Number of Units =40 computer labs . 20 for each floor . each lab contains 35 devices each floor contains extra 4 printers , 6 scanners , 4 wireless access points , 6 wireless cameras and 4 attendance devices. Plus 6 screens in the security room = 1454 nodes.

**1-Passive Elements**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Items | Description | Units | Qty. |
| 1-1 Copper Requirements | | | | |
| 1 | CAT6 UTP Cable | (Number of units\*avg length + length of uplinks )/305 | Reels | 286 |
| 2 | RJ45 | Number of units | Each | 1454 |
| 3 | Drop Cable “PC” | 3 [m] | Each | 1454 |
| 4 | Patch Cord | 1 [m] | Each | 1454 |
| 5 | Patch Panel | No. of Ports: 48 | Each | 2 |
| No. of Ports: 24 | Each | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1-2 Copper Requirements | | | | |
| 6 | Indoor Fiber Cable | The cable that links between the core switch and the floor switch. | Meter | 123 |
| 7 | Outdoor Fiber Cable |  | Meter | -- |
| 8 | Fiber Face Plate | 75\*50\*3mm,Fiber optic Faceplate | Each | 90 |
| 9 | Drop cable “Server” | 3 [m] | Each | 2 |
| 10 | Patch Cable | 1 [m] | Each | 1 |
| 11 | Patch Panel  “server” | No. of Ports: 48 | Each | 1 |
| No. of Ports: | Each |  |
| No. of Ports: | Each |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1-3 Racks | | | | |
| 12 | Rack | Size: 48U | Each | 3 |
| Size: 12U | Each | 40 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1-4 Trunk | | | | |
| 13 | Ducts  “Cable trays” | Size: open slot wire duct | Meter | 43,615 |
| Size: -- | Meter | -- |
| Size: -- | Meter | -- |
| 14 | Trays | Size: | Meter | -- |
| 15 | PVC | Size: | Meter | 129 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1-5 Electricity | | | | |
| 16 | Circuit breaker | A Square D Circuit Breaker, 100 Amp, 2-Pole, HOM2100 | Each | 2 |
| A | Each | -- |
| A | Each | -- |
| 17 | Enclosures | BUD Industries JBH-4961-KO Steel NEMA 1 Sheet Metal Box with Knockout and Hinged Cover, 10" Width x 10" Height x 6" Depth, Gray Finish | Each | 6 |
| 18 | Cables | Topsolar® H1Z2Z2-K | Reels | 5 |
| Toxfree® ZH H07Z1-K (AS) | Meter | 20 |
| Size: | Meter | -- |

**2- Active Elements**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Items | Description | Unit | Qty. |
| 2-1 Switches, Routers, Security | | | | |
| 1 | Access Switch | 24 port | Each | 2 |
| 2 | Access Switch | 48 port | Each | 40 |
| 3 | Distribution Switch | 24 port | Each | 2 |
| 4 | Layar3 switch “Backbone” | 24 port | Each | 1 |
| 5 | Router |  | Each | 1 |
| 6 | Modems |  | Each | 1 |
| 7 | Fire Walls |  | Each | 2 |
| 8 | E-learning servers |  | Each | 4 |
| 9 | Database servers |  | Each | 2 |
| 10 | Application servers |  |  | 2 |
| 11 | Web server |  |  | 1 |
| 12 | Email server |  |  | 1 |
| 13 | Print servers |  |  | 2 |
| 14 | Directory server |  |  | 2 |

**3-Connectivity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Item | Description | Unit | Qty. |
| 1 | Internet Connectivity | OOREDOO “ISP” | Each | 1 |
| 2 | Leased Lines | Monthly subscription | Each | 1 |

**4-Hardware Devices**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Item | Description | Unit | Qty. |
| 1 | PC | CESCO devices | Each | 1240 |
| 2 | Camera | PTZ | Each | 12 |
| 3 | Monitors screens |  | Each | 6 |
| 4 | Scanners |  | Each | 12 |
| 5 | printers |  | Each | 8 |
| 6 | Wireless access points |  | Each | 8 |
| 7 | Attendance devices |  | Each | 8 |
| 8 | Extra Room devices |  | Each` | 160 |