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Training Organisation Guide (ToG)

for

TVET CERTIFICATE III in WATER AND IRRIGATION

Year 2022

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Part 1: Pedagogical organisation

1. Presentation of the training programme

1.1. The qualification

This qualification prepares individuals to integrate water and irrigation as an irrigation operator performing a range of tasks in farming sites, irrigation schemes. The individuals with this qualification can enter the TVET Certificate IV in water and irrigation in order to be equipped with the necessary competences.

1.2. Minimum Entry requirements

The minimum entry requirement to this qualification is to have successfully completed ordinary level, and level II in animal health or its equivalent.

2.1 Information about competencies

No	Code	Complementary competencies	Credit
1	CCMOL302	Describe the occupation and learning process	3
2	CCMHE302	Maintain SHE at workplace	3
3	CCMBC302	Create a Business	3
4	CCMWC302	Communicate effectively at workplace	3
5	CCMEN302	Apply proficient Technical English	3
6	CCMCL302	Apply computer literacy	3
7	CCMKN302	Gukoreshalkinyarwandakiboneye	3
8	CCMCZ301	Citizenship	3

9 CCMFT302

Pratiquer l'activité de communication en français dans le métier

3

Total

27

No	Code	Core competencies	Credit
GENERAL	1.	GENAM301 Apply Algebra and Trigonometry	6
	2.	GENBC301 Demonstrate Basics of Chemistry	4
	3.	GENAB302 Demonstrate Basic knowledge of General Biology	4
	4.	GENPY301 Apply general physics	5
	5.	AGRTD301 Collect topographical data	6
	6.	WIRDP301 Apply Basic drawing principles	8
	7.	WIRPJ301 Join pipe	6
	8.	WIRPP301 Apply Preliminary pumping activities	5
SPECIFIC	9.	WIRPR301 Apply Preliminary pressurized irrigation system	8
	10.	WIRMD301 Maintain drip irrigation infrastructures	6
	11.	WIRMP301 Maintain pumping system	6
	12.	WIRPS301 Maintain pressurized irrigation system	8
	13.	WIROP301 Operate pump	5
	14.	WIRSI301 Operate surface irrigation system	10
	15.	WIRSM301 Maintain surface irrigation	5
	16.	WIRSD301 Operate surface drainage	5
	17.	CCMIA302 Integrate the workplace	32
Total			129

2. Human resources

2.1. Trainers' qualifications and competences (Trainers' profile)

No.	Modules	Qualification	Field or training (conferences, workshops, seminars) experience	Technical teaching experience	Languages skill	ICT skills.
1.	BASIC DRAWING PRINCIPLES	To be a holder of Bachelor's degree in Civil Engineering, Construction technology, Architecture, Irrigation and Drainage, Soil and Water Management.	Field work for 1 Year (Conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of	Field work for 2	2 Years	Fluent in	Perform CAD (computer-aided

		Advance diploma in Civil Engineering, Construction technology, Architecture, Irrigation and Drainage, Soil and Water Management.	Years (conferences, workshops, seminars) experience certificate		English; French is an added advantage	design) Micro Soft Word Micro Soft Excel Power point presentation Internet
2.	PRELIMINARY PUMPING ACTIVITIES	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical Engineering Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate.	1 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel
		To be a holder of Advance diploma in Irrigation and Drainage, Water	Field work for 2 Years (conferences,	2 Years	Fluent in English; French is an added	Micro Soft Word Micro Soft Excel

		Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical Engineering Management.	workshops, seminars) experience certificate		advantage	
3.	PRELIMINARY PRESSURIZED IRRIGATION SYSTEM	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) CROPWAT8 Micro Soft Word Micro Soft Excel Power point presentation Internet.
		To be a holder of Advance diploma in in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) CROPWAT8 Micro Soft Word Micro Soft Excel

			certificate			Power point presentation Internet
4.	MAINTENANCE OF DRIP IRRIGATION INFRASTRUCTUR ES	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) Micro Soft Word Micro Soft Excel Power point presentation Internet

5.	MAINTENANCE OF PUMPING SYSTEM	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical Engineering Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical Engineering Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel Power point presentation Internet
6.	PRESSURIZED IRRIGATION SYSTEM	To be a holder of Bachelor's degree in Irrigation and Drainage, Water	Field work for 1 Year	1 Years	Fluent in English; French	Perform CAD (computer-aided design)

	MAINTENANCE	Engineering Soil and Water Management.	(conferences, workshops, seminars) experience certificate		is an added advantage	Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer- aided design) Micro Soft Word Micro Soft Excel Power point presentation Internet
7.	OPERATING A PUMP	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel

		Engineering Soil and Water Management.				
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering, Agricultural Mechanization, Electromechanical, Electrical Engineering, Mechanical Engineering Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel
8.	SURFACE IRRIGATION SYSTEM	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate Training on pedagogy(CBT&CBA)	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer- aided design) CropWAT8 Micro Soft Word Micro Soft Excel Power point presentation Internet

			or training in field			
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) CropWAT8 Micro Soft Word Micro Soft Excel Power point presentation Internet
9.	SURFACE IRRIGATION SYSTEM MAINTENANCE	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Micro Soft Word Micro Soft Excel Internet
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering,	Field work for 2 Years (conferences,	2 Years	Fluent in English; French is an added	Micro Soft Word Micro Soft Excel

		Soil and Water Management.	workshops, seminars) experience certificate		advantage	Internet
10.	PIPE JOINING	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate Training on	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT Micro Soft Word Micro Soft Excel Power point presentation Internet

			pedagogy(CBT&CBA) or training in field			
11.	SURFACE DRAINAGE	To be a holder of Bachelor's degree in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in Irrigation and Drainage, Water Engineering, Soil and Water Management.	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT Micro Soft Word Micro Soft Excel Power point presentation Internet

12.	TOPOGRAPHICAL DATA COLLECTION	To be a holder of Bachelor's degree in Topography, Land Surveying, Civil Engineering, Agriculture Engineering	Field work for 1 Year (conferences, workshops, seminars) experience certificate	1 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT GIS Micro Soft Word Micro Soft Excel Power point presentation Internet
		To be a holder of Advance diploma in Topography, Land Surveying, Civil Engineering, Agriculture Engineering	Field work for 2 Years (conferences, workshops, seminars) experience certificate	2 Years	Fluent in English; French is an added advantage	Perform CAD (computer-aided design) REVIT GIS Micro Soft Word Micro Soft Excel Power point presentation Internet

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Part 2: Material organisation

1. Material Resources

1.1. Category 1: Machines, equipment and accessories

Name and description	Specifications	Quantity	Type of room	Module code
Screwdriver	Model Name :Lenox Tools 23931 6-in-1 Multi-Tool Screw Driver Brand: Lenox Tools Material: As shown in the image Head Style: Flat, Phillips Item Dimensions: 9 x 2.44 x 2.35 inches.	2	LAB and Workshop Field	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301 WIRPJ301
Combination spanner set	Material: Special AlloySteel, Finish: Nickel Chrome Plate (All Polish),	1	Workshop Field	WIRPP301 WIRPR 301

	Product Specifications : 7pcs / 11pcs per set, Product Specifications : All 2 types withcloth bag			WIRMP301 WIRPS301 WIROP301 WIRPJ301
Barometer	Barometric pressure gauge PCETHB 38 inch. ISO Calibration certificat.	1	Field and workshop	WIRSD301 WIRSI301
Diver	Groundwater monitoring 300m Deep Hole Well Water Depthmeasuringsensor/ Levelmeasuring instrument.	1	Field	WIRSD301 WIRSI301
Extension cable	Length: 50 m Four socket outlets, two poles and ground electrode 10/16A/250V, cable 3x2,5mm ² power 3000W.	3	Classroom, LAB and Workshop	WIRDP301 WIRTD301
Stop watch	Stopwatch and digital timer, Dial colour: Black, Band material: Plastic, Clasp type: Strap, Waterproof: Water resistant, Case shape: Round.	2	Classroom, LAB and Workshop	WIRPR 301 WIROP301 WIRSI301 WIRSD301 WIRPJ301

1.2. Category 2: Tools and instruments

Name and description	Specifications	Quantity	Type of room	Module code
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Printer	Epson Workforce Pro WF-C8690 A3 MultifunctionColor Printer	1	Office for trainers	WIRDP 301 WIRPR 301 WIROP301 WIRSI301 WIRSD301 WIRTD301 WIRIM 301
Pipes	Ganga pipe, 32 mm Insidediameter.	50	Field Workshop	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Pipes	Garvanized pipe, 32 mm insidediameter.	25	Field Workshop	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Hose pipe	2 inches (50 mm insidediameter), high pressure,flexiblegardenhose PVC Lay flat hose for agricultural Irrigation. Quick coupling, lenght : 20 m.	25	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Pipe reducer	HDPE Pipe reducer from 75mm to 50 mm inside diameter., female threaded socket, quick coupling.	2	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301

				WIRPJ301
Pipe	HDPE (High Density Polyethylene) , Quick coupling, 75 mm inside diameter.	25	Field	WIRPP301 WIRPR 301 WIRPS301 WIOP301 WIRPJ301
Non-return for suction pipe	China plastic suction hose non return foot valve with precise filtration, 75 mm inside diameter.	1	Field	WIRPP301 WIRPR 301 WIRPS301 WIOP301 WIRPJ301
Rain gun	Range : 8-12m, Working pressure : 1.5-4 kg, sprinkler type : 360 gear drive.	5	Field	WIRPR 301 WIRMP 301 WIRPS301 WIOP301
Tripod for rain gun	Sprinkler Type: Spray Heads, Brand: Greenshift, Material: Cast Iron, Color: Silver, Finishing: Powder Coated.	5	Field	WIRPR 301 WIRMP 301 WIRPS301 WIOP301
Drip irrigation Kit	A kit for 25 Are, with a plastic water tanker of 5 m ³ capacity, laterals spaced with 50*50 cm and sand filter.	1	Field	WIRMD 301 WIRPS301 WIRPR 301
Dripper emitter	Working pressure : 0.5-5 bar, Flow rate : 2l/h , Non drain PCND Model sealing at about 0.15 bar pressure.	100	Field	WIRMD 301 WIRPS301 WIRPR 301
Plastic sprinkler (Nozzle) sprinkler heads	PLASTIC MINI SPRINKLER 32 INR	20	Field	WIRPS301 WIRPS301
Drip irrigation tube (High speed, Pipe diameter : Φ 12-16mm, Pipe thickness :	10	Field	WIRPR 301

Lateral, polytube)	0.5-1.5mm, Distance of dripper : 500mm, Number of punchedholes : 1 hole. Length :100			WIRPS301 WIRMD 301
Starter	16mm Inside diameter	40	Field	WIRPR 301 WIRPS301 WIRMD 301
End plug	16mm Inside diameter	40	Field	WIRPR 301 WIRPS301 WIRMD 301
Flush valve for submain line	32mm (3/4) Inside diameter	2	Field	WIRPR 301 WIRPS301 WIRMD 301
Flush valve for lateral	True union PVC ball valve, 16mm Inside diameter	40	Field	WIRPR 301 WIRPS301 WIRMD 301
Ball valve	32mm (3/4) Inside diameter	2	Field	WIRPR 301 WIRPS301 WIRMD 301
Main line for drip irrigation	32mm (3/4) Inside diameter,material : HDPE, Lenght : 50m.	1	Field	WIRPR 301 WIRPS301 WIRMD 301
Submain line for drip irrigation	32mm (3/4) Inside diameter,material : HDPE, Lenght : 50m.	1	Field	WIRPR 301 WIRPS301 WIRMD 301
Screen filter	Main Material: Plastic ,Usage: Irrigation, Power Source: Pressure, Capacity: 20L-50L.	1	Field	WIRPR 301 WIRPS301 WIRMD 301
Pressure regulator	A 15 psi (1.03 bar) Senninger pressure regulator	2	Field	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301 WIRPJ301

				WIRMD 301
Wires (small),	Pcs 20 CM 2.54 mm breadboardjumperwiresmale_male/Female_female/Female	10	Field Workshop	WIRPR 301 WIRMD 301
Electro vane	2DC, Voltage	1	Field Workshop	WIRPR 301 WIRMD 301
SoilmoistureSensors	Power supply : 3.3V ~ 5V, LED : Red: Power Green: Digital output, Pinout : AO: Analog output	5	Field Workshop	WIRPR 301 WIRMD 301
SIM card	CA extends Sim card registration MTN Rwanda	2	Field Workshop	WIRPR 301 WIRMD 301
GSM Module	Wireless GSM Module, for network connectivity.		Field Workshop	WIRPR 301 WIRMD 301
Wires (roll)	Oman cables wires, 3kg.	1	Field Workshop	WIRPR 301 WIRMD 301
Power strip (Multisocket)	Home electics, multisocket,powerlines,plugboard,plugs and sockets.Connection of power line stock photo-alamy.	2	Classroom Workshop	WIRPR 301 WIRMD 301
Breadboard	TRU COMPONENTS 0165-40-40-4—28010 Breadboardfolding bus strip, total number of pins 400 (L*W*H) 86.5*64.5*8.5mm.	2	Workshop Field	WIRPR 301 WIRMD 301
Resistors	10k	2	Workshop Field	WIRPR 301 WIRMD 301
Relay module	5V 2 chnnelrelayboard module for Arduinoraspberry pi ARM AVR dsp PIC	2	Workshop Field	WIRPR 301 WIRMD 301
Water levelsensor	Water levelsensor, detector interfacingwitharduino.	2	Workshop Field	WIRPR 301 WIRMD 301
Solderingwire	63/37 0.8mm tin LeadRosincore solder Flux solderingweldingironwirereel new	100 m	Workshop Field	WIRPR 301 WIRMD 301
Arduinomega	Uno R3 ATmega328pch340 Mini USB Board for Compatible_Arduino	2	Workshop Field	WIRPR 301 WIRMD 301
Battery	1 tamiya plug 9 V 3800 mAhNiMH rechargeable batteryrc	1	Field	WIRPR 301 WIRMD 301
Transformer	(12-0-12V)	1	Workshop	WIRPR 301

			Field	WIRMD 301
Diodes	Ordinary	1	Field	WIRPR 301 WIRMD 301
Electrolyticcapacitor	1000µF	2	Workshop Field	WIRPR 301 WIRMD 301
Ceramiccapacitor	0.01 µF	2	Workshop Field	WIRPR 301 WIRMD 301
Non return valve	32mm (3/4) Inside diameter, Golden Brass Bronze NRV Fitting.	1	Field	WIRPR 301 WIRPS301 WIRMD 301
Ball valve	PVC Ball valve, 32mm (3/4) Inside diameter	2	Field	WIRPR 301 WIRPS301 WIRMD 301
Sprinkler adapter	Material : HDPE, Size : 75 mm, Thickness : 3- 5mm.	20	Field	WIRPJ301 WIOP301 WIRPR 301 WIRPP301 WIRMP 30 1 WIRPS301
Riser for sprinkler	Rain bird 1812AP professional pop-up sprinkler adjustable 00-3600 pattern 8'-15 spray.	20	Field	WIRPJ301 WIOP301 WIRPR 301 WIRPP301 WIRMP 30 1 WIRPS301
Tee	HDP, Polyethylene, Quick coupling, 75 mm insidediameter.	10	Field	WIRPP301 WIRPR 301 WIRPS301 WIOP301 WIRPJ301
Elbow	HDP, Polyethylene, Quick coupling, 75 mm	10	Field	WIRPP301

	insidediameter.			WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Valve	50 mm insidediameter.	2	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
End cup	HDP, Polyethylene, Quick coupling, 75 mm insidediameter.	10	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
End plug	HDP, Polyethylene, Quick coupling, 75 mm insidediameter.	10	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301

Water pump	Powered by Honda W120xh W130xh 2 Inch 3 Inch 5.5HP Gasoline Water Pump. Max.Head: 30-50m, Max.Capacity: 200-300 L/min, Driving Type : Motor Material: Stainless Steel Structure: Irrigation Pump Assembly: Pipeline Pump Suction pipe diameter: 50mm Deliary pipe diameter: 50mm	1	Field	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301
Centrifigalpump	Max Flow :10000 m ³ /h, Max Head : 210 metres	1	Field (Pumping activities)	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301

Solar water pump Submersible Pumps	Pump size : 6 inch, outlet : 3 inch, power : 15000wat(20 HP) , rated voltage : 380VDC (480- 750 VDC), max flow : 36000l/ h, max head : 270m, high speed : 3000 RPM,packing size (pump&motor) : 95*16.7*16.7 cm and 81..5*16.7*16.7cm, GW (pump and motor) : 21.86kg and 46kg, packing size and GW (Controler) : 28*30*40cm and 7 kg. <u>Material</u> :Outlet and inlet :stainlesssteel, pump body : 304 stainlesssteel, impeler : stainlesssteel, motor : permanent magneticbrushlessDC,Motoroilfelled.	1	Field	WIRPP301 WIRPR 301 WIRMP 30 1 WIRPS301 WIROP301
Circuit breaker	Four one-pole miniature circuit breakers	1	Field (Pumping station	WIRPP301 WIRPR 301 WIRMP 30 1 WIRPS301 WIROP301
lump	220 Watts	5	Field (Pumping station) Workshop.	WIRPP301 WIRPR 301 WIRMP 30 1 WIRPS301 WIROP301
Socket	KIMEI Type	3	Field (Pumping station) Workshop.	WIRPP301 WIRPR 301 WIRMP 30 1 WIRPS301 WIROP301
Electrical Junction	Plastic junction box, IP55,100mm *100mm*50mm.	2	Field (Pumping station)	WIRPP301 WIRPR 301 WIRMP 30 1

				WIRPS301 WIROP301
Electrical pipes	Black PVC Pipe, Diameter 12 mm, 3 meter long.	10	Field (Pumping station)	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301
Solar pannel	Normal Specification 450W - 470W PercMonocrystalline Solar Panel	5	Field	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301
Solar battery bank	Solar batterybank 12V 150 ah for solar off grid system.	5	Field, pumping station	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301
Water tank	Black plastic, Polyethylene, 10m ³ of capacity	1	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Float valve	MACGOAL Water Float Valve withadjustable arm float valve shut off automatic 1 inch, high flow rate.	1	Field Workshop	WIRPP301 WIRPR 301 WIRPS301 WIROP301

				WIRPJ301
Elbow	Ganga pipe, 32 mm insidediameter.	10	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Tee	Ganga, 32 mm insidediameter.	10	Field	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Cross Tee	Ganga, 32 mm insidediameter.	5	Field Workshop	WIRPP301 WIRPR 301 WIRPS301 WIROP301 WIRPJ301
Bucket	plastic,10 liters of capacity.	2	Field, workshop Classroom	WIRPR 301 WIRMP 30 1 WIRPS301 WIROP301 WIRMD 301
Spade	SHOVEL, round point withhandle, total lenght approx.1m	15	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301

Pickaxe	Magnusson 3.2kg pickkaxewithcompsitehandle.	10	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Hoe	HOE, headonly, approx. 23x17cm, 1.4kg, forgedcarbonsteel	15	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Machete (panga)	Brand : Tramontina, Bladelength : 19.5 inches, Handlematerial : Wood, item weight :0.2 kg, item dimensions : LxWxH.	5	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Tape measure	50 m long	5	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301

Measuring tape	Steel casing, 5 m, Impact Resistant	5	Field	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Plastic pipe cutter	Made in aluminium With vertical, horizontal and diagonal indicators 5 PVC Pipe cutters.	5	Field Workshop	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Watering can	10 litter plastic watering can for agricultural use.	10	Field	WIRSI301 WIRPP301 WIROP301 WIRPS301 WIRPR 301
Hack saw	Professional hacksaw, Handy saw blade storage, Heavy Duty frame, 12" 24 TPI Bi-metal blade Adjustable blade	5	Field Workshop	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301

Spirit level	Length: 40-50cm Temperature: 20 to 130 degrees F Accurate: ± 0.5 millimeters/meter, or 0.005 inches/inch or .029 degrees.	5	Field Workshop	WIRIM 301 WIRMD 301 WIRTD301 WIRSD301 WIRSI301 WIRPS301
Dump level	Mild steel automatic dumpy level instrument for leveling,Material: MildSteel, Surface Finishing : Powder Coated, DumpyLevelwithTripod 7 & Staff.	5	Field Workshop	WIRSI301 WIRSD301 WIRTD301
Theodolite	<ul style="list-style-type: none"> • Heavy DutyWoodenTripod • PrismWith Pole • 1 Battery and Charger Set • AngularAccuracy of 5" • Single-prism range 2300 m • ReflectorlessWithreflectorsheet (5 x 5cm) 5m to 100m • Internal Memory 10,000-record data memory with job manager • Focusing Range 0.5m 	2	Field Workshop	WIRSI301 WIRSD301 WIRTD301
GPS receiver	GARMIN GPS MAP 661,GPS handheld and satellite communicator, facturing and topo active mapping and in reach technology.	5	Field Classroom	WIRSI301 WIRSD301 WIRTD301

1.3. Category 3: Security materials (safety materials)

N°	Name and description	Specifications	Quantity	Type of room (workplace)	Module code
1	Ear muffler (Ear plug)	1. Dimensions: 4.3 x 8 x 11 inches; 2. Weight: 10.1 ounces	25	Field Workshop	WIROP301
2	Gloves	1. Strong stitching, generous fit; 2. For general purpose use	25	Field Workshop	WIROP301 WIRPJ301 WIRMP301
3	Safety helmet	1. Construction type; 2. Fully adjustable internal harness and nape strap for extra comfort	25	Field Workshop	WIROP301 WIRPP301 WIRPR301 WIRMP301 WIRSI301 WIRSD301 WIRTD301 WIRIM301 WIRMD301
4	Overcoats for instructors	Made in cotton. Medium Size Large Size Extra large	5	Field Workshop	WIROP301 WIRPP301 WIRPR301 WIRMP301 WIRSI301 WIRSD301 WIRTD301 WIRIM301 WIRMD301
5	Safety shoes	1. Brown and black Full Grain Leather Upper; 2. Padded Collar and Tongue; 3. Dual Density Polyurethane Sole Unit;	25	Workshop Field	WIROP301 WIRPP301 WIRPR301 WIRMP301 WIRSI301

		<p>4.Slip Resistant Sole Unit; 5.Antistatic; 6.Energy Absorption Heel; 7.Steel Midsole Unit; 8.200 Joule Steel Toe Cap; 9.Sole unit resistant to oils, acids and alkalis; 10.Heat resistant sole unit to 180°C; 11.EN Level EN345 S1-P; 12.sizes 6 -9</p>			<p>WIRSD301 WIRTD301 WIRIM 301 WIRMD 301</p>
6	First Aid box	<p>With assorted medication for burns and cuts: e.g.: scissors, antiseptic cream, iodine, eyewash, bandages of 2 sizes, plaster, cotton wool; 1.1x Leaflet; 2.60 x Assorted plasters; 3. 8 x Non-woven bandages; 4. 16 x Dressing pads; 5. 12 x Safety pins; 6. 20 x Wipes; 7. 6 x Eye pads; 8. 3 x Pairs of gloves</p>	1	Classroom Workshop Field	<p>WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 301 WIRPR 301 WIRPP301 WIRDP 301</p>

1.4. Category 4: Consumables and raw materials

Name and description	Specifications	Quantity	Type of room	Module code
Markers	Blue and black	50	Class room and Workshop	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 30 1 WIRPR 301 WIRPP301 WIRDP 301
Internet connexion	4G internet connexion	N/A	Class room and Workshop	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 30 1 WIRPR 301 WIRPP301 WIRDP 301
Flip chart	White color and A3 in size	50	Class room and Workshop	WIRMD 301 WIRIM 301 WIRPJ301

				WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Chalk	Box, White, Craie sans Poussière	10	Class room and Workshop	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Fuel	Diesel	500	Field (Pumping activities)	WIRPP301 WIRPR301 WIRMP301 WIRPS301 WIOP301

Pure oilmist for lubrication.	Huile moteur TOTAL Quartz, 7000 Diesel 2202844 10W- 40, capacité : 5 L Huile en partie synthétique.	5	Field Workshop (Lubricating a pump)	WIRPP301 WIRPR 301 WIRMP301 WIRPS301 WIROP301
String	Winter 2021 string-White/ red 40m	5	Field and workshop	WIRSI301 WIRSD301 WIRTD301 WIRIM 301
Ciment	CIMERWA, Portland 32.5, Weight per sac :50kg	10	Field	WIRSI301 WIRSD301 WIRIM 301 WIRPR 301 WIRPP301
Stones	Good for construction	10 m ³	Field	WIRSI301 WIRSD301 WIRIM 301 WIRPR 301 WIRPP301
Gravel	2-10 mm of diameter	5 m ³	Field	WIRSI301 WIRSD301 WIRIM 301 WIRPR 301 WIRPP301
Sand	0.1-2 mm of particaldiameter,	5 m ³	Field	WIRSI301 WIRSD301 WIRIM 301 WIRPR 301 WIRPP301
Bricks	Long : 20cm, wide :10cm, Height :7cm.	3643	Pumping station (Field)	WIRPP301 WIRPR 301

				WIRMP301 WIRPS301 WIOP301 WIRMD301
Steel bar	12mm of diameter	12	Field	WIRSI301 WIRSD301 WIRIM301 WIRPR301 WIRPP301
Steel binding wire	High quality 410 gauge stainlesssteel binding wire.	5	Field	WIRSI301 WIRSD301 WIRIM301 WIRPR301 WIRPP301

2. Training facilities

2.1. Furniture and office materials

Name and description	Specifications	Quantity	Type of room	Module code
Medium back officer Chairs	Passive ergonomicseatingwithbuilt in lumber support	5	Office of trainers	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301

				WIRPR 301 WIRPP301 WIRDP 301
Office Tables with drawers	1.With hanging pedestal 2.Melamine faced chipboard 3.Desk top and side panel :25mm 4.Modesty panel :18mm 5.Color: beech, mahogany 6.Size: 1,500 x 800 x 750mm 7. Three fully locking drawers on the right hand side	5	Workshop	WIRDP 301 WIRSI301 WIRSD301 WIRPJ301
Table for Computer Room	1. Size: Table: 1500x600x750mm Chair: 360x360x440mm 2.Material: Plywood Fireproof board& 1.2mm Thickness Tube, 22mm Tube Diameter 3.Board: Fireproofing, scratch-resistant, without contaminated 4. Metal: Epoxy Powder coated, antirust, damp proof, strong	25	Computer Room	WIRDP 301 WIROP301 WIRSI301 WIRSD301 WIRPJ301
Student Chairs	1. Size: 2400x1200mm 2.Economy non-magnetic chalkboard on 2 sides 3.Aluminium framed, free-standing 4.whiteboard on one side and chalkboard on the other.	25	Classroom Workshop	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 301 WIRPR 301

				WIRPP301 WIRDP 301
Portable, Reversible Dry Erase Boards & Chalkboards	1. Size: 1800x1200mm 2.Economy non-magnetic chalkboard on 2 sides 3.Aluminum framed, free-standing 4.whiteboard on one side and chalkboard on the other.	2	Classroom, LAB and Workshop	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Papers	A4	5 carton of 5 reams each	Trainer's Office	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Pens	Blue Bic	1 Packet	Trainer's Office	WIRMD 301 WIRIM 301

				WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
	Red Bic	1 Packet	Trainer's Office	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
USB discs	4 GB	2 Pcs	Trainer's Office	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301

				WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Stapling Machine	Rapid K2, 105 mm Length	2 Pcs	Trainer's Office	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Staplers	24/6	5 Packets	Trainer's Office	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301

				WIRPP301 WIRDP 301
Paper clips	33mm, small Size,	1Boxe of 10 Packets	Trainer's Office	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 301 WIRPR 301 WIRPP301 WIRDP 301
	55mm, Big sizes	1 Box of 10 Packets	Trainer's Office	WIRDP 301
Punching machines	8Cm, Punching Capacity: 36mm with calibrated Guide	1 Pc	Trainer's Office	WIRPJ301 WIRMD 301 WIRPR 301
Pencils	Dolphin Super B Writer	1 Packet of 12 Pcs	Trainer's Office	WIRDP 301 WIRPP301 WIRPR 301

				WIROP301 WIRSI301 WIRSD301 WIRTD301 WIRPJ301
Eraser	High quality plastic eraser. HI-Polymer Large Plastic Rubbers Erasers- white.	26	Workshop Drawing room Classroom	WIRDP 301 WIRPP301 WIRPR 301 WIROP301 WIRSI301 WIRSD301 WIRTD301 WIRPJ301
Sharpener	Hlyal blue pencil sharpeners 1 place.	26	Workshop Drawing room Classroom	WIRDP 301 WIRPP301 WIRPR 301 WIROP301

				<p>WIRSI301</p> <p>WIRSD301</p> <p>WIRTD301</p> <p>WIRPJ301</p>
Notebooks	A4	1 Carton of 60 Pcs each	Trainer's Office	<p>WIRMD 301</p> <p>WIRIM 301</p> <p>WIRPJ301</p> <p>WIRTD301</p> <p>WIRSD301</p> <p>WIRSI301</p> <p>WIOP301</p> <p>WIRPS301</p> <p>WIRMP 301</p> <p>WIRPR 301</p> <p>WIRPP301</p> <p>WIRDP 301</p>
Plastic files	A4	2 Packets of 12 Pcs	Trainer's Office	<p>WIRMD 301</p> <p>WIRIM 301</p> <p>WIRPJ301</p> <p>WIRTD301</p> <p>WIRSD301</p> <p>WIRSI301</p> <p>WIOP301</p> <p>WIRPS301</p> <p>WIRMP 301</p> <p>WIRPR 301</p> <p>WIRPP301</p>

				WIRDP 301
Register books	Manuscript book,	6 Pcs	Trainer's Office	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Office trays	Desk tray office depot	1 Pcs	Trainer's Office	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Post it	3" x 5"/7.6 x 12.7 Cm , 12 Pads	1 Box	Trainer's Office	WIRMD 301 WIRIM 301 WIRPJ301

				WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Non-permane Markers	1. Dimension:D1.6 x L13.5 Cm ;2. Fiber tips and writing smoothly;3.Quick drying; 4.Good performance; 5.Non- Toxic and environmentally safe; 6.Smell favourably	10 Packets	Classroom, LAB and Workshop	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Chalks (Cartons of 36 Packets for each carton)	Cartons of white color	1Carton of white color	Classroom, LAB and Workshop	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301

				WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
	Cartons of Colors	1 Carton of Colors	Classroom, LAB and Workshop	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Square Graph (drafting) paper (Book of 25 papers each)	A ₃	5 Books	Drawing room	WIRDP301
	A ₄	5 Books	Drawing room	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301

				WIRDP 301
Internship logbook for trainees	A4	25 logbooks	Industry, Field for internship.	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Internship logbook for the Industry supervisor	A4	25 logbooks	Industry, Field for internship.	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIOP301 WIRPS301 WIRMP301 WIRPR 301 WIRPP301 WIRDP 301
Internship logbook for school supervisor	A4	25 logbooks	Industry Field for internship.	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301

				WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
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2.2. Audio-visual materials

Name and description	Specifications	Quantity	Type of room	Module code
Projectors and Accessories (Remote, White board)	Sharp, Clear Visuals: SVGA native resolution (800x600) for sharp views Flexible Connectivity: Dual VGA-In connectors for easy switching between multiple presenters DLP® Projector: Filter-free to reduce maintenance cost and utilize Brilliant Color™ for accurate, true to life images, DLP (Digital Light Processing). Mounted in ceiling	2	ICT lab and Classroom	WIRMD301 WIRIM301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP301 WIRPR301 WIRPP301 WIRDP301
Computers	-MD Athlon Processor 3GHz -6GB DDR3 RAM -640GB Hard Drive -NVIDIA GeForce 6150SE	25	ICT LAB and Trainer's office	WIRMD301 WIRIM301 WIRPJ301 WIRTD301

	-Windows 7 Home Premium 64-Bit			WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 30 1 WIRPR 301 WIRPP301 WIRDP 301
Each modules with its specific DVD or CDs	Capacity :4.7 <u>GB</u> (single-sided, single-layer – common) Read mechanism : 300–650 nm laser, 10.5 <u>Mbit/s</u> (1×) Dimensions : Diameter: 12 cm (4.7 inch) Thickness: 1.2 mm (0.047 in) Weight : 16 grams (0.56 oz) Usage : <u>Home video, Computer data storage</u>	12	ICT LAB	WIRMD 301 WIRIM 301 WIRPJ301 WIRTD301 WIRSD301 WIRSI301 WIROP301 WIRPS301 WIRMP 30 1 WIRPR 301 WIRPP301 WIRDP 301
CAD Software	Software for 2D and 3D CAD. Subscriptionincludes AutoCAD, ArchCADspecializedtoolsets, and apps.	26 Users	ICT LAB	WIRDP 301 WIRPR 301 WIRSI301 WIRSD301 WIRTD301 WIRPJ301

2.3. Didactic materials

Name and description	Specifications	Quantity	Type of room	Module code	Learning
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					hours
Black board drawing instruments	A 5-piece set of durable, lightweight plastic instruments designed for blackboards. Features handles for ease of use. Includes a 45° triangle (23" base, 16" sides), 60° triangles (2" base), 180° protractors, meter ruler (39"/100 cm), and a clear acrylic compass (18" L with rubber suction cup).	2 set	classroom	WIRDP 301 WIRPP301 WIRPR 301 WIROP301 WIRSI301 WIRSD301	
Solar panel	Type: amorphous Power: 80watts Peak Output: 5.0A @ 17.2V Approx. watt-hours/day*: 560 Approx. amp-hours/day*: 35 Dimensions: 1196x534x35mm Weight: 7.9kg * Based on 7 hours of average daily peak sunlight hours	4	workshop	WIRSI301 WIROP301 WIRPP301 WIRPR 301	

2.4. Infrastructures

The workshop must be of concrete structure. Based on class size of 25 learners, the space requirements for the teaching/learning and circulation areas are as follows:

Infrastructure

The workshop must be of concrete structure. Based on class size of **25 learners**, the space requirements for the teaching/learning and circulation areas are as follows:

Type of premises	Number of rooms	Length (meters)	Width (meters)	Total surface (m ²)	Occupation	
					Hours*	% **
Classroom	1	9	7	63		
Workshop/site	1	22	13	286		
ICT lab	1	10	9	90		
Electrical laboratory	1	9	7	63		
Drawing room	1	12	10	120		
Storage area for consumables	1	5	6	30		
Storage area for tools	1	9	7	63		
Trainers' room	1	4	4	16		

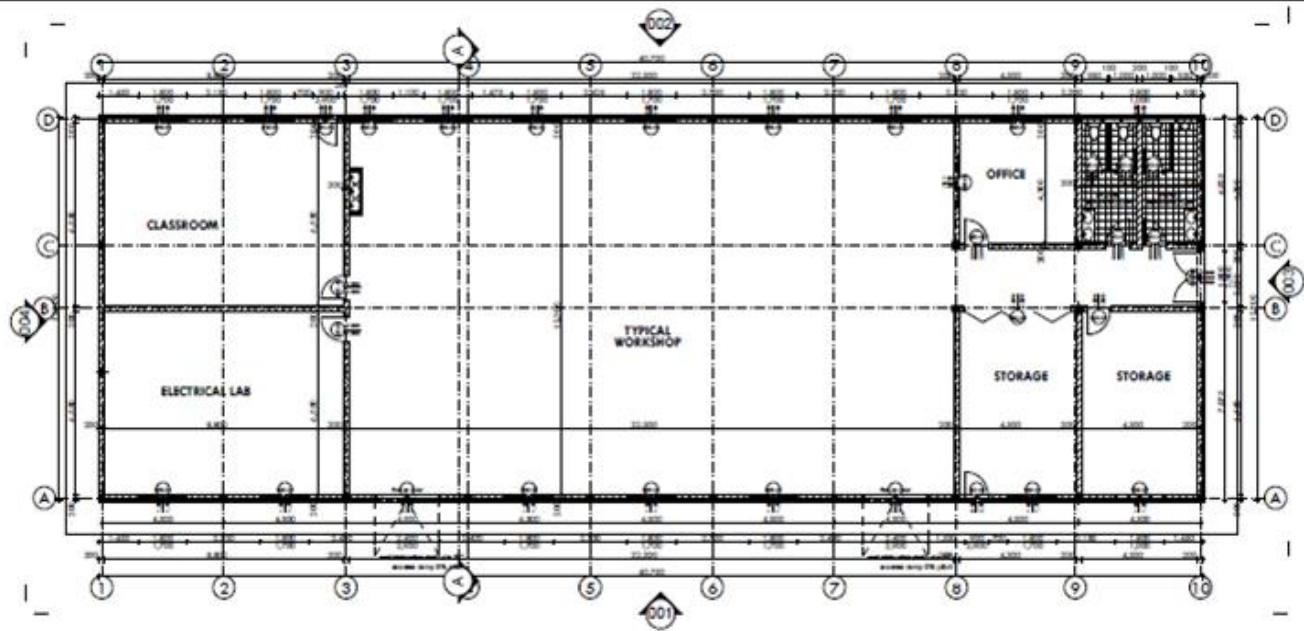
N.B: The occupation of a training classroom is in function of a group of 25 learners for the length of the training package not considering the hours of the internship. The group of trainees is divided into 2 (12 or 13 learners per workshop).

The plans of the workshops and classrooms are annexed to the training organisation guide.

* Total hours of occupation must be equal to the total duration of the training (excluding the duration of the internship).

**The percentage of the occupation must equal 100%.

The premises that are not used in learning activities can have hours/occupation.



0.

FLOOR PLAN

1:200

TYPICAL WORKSHOP - Electrical

Sheet No. **01**