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| --- | --- | --- | --- |
| JPK's logo  sldn's logo  **LEARN AND WORK ASIGNMENT**  **(LWA)** | | | |
| **NOSS**  **(CODE NOSS)** | **COMPUTER SYSTEM OPERATION**  **(IT-020-3:2013)** | | |
| **Competency Unit Title**  **(CU CODE)** | **COMPUTER SYSTEM REPAIR**  **(IT-020-3:2013-C03)** | **LEVEL** | **3** |
| **Competency Unit Descriptor** | Computer system repair refers to troubleshooting, servicing and repairing a wide variety of hardware, software and peripheral problems. Problems that typically require repair include malfunction or failed hardware components, software bugs, driver incompatibilities, spyware and malware problems, network connectivity problems, operating system upgrades, and complete computer overhauls. Computer system troubleshooting can be carried out through phone call to determine and remedy to the causes of symptoms.  The person who is competent in this competency unit shall be able to diagnose computer system, conduct remote assistance, carry out troubleshooting, repair computer part or components, and restore software, applications, data and configurations in accordance with company procedure and manufacturer instruction manual  The outcome of this competency is to produce good condition of computer system to meet user’s requirement.  The personnel who are to be trained for this competency must in prior have the following competencies:  i. Competence in CU 1: Computer set-up. | | |
| **Candidate Name** |  | | |
| **Candidate I/C**  **Number** |  | | |
| **Company’s Name** |  | | |

**CU WORK ACTIVITY STATEMENT**:

PERFORM COMPUTER SYSTEM REPAIR ACTIVITIES

**DURATION:**

# A. SETTING GOAL

1. You are required to perform computer system repair activities based on performance criteria below:

1.1 Analyze and interpret computer repair job order

1.2 Analyze and interpret previous computer maintenance report

1.3 Identify and diagnose computer problem symptom

1.4 Identify corrective action

1.5 Prepare computer system repair checklist.  
1.6 Record and analyze computer problem/ issues from user   
1.7 Retrieve and record user details, computer information, software and peripherals information.  
1.8 Perform troubleshooting procedure to users according to troubleshooting manual  
1.9 Attempt remote assistance in accordance with troubleshooting manual  
1.10 Brief and suggest computer repair requirement to user  
1.11 Refer and interprete manufacturer Instruction Manual.  
1.12 Identify faulty part.  
1.13 Estimate cost for repair.  
1.14 Submit computer part purchasing requisition to superior in accordance with company purchasing procedure.  
1.15 Conduct computer data retrieval and back-up in accordance with company SOP  
1.16 Carry out computer repair in accordance with job order  
1.17 Restore operating systems, software, applications, drivers, data and configurations in accordance with company SOP  
1.18 Carry out computer unit test, operational test and functionality test  
1.19 Check and verify computer operational status after repair  
1.20 Report computer repair status to the user  
1.21 Record computer repair details and update status for future reference  
1.22 Record computer repair checklist and submit to superior  
1.23 Record computer maintenance job order and submit to user for acknowledgement  
1.24 Compile computer system repair information in an hardcopy or inventory management system.

**B. PLANNING**

You are required to plan activities in performing computer system repair to achieve setting goal by using resources listed below:

* 1. Identify tools, equipment & materials.

|  |  |
| --- | --- |
| **ITEMS** | **RATIO (TEM : Trainees)** |
| 1) LCD Projector  2) Laptop/PC  3) Computer hardware components  • Processor  • Mother board  • Network card  • Memory module  • Graphic card  • Sound card  • Power supply  • Cooling Fan  • Hard disk  • Storage media  • Optical drive  • Casing  • Heat sink  • Thermal paste  4) Computer casing:  • Mini tower  • Medium tower  • Desktop casing  5) Computer Operating system and software  6) Types of computer cable connector, such as:  • Network connector RJ45  • Phone connector RJ11  7) Connector orientation:  • Power cable  • USB (1.1, 2.0, 3.0)  • Monitor cable  • Network cable (RJ45)  8) Computer monitor connector, such as  • VGA,  • DVI,  • HDMI  9) Plug layout  • Three pins  • Two pins  • International adaptor  10) electrostatic precaution  11) Computer system set-up tools:  • screw driver,  • multi meter  • anti-electrostatic wristband  • Vacuum cleaner  12) Sample of computer maintenance report  13) Sample of computer repair checklist  14) Sample of computer repair job order | 1:25  1:5  1:5  1:5  1:5  1:5  1:5  1:5  1:5  1:5  1:5  1:1  1:1  1:1  1:5  1:5 1:5  1:5 1:5  1:5  1:1  1:5  1:5  1:5  1:5  1:1  1:5  1:5   1:5 1:5 1:5  1:5 1:5 1:5  1:5  1:5 1:5 1:5 1:5 1:1  1:1 1:1 |

* 1. Perform computer system repair workflow.
  2. Identify computer system repair procedures, flow chart and correct sequence.
  3. Plan duration/time of computer system repair procedures.
  4. Identify manpower in performing computer system repair activities.
  5. You may review REFERENCES as guidelines in performing this activity.

|  |
| --- |
| REFERENCES |
| 1. Books, Hephaestus (2011) . Computer Peripherals, Including: Computer Monitor, Fax, Hard Disk Drive, Stored Energy Printer, Peripheral, Plug and Play, Auto-Configuration, Game Port, Hot Swapping, Auto detection, Surge Protector, Remote Terminal Unit,. Western Digital Media Center. Hephaestus Books, Lightning Source Uk Ltd. ISBN-13: 978-1-242-97956-9  2. Fred Beisse. (2009). A Guide to Computer User Support for Help Desk & Support Specialists (4th Edition). Course Technology Ptr. ISBN-13: 978-0-495-80649-3  3. Jyoti Snehi. (2006). Computer Peripherals and Interfacing. Firewall Media. ISBN-13: 978-81-7008-929-2  4. Neal Allen (2009). Network Maintenance and Troubleshooting Guide: Field Tested Solutions for Everyday Problems (2nd Edition). Addison-Wesley Professional. ISBN-13: 978-0-321-64741-2  5. R.A. Penfold. (2005). How to Set Up Your New Computer. Bernard Babani Publishing. ISBN-13: 978-0-85934-559-0  6. Richard M. Roberts. (2008). Computer Service and Repair: A Guide to Upgrading, Configuring, Troubleshooting, and Networking Personal Computers (3rd). Goodheart-Willcox C. ISBN-13: 978-1-59070-857-6  7. Robert B J Warnar (2012). Computer Peripheral Memory System Forecast (Volume 500-545). General Books. ISBN-13: 978-1-235-71266-1 |

**C. DECISION MAKING**

* 1. You are required to get coach approval before performing computer system repair activities.

**D. EXECUTING & MONITORING**

4. You are required to perform computer system repair activities according to the steps below:

* 1. Recognize and analyze computer problem/ issues
  2. Ensure computer system types /peripheral.
  3. Review a previous computer maintenance report checklist.
  4. Monitor computer problem symptom:
     1. Perform POST (power on self test) check.
     2. Monitor LED (Light Emission Diode) status indicator.
     3. Check BIOS beep sound/code.
     4. Check blue screen error code.
  5. Perform problem troubleshooting through off-site method (remote access,telephone instruction, vpn, etc)
  6. Perform computer and peripheral diagnose to identify problem according to

manufacturer instruction manual.

* 1. Inform unsolved problem to supervisor for on-site repair
  2. Calculate repair cost estimation
  3. Procure computer / peripheral part
  4. Secure data backup with online (cloud storage) or offline (thumb drive, hard drive, etc)
  5. Fix computer / peripheral part
  6. Perform computer unit test, operational test and functionality test
  7. Perform computer part disposal procedure to dispose faulty part
  8. Record and update computer repair details and status for future reference
  9. Prepare and submit computer repair record checklist to superior
  10. Record computer repair job order

4.5 Comply with attitude, safety and environment listed below when performing this activity.

|  |  |  |
| --- | --- | --- |
| **ATTITUDE** | **SAFETY** | **ENVIRONMENTAL** |
| Detail and precise in identifying types of computer system / peripheral. | Adhere to work area safety requirement | Adhere to work area safety requirement |
| Analytical mind and thorough in analysing previous maintenance report. | Adhere to electrical hazards | Adhere to electrical hazards |
| Detail and precise in identifying computer system and peripheral problem / issue. | Adhere to company confidentiality policy when carrying out data back-up | Adhere to company confidentiality policy when carrying out data back-up |
| Meticulous in rectifying computer problem through remote access and telephone instruction. | Adhere to company policy | Adhere to company policy |
| Meticulous in carrying out data back-up |  |  |
| Cost conscious in carrying out procurement |  |  |
| Detail and precise in fixing computer/ peripheral part |  |  |
| Accurate in recording checklist |  |  |
| Detail in recording repair job |  |  |

4.27 Apply core activities listed below when performing this activity.

|  |  |
| --- | --- |
| Social Skills | Core Abilities |
| Communication skills | 01.01 Identify and gather information.  01.02 Document information procedures or  processes.  01.04 Analyse information.  01.05 Utilize the Internet to locate and gather  information.  01.11 Apply thinking skills and creativity. |
| Conceptual skills | 02.01 Interpret and follow manuals,  instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist  using standard forms.  02.10 Prepare reports and instructions.  02.11 Convey information and ideas to  people. |
| Interpersonal skills | 03.01 Apply cultural requirement to the  workplace.  03.02 Demonstrate integrity and apply  practical practices.  03.03 Accept responsibility for own work and  work area.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and  situations.  03.07 Resolve interpersonal conflicts.  03.08 Develop and maintain a cooperation  within work group.  03.13 Develop and maintain team harmony  and resolve conflicts.  03.14 Facilitate and coordinate teams and  ideas.  03.15 Liaise to achieve identified outcomes.  03.16 Identify and assess client/customer  needs. |
| Leadership skills | 04.01 Organize own work activities.  04.02 Set and revise own objectives and  goals.  04.03 Organize and maintain own workplace.  04.04 Apply problem solving strategies.  04.05 Demonstrate initiative and flexibility.  04.07 Negotiate acceptance and support for  objectives and strategies. |
| Learning skills | 05.01 Implement project/work plans. |
| Multitasking and prioritizing | 06.01 Understand systems.  06.02 Comply with and follow chain of command.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  06.05 Analyse technical systems.  06.06 Monitor and correct performance of systems. |
| Self-discipline | 03.01 Apply cultural requirement to the  workplace.  03.02 Demonstrate integrity and apply  practical practices.  04.01 Organize own work activities.  04.02 Set and revise own objectives and  goals.  04.07 Negotiate acceptance and support for  objectives and strategies. |

**E. EVALUATING**

You are required to evaluate computer system repair activities using the checklist below.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **ASSESSMENT CRITERIA**  **(60%)** | **MARKS GIVEN BY APPRENTICE** | | | | | **MARKS GIVEN BY**  **COACH** | | | | |
| **0** | **1-2** | **3-4** | **5-6** | **7** | **0** | **1-2** | **3-4** | **5-6** | **7** |
| 1 | Types of computer system / peripheral to be repaired identified |  |  |  |  |  |  |  |  |  |  |
| 2. | Previous computer maintenance report analyzed. |  |  |  |  |  |  |  |  |  |  |
| 3. | Computer problem symptom diagnosed   * POST checked * LED status indicator identified * BIOS beep sound/code identified * Blue screen error code checked |  |  |  |  |  |  |  |  |  |  |
| 4. | Computer repair tools and material prepared |  |  |  |  |  |  |  |  |  |  |
| 5. | Computer problem/ issues identified and analyzed |  |  |  |  |  |  |  |  |  |  |
| 6. | Computer problem rectified through remote access |  |  |  |  |  |  |  |  |  |  |
| 7. | Computer problem identified through phone instruction |  |  |  |  |  |  |  |  |  |  |
| 8. | Computer and peripheral diagnosed to identify problem according to manufacturer instruction manual |  |  |  |  |  |  |  |  |  |  |
| 9. | Repair cost estimated |  |  |  |  |  |  |  |  |  |  |
| 10. | Computer part procurement carried out |  |  |  |  |  |  |  |  |  |  |
| 11. | Data back-up executed |  |  |  |  |  |  |  |  |  |  |
| 12. | Computer repair job carried out |  |  |  |  |  |  |  |  |  |  |
| 13. | Computer unit test, operational test and functionality test carried out |  |  |  |  |  |  |  |  |  |  |
| 14. | Computer part disposal procedure applied to dispose faulty part |  |  |  |  |  |  |  |  |  |  |
| 15. | Computer repair details recorded and status is updated for future reference |  |  |  |  |  |  |  |  |  |  |
| 16. | Computer repair checklist recorded |  |  |  |  |  |  |  |  |  |  |
| 17. | Computer repair job order recorded |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | **SUBTOTAL** | **A1** | | | | | **A2** | | | | |
|  | **FULL MARKS** | **119** | | | | | **119** | | | | |
| **B** | **ATTITUDE/SAFETY/**  **ENVIRONMENT**  **(20%)** | **MARKS GIVEN BY APPRENTICE** | | | | | **MARKS GIVEN BY**  **COACH** | | | | |
| **0** | **1-2** | **3-4** | **5-6** | **7** | **0** | **1-2** | **3-4** | **5-6** | **7** |
| 1 | Attitude |  |  |  |  |  |  |  |  |  |  |
| 2. | Safety |  |  |  |  |  |  |  |  |  |  |
| 3 | Environmental |  |  |  |  |  |  |  |  |  |  |
|  |  | **B1** | | | | | **B2** | | | | |
|  |  | **21** | | | | | **21** | | | | |
| **C** | **EMPLOYABILITY SKILLS**  **(SOCIAL SKILLS)**  **(20%)** | **MARKS GIVEN BY APPRENTICE** | | | | | **MARKS GIVEN BY**  **COACH** | | | | |
| **0** | **1-2** | **3-4** | **5-6** | **7** | **0** | **1-2** | **3-4** | **5-6** | **7** |
| 1 | Communication skills |  |  |  |  |  |  |  |  |  |  |
| 2 | Conceptual skills |  |  |  |  |  |  |  |  |  |  |
| 3 | Interpersonal skills |  |  |  |  |  |  |  |  |  |  |
| 4 | Multitasking and prioritizing |  |  |  |  |  |  |  |  |  |  |
| 5 | Self-discipline |  |  |  |  |  |  |  |  |  |  |
| 6 | Teamwork |  |  |  |  |  |  |  |  |  |  |
| 7 | Learning skill |  |  |  |  |  |  |  |  |  |  |
| 8 | Leadership skill |  |  |  |  |  |  |  |  |  |  |
|  |  | **C1** | | | | | **C2** | | | | |
|  | **FULL MARKS** | **56** | | | | | **56** | | | | |

**CALCULATION TABLE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MARKS GIVEN BY APPRENTICE | MARKS GIVEN BY COACH | WEIGHTED MARKS GIVEN BY  APPRENTICE | WEIGHTED MARKS GIVEN BY COACH |
| ASSESSMENT CRITERIA | A1 | A2 | A1 / 119X 60 | A2 /119X 60 |
| ATTITUDE, SAFETY & ENVIRONMENT | B1 | B2 | B1 / 21X 20 | B2 / 21X 20 |
| EMPLOYABILITY SKILLS (SOCIAL SKILLS) | C1 | C2 | C1 / 56X 20 | C2 / 56X 20 |
| Total | | | X | Y |
| Ratio of Percentage (Apprentice: Coach) | | | P% | Q% |
| Grand Total | | | (P/100 x X) + (Q/100 x Y) | |

|  |
| --- |
| COMMENTS/ RECOMMENDATIONS BY COACH |

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COACH: APPRENTICE:

DATE: DATE: