Manual/offline registration/activation   5. Define procedure of software update:      1. Schedule update      2. Manual update   6. Describe computer security verification:      1. Anti-virus/Internet security/Malware      2. Firewall policy      3. Internet browser security setting      4. User Credential         1. User account information         2. Network configuration         3. Email account   7. Define software back-up      1. Types of software back-up         1. System setting back-up         2. OS restore back-up | | | | |
| **Work Activity 5 : Set-up computer peripherals** | | | **Duration : 9** Hours | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Describe types of peripherals, such as:      1. Printer      2. Scanner      3. Multi function (e.g: print-scan-photocopy)      4. Uninterrupted Power Supply (UPS)      5. etc   2. Describe types of computer peripheral cables, such as:      1. USB cable: 1.1, 2.0, 3.0, etc      2. Parallel cable      3. Serial cable      4. SCSI cable      5. Firewire (IEEE 1394)      6. Thunder bolt      7. etc   3. Define peripheral driver compatibility      1. OS version      2. Hardware model | | | | |
| **Work Activity 6 : Carry out unit functionality test** | | | **Duration : 9** Hours | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Define types of computer unit test      1. System process cycle      2. Continuity Test      3. Network test      4. Utilization test (RAM, Processor, HDD)      5. Etc   2. Understand types of computer performance test      1. CPU Test      2. Graphic Test      3. Sound Test      4. Hard disk Test      5. Memory Test   3. Understand computer peripherals functionality test      1. LED indicator      2. Cable connectivity      3. etc   4. Understand preparation of computer and peripherals handing over to the end-   user   * + 1. Asset tagging     2. Labelling     3. Packing list     4. Logistic arrangement        1. Packing        2. Transportation arrangement   1. Describe user Acceptance Test (UAT) verification   6.5.1 Refer to computer unit, performance and functionality test | | | | |
| **Work Activity 7 : Prepare computer system set-up report** | | | **Duration : 5** Hours | |
| **Learning Objectives**  At the end of learning session the apprentice will be able to:   * 1. Define company asset documentation:      1. Types of asset:         1. Operating system         2. Software         3. Drivers         4. Data backup         5. Warranty cards         6. etc   2. Define User Acceptance Test report   3. Define final as-buit diagram   4. Define electrical schematic diagram   5. Define computer set-up checklist   6. Define computer set-up job order / change request report | | | | |
| **TOTAL** | | | | **90 Hours** |