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

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| 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.  |

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| Classification ISCED | 0732 Building and civil engineering |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
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| **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/appliancesK2- Units of current voltage and powerK3- Types of circuit (Parallel, series)K4- basic mathematical calculationsK5- 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/wireK2- 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 calculationsK6- 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/wireK2- 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 |