

SECTOR: AGRICULTURE  
 Subsector: Water and Soil Analyses  
 PROJECT or  
 TITLE:

CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00001	Water And Soil Analyses Equipment's And Materials. See App. 10A codes 00003-00058	As stated in App. 10A	
05-10-00002	Soil mechanics and construction laboratories apparatus See App. 10A codes 00059-00114	As stated in App. 10A	
	<b>APPENDIX 10 A . WATER AND SOIL ANALYSIS EQUIPMENTS</b>		
05-10-00003	PH checker stick model	10	
05-10-00004	Bench PH meter	25	
05-10-00005	Water proof , auto ranging conductivity /TDS/C meter	10	
05-10-00006	conductivity meter with platinum probe different ranges	50	
05-10-00007	Dissolved oxygen meter	5	
05-10-00008	Water proof& rugged thermistor thermometer	10	
05-10-00009	Colorimeter	5	
05-10-00010	Turbidity meter	2	
05-10-00011	Relative humidity meter	2	
05-10-00012	Water bath	6	
05-10-00013	Shaking Water bath	2	
05-10-00014	Titration Burette , digital rate electronic	25	
05-10-00015	High speed centrifuge	2	
05-10-00016	Chemical calculator	10	
05-10-00017	Incubator	1	
05-10-00018	Binocular microscope	2	
05-10-00019	Atomic absorption spectrop - photometer	1	
05-10-00020	Hotplate	6	
05-10-00021	Shakers	4	
05-10-00022	Hallow cathode (lamps ) for Atomic	32	
05-10-00023	Block heaters	1	
05-10-00024	Mills	1	
05-10-00025	General purpose augres	30	
05-10-00026	Clay augres	20	
05-10-00027	Sand augres	20	
05-10-00028	Augres extension 34	30	
05-10-00029	Augres extension 44	30	
05-10-00030	Hand grips	10	
05-10-00031	Acid transfer Hand pumps	10	
05-10-00032	Density meters	2	
05-10-00033	Protein tester	2	
05-10-00034	Pressure ceramic plate	40	
05-10-00035	Beakers	300	
05-10-00036	Bottles	1,000	
05-10-00037	Bottles carboys	45	
05-10-00038	Washing Bottles	150	
05-10-00039	Filter paper (different grades and	2,000	box
05-10-00040	- Membrane filter size 47	200	box
05-10-00041	Pipettes	250	
05-10-00042	Pipettes fillers	200	

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CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00043	Respirators	10	
05-10-00044	Chemical reagents * Sodium Salicylate * Sulfanyl amide DF1 - B -7 * Sulfuric Acid Analar 98% * Acetone Analar * Cadmium chloride * Ammonium Acetate	30 10 200 200 5 100	Kg Kg L L Kg Kg
05-10-00045	Tubing	150	m length
05-10-00046	Spatulas	60	
05-10-00047	electronic pentograph	2	
05-10-00048	Gouch crucible glass	50	
05-10-00049	Normal sols	2,000	ampul
05-10-00050	Indoor & outdoor weather monitoring system	16	
05-10-00051	Parafilm	60	
05-10-00052	Flame photometer	6	
05-10-00053	Insulation measuring device	23	
05-10-00054	River discharge measurment station& current meter	150	
05-10-00055	Centralised Monitoring system for Dams , Barrage& major Irrigation Intake	1	set
05-10-00056	Computer with all accessories	120	
05-10-00057	Color laser printer size (A3)	2	
05-10-00058	Color scanner high reselution	2	
05-10-00059	Mastic test equipment according to ASTM	1	
05-10-00060	Apparatus for determining the liquid limit and plastic limit of soils according to	1	
05-10-00061	Compactor machine for Asphalt concrete , (Marshall specimens)	2	
05-10-00062	Electric Asphalt penetration test apparatus according to ASTM D5	1	
05-10-00063	Needle for penetration test of Asphalt according to ASTM D5	50	
05-10-00064	Asphalt core cutting machine,diesel engine, speed 424 R/M.	1	
05-10-00065	Core cutters diameter 4 in and 6 in	150	
05-10-00066	Precision balance capacity (210 gm), readability(0.0001 gm)	10	
05-10-00067	Precision balance capacity (810 gm), readability(0.001 gm)	2	
05-10-00068	Top pan balance capacity, (6200 gm),readability(0.01 gm)	2	
05-10-00069	Top pan balance capacity, (16000 gm),readability(0.1 gm)	2	
05-10-00070	Bench scale balance capacity(34.2 Kg), readability (0.5 gm)	2	
05-10-00071	Combustion Crucibles up to (1200) °C without cover and spout medium, high form , capacity (50) ml	80	
05-10-00072	Combustion Crucibles up to (1200) °C without cover and spout medium, high form , capacity (150-200) ml	60	

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CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00073	Combustion Platinum Crucibles without cover and spout capacity (50)ml	7	
05-10-00074	Portable thermometer for concrete ,range (0-50) °C	10	
05-10-00075	Portable thermometer for asphalt concrete range,(-10-250) °C	35	
05-10-00076	Water Distilling Apparatus made of stainless steel output capacity (12 Lit/hr)	3	
05-10-00077	Water Distilling Apparatus made of stainless steel output capacity (20 Lit/hr)	5	
05-10-00078	Vacuum Pump (220)volt , 50 Hz, 3 phase producing ultimate vacuum (12-15) mmHg with desiccator about (25-30) cm diameter	9	
05-10-00079	Mettler DL-40 Memo Titrator ST 20 Sample Changer Automatic with (5) electrodes for chloride ions percent determination .	1	
05-10-00080	Digital thermometer with surface temperature probe measuring range,(-50 - + 300) °C for concrete and asphalt measurement	20	
05-10-00081	Core Drilling Machine electrically operated 220 volt ,AC 50 Hz single phase with diamond core cutting barrel 4in inside diameter	3	
05-10-00082	Pundit , measurement of concrete uniformity , detemination of the presence and absence of void cracks and other imperfections in accordance with BS1881/203	5	
05-10-00083	Digital crack measuring range battery operated ± 50 mm measuring range,0.01 mm resolution with locating disk and silver	1	
05-10-00084	Hand held digital half cell and data logger system complete to comply to BS1881 and ASTM C876	3	
05-10-00085	Micro cover meter for measurement down to 360 mm depth complete with probe incorporates and an imperial and metric mode for determining the position and direction of steel reinforcement and depth of cover to the steel	3	
05-10-00086	Machine for testing the tensile strength of steel reinforcement according to ASTM ,A 615 M , capacity 1000 kN ,readability 0.1	3	
05-10-00087	Compression test machine capacity 3000 kN ,readability 0.2	1	
	* Cement test apparatus		
05-10-00088	Vicate frame setting time appartus	1	
05-10-00089	Mortar mixer	1	
05-10-00090	Lechatlier method for soundness cement apparatus	2	
05-10-00091	Blain air permeability appartus	2	
05-10-00092	cement heat of hydration appartus	2	
05-10-00093	Norm sand DIN 1164 for cement mortar	2	ton
05-10-00094	Beckman thermometer	40	
05-10-00095	Lechetlier flask for cement Density	20	
05-10-00096	Automatic cement Mortar flexural &compression machine	1	
	* Concrete test apparatus		

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CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00097	Concrete core drilling (vertical and horizontal)	2	
05-10-00098	Concrete mixer	1	
05-10-00099	Slump test apparatus	3	
05-10-00100	- Protected thermometer (-10-+200) C	25	
05-10-00101	- Digital thermometer (-10-+200) C	5	
05-10-00102	- Analytical balance cop 160gm accuracy 0.1	2	
05-10-00103	Micro wave oven	3	
	* Soil test apparatus		
05-10-00104	Triaxial testing equipment with accessories	1	
05-10-00105	- Triaxial cells 70- 150 mm	4	
05-10-00106	Direct shear apparatus with assemb	2	
05-10-00107	Field Density determination(Sand pouring cylinder)	4	set
05-10-00108	Grain size analysis test by hydrometer apparatus	6	
05-10-00109	- Sieve set 75 $\mu$ mm -100 mm	2	
	*Asphaltic concrete apparatus		
05-10-00110	Softening point apparatus	2	
05-10-00111	C.B.R - marshall - tester with accessories	1	
05-10-00112	centrifuge exetractor	2	
05-10-00113	Standard penetrometer	2	
05-10-00114	Speedy apparatus for testing compaction on site	10	
	<b>APPENDIX 10 B . INSTRUMENTATION REQUIRMENTS</b>		
	<b>Bourden Gauge (Manometer). Finite B Manometer Diameter of Gauge 6"Sensitivity 0.1 Bar</b>		
05-10-00115	* Range 0 - 16 Bar	300	
05-10-00116	* Range 0 - 10 Bar	250	
05-10-00117	* Range 0 - 6 Bar	200	
05-10-00118	Rocmeter (M. Bore - Hole Extensometer ) Dial Gage Range 0 - 100 mm., Sensitivity 0.06 mm.	2	
05-10-00119	Rocmeter Extensometer Indipoc P4 Electrical Device	1	
05-10-00120	Teletensometer Indipoc P2 (Read Out Unit) Electrical Device	1	
	Seba Hydrometer, Dipmeter For Measuring Water, Level Inside Open Air Piezometer		
05-10-00121	* Length 100 m.	5	
05-10-00122	* Length 150 m.	5	
05-10-00123	Interfels Dial Gage, Read Out Unit For Multi Road Extensometer.,Range 0 - 100 mm. Sensitivity 0.06 mm.	2	
05-10-00124	Battery (NI - CD) For MDS 910 1.2 V, 10 AH (VR 10 SF 023 CEIKRH 44/91)	36	

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CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00125	Battery Globe GC 626 - 1, 12 V For SMA - 1 Strong Mottron Accelerograph	20	
05-10-00126	Battery Charger For SMA - 1 Strong Motion Accelerograph (700084 )	5	
05-10-00127	Sensitive instrument and measuring divices for registering the movement and settlement of the hydraulic structures and dams complete with all accessories	150	
05-10-00128	Battery PP9 / 9V For Vibrating Wire Readout	20	
05-10-00129	Injection pump for Epoxy and polyrethen with accessories Q= 200 l/min .	6	
05-10-00130	Galvanized pipe different diameters (for piezometers)	10,000	m
	<b>APPENDIX 10 C . SURVEYING EQUIPMENTS</b>		
05-10-00131	Straight line white line depth recorder (Echo - Sounder ) for rivers, canals and lakes to be mounted on small or rubber boats measure water depths up to 100 Mts. Electronic Planimeter to measure Area , Line length . X,Y coordinates , with display secreen and recorded out - put , rechargeable , battery Dist . Measur . Range 3500M . for(1) prism (or a bout) Angle Accuracy 1 sec dist . Accuracy 2 mm + 2 ppm . With control unit . and all other standard complementary accessories . EDM - instruments with Robotic Total Station Dist . Measure Range (1500 M . for 1 prism or a bout) Angle accuracy 1 sec dist . Accuracy 2 mm + 2 ppm . With control unit , and all other standard complementary accessories . Geodatwin field control unit with CPS - Glonass system with all standard accessories . <del>Global Positioning system (GPS)</del>	16	
05-10-00132	Electronic Planimeter to measure Area , Line length . X,Y coordinates , with display secreen and recorded out - put , rechargeable , battery	8	
05-10-00133	Dist . Measur . Range 3500M . for(1) prism (or a bout) Angle Accuracy 1 sec dist . Accuracy 2 mm + 2 ppm . With control unit . and all other standard complementary accessories .	20	

PROJECT or  
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CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE
05-10-00134	EDM - instruments with Robotic Total Station Dist . Measure Range (1500 M . for 1 prism or a bout) Angle accuracy 1 sec dist . Accuracy 2 mm + 2 ppm . With control unit , and all other standard complementary accessories .	36	
05-10-00135	Geodatwin field control unit with CPS - Glonass system with all standard accessories . Global Positioning system (GPS)	10	
05-10-00136	Field instrument (maglan)	4	
05-10-00137	Modern two colours computerized offset printing machine for paper	4	
05-10-00138	Image setter or electronic scanner for colour separation and montage processes complete with its computer and accessories	3	
05-10-00139	Reproduction (two rooms) cammera with all accessories	1	
05-10-00140	Automatic printing plates developing and fixing with all accessories	1	
05-10-00141	Precise digital electronic level complete with staffs	12	
05-10-00142	Engineering digital electronic level with staffs	40	
05-10-00143	Range finder for (GIS) application	2	
05-10-00144	Complete modern (GIS) station with all accessories for(20) users	2	
05-10-00145	Complete analytical photogrammetric work station with large size flat-bed digital electronic plotting unit & all necessary software	2	
05-10-00146	Complete digital photogrammetric workstation	2	
05-10-00147	Under water mointring cammara with	2	
05-10-00148	Sensetive instrument for hydraulic structures and dams (diffrent types )	1,000	set