|  |  |  |  |
| --- | --- | --- | --- |
| Title | **Calculate electrical load of appliances** | | |
| Level | **2** | **Credits** | **10** |

|  |  |
| --- | --- |
| Purpose | The competency standard identifies the knowledge and skills needed to calculate electrical load for selection of cables & estimation of quantity required for electrical items. |

|  |  |
| --- | --- |
| Classification ISCED | 0732 Building and civil engineering |

|  |  |
| --- | --- |
| Available grade | Competent / Not yet competent |

|  |  |
| --- | --- |
| Modification history | N/A |

| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
| --- | --- | --- |
| **D1:**  **Calculate load of wiring** | **Trainee will be able to:**  **P1-** Enlist the equipment/appliances  **P2-** estimation load of wiring against each item.  **P3-** Perform Simple Calculation  **P4-** Record estimated load | Trainee must know and understand:  K1- Power rating of equipments/appliances  K2- Units of current voltage and power  K3- Types of circuit (Parallel, series)  K4- basic mathematical calculations  K5- Circuit Tolerance  K6- Ohm's Law  K7- Conversion of different electrical quantities (power, current and voltage) |
| **D2:**  **Selection of cables according to room load** | **Trainee will be able to:**  **P1-** Interpret standard Specification Table of Cables/Wires**.**  **P2-** Estimate the required room Load.  **P3-**Select Cable size according to estimated load  **P4-**check the quality of cables.( Silver / Copper )  **P5-**check the size of cables.( under gauge )  **P6-**check the insulation of cables. | Trainee must know and understand:  K1- Read the Standard specification table for cable/wire  K2- Describe Load calculation  K3- Types of Cables/Wires  K4- Trademarks of cable manufacturing companies like ,New AGE, Pakistan, Dawn, GM e.t.c  K5- basic mathematical calculations  K6- Conductor, Insulator and semi-Conductor |
| **D3:**  **Selection of size of cables according to appliances** | **Trainee will be able to:**  **P1-** Interpret standard Specification Table of Cables/Wires  **P2-** identify the required Load of appliances.  **P3-** Select Cable size according to estimated load  **P4-**check the quality of cables.( Silver / Copper )  **P5-**check the size of cables.( under gauge )  **P6-**check the insulation of cables. | **Trainee must know and understand:**  K1- Read the Standard specification table for cable/wire  K2- Describe Load calculation  K3- Types of Cables/Wires  K4- Trademarks of cable manufacturing companies like, New AGE, Pakistan, Dawn, GM e.t.c |
| **D4:**  **Prepare estimates of required electrical items** | **Trainee will be able to:**  **P1-** Interpret Quantity of Materials as per Drawing  **P2-** Enlist Quantity of Material with Specification  **P3-** Prepare Estimate of required Items and accessories. | **Trainee must know and understand:**  K1- Various types of Symbol of Equipments , Material and appliances  K2- Types, specification and Trademark of material  **K3-** Techniques and procedure for preparing estimate of required material |