**Ministry of Education**

**Sector**: **Building Construction**

**Occupation**: **Masonry L-III**

**TOOLS AND EQUIPMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification** |
|  | Tape rule | 1 | pc | 2m long |
|  | String | 1 | pc | 3mm thick and 20m long |
|  | Mason square | 1 | pc | With number (60×40cm) |
|  | Plumb bob | 1 | pc | 1 kg |
|  | Spirit level | 1 | pc | 80 cm long |
|  | Masonry Trowel | 1 | pc |  |
|  | Float | 1 | pc | 20×30cm |
|  | Spade | 1 | pc |  |
|  | Brick hammer | 1 | pc | 1000gm |
|  | Wooden Straight edge | 1 | pc | 2m long |
|  | Mortar pan | 1 | pc | ¼ barrel |
|  | Bucket | 1 | pc |  |
|  | Mason pencil | 1 | pc |  |
|  | Brick cutter | 1 | pc | Machine or portable grinder |
|  | Jointer | 1 | pc |  |
|  | Brush | 1 | pc | 4×14cm |

**MATERIALS AND SUPPLIES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification**  |
| 1 | Red bricks  | 120 | Pcs | 25cmx12cmx6cm |
| 2 | Slaked Lime  | 50 | kg |  |
| 3 | Sand  | 0.2 | m3 |  |
| 4 | water | 30 | liter |  |

**TOOLS AND EQUIPMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification** |
|  | Tape rule | 1 | pc | 2m long |
|  | String | 1 | pc | 3mm thick and 20m long |
|  | Mason square | 1 | pc | With number (60×40cm) |
|  | Plumb bob | 1 | pc | 1 kg |
|  | Spirit level | 1 | pc | 80 cm long |
|  | Masonry Trowel | 1 | pc |  |
|  | Float | 1 | pc | 20×30cm |
|  | Spade | 1 | pc |  |
|  | Brick hammer | 1 | pc | 1000gm |
|  | Wooden Straight edge | 1 | pc | 2m long |
|  | Mortar pan | 1 | pc | ¼ barrel |
|  | Bucket | 1 | pc |  |
|  | Mason pencil | 1 | pc |  |
|  | Brick cutter | 1 | pc | Machine or portable grinder |
|  | Jointer | 1 | pc |  |
|  | Brush | 1 | pc | 4×14cm |
|  | Stone hammer | 1 | pc | 1500kg |
|  | Flat chisel | 1 | pc |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO.** | **ITEMS**  | **QTY**  | **UNIT** | **SPECIFICATION** |
| 1 | (PVC pipe) Poly Vinyl Chloride | 1.5 | Meters | 16mm diameter |
| 3 | Distribution box (Din rail only) | 150  | mm | (standard) |
| 4 | Junction Box | 4 | Pcs | Round type (standard) |
| 5 | Utility box | 1 | Pcs | Round type (standard) |
| 5 | Fluorescent lamp (Assembly) | 1 | Pc | 18 W, 220 V |
| 7 | One Way Switch | 1 | Pc | Flush type (5 A 220 V-SPST) |
| 9 | Circuit Breaker (Main) | 1 | Pc | 20 A, 220 V (1 Ph) |
| 10 | Circuit Breaker (Lamp) | 1 | Pc | 10 A, 220 V (1 Ph) |
| 11 | Circuit Breaker (Telephone) | 1 | Pc | 6 A, 220 V (1 Ph) |
| 12 | Circuit Breaker | 1 | Pc | 16 A, 220 V (1 Ph) |
| 12 | Pipe-Clamp/support | 8 | Pcs | 16mm2 diameter |
| 13 | Metal/Wood screw | 20 | Pcs | 5mm X 12mm |
| 14 | Insulation Tape | 1 | Pc | Small |
| 15 | Solid Copper Wire | 1.7 | Meter | 2.5mm2 Black |
| 16 | Solid Copper Wire | 1.7 | Meter | 2.5mm2 Red/blue |
| 17 | Solid Copper Wire | 1.1 | Meter | 2.5mm2 Yellow green |
| 18 | Telephone wire | 0.6 | Meter | Twisted pair (CAT 3) |
| 18 | Earth rod | 1 | Pc | Standard |
| 20 | Telephone socket | 1 | Pc | Standard |
| 21 | Telephone Trunking  | 0.6 | mm | 20X15 mm |
| 20 | Fly board (For wiring board)) | 1 | Pc | 1200mm X 1200mm X 20mm |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LI TOOLS AND EQUIPMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO.** | **ITEMS**  | **QTY**  | **UNIT** | **SPECIFICATION** |
|  |
| 1 | Multi-tester | 1 | Pc | Analog / Digital |
| 2 | Hacksaw with blade | 1 | Pc | Standard |
| 3 | Side cutting plier | 1 | Pc | Standard |
| 4 | Long nose plier | 1 | Pc | Standard |
| 5 | Combination plier | 1 | Pc | Standard |
| 6 | Flat screw drivers | 1 | Pc | Standard |
| 7 | Philips screw drivers | 1 | Pc | Standard |
| 8 | Claw hammer | 1 | Pc | Standard |
| 9 | Electrician's knife/Wire stripper | 1 | Pc | Standard |
| 10 | Spirit/Level bar | 1 | Pc | Standard |
| 11 | Pull-push rule/measuring tape | 1 | Pc | 3 m |
| 12 | Heat blower/Elec. stove | 1 | Pc | 220 V, 1000 W |
| 13 | Pencil/Chalk liner | 1 | Pc |  |

**:** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Item** | **Qty** | **Unit** | **Specification** |
|  | Portable masonry drilling machine | 1 | Pc | Portable standard size with 8-12mm concert drilling bits |
|  | Hacksaw with blade(24 teeth per inch) | 1 | Pc | Hack saw standard  |
|  | Screw driver | 1 | Pc | Philips head |
|  | Screw driver  | 1 | Pc | Flat head |
|  | Non adjustable pipe thread cutter (die stock) | 1 | Pc | Spain made set |
|  | round files  | 1 | Pc | Standard size  |
|  | Oil can  | 1 | Pc | Standard |
|  | Pipe wrench  | 2 | Pcs | Adjustable medium size(12” and 14”) |
|  | Pipe vise | 1 | Pc | Portable |
|  | Adjustable wrench | 1 | Pc | 10,12,14 |
|  | Measuring tape | 1 | pc | 3m range |
|  | Wire brush | 1 | pc | Standard |
|  | Pressure testing pump | 1 | pc | Standard |

**LIST OF TOOLS AND EQUIPMENT FOR WATER SUPPLY SYSTEM**

**LIST OF SUPPLIES AND MATERIALS FOR WATER SUPPLY SYSTEM project 2:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Item** | **Qty** | **Unit** | **Specification** |
|  | 1/2”Galvanized steel pipe  | 8.45 | ml | Akaki |
|  | Ø ¾ -½” Galvanized reducer | 1 | Pc | Standard |
|  | Ø ½” Galvanized steel elbow  | 2 | pcs | standard  |
|  | Ø ½” Galvanized steel angle valve | 2 | Pc | Standard |
|  | Ø 3/4” Galvanized steel nipple  | 1 | Pcs | Standard |
|  | Ø ½” Galvanized steel Tee | 3 | pcs | Standard |
|  | Ø 3/4” Galvanized steel pipe | 0.3 | ml | Akaki |
|  | Ø 50PVC pipe | 1.85 | ml | standard |
|  | Ø 50PVC Elbow | 2 | pc | standard |
|  | Ø 50PVC y-branch | 1 | pc | standard |
|  | Ø 3/4” get valve | 1 | pc | standard |
|  | Ø 1/2” chrome Get valve | 2 | pc | standared |
|  | Ø 1/2” Get valve | 4 | pc | standared |
|  | Shower head | 1 | pc | standared |
|  | ½” Galvanized steel Plug½”የብረት መደፈኛ | 1 | Pc | Standardመስፈርቱን የጠበቀ |
|  | Ø 50mm PVC pipe50ሚ.ሜ የኤሌክትሪክ ቧንቧ | 3 | m | Standard መስፈርቱን የጠበቀ |
|  | 50mm PVC Coupling socket50ሚ.ሜ ካፐሊንግ (ሶኬት) | 2 | Pc | Standardመስፈርቱን የጠበቀ |
|  | Ø 50mm PVC elbow50ሚ.ሜ ፕላስቲክ ኤልቦ | 2 | pcs | Standard መስፈርቱን የጠበቀ |
|  | Ø 1/2” Pipe clip1/2”የቧንቧማሰሪያ ክሊፕ | 5 | Pc | Standard መስፈርቱን የጠበቀ |
|  | Hempቃጫ | 1/4 | Kg | Standard መስፈርቱን የጠበቀ |
|  | ½” wide x 20m Teflon tapeቴፍሎን ቴፕ  | 2 | Pcs | Standard መስፈርቱን የጠበቀ |
|  | Lubricating oilማለስለሻ ዘይት | 200 | ml | Standardመስፈርቱን የጠበቀ |
|  | Ragስትራቾ | 1/4 | kg | Standardመስፈርቱን የጠበቀ |

**MATERIALS AND SUPPLIES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification for one candidate** |
| 1 | HCB | 9 | Pcs | 40x20x15cm |
| 2 | HCB | 15 | Pcs | 40x20x10cm |
| 2 | Slaked Lime  | 50 | kg |  |
| 3 | Sand  | 0.2 | m3 |  |
| 4 | Dressed stone | 28 | pcs | 15 x15 x 15 cm |
| 4 | water | 50 | litre |  |

**Consumable mmaterials to be used: For Project 1,2,3 per candidate**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Item description** | **Qty** | **Unit** | **Specification** |
| 1 | Undercoat and finishing plasters | 25 | kg | Hydrated gypsum |
| 2 | Cement/ Lime | 0.5 | Qut. | Hydrated for lime |
| 3 | Sands | 0.2046 | M3 | River |
| 1 | Hand sanders | 1 | pcs |  |
| 2 | Paint | 0.0016 | Litre | Emulsion / Synthetic |
| 3 | Thinner | 0.00008 | Litre | Kerosene |
| 4 | Stucco  | 2 | kg | Standard  |
| 5 | Gypsum  | 25 | kg | Hydrated gypsum |
| 1 | Sands | 0.2046 | M3 | River |
| 2 | Cements | 0.5 | Qut. | OPC/PPC |
| 3 | Timber | 3.20x0.1x0.02 | M | Fines wood |
| 4 | ready-mixed screeds | 1 | kg | Oridinary |
| 5 | Damp-proof membranes | 1 | M2 | Standard |

**Tools & equipment/ Instruments**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Item description** | **Qty** | **Unit** | **Specification** |
| 1 | Measuring tape/rule, | 1 | pcs | 5 meters long |
| 2 | Hammer, | 1 | pcs | standard |
| 3 | Bolster | 1 | pcs | standard |
| 4 | Shovel | 1 | pcs | standard |
| 5 | Wheelbarrow | 1 | pcs | standard |
| 6 | spirit level | 1 | pcs | standard |
| 7 | Trowels | 1 | pcs | standard |
| 1 | duster brushes | 1 | pcs | standard |
| 2 | Putty knives | 1 | pcs | standard |
| 3 | filling knives/blades | 1 | pcs | standard |
| 4 | nail punches and water blasters | 1 | pcs | standard |
| 5 | Brushes | 1 | pcs | General purpose |
| 6 | Step ladders | 1 | pcs | standard |
| 7 | Scissor-lift and elevating work platform | 1 | pcs | standard |
| 8 | Bucket | 1 | pcs | standard |
| 1 | screed rails | 1 | pcs | standard |
| 2 | String | 10 | met | standard |
| 3 | Sprit level/water tube level | 1 | pcs | standard |
| 4 | Trowel , float | 1 | pcs | standard |
| 5 | Straight edge | 1 | pcs | Fine wood/RHS |

**Note: Materials and tools may be modified by the Assessor, depending on the actual job performed, and Location the standard installation practices of the country.**

**Non-Consumable** **material for project 1 per candidate**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Items** | **Qty** | **Unit** | **Specification** |
|  | Tape rule  | 1 | Pc | 2m long |
|  | Jointer | 1 | Pc |  |
|  | String 20m long | 1 | Pc | 3mm thick and 20m long |
|  | Mason square  | 1 | Pc | With number (60×40cm) |
|  | Plumb bob | 1 | Pc | 1kg |
|  | Spirit level  | 1 | Pc | 80 cm long |
|  | Masonry Trowel | 1 | Pc |  |
|  | Wooden Float | 1 | Pc | 15×30cm |
|  | Spade | 1 | Pc |  |
|  | Brick hammer | 1 | Pc | 1000gm |
| 12 | Wooden Straight edge | 1 | Pc | 2m long |
| 13 | Mortar pan | 1 | Pc | ¼barrel |
| 14 | Bucket | 1 | Pc |  |
| 15 | Mason pencil | 1 | Pc |  |
| 16 | Brush | 1 | Pc | 4×14cm |

**Consumable material for project 1 per candidate**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Items** | **Qty** | **Unit** | **Specification** |
| 1 | Red Bricks  | 144 | Pc | 25cm x 12cm x 6cm |
| 2 | Block wall | 6 | Pc | 20\*20\*40 |
| 3 | Stone wall | 6 | Pc | 30\*30\*40 |
| 4 | Slaked Lime  | 10 | Kg |  |
| 5 | Sand  | 0.1 | Cu.m |  |
| 6 | Pure water | 30 | Litre |  |
| 7 | Timber  | 1 | Pc | 2.5\*30\*400 |
| 8 | Chip wood  | 1 | Pc |  |

**Note:-** Materials and tools may be modified by the Assessor, depending on the actual job performed, and location & the standard installation practices of the country.

**Consumable materials**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Items** | **Qty** | **Unit** | **Specification** |
| 1 |  Brick  | 80 | Pc | 6cm x 12cm x25cm |
| 2 | HCB | 5 | Pc | 40cm x 20cm x20cm |
| 2 | Slaked Lime  | 25 | Kg |  |
| 3 | Sand  | 0.15 | M3 |  |
| 4 | Pure water | 45 | litre |  |

**Tools and Equipment (Non-Consumable)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification** |
|  | Tape rule | 1 | pc | 2m long |
|  | String | 1 | pc | 3mm thick and 20m long |
|  | Mason square | 1 | pc | With number (60×40cm) |
|  | Plumb bob | 1 | pc | 1 kg |
|  | Spirit level | 1 | pc | 80 cm long |
|  | Masonry Trowel | 1 | pc | Small size trowel |
|  | Float | 1 | pc | 20×30cm |
|  | Spade | 1 | pc | For mixing |
|  | Brick hammer | 1 | pc | 1000gm |
|  | Wooden Straight edge | 1 | pc | 2m long |
|  | Mortar pan | 1 | pc | ¼ barrel |
|  | Bucket | 1 | pc |  |
|  | Mason pencil | 1 | pc |  |
|  | Brick cutter | 1 | pc | Machine or portable grinder |
|  | Jointer | 1 | pc |  |
|  | Brush | 1 | pc | 4×14cm |
|  | Stone hammer | 1 | pc | 1500kg |
|  | Flat chisel | 1 | pc |  |

Note: Materials and tools may be modified by the Assessor, depending on the actual job performed, location & the standard installation practices of the country.

**Consumable materials**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.**  | **Items** | **Qty** | **Unit** | **Specification** |
| 1 |  Figured brick  | 180 | Pc | 6cm x 12cm x25cm |
| 2 | Slaked Lime  | 28 | Kg |  |
| 3 | Sand  | 0.15 | Cu.m |  |
| 4 | Pure water | 45 | litre |  |

**TOOLS AND EQUIPMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Items** | **Qty** | **Unit** | **Specification** |
|  | Tape rule | 1 | pc | 2m long |
|  | String | 1 | pc | 3mm thick and 20m long |
|  | Mason square | 1 | pc | With number (60×40cm) |
|  | Plumb bob | 1 | pc | 1 kg |
|  | Spirit level | 1 | pc | 80 cm long |
|  | Masonry Trowel | 1 | pc | Small size trowel |
|  | Float | 1 | pc | 20×30cm |
|  | Spade | 1 | pc | For mixing |
|  | Brick hammer | 1 | pc | 1000gm |
|  | Wooden Straight edge | 1 | pc | 2m long |
|  | Mortar pan | 1 | pc | ¼ barrel |
|  | Bucket | 1 | pc |  |
|  | Mason pencil | 1 | pc |  |
|  | Brick cutter | 1 | pc | Machine or portable grinder |
|  | Jointer | 1 | pc |  |
|  | Brush | 1 | pc | 4×14cm |
|  | Stone hammer | 1 | pc | 1500kg |
|  | Flat chisel | 1 | pc |  |

Note: Materials and tools may be modified by the Assessor, depending on the actual job performed, and location & the standard installation practices of the country.