



**REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION**

**Harbata Governmental Hospital**

**VOLUME 3- Applicable Price Adjustment Formula**

MAY 2025

### Division 03 - CONCRETE

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
3.1	<u>Vibrated Concrete " F'c "= 20Mpa (cylindrical compressive strength), with Ordinary Portland Cement (Ref. to specs) Including Clean Sawn Formwork (Ref. to specs).</u>			
3.1.1	Blinding.	m3	C	40%
3.2	<u>Vibrated Reinforced Concrete" F'c "= 25Mpa (cylindrical compressive strength), with Ordinary Portland Cement (Ref. to specs) Including Clean Sawn Formwork (Ref. to specs), Water Stop with special water resistance admixtures (Ref. to specs) as shown in shop drawing, Mechanical and Electrical Sleeves as Per Structural shop Drawings, all structural elements with contact with soil must be applied with liquid waterproofing including sub strata preparation, primer protection:</u>			
3.2.1	Footings	m3	C	40%
3.2.2	Retaining Wall (Site)	m3	C	35%
3.2.3	Water Tank walls and cover	m3	C	35%
3.3	<u>Vibrated Reinforced Concrete" F'c "= 25Mpa (cylindrical compressive strength), with Ordinary Portland Cement (Ref. to specs) Including Clean Sawn Formwork, Water Stop (Ref. to specs) as shown in shop drawing, Mechanical and Electrical Sleeves as Per Structural shop Drawings, all structural elements with contact with soil must be applied with liquid waterproofing including sub strata preparation, primer protection:</u>			
3.3.1	10 cm Slab on Grade including sunken slab	m3	C	38%
3.3.2	150 mm thick, Slab on Grade to external ramp	m3	C	38%
3.3.3	Tie Beams	m3		
3.4	<u>Vibrated Reinforced Concrete" F'c "= 30Mpa , (cylindrical compressive strength), with Ordinary Portland Cement (Ref. to specs) Including Clean Sawn Formwork (Ref. to specs), Mechanical and Electrical Sleeves as Per Structural shop Drawings:</u>			
3.4.1	Columns	m3	C	28%
3.4.2	Shear Walls	m3	C	33%

### Division 03 - CONCRETE

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>3.5</b>	<u>Vibrated Reinforced Concrete" F'c "= 25Mpa (cylindrical compressive strength),with Ordinary Portland Cement (Ref. to specs) Including Clean Sawn Formwork (Ref. to specs) expension joint (Ref. to specs) Mechanical and Electrical Sleeves as Per StructuralShop Drawings:</u> <u>Suspended ribbed (Hourdi) slabs or solid slab; concrete topped, hollow concrete masonry block including ribs and embedded beams and <b>Drop Beams</b> as noted on the Drawings.</u>			
3.5.1	Solid Slabs overall (ts = 25cm) including staircases	m3	C	68%
3.5.2	Drop Beams	m3	C	68%
3.5.3	Suspended staircases; including flights, landings and <b>beams</b>	m3	C	68%
3.5.4	Parapets, balustrades, planter walls, sunbrakers kerbs, upstands, eaves drainage channels.	m3	C	68%
<b>3.7</b>	<u>Steel Reinforcement</u>			
3.7.1	Mild and high yield steel reinforcing bars, including bending and tie wires, as specified up and down as shown on the drawings.	ton	A	100%
<b>3.8</b>	<u><b>Section 035300 - Concrete Floor Topping</b></u>			
3.8.1	<u><b>Standard Floor Topping</b></u> <u>Supply and pour concrete floor topping having a 28 day compressive strength of 24 Mpa; include steel wire mesh, and all necessary material and accessories; as per the specifications and drawings</u>			
3.8.1.1	Screed; laid on concrete to a minimum thickness of 50mm; to received waterproofing for wet area	m2	C	40%
3.8.1.2	Screed; laid on concrete to a minimu thickness of 50mm; to received epoxy paint	m2	C	40%

**Division 04 - MASONRY**

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<b><u>DIVISION 4 - MASONRY</u></b>			
4.1	<b><u>SECTION 042000 - UNIT MASONRY</u></b> <u>Hollow concrete unit masonry precast block smooth finish of standard size, bedded and jointed in Ordinary Portland Cement and salt free sand mortar (1:3), as specified and detailed, installed complete; INCLUDING for joint and steel reinforcement, beads, grout filled cells, wall ties and anchors; cutting, bonding and forming openings; precast or cast in place concrete lintels and sills; closures, control joints and weepholes; formwork to cast insitu works, and all fixings and accessories with all other related ancillaries as indicated or required.</u>			
	<b><u>Walls and partitions:</u></b>			
4.1.1	100mm thick	m2	-	-
4.1.2	120mm thick	m2	-	-
4.1.3	150mm thick	m2	-	-
4.1.4	200mm thick	m2	-	-
4.2	<b><u>STONEWORK</u></b> <u>Exterior Stonework as specified and/or detailed, installed complete; wet fixation (Mortar method); INCLUDING for substrate preparation; backing coats; sand, cement, supports and fixings; rebates, grooves, chamfers and the like; setting, jointing, grouting and finishing; trim and accessories; and all other related ancillaries as indicated or required</u>  <u>Reveals to openings: sills, soffits and jambs, stone 1st choice unless otherwise noted, polished finish.</u>			
4.2.1	2 cm thick - 18 cm width	m	-	-
4.2.2	2 cm thick - 31 cm width	m	-	-

**Division 05 - METALS**

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
5.1	<b><u>DIVISON 5 - METALWORK</u></b>  <b><u>SECTION 055000 - METAL FABRICATIONS</u></b>  <u>Metalwork components and assemblies as specified and detailed, fabricated and installed complete; INCLUDING for supports, brackets, anchorages, escutcheon ring, grout fixings and fasteners; hardware, accessories, trim and finishing, including finish painting; and all other related ancillaries as indicated or required.</u>			
5.1.1	<b><u>Handrail Staircase</u></b>  <u>Supply and install wall mounted galvanized steel hollow core tubular handrail including scrapping and applying two coats of anti corrosion protection &amp; applying 3 coats of required paint and all related hand works and paste workmanship complete as shown on drawing and to the approval of the engineer</u>			
5.1.1.1	Fixed to wall handrail for Stairs A&B  <u>Floor Mounted galvanized steel handrail</u>  <u>Fabricate ,Supply and install floor mounted galvanized steel handrail ø 50mm which are composed of high quality steel durable with fixation angles with hardware and accessories and protective coating and finisher painting complete ready to use complete with engineer approval.</u>	lm	-	-
5.1.1.2	Wall mounted handrail to Stairs A&B  <u>Fabricate ,Supply and install floor mounted galvanized steel handrail ø 50mm which are composed of high quality steel durable with fixation angles with all related fixing and accessories and protective coating and finisher painting complete ready to use complete with engineer approval.</u>	lm	-	-
5.1.1.3	Wall mounted handrail at external ramp	lm	-	-
5.1.2	<b><u>Ladders</u></b>			
5.1.2.1	Water tank access ladder; tubular stainless steel assembly.	No	-	-
5.1.2.2	top of Roof access ladders; galvanized tubular steel assembly.	No	-	-
5.1.2.3	Galvanized steel access hatch cover for water tank, including key rench; steel checkered plate, hinges, neoprene seal, etc..., and accessories as required by the engineer.	No	-	-
5.1.3	<b><u>Canopy</u></b>			

**Division 05 - METALS**

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<u>Supply and install canopy complete, including covers glazing or as per selection of the Engineer, galvanized steel tube, supports, welds, steel plate fixed to concrete slab , tension rod, Bolts, fittings; and all necessary fixing and accessories, as specified and/or as shown on drawings</u>			
5.1.3.1	Canopy at ground floor above entrances,2550 x 3800 mm or as shown on drawings	No	-	-
5.1.4	<u>External fence</u>  <u>Supply and install external fence complete, including galvanized steel tube, supports, welds, steel plate, fixed to reinforced concrete upstand where required, fittings; paint and all necessary fixing and accessories, as specified and/or as shown on drawings</u>			
5.1.4.1	1200 mm high, External galvanized steel tube to fence distributed as shown on drawing	lm	-	-
5.1.5	<u>Bollards</u>  <u>Supply and install external bollards complete, including stainless steel tube diameter 114 mm brushed finish grade 316, deep 500 mm, excavation backfilling, supports, welds, steel plate, fixed to concrete base unless otherwise noted, fittings; paint and all necessary fixing and accessories, as specified and/or as shown on drawings</u>			
5.1.5.1	1000 mm raised height, External stainless steel bollards as shown on drawing	No	-	-

## Division 6 - WOOD, PLASTIC AND COMPOSITE

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
6.1	<p><b><u>DIVISION 6 - WOODWORK</u></b></p> <p><b><u>SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK</u></b></p> <p><u>Joinery and architectural woodwork assemblies and components as specified and detailed, fabricated and installed complete; INCLUDING for supports, brackets, anchorages, fixings and fasteners; hardware, ironmongery, accessories, trim and finishing, including finish painting; and all other related ancillaries as indicated or required.</u></p> <p><b><u>Counters</u></b></p> <p><u>Composite counter units complete; 20 mm marble cladding construction generally; including reinforced concrete backing and support walls, plaster and paint, 4 mm thick plywood board and paint with timber supported, finishing and decoration, curved shapes where required ...etc. all as shown and detailed with 20mm first choice polished marble work top. refer to drawing</u></p> <p><u>The Contractor shall submit complete shop drawing for each counter for approval by the engineer.</u></p>			
6.1.1	Counter type C01,750 mm wide x 110 high x (365+223 mm) length or as shown on drawings, location reception hall GF01.	Item	N	20%
6.1.2	Counter type C02,750 mm wide x 110 high x (284 mm) length or as shown on drawings, location secretary GF29	Item	N	20%
6.1.3	Counter type C03,750 mm wide x 110 high x (200+233 mm) length or as shown on drawings, location Secretary GF08	Item	N	20%
6.1.4	Counter type C04,750 mm wide x 110 high x (587 mm) length or as shown on drawings, location Nurse station GF67	Item	N	20%
6.1.5	Counter type C05,750 mm wide x 110 high x (551 mm) length or as shown on drawings, location Nurse station GF55	Item	N	20%
6.2	<p><b><u>Resin Corian Counter work top</u></b></p> <p><u>NOTE: Provide openings in Resin worktops for sinks, Work top counters units, and assemblies complete construction generally; including concrete plinths and resin worktops; floor mounted base cabinets and wall hung cabinets over where applicable, including for drawer units, adjustable shelves, under cabinet lighting fixtures, etc., all as shown on drawing.</u></p>			

**Division 6 - WOOD,PLASTIC AND COMPOSITE**

<b>HARBATA GOVERNMENTAL HOSPITAL</b>				<b>Date: May, 2025</b>
<b>BILL OF QUANTITIES</b>				
<b>Item No.</b>	<b>Description of Material</b>	<b>Unit</b>	<b>Applicable Formula</b>	<b>Percentage %</b>
6.2.1	Countertop 600 mm wide, to Meat Preparation (length 7200 mm)	Item	N	20%
6.2.2	Countertop 600 mm wide, to Vegetable Preparation (length 7500 mm)	Item	N	20%
6.2.3	Countertop 600 mm wide, to Service (length 2200 mm)	Item	N	20%
6.2.4	Countertop 600 mm wide, to washing & Disinfection area (length 3480 mm)	Item	N	20%
6.2.5	Countertop 600 mm wide, to scrub up (length 2100 mm)	Item	N	20%
6.2.6	Countertop 600 mm wide, to dirty corridor (length 1260 mm)	Item	N	20%
6.2.7	Countertop 600 mm wide, to DU (length 2400 mm)	Item	N	20%
6.2.8	Countertop 600 mm wide, to staff area (length 1160 mm)	Item	N	20%
6.2.9	Countertop 600 mm wide, to receiving & separation (length 3500 mm)	Item	N	20%
6.2.10	Countertop 600 mm wide, to nurse rest room (length 1880 mm)	Item	N	20%



**Division 07 - THERMAL & MOISTURE PROTECTION**

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<b><u>DIVISION 7 - THERMAL AND MOISTURE PROTECTION</u></b>			
7.1	<b><u>SECTION 075216 - SHEET WATERPROOFING</u></b>  <u>Sheet waterproofing membranes as specified and detailed, installed complete; INCLUDING for substrate preparation, primers and adhesives; joint laps, coatings, flashings and accessories; and all other related ancillaries as indicated or required</u>			
7.1.1	Polyethylene sheet; vapour barrier, under concrete ground slabs  <u>SBS modified bituminous sheet tanking to baried concrete structures; including for all preparatory work and protective course coverings</u>	m2	L	23%
7.1.2	Membrane protection to footing:Tilting fillet, primer, membrane angle reinforcement, two layer SBS modified bituminous membrane, 180g/m2 polyester, first layer 4mm thick & second Layer 4mm, 3cm concrete protection; must copl with the shoring system & sea water.  <u>SBS modified bituminous coating waterproofing under façade aluminum composite column cladding; including for all preperation works and related ancillaries.</u>	m2	L	23%
7.1.3	Bituminous Coating to façade under alubond including; two coats of liquid bituminous cold applied as per manufacturer method statement requirment.	m2	L	23%
7.2	<b><u>MEMBRANE ROOFING</u></b>  <u>SBS modified bituminous membrane roofing and deck assemblies as specified and detailed, installed in according to manufacturer instructions; INCLUDING for substrate preparation, primers, bonders, beds, fasteners and fixings; jointing and finishing; and all other related ancillaries as indicated or required.</u>			
7.2.1	<u>Waterproofing system to roof</u> Roofing comprising: Concrete roof screed; double layer modified bituminous membrane; (4mm thick) each Protection sheet layer; Area finish by sika tiles (or approved equal) including mastic sealant, support with all related fixing & accessories, all as specified or as shown on drawing	m2	L	23%
7.3	<b><u>SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING</u></b>  <u>Supply and apply cold fluid Liquid applied waterproofing (PU) Complete; including primer, geotextile, preparation and all works required; as specified and as shown on Drawings</u>			

**Division 07 - THERMAL & MOISTURE PROTECTION**

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
7.3.1	To floors and perimeter of wet areas (minimum 30cm)	m2	L	23%
7.4	<b><u>SECTION 075216 - ALUMINIUM CLADDING</u></b>  <u>Aluminium Composite Panels facing:</u>  4mm thick aluminium composite panels cladding materials to facade as indicated on the drawings. The surface is finished with fluocarbon coating top side surface finish and color as per consultant, as manufactured by ALUCOBOND, ALUBOND or approved equivalent. Price include galvanized steel supporting structure and structure finish with epoxy based paint.			
7.4.1	Aluminium composite panels cladding (external facade)	m2	L	23%
7.5	<b><u>SECTION 0781413 - FIRE SAFING INSULATION</u></b>  Provide and install all fire safing insulation materials and components as specified, detailed and necessarily required; including but limited to openings and penetration through fire rated enclosures at mechanical and electrical shafts, ducts, sleeves and the like; INCLUDING for supports, anchors and fasteners; mastic sealer; and all other related ancillaries as indicated or required			
7.5.1		L.S.	L	23%
7.6	<b><u>SECTION 079500 - EXPANSION CONTROL JOINTS</u></b>  <u>Provide and install expansion joint filler and sealer materials and components as specified, detailed, shown on Drawings and necessarily required, including recommended sealant, term bar-with lip/flat, joint filler, all related ancillaries as indicated or required (Refer to drawing)</u>			
7.6.1	Preformed compressible joint filler	lm	L	23%
7.6.2	Backing rod and mastic joint sealant; externally or internally, ceiling or roof surfaces (Aluminum section assembly for floor to floor expansion joint ) as shown on drawings.	lm	L	23%
7.6.3	Backing rod and mastic joint sealant; externally or internally, wall to wall (Aluminum section assembly for wall to wall expansion joint ) as shown on drawings.	lm	L	23%
7.6.4	Backing rod and mastic joint sealant; externally or internally wall to roof, (Aluminum section assembly for wall to roof expansion joint) as shown on drawings.	lm	L	23%
7.6.5	Architectural, aluminum section expansion joint assemblies; complete including mastic joint sealant, backer rod; to floor finishes as specified and shown on drawings	lm	L	23%

**Division 08 - OPENINGS**

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<p><b><u>DIVISION 8 - OPENINGS</u></b></p> <p><i>* Price of Fire Rated Doors and Frames shall be deemed to include in the price.</i></p> <p><i>* Price to be included card reader units</i></p> <p><i>* Price to be included 6 mm thick clean glass with radiation shieldding (according to Door Schedule)</i></p>			
8.1	<p><b><u>SECTION 081113 - METAL DOOR FRAMES</u></b></p> <p><u>Pressed steel profile door frames as specified and detailed; fabricated, supplied and installed completely to suit individual door dimensions stated and various wall thicknesses indicated ; INCLUDING for supports, anchors, grout filling, fasteners and fixings; protective coatings, sealants and finish painting; frame, fire rated where required and all other related ancillaries as indicated or required to the consent of the engineer and to his approval. (Refer to drawing)</u></p>			
8.1.1	Door Type D140/LOUV, Steel hinged one leaf door louvered type, Dimension 1400x2200mm	No	N	20%
8.2	<p><b><u>SECTION 081416 - WOOD DOORS</u></b></p> <p><u>Anti-bacterial high pressure Plastic laminate faced wood doors as specified, detailed and scheduled, installed complete; INCLUDING for door hardware sets anti-microbial, glass vision panels, and aluminium louvres; linings, edges, frame, fire rated where required, marble saddles or thresholds, trim and accessories; intemescent strip; prefinishing or finish painting; and all other related ancillaries as indicated or required</u></p> <p><u>Door Schedules</u></p>			
8.2.1	Door Type D125/T, Hinged- one leaf, Flush Door Solid Core Plastic Laminated With Beeches Edges <b>FIRE RATED DOOR (1 hr)</b> , Dimension 1250x2200mm	No	N	20%
8.2.2	Door Type D90/T, Hinged- one leaf, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 900x2200mm	No	N	20%
8.2.3	Door Type D75/T, Hinged- one leaf, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 750x2200mm	No	N	20%
8.2.4	Door Type D100/T, Hinged- one leaf, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 1000x2200mm	No	N	20%
8.2.5	Door Type D80/T, Hinged- one leaf, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 800x2200mm	No	N	20%

**Division 08 - OPENINGS**

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
8.2.6	Door Type D160/OR, Hinged- two leaves, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 1600x2200mm	No	N	20%
8.2.7	Door Type D160/GL, Hinged- two leaves with glass opening, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 1600x2200mm	No	N	20%
8.2.8	Door Type D160/T, Hinged- two leaves, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 1600x2200mm	No	N	20%
8.2.9	Door Type D140/T, Hinged- two leaves, Flush Door Solid Core Plastic Laminated With Beeches Edges, Dimension 1400x2200mm	No	N	20%
8.2.10	Door Type D140/GL, Hinged- two leaves with glass opening, Flush Door Solid Core Plastic Laminated With Beeches Edges <b>FIRE RATED DOOR(2hrs)</b> , Dimension 1400x2200mm	No	N	20%
8.3	<b><u>SECTION 085113 - ALUMINIUM DOORS AND WINDOWS</u></b>  <u>Aluminium powder coated framed door, window, entrance, and partition units as specified and detailed, installed complete;</u> <u>INCLUDING for sub-frames, transoms and mullions; glass, glazing and aluminium louvres; supports, anchors, fasteners and fixings; protective coatings and sealants; hardware, ironmongery, accessories and trim; frame and all other related ancillaries as indicated or required on drawings.</u> <u>All aluminum section should be heavy duty to take the double glazing and from available manufacturers, subject to compliance with requirements which may be incorporated in the work (Technal / Sedum or equal).</u> <u>The contractor should submit complete shop drawing and samples showings all the details and accessories to be used.</u> <b>Note: price to be include card reader unit where required</b>  <u>Aluminum Doors</u>			
8.3.1	Door Type D100/AL, Hinged- two leaves opening, Aluminum Door Sedum 2000 + Glass, Dimension 1000x2200mm	No	F1	15%
8.3.2	Door Type D230/AL, Hinged- two leaves opening, Aluminum Door Sedum 2000 + Glass, Dimension 2300x2200mm	No	F1	15%
8.3.3	Door Type D100/CR, Hinged- one leaf opening, characteristics shall be specified by the manufacturer recommendation and approved of the Engineer, Dimension 1000x2200mm	No	F1	15%
8.3.4	Door Type D165/ACCO, Sliding- one leaf, slide door Accordeon core plastic, Dimension 1650x2200mm	No	F1	15%
8.3.5	Door Type D125/ACCO, Sliding- one leaf, slide door Accordeon core plastic, Dimension 1250x2200mm	No	F1	15%

**Division 08 - OPENINGS**

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
8.3.6	Door Type D90/ACCO, Sliding- one leaf, slide door Accordeon core plastic, Dimension 900x2200mm	No	F1	15%
8.3.7	Door Type D73/ACCO, Sliding- one leaf, slide door Accordeon core plastic, Dimension 730x2200mm	No	F1	15%
	<u>Access Door Type for Mechanical and electrical Shaft and where shown on drawings</u>			
8.3.8	Door D148/ACCE, Access Door with aluminum frame, Door hinged two leaves Type (Aluminum + Fiber) at roof and where shown on drawings, Dimension 1480 x 1700 mm	No	F1	15%
8.3.9	Door D80/ACCE, Access Door with aluminum frame, Door hinged one leaf Type (Aluminum + Fiber) at roof and where shown on drawings, Dimension 800 x 1700 mm	No	F1	15%
8.3.10	Door D63/ACCE, Access Door with aluminum frame, Door hinged one leaf Type (Aluminum + Fiber) at roof and where shown on drawings, Dimension 630 x 1700 mm	No	F1	15%
8.3.11	Door D43/ACCE, Access Door with aluminum frame, Door hinged one leaf Type (Aluminum + Fiber) at roof and where shown on drawings, Dimension 430 x 1700 mm	No	F1	15%
	<u>Aluminum Windows as shown on drawings</u>			
8.3.12	W 253/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (2530 mm w x 1100 mm h)	No	F1	15%
8.3.13	W 455/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (4550 mm w x 1100 mm h)	No	F1	15%
8.3.14	W 285/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (2850 mm w x 1100 mm h)	No	F1	15%
8.3.15	W 160/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1600 mm w x 1100 mm h)	No	F1	15%
8.3.16	W 375/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (3750 mm w x 1100 mm h)	No	F1	15%
8.3.17	W 165/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1650 mm w x 1100 mm h)	No	F1	15%
8.3.18	W 90/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (900 mm w x 2390 mm h)	No	F1	15%
8.3.19	W 164'/AL, Sedum 2000 Aluminum Window, sliding two panels, Dimension (1940 mm w x 1100 mm h)	No	F1	15%
8.3.20	W 100'/AL, Sedum 2000 Aluminum Window, hinged-one leaf, Dimension (2530 mm w x 1100 mm h)	No	F1	15%

## Division 08 - OPENINGS

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
8.3.21	W 120/AL, Sedum 2000 Aluminum Window, sliding two panels, Dimension (1200 mm w x 1100 mm h)	No	F1	15%
8.3.22	W 100/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1000 mm w x 1100 mm h)	No	F1	15%
8.3.23	W 194/AL, Sedum 2000 Aluminum Window, sliding two panels, Dimension (1940 mm w x 1100 mm h)	No	F1	15%
8.3.24	W 253/AL, Sedum 2000 Aluminum Window, fixed panel Dimension (2530 mm w x 1100 mm h)	No	F1	15%
8.3.25	W 64/AL, Sedum 2000 Aluminum Window, fixed panel Dimension (640 mm w x 640 mm h)	No	F1	15%
8.3.26	W 150/AL, Sedum 2000 Aluminum Window, sliding two panels, Dimension (1500 mm w x 1100 mm h)	No	F1	15%
8.3.27	W 194"/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1940 mm w x 1100 mm h)	No	F1	15%
8.3.28	W 166/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1660 mm w x 1100 mm h)	No	F1	15%
8.3.29	W 204/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (2040 mm w x 1100 mm h)	No	F1	15%
8.3.30	W 181/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (1810 mm w x 1100 mm h)	No	F1	15%
8.3.31	W 433/AL, Sedum 2000 Aluminum Window, fixed panel, Dimension (4330 mm w x 1100 mm h)	No	F1	15%
8.4	<b><u>SECTION 088300 - MIRRORS</u></b>			
	<u>Supply and install recessed clear glass mirror, 6mm thick, framed or frameless unless otherwise noted including waterproof plywood backing and all necessary fixing accessories, as specified and/or as shown on drawings</u>			
8.4.1	Mirror, dimensions 1030 mm wide x 687.5 mm high or as shown on drawings	No	F1	15%

**Division 09 - FINISHES**

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<b><u>DIVISION 9- FINISHES</u></b>			
	<b><u>Section 092400 - Portland Cement Plaster</u></b>			
9.1	<b>Plaster to Receive Paint Finish</b> <u>Prepare surfaces, spatter dash, supply and apply ordinary Portland cement and sand plaster coat to a min. thickness of 20mm, include metal lath 1mm thick having approximately 50 nets per m2 where required, and all expanded metal angle and stop beads at corners and abutments; scratching under layers troweling to a smooth final layer unless noted otherwise. Include forming drip over opening; as per specs and drawings (1 undercoat of min.8mm, 1 undercoat of min. 6mm, 1 finish coat of min. 6mm)</u>			
9.1.1	To internal soffits	m2	-	-
9.1.1	To internal walls	m2	-	-
9.1.1	W5; Barium plaster to walls as per X-ray machine manufacturer instructions	m2	-	-
9.1.1	C7; Barium plaster to soffit as per X-ray machine manufacturer instructions	m2	-	-
9.1.1	To external walls	m2	-	-
9.2	<b>Plaster to Receive Tile Finish</b> <u>Supply and apply 2 layers of Portland cement &amp; sand plaster; minimum thickness of 8+8 mm; scratched upon completion to a maximum depth of 6mm; include all necessary material and accessories; as per the specifications and/or drawings</u>			
9.2.1	To walls to receive tile finish	m2	-	-
9.3	<b>Plaster to Unexposed Surfaces</b> <u>Supply and apply 1 layer of Portland cement and sand plaster; minimum of 8mm thickness; include all necessary material and accessories; as per the specifications and drawings</u>			
9.3.1	To internal soffits (Above false ceiling)	m2	-	-
9.3.2	To internal walls (Above false ceiling)	m2	-	-
9.4	<b><u>Section 092900 - Gypsum Board Assemblies</u></b> <u>Supply and install joint less gypsum board false ceiling; include suspension system, MDF visit traps, form of opening to electromechanical items, support and all necessary material and accessories; as per the specifications and/or drawings</u>			
9.4.1	C6; Gypsum board suspended ceiling	m2	-	-

**Division 09 - FINISHES**

HARBATA GOVERNMENTAL HOSPITAL				
Date: May, 2025				
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>9.5</b>	<b><u>Section 093000 - Ceramic Tile</u></b> <u>Supply and place tile with bedding mortar and sand bed under floor tiles; including grouting, pointing, cleaning and all necessary material and accessories; as per the specifications and/or as per drawings</u>			
9.5.1	F2; Industrial ceramic tiles 300x300mm (Quarry); 1st choice	m2	-	-
9.5.2	F3; Non slip ceramic tiles 200x200mm	m2	-	-
9.5.3	S3; 100mm high industrial ceramic coved (Quarry) skirting	lm	-	-
9.5.4	W1; 200x200mm glazed ceramic tiles	m2	-	-
9.5.5	S4; 100mm high ceramic coved skirting	lm	-	-
	<u>Supply and install terrazzo tiles; include fine gravels bed, mortar, grout, cleaning, polishing, and all necessary material and accessories; as per the specifications and drawings</u>			
9.5.6	F4,F5;Terrazzo tiles 200x200mm; 20mm thick (Under Vinyl)	m2	-	-
<b>9.6</b>	<b><u>Section 096340 - Dimension Stone Tiles</u></b> <u>Supply and place tile with bedding mortar and sand bed under floor tiles; including grouting, pointing, cleaning polishing, and all necessary material and accessories; as per the specifications and/or drawings</u>			
9.6.1	W6; 800x800x20 mm thick 'Botticino Marble; grade A; polished	m2	-	-
9.6.2	F6; Botticino marble; grade A; polished risers, treads and landing	m2	-	-
9.6.3	F7; 400X400X50 mm. Thick Cement tiles with exposed medium aggregate	m2	-	-
9.6.4	S1; 100mm. High x 10mm. Thick serpeggaiente marble grade "A" polished skirting	lm	-	-
<b>9.7</b>	<b><u>Section 095123 - Acoustical Tile Ceilings</u></b> <u>Supply and install false ceiling panels; include suspension system, anchors, form of opening to electromechanical works, and all necessary material and accessories; as per the specifications and/or drawings</u>			
9.7.1	C5; Aseptic tiles antibacterial 60x60 Gypsum board vinyl faced and aluminum back	m2	-	-



**Division 09 - FINISHES**

HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
9.8	<b><u>Section 095133 - Acoustical Metal Pan Ceilings</u></b> <u>Supply and install false ceiling panels; include suspension system, anchors,, gypsum board where required and all necessary material and accessories; as per the specifications and drawings</u>			
9.8.1	C3; Perforated Aluminum panels suspended ceiling; 600x600mm;	m2	-	-
9.8.2	C4; Aluminum panels suspended ceiling; 600x600mm;	m2	-	-
9.9	<b><u>Section 095423 - Linear Metal Pan Ceilings</u></b> <u>Supply and install false ceiling panels; include suspension system, anchors, and all necessary material and accessories; as per the specifications and drawings</u>			
9.9.1	C2; Aluminum linear ceiling; 100mm wide	m2	-	-
9.10	<b><u>Section 096516 - Sheet Vinyl Floor Covering</u></b> <u>Supply and install sheet vinyl floor covering antibacterial; include welding for the joints, adhesive, and all necessary material and accessories; as per the specifications and drawings</u>			
9.10.1	F4; Anti static PVC sheet; welded joint conductive flooring;	m2	-	-
9.10.2	F5; PVC sheet; welded joint conductive flooring;	m2	-	-
9.10.3	S2; 100mm. High P.V.C. skirting coved & plied from the main P.V.C flooring sheet. joint shall be welded	lm	-	-
9.10.4	S5; 100mm. High Anti- Static P.V.C. skirting coved & plied from the main P.V.C flooring sheet. joint shall be welded	lm	-	-
9.11	<b><u>Section 099123 - Paints</u></b>  <b>Latex Paint</b> <u>Prepare surface, supply and apply antibacterial and hygiene paint consist of acrylic sealer, min. 3 coats of putty, one water base undercoat, three finish coats of Latex base acrylic odorless paint; as per the specifications and/or drawings</u>			
9.11.1	To gypsum board suspended ceiling; Aseptic paint class 1	m2	-	-
	<b>Solvent Base Paint</b> <u>Prepare surface, supply and apply anti-bacterial and hygiene Enameled paint mat finish unless otherwise noted consist of acrylic sealer, 3 coats of putty, one solvent base undercoat, three finish coats of solvent base odorless paint; as per the specifications and drawings</u>			
9.11.2	C1; To internal ceilings	m2	-	-
9.11.3	W2; internal walls	m2	-	-

**Division 09 - FINISHES**

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
9.11.4	W5; internal walls  <b>Paint for Areas Above False Ceiling</b> <u>Prepare surface, supply and apply anti-bacterial paint one coat of solvent borne alkali resistant acrylic primer, and two finish coats of highly effective acrylic paint (able to resist mold, algal and fungal growth); include all necessary material; as per the specifications and drawings</u>	m2	-	-
9.11.4	To ceiling and walls  External Paint Prepare surfaces, supply and apply from <b>Tinol</b> or equivalent approved one coat of waterproofing primer, an intermediate waterproofing paint coat, and one finish coat of medium textured as per the specifications and drawings.	m2	-	-
9.11.5	Scratched Paint to Façade white color type E01	m2	-	-
9.11.6	Scratched Paint to Façade grey color type E02	m2	-	-
<b>9.12</b>	<b>Section 099600 - High Performance Coatings</b> <u>Prepare surface (shot blasting), supply and apply 1 coat of a two component polyamide cured sealer and 1 coat of a solvent free, two component high build polyamine cured epoxy paint "ASADOUR LB OF MAECO" Belgium or approved equal; as per the specifications and drawings</u>			
9.12.1	F1; Epoxy paint to floor over screed (last measured separately)	m2	-	-
9.12.2	W4; Non-toxic Epoxy paint min 400gr/m3 to wall	m2	-	-

**Division 10 - SPECIALTIES**

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<b><u>DIVISION 10 - SPECIALTIES</u></b>			
<b>10.1</b>	<b>SECTION 101400 - SIGNAGE</b> <u>Supply and install galvanized steel signage complete to road including concrete base, excavation backfilling, aluminum sign sheet with shape as indicated on drawing fixed to post by stainless steel clip, galvanized steel post diameter 76 mm (3.2 mm wall thickness) with gray paint deep 110 and raised 2550mm, mild steel plate 300x300x10 mm thick, weld End cap to post and all necessary fixing accessories, as specified and/or as shown on drawings</u>			
10.1.1	Handicape parking signage	No	-	-
10.1.2	Give way signage	No	-	-
10.1.3	Pass Either side signage	No	-	-
10.1.4	Direction signage with variable shape as shon on drawing	No	-	-
10.1.5	Do not Enter signage	No	-	-
10.1.6	Stop signage	No	-	-
10.1.7	room signage	No	-	-

## Division 15 - MECHANICAL WORKS

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	<u>15 - MECHANICAL WORKS</u>			
15.1	<u>GENERAL TECHNICAL REQUIREMENTS</u>  Allow for compliance in full with the General Technical Requirements section of the specifications :  Scope regulations and standards . Installation general Electrical Services installation Noise and vibration control Inspection testing and commissioning Handover procedures and documentation Below Ground Drainage			
15.2	<u>SURFACE WATER MANHOLES</u> Surface water manholes complete as specified ; inver levels as required ; include manhole covers channels , fittings and accessories as required ; include excavation and disposal ;			
15.2.1	with heavy duty cover (1000x1000mm)- MH-3	No	K	18%
15.2.1	with heavy duty cover (800x800mm)- MH-2	No	K	18%
15.2.2	with heavy duty cover (600x600mm)- MH-1	No	K	18%
15.3	<u>FOUL DRAINAGE</u> Below ground foul drainage pipewater installation complete as specified ; invert levels as required ; include all clean outs sleeves , fittings and accessories ; excavation and disposal ; bedding and surround to pipework ; pipe diameter			
15.3.1	80mm	m	K	20%
15.3.2	100mm	m	K	20%
15.3.3	125mm	m	K	20%
15.3.4	150mm	m	K	20%
15.3.5	200mm	m	K	20%
15.3.6	250mm	m	K	20%

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.4</b>	<b><u>FOUL MANHOLES</u></b> Foul manholes complete as specified ; invert levels as required ; include manhole covers , channels , fittings and accessories as required , include excavation and disposal			
15.4.1	Grease trap complete as specified ; include fittings and accessories , excavation and disposal , concrete work etc .	No	K	18%
<b>15.5</b>	<b><u>SEWAGE TREATMENT PLANT</u></b> Supply, install and test package type sewage treatment plant complete with all required work including excavation, protection, waterproofing, civil works all as specified and as directed by the Engineer.			
15.5.1	SEWAGE TREATMENT PLANT OF CAPACITY 6M3/HR	No	K	20%
<b>15.6</b>	<b><u>Shop drawings and as built</u></b>	No	-	-
<b>15.7</b>	<b><u>SANITARY FIXTURES</u></b>			
<b>15.7.1</b>	<b><u>LAVATORIES</u></b> To be complete with all interconnecting pipework valves , mixers, installation and all accessories as specified			
	LAV - 1 (half pedestal wash basin)	No	K	18%
	LAV - 2 (with pedestal wash basin)	No	K	18%
<b>15.8</b>	<b><u>WATER CLOSETS</u></b>			
15.8.1	EWC - 1 (wall hang with concealed flush tank)	No	K	18%
15.8.2	EWC - 2 (floor mounted with exposed flush tank)	No	K	18%
15.8.3	Ablution spray complete with hand spray, flexible hose	No	K	18%
<b>15.9</b>	<b><u>SHOWER</u></b> Shower Tray with trap /strainer complete/shower fittings/drains/mixer..etc.	No	K	20%
<b>15.10</b>	<b><u>SINKS</u></b>			
15.10.1	Dirty unit sink	No	K	20%
15.10.2	Janitor unit sink	No	K	20%
15.10.3	Sink- single bowl	No	K	20%
15.10.4	Sink- double bowl	No	K	20%
15.10.5	Scrubs	No	K	20%

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.11</b>	<b><u>SANITARY PIPEWORKS</u></b> Sanitary fittings complete as specified ; include all necessary support , hangers , hoses , valves , traps , accessories and connections to services and wastes ; Contractor to select appropriate tap sand thermostatic mixing unit , where required . Sanitary pipework complete as specified ; include all necessary supports , hanger , clean out , sleeves , openings fittings and accessories ; pipe diameter			
15.11.1	50mm WITH INUSLATION FOR AC DRAIN	m	K	18%
15.11.2	50mm	m	K	18%
15.11.3	80mm	m	K	18%
15.11.4	100mm	m	K	18%
	<u>NOTE:</u> 1- ITEM 12.14 INCLUDES UPVC RAIN WATER, SOIL DRAIN PIPES AND VENT PIPES.			
<b>15.12</b>	<b><u>FLOOR DRAIN</u></b> Floor drains complete as specified ; include all necessary supports , flashings strainers and accessories ; type F.D. - 1 ; size			
A	80mm	No	K	18%
B	FCO-100mm	No	K	18%
C	FCO - 80mm	No	K	18%
D	Gutter drain 100 with p- trap	No	K	18%
<u>NOTE:</u>	1 / ITEM 12.14 INCLUDES UPVC RAIN WATER AND SOIL DRAIN PIPES .			
<b>15.13</b>	<b><u>LABORATORY DRAINS</u></b> Laboratory drains complete as specified:include all necessary supports, flashing, strainers and accessories			
A	50mm dia	m	K	18%
B	80mm dia	m	K	18%

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.14</b>	<b><u>TRAPS FOR LABS</u></b>			
A	Traps for lab fixtures complete with accessories as required	item	K	18%
B	Neutralizing Pit (Full set with all ecessories and fittings)	item	K	18%
<b>15.15</b>	<b><u>RAINWATER PIPEWORK</u></b>			
	Rainwater pipework complete as specified ; include all necessary supports , hangers clean outs , sleeves , openings , fittings and accessories ; include paint finish where required ; pipe diameter			
	80mm	m	K	18%
<b>15.16</b>	<b><u>RAINWATER ROOF DRAIN</u></b>			
	Rainwater roof drains complete as specified ; include elevated dome strainer , flashing clamp collar , integral gravel guard , fittings and accessories ; type RD - 1 ; diameter			
A	80mm	No	K	18%
<b>15.17</b>	<b><u>RADIATORS</u></b>			
	<b>Supply and installation of radiators complete with manual air vent, return balancing valve, supports and all necessary accessories.</b>			
15.17.1	4 Elements	No	-	-
15.17.2	7 Elements	No	-	-
15.17.3	8 Elements	No	-	-
15.17.4	9 Elements	No	-	-
15.17.5	10 Elements	No	-	-
15.17.6	11 Elements	No	-	-
15.17.7	12 Elements	No	-	-
15.17.8	13 Elements	No	-	-
15.17.9	14 Elements	No	-	-
15.17.10	15 Elements	No	-	-
15.17.11	16 Elements	No	-	-
15.17.15	17 Elements	No	-	-
15.17.13	18 Elements	No	-	-
15.17.14	20 Elements	No	-	-
15.17.15	21 Elements	No	-	-
15.17.16	22 Elements	No	-	-
15.17.17	23 Elements	No	-	-
15.17.18	24 Elements	No	-	-
15.17.19	25 Elements	No	-	-
15.17.20	28 Elements	No	-	-

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.18</b>	<b><u>DOMESTIC HOT AND COLD WATER</u></b> <i>Domestic hot and cold water , softened water pipework as specified ; include all fittings bends ,tees , vents , and drains well , isolating and non return values , strainers , commissioning sets ,temperature and pressure ganges , flexible connections and other accessories , fire stops ,sleeves , joints , brackets and hangers for a complete installation ; include attendance to automatic control specialist and fitting of control devices ;pipe diameter</i>			
<b>1</b>	<b><u>Pipes</u></b>			
<b>A</b>	<b>Cold water pipes hidden in walls and exposed @ ceiling level (PPR )</b>			
	20 diameter.	m	H	15%
	25 diameter.	m	H	15%
	32 diameter.	m	H	15%
	40 diameter	m	H	15%
	50 diameter	m	H	15%
	63 diameter	m	H	15%
	75 diameter	m	H	15%
<b>B</b>	<b>Hot water pipes hidden in walls and exposed @ ceiling level with insulation as specified (PPR with fiberglass layer)</b>			
	20diameter.	m	H	15%
	25 diameter.	m	H	15%
	32 diameter.	m	H	15%
	40 diameter	m	H	15%
	50 diameter	m	H	15%
	63 diameter	m	H	15%
<b>C</b>	<b>Soft Cold Water Pipes (PPR)</b>			
	20 diameter.	m	H	15%
	25 diameter.	m	H	15%
	32 diameter.	m	H	15%
	40 diameter	m	H	15%
			H	15%
<b>D</b>	<b>Soft Hot Water Pipes (PPR with fiber glass layer with insulation where specified)</b>			
	20 diameter.	m	H	15%
	25 diameter.	m	H	15%
	32 diameter.	m	H	15%
	40 diameter	m	H	15%
<b>E</b>	<b>HEATING SYSTEM PIPES</b> Heating pipework as specified ; include all fittings bends , tees , vents and drains wells , isolating and non return values , strainers , commissioning sets , temerature and pressure ganges , flexible connections and other accessories , fire stops , sleeves , joints , brackets and hangers for a complete installation ; include attenance to automatic control specialist and fitting of control devices ;			



## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
	Ø 20MM (1/2")	m	H	15%
	Ø 25MM (3/4")	m	H	15%
	Ø 32MM (1")	m	H	15%
	Ø 40MM (1 1/4")	m	H	15%
	Ø 50MM (1 1/2")	m	H	15%
	Ø 63MM (2")	m	H	15%
	Ø 75MM (2 1/2")	m	H	15%
	Ø 90MM (3")	m	H	15%
<b>F</b>	<b>Fuel System Pipes (Black Steel Pipes)</b>			
	1/2" diameter.	m	H	15%
	3/4" diameter.	m	H	15%
	1 1/4" diameter.	m	H	15%
	2" diameter.	m	H	15%
<b>2</b>	<b><u>Valves</u></b>			
	Supply, Install and Test the Following Fittings Complete as Specified and as Shown on Drawings:			
<b>A</b>	<b>Ball Valve</b>			
	1/2" diameter.			
	3/4" diameter.	NB	H	20%
	1" diameter.	NB	H	20%
	1 1/4" diameter.	NB	H	20%
	1 1/2" diameter.	NB	H	20%
	2" diameter.	NB	H	20%
	2 1/2" diameter	NB	H	20%
<b>B</b>	<b>Globe valve</b>			
	3/4" diameter.	NB	H	20%
<b>C</b>	<b>Water Meter Manhole</b>			
	Concrete Manhole including plastering hunching and benching, cover and frame manhole to be cast iron as manufactured by ok for 3 tons, including water meter WM-1 as above, Including strainer, check valve, valves complete with all accessories & fittings as detailed on the drawings...	NB	H	20%
<b>D</b>	<b>Fuel filling cistern connection 1 1/4" (gate valve + check valve)</b>	NB	H	20%
<b>15.19</b>	<b><u>EMERGENCY SHOWER</u></b>			
	Emergency shower units for use in labs Complete as required	No	H	15%
<b>15.20</b>	<b><u>EXPANSION/CONTRACTION TANK SCHEDULE</u></b>			
	ET-1 (50liters)	No	H	15%

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.21</b>	<b><u>CIRCULATING PUMPS</u></b> Circulating pumps as specified and scheduled ; include all pipework connections via anti vibration flexible connections , anti vibration base and mounts , control and power wiring from MCC , motor as specified , pressure and temperature gauges and tapping and non return valves , strainers , thermal insulation , bonding and identification System numbers			
A	Circulating pump HWCP-R-1,2	SET	I	10%
B	Circulating pump SHWCP-R-1,2	SET	I	10%
C	Circulating pump HCP-GF-1,2	SET	I	10%
D	Circulating pump HCP-GF-3,4,5	SET	I	10%
<b>15.22</b>	<b>Connections to city water supply</b>	LOT	I	10%
<b>15.23</b>	<b><u>COLD WATER PACKAGED BOOSTER PUMP SETS</u></b> Booster pumps as specified and scheduled ; include all pipework connections via anti vibration flexible connections , anti vibration base and mounts , control and power wiring from MCC , motor as specified , pressure and temperature gauges and tapping and non return valves , strainers , thermal insulation , bonding and identification System numbers			
A	Booster pumps type BP-R-1,2,3	SET	I	10%
B	Booster pumps type SWBP-R-1,2	SET	I	10%
<b>15.24</b>	<b><u>COLD WATER TRANSFER PUMP SETS</u></b> Transfer pumps as specified and scheduled ; include all pipework connections via anti vibration flexible connections , anti vibration base and mounts , control and power wiring from MCC , motor as specified , pressure and temperature gauges and tapping and non return valves , strainers , thermal insulation , bonding and identification System numbers			
A	TP-GF-1,2,3	SET	I	10%
<b>15.25</b>	<b><u>Fuel Transfer Pump set</u></b> Fuel Transfer pumps as specified and scheduled ; include all pipework connections via anti vibration flexible connections , anti vibration base and mounts , control and power wiring from MCC , motor as specified , pressure and temperature gauges and tapping and non return valves , strainers , thermal insulation , bonding and identification System numbers			
A	GO-GF-1,2	SET	I	10%

HARBATA GOVERNMENTAL HOSPITAL				Date: May, 2025	
BILL OF QUANTITIES					
Item No.	Description of Material	Unit	Applicable Formula	Percentage %	
15.26	<b><u>TANKS</u></b>				
A	CONCRETE WATER TANKS PREPARATION	No			
B	Under ground fuel tank 20m3	No	I	10%	
C	Daily Fuel tank 3m3	No	I	10%	
D	PE WATER TANKS (NTG) 8M3	No	I	10%	
E	PE WATER TANKS (NTG) 4M3	No	I	10%	
15.27	<b><u>HOT WATER STORAGE CALORIFIERS</u></b>				
A	HWST-R-1-1,2	No	I	10%	
B	SHWST-R-1-1	No	I	10%	
	<b><u>MEDICAL GASES INSTALLATION</u></b>				
15.28	<b><u>PREAMBLES</u></b> The contractor shall include for the design and installation of the system complete to achieve the requirements of the specification and the number of outlets as defined in the schedules , and the coordination with other trades Central plant associated with each system shall be identified as a cost item to include all elements not specifically indentified elsewhere costs for each outlets shall include the outlet points pipework and all costs not indicate elsewhere . AGSS costs shall include for the associated wiring/control costs Alarm panel costs shall include the panel , all associated wiring , pressure sensors , connection to local power supply etc . Costs associated with pendants shall include all outlets , power points , fixing , support etc .				
15.29	<b><u>CENTRAL SYSTEM</u></b>				
A	<b>Oxygen Automatic Manifold</b> Oxygen manifold with 12 cylinder on line, 6 reserve, 7 emergency capacity of each cylinder 9070 liter complete with all related works.	item	H	15%	
B	<b>Duplex Medical Compressed Air Plant</b> Plant net output 800LPM Plant includes: three screen compressors with 15 kw each, air receiver, dryer assay, filter assay, valves, antivibration & Associated pipe work, electrical supply , complies with HTM 2022.	item	H	15%	
C	<b>Duplex Pressure Reducing Station(10bar to 4bar)</b> PRS comprises: Regulators with downstream press., Gauge, Pressure relief valves, isolation valve, Fittings and & all Necessary Accessories and Connections as Specified and as Shown on Drawings:	item	H	15%	

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
D	<b>Duplex Pressure Reducing Station(10bar to 7bar)</b> PRS comprises: Regulators with downstream press., Gauge, Pressure relief valves, isolation valve, Fittings and & all Necessary Accessories and Connections as Specified and as Shown on Drawings:	item	H	15%
E	Nitrous oxide manifold with 4 cylinders on line, 4 emergency cylinders, capacity of each cylinder 9070 liter complete with all related works.	item	H	15%
F	<b>Duplex Medical Vacuum Plant</b> Plant: net output 2000 LPM Plant includes: two pumps 15hp each 800lit/min. , vacuum receiver, bacterial filter assay, control panel, anti vibration, valves & associated pipe work, electrical supply, Complies with HTM 2022.	item	H	15%
G	<b>Duplex AGSS exhaustor unit</b> pump units & control equipment is mounted on A steel chassis together with necessary connections for installation & FRV included in the assay, electrical supply, complies with HTM 2022.	item	H	15%
<b>15.30</b>	<b><u>OUTLETS (bed head unit price is included)</u></b>			
A	Oxygene - Wall mounted	No	H	15%
B	Oxygene - BHU mounted	No	H	15%
C	Nitrous Oxide - BHU mounted	No	H	15%
D	Air - 4 bar - BHU mounted	No	H	15%
E	Air - 7 bar - BHU mounted	No	H	15%
F	Vacuum - Wall mounted	No	H	15%
G	Vacuum - BHU mounted	No	H	15%
H	AGSS - BHU mounted	No	H	15%
<b>15.31</b>	<b><u>ALARMS INSTALLATION</u></b> Alarm Panels + valve box			
A	Two outlets zone	No	E	15%
B	Three outlets	No	E	15%
C	Six outlets	No	E	15%
<b>15.32</b>	<b><u>PENDANTS</u></b>			
	OPT	No	E	15%

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Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.33</b>	<b><u>LPG</u></b>			
A	LPG system serves kitchen and laboratory equipment . For kitchen etc . equipment Contractor to allow for upto & including final isolation valve, final connection . For laboratory Contractor to allow for isolating valve and 3m of pipework for each bech , capped off for extension	item	E	15%
B	Installation to comprise tanks , complete emergency shut off valves, drain , valves , contents gauges , safety control valves vents and fill points and pipework , temperature indicators pressure regulators , vapour balance pipework and fill point , pressure gauges on outflow and distribution pipework , all to comply with drawings and specification Tanks as above	No	E	15%
<b>15.34</b>	<b><u>COPPER PIPEWORK</u></b>			
	Pipework complete with waterproof adhesive tape where buried , colour banding throughout all safety and isolating valves , outlets points as specified etc . to from a complete installation			
A	copeer : 15mm	m	E	15%
B	copeer : 20mm	m	E	15%
C	copeer : 25mm	m	E	15%
D	copeer : 32mm	m	E	15%
E	copeer : 40mm	m	E	15%
<b>15.35</b>	<b><u>BOILER PLANT</u></b>			
	HOT WATER boilers as specified and scheduled, B-GF-1	No	E	15%
<b>15.36</b>	<b><u>AIR HANDLING UNITS</u></b>			
	Air handling units as specified and scheduled include all ductworks , pipeworks connections via flexible connections , control and power wiring , volume control dampers , attenuators , actuators , control ,drainage to nearest stack via glass traps , protection to drainage pipework , identification ,bonding and sundry fiments and accessories .			
A	AHU-RF-1	item	E	15%
B	AHU-RF-2	item	E	15%
C	AHU-RF-3	item	E	15%
D	FA-AHU-RF-1	item	E	15%
E	FA-AHU-RF-2	item	E	15%
F	FA-AHU-RF-3	item	E	15%
G	FA-AHU-RF-4	item	E	15%
	<b><u>NOTE:</u></b> <b>1- ITEMS INCLUDES HEPA FILTER WHERE REQUIRED</b>			

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.37</b>	<b>ROOM FAN COIL UNITS</b> Fan coil units specified and scheduled ; include heating and cooling coils , copper pipework , , thermostat(s) / sensor (s) , control and small power wiring , and final connections , units to be 3 speed type with filter and insulated panels for quiet operation in accordance with the scheduled room noise limits; include insulated drain pans and drainage connection via running traps to the vertical soil stacks , bonding , identification and all sundry fittings , insulation and valve boxes.			
15.37.1	FCU-GF-01	No	E	15%
15.37.2	FCU-GF-02	No	E	15%
15.37.3	FCU-GF-03	No	E	15%
15.37.4	FCU-GF-04	No	E	15%
15.37.5	FCU-GF-05	No	E	15%
15.37.6	FCU-GF-06	No	E	15%
15.37.7	FCU-GF-07	No	E	15%
15.37.8	FCU-GF-08	No	E	15%
15.37.9	FCU-GF-09	No	E	15%
15.37.10	FCU-GF-10	No	E	15%
15.37.11	FCU-GF-11	No	E	15%
15.37.15	FCU-GF-12	No	E	15%
15.37.13	FCU-GF-13	No	E	15%
15.37.14	FCU-GF-14	No	E	15%
15.37.15	FCU-GF-15	No	E	15%
15.37.16	FCU-GF-16	No	E	15%
15.37.17	FCU-GF-17	No	E	15%
15.37.18	FCU-GF-18	No	E	15%
15.37.19	FCU-GF-19	No	E	15%
15.37.20	FCU-GF-20	No	E	15%
15.37.21	FCU-GF-21	No	E	15%
15.37.22	FCU-GF-22	No	E	15%
15.37.23	FCU-GF-23	No	E	15%
15.37.24	FCU-GF-24	No	E	15%
15.37.25	FCU-GF-25	No	E	15%
<b>15.38</b>	<b>SPLIT SYSTEM</b> Split system air conditioning units , duty /standby , units n° . external condensing units as specified and detailed ; include refrigerant pipework , on board controls , external controls , and power wiring from MCC and internal control panels ; include acoustic canopy consisting of louvres , doors, wall and ceiling treatment as detail drawings , anti vibration mounting and fittings designed for quiet operation , as per specified room noise limits ; precharged with refrigerant , off loading , sitting testing and commissioning			
15.38.1	SP-9000	No	E	15%
15.38.2	SP-12000	No	E	15%
15.38.3	SP-18000	No	E	15%
15.38.4	SP-24000	No	E	15%

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Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.39</b>	<b>Refrigerant Pipes</b> Supply, lay, connect and test the following copper pipes including all necessary fixing Accessories Insulation and Fittings complete as specified and as shown on drawings:	lm	E	15%
<b>15.40</b>	<b><u>VENTILATION FANS</u></b> Supply fans as specified and scheduled include all ductwork connections via flexible connections , local isolators , power and control wiring , volume control dampers attenuations ductwork and inspections doors , identification and bonding and all accessories and sundry items			
15.40.1	FAF-RF-1	No	H	15%
<b>15.41</b>	<b><u>EXTRACT FANS</u></b> Extract fans as specified and scheduled including all ductwork connections via flexible connections , local isolators , power and control wiring , volume control dampers attenuators , acoustic cladding to connections ductwork , and inspection doors , identification and bonding all sundry items System number :-			
15.41.1	EF-GF-1	No	H	15%
15.41.2	EF-RF-1	No	H	15%
15.41.3	EF-RF-2	No	H	15%
15.41.4	EF-RF-3	No	H	15%
15.41.5	EF-RF-4	No	H	15%
15.41.6	EF-RF-5	No	H	15%
15.41.7	EF-RF-6	No	H	15%
15.41.8	EF-TRF-1	No	H	15%
15.41.9	EF-TRF-2	No	H	15%
<b>15.42</b>	<b><u>GALVANIZED STEEL METAL DUCTWORK</u></b> <i>Galvanized sheet metal ductwork as specified access panels , turning vanes , test points , instrument points , accessories , supports , hangers and fittings , bonding and sundry fitments</i>			
15.42.1	Supply & Return Air ductwork ( insulation is included)	Kg	G	15%
15.42.2	Exhaust ductwork	Kg	G	15%
15.42.3	FA ductwork (INSULATION IS INCLUDED)	Kg	G	15%
15.42.4	fire dampers	PC	G	15%
15.42.5	volume control dampers	PC	G	15%
15.42.6	Door grill 20*10	PC	G	15%

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Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>15.43</b>	<b><u>AIR DIFFUSERS SD</u></b>			
	Supply air diffusers as specified ; include in built volume control damper , directional core, secret fixing to dutwork ; include coordination with room data sheets , engineer and ceiling erector , balancing and commissioning Supply Air Diffuser SD :-			
15.43.1	300*300	No	G	15%
15.43.2	450*450mm	No	G	15%
15.43.3	600*600mm	No	G	15%
<b>15.44</b>	<b><u>AIR REGISTER SR</u></b>			
15.44.1	<b>Exhaust ceiling diffuser</b>			
A	ECD 22.5*22.5	No	G	15%
B	ECD 15*15	No	G	15%
15.44.2	<b>FAG</b>			
A	FAG 15*10	No	G	15%
B	FAG 15*15	No	G	15%
C	FAG 20*10	No	G	15%
D	FAG 20*15	No	G	15%
E	FAG 20*20	No	G	15%
<b>15.45</b>	<b><u>Laminar Flow Diffuser</u></b>			
	LFD 120X60 WITH 4-WAY SIDE CURTAINS	No	G	15%
<b>15.46</b>	<b><u>RETURN AIR DIFFUSERS RD / ED</u></b>			
	Return air diffusers as specified ; include inbuilt volume control damper , matching core to supply air diffuser , secret fixing to ductwork , include coordination with room data sheets , architect and ceiling erector , balancing and commissioning Retun Air Diffusers RD : -			
A	300*300	No	G	15%
B	450*450	No	G	15%
C	600*600	No	G	15%



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Item No.	Description of Material	Unit	Applicable Formula	Percentage %
15.47	<b><u>SOUND ATTENUATIONS</u></b>  Sound attenuators by specialist to air handling units , fans , as specified ; specialist to size attenuators and other acoustic measures to achieve specified room noise limits	item	G	15%
15.48	<b><i>FIRE PROTECTION</i></b>			
15.48.1	<b><i>PIPEWORK</i></b> Supply, Install, Connect and test fire fighting pipe laid horizontal and vertical including necessary valves, fittings, accessories and connections all as shown on drawings and as specified for a complete installation with all interconnecting pipework , booster pump valves , hoses(or racks ) cabinets , power supply and controls to MCC and all items to provide a complete system in compliance with NFPA			
15.48.1	1"	m	H	20%
15.48.2	1 1/2"	m	H	20%
15.48.3	2 1/2"	m	H	20%
15.48.4	3"	m	H	20%
15.48.5	4"	m	H	20%
15.49	<b>Valves</b>	item		
15.50	Siamese connection unit	No	H	20%
15.51	<b><i>STANDPIPE PUMPS</i></b> Fire Pump Supply , Instal and Test, Set complete including pipe within pump room, valves, flexible connections, pressure vessel, pipe, strainer, vibration isolators, pre-wired control panels and electrical connection to local outlets complete as specified and as shown on drawings			
A	Fire Pump FP - GF-1	Item	H	20%
15.52	Supply & Install Fire Hose Reels , fully Automatic 25mm X 30m Swing type Wall mounted cabinet with necessary fittings, accessories, valves , Landing valve a set of 5kg CO2 and 4.5kg fire dry chemical portable fire extinguisher etc,... complete all as Specified, shown on drawings and to the Engineer's and Local Authorities Approval (Icluding pressure reducing Valves).			
A	Hose reel and/or racks with Stand pipe	No	H	20%
15.53	<b><u>FIRST AID</u></b> First aid fire appliances as specified			
15.53.1	Wall mounted dry powder extinguishers (6Kg)	No	H	20%
15.53.3	Wall mounted CO2 extinguishers ( 6Kgs)	No	H	20%
15.53.4	Ceiling mounted dry powder extinguisher (9Kg)	No	H	20%

## BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
15.54	<b><u>FOAM INSTALLATION</u></b> Foam installation complete with all wiring , valves, tanks, sprinklers etc... FM200 System	item	H	20%
15.55	<b><u>WATER SOFTENER</u></b> Water softening Installation include :- Specialist advice , softeners / filters , brink tank controls , clorinator , wiring , connection to CCMS etc . as a complete operational system .System numbers :-  SOFTNER-1	item	H	20%
15.56	<b><u>RO SYSTEM</u></b>  RO-1	item	H	20%
15.57	<b><u>THERMAL INSULATION AND IDENTIFICATION OF SERVICES</u></b>  <b><i>THERMAL INSULATION</i></b>  <i>Thermal insulation as specified complete with identification , all mastics , adhesive , mechanical fixings , final coverings and protective and decorative finishes</i>			
A	Pipework insulation , including ranges and	item	H	20%
B	valve boxes (Identification of Services)	item	H	20%
C	Chimney (Boiles, Fire Pump, Generators)	item	H	20%

## Division 16 - ELECTRICAL WORKS

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### BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b><u>CHAPTER 16- ELECTRICAL &amp; TELEPHONE CONNECTIONS</u></b>				
<b>16.1</b>	<b><u>Wires and Cables</u></b>			
	<b><u>Cu/PVC/PVC:</u></b> Supply, install and connect the following cables, PVC insulated, and copper conductors, complete including accessories, connectors, lugs, supports, clamps, and cable trays as shown on the drawings and as specified			
	Main Feeder Cables ( Cable De Liban )			
16.1.1	3x4+4 mm2	MR	E	10%
16.1.2	3x6+6 mm2	MR	E	10%
16.1.3	4x2.5+2.5 mm2	MR	E	10%
16.1.4	4x4+45 mm2	MR	E	10%
16.1.5	4x6+6 mm2	MR	E	10%
16.1.6	4x10+10 mm2	MR	E	10%
16.1.7	4x16+10 mm2	MR	E	10%
16.1.8	4x25+16 mm2	MR	E	10%
16.1.9	4x35+16 mm2	MR	E	10%
16.1.10	4x70+35 mm2	MR	E	10%
16.1.11	4x95+35 mm2	MR	E	10%
16.1.12	4x70mm2	MR	E	10%
16.1.13	4x185mm2	MR	E	10%
16.1.14	2(4x185mm2)	MR	E	10%
16.1.15	4x6 mm2 - FP 200	MR	E	10%
16.1.16	4x10 mm2 - FP 200	MR	E	10%
16.1.17	4x16 mm2 - FP 200	MR	E	10%
16.1.18	4x2.5 mm2 (for floating switch and control)	Item	E	10%
<b>16.2</b>	<b><u>Electrical Cabinet, Boxes and Fittings</u></b>			
	Supply, install and connect the following outlet boxes, complete including cabling/conduit works back to receptive panel boards, accessories as shown on the drawings and as specified (PVC or EMT conduit as per specification)			
16.2.1	Electrical outlet box rated 2x10 amp/220V	No	E	12%
16.2.2	Electrical outlet box rated 2x16 amp/220 V	No	E	12%
16.2.3	Electrical outlet box rated 2x20 amp/220 V	No	E	12%
16.2.4	Electrical outlet box rated 4x10 amp/380 V	No	E	12%
16.2.5	Electrical outlet box rated 4x16 amp/380 V	No	E	12%
16.2.6	Electrical outlet box rated 4x20 amp/380 V	No	E	12%
16.2.7	Electrical outlet box rated 4x25 amp/380 V	No	E	12%
16.2.8	Electrical outlet box rated 4x32 amp/380 V	No	E	12%
16.2.9	Electrical outlet box rated 4x40 amp/380 V	No	E	12%
16.2.10	Electrical outlet box rated 4x63 amp/380 V	No	E	12%
16.2.11	Electrical outlet box rated 4x160 amp/380 V	No	E	12%
<b>11.3</b>	<b><u>Cable Tray</u></b>			
	Supply, install the following cable tray, hot dip galvanized complete including cable tray, support and all related accessories as shown on the drawings and as specified			
16.3.1	Cable tray 10x5 cm	MR	E	12%
16.3.2	Cable tray 15x5 cm	MR	E	12%
16.3.3	Cable tray 20x5 cm	MR	E	12%
16.3.4	Cable tray 30x5 cm	MR	E	12%
16.3.5	Cable tray 40x5 cm	MR	E	12%
16.3.6	Cable tray 50x5 cm	MR	E	12%

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Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>16.4</b>	<b>LIGHT POINT AND FIXTURES</b>			
	Supply , install and connect lighting points including conduits, accessories and supports, junction, derivation and outlet boxes, conductors, connectors and all the accessories, as shown on the drawings and as specified NOTE : Conduits exposed above false ceiling and in slab shall be PVC rigid type heavy gauge and in mechanical room shall be EMT type			
16.4.1	120cm LED recessed mounted panel, 33w, 4000k light color	No	E	12.5%
16.4.2	120cm LED recessed mounted panel, 33w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.3	20cm LED recessed mounted down light, 18w, 4000k light color	No	E	12.5%
16.4.4	20cm LED recessed mounted down light, 18w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.5	20cm LED recessed mounted panel, 25w, 4000k light color	No	E	12.5%
16.4.6	20cm LED recessed mounted panel, 25w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.7	20cm LED surface mounted panel, 25w, 4000k light color	No	E	12.5%
16.4.8	20cm LED surface mounted panel, 25w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.9	60cm LED surface mounted panel, 40w, 4000k light color	No	E	12.5%
16.4.10	60cm LED surface mounted panel, 40w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.11	60cm LED recessed mounted panel, 40w, 4000k light color	No	E	12.5%
16.4.12	60cm LED recessed mounted panel, 40w, 4000k light color with 2 hours emergency kit	No	E	12.5%
16.4.13	10w LED surface wall mounted lighting fixture, 4000k light color	No	E	12.5%
16.4.14	120cm led recessed mounted panel, 44.5w, 4000k light color, anti bacterial special for operation theaters.	No	E	12.5%
16.4.15	Busy Led Lighting fixture	No	E	12.5%
16.4.16	Decorative LED post lantern, 30w, warm white color,IP67	No	E	12.5%
16.4.17	Decorative LED post top led fixture, 50w, warm white color, IP67	No	E	12.5%
16.4.18	Surface mounted non maintained emergency lighting fixture, equipped with 1x1.3w LED lamp (3 hours duration).	No	E	12.5%
16.4.19	Lighting outlet points	No	E	12.5%
16.4.20	Galvanized Lighting mast, 6 meters	No	E	12.5%
<b>16.5</b>	<b><u>Wiring Devices</u></b>			
	Supply, install and connect the following wiring devices, complete including cabling/conduit works back to receptive panel boards, accessories as shown on the drawings and as specified . NOTE : Conduits exposed above false ceiling shall be PVC rigid type and in mechanical room shall be EMT type,Bticino Matix,Legrand Arteor ,Vimar Plana or equivalent			
16.5.1	Wall mounted one way, one gang light switch	No	E	15%
16.5.2	Wall mounted one way, two gang light switch	No	E	15%
16.5.3	Wall mounted one way, three gang light switch	No	E	15%
16.5.4	Wall mounted two way, one gang light switch	No	E	15%
16.5.5	Wall mounted two way, two gang light switch	No	E	15%
16.5.6	Wall mounted two way, three gang light switch	No	E	15%
16.5.7	Wall mounted simplex socket outlet (2P+E) shouco type	No	E	15%
16.5.8	Wall mounted simplex socket outlet (2P+E) shouco typem for TV Unit	No	E	15%
16.5.9	Wall mounted simplex socket outlet (2P+E) shouco type , water proof	No	E	15%
16.5.10	Wall mounted duplex socket outlet (2P+E) shouco type	No	E	15%
16.5.11	Wall mounted simplex UPS socket outlet (2P+E), shouco red type	No	E	15%
16.5.12	Wall mounted duplex UPS socket outlet (2P+E), shouco red type	No	E	15%
16.5.13	Isolating transformer , 15 KVA used in operation theatre	No	E	15%
16.5.14	Isolating transformer , 6 KVA used in ICU	No	E	15%

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<b>16.6</b>	<b><u>Disconnecter Switches</u></b> Supply, install and connect the following isolating disconnector complete including cabling/conduit works back to respective panelboards, with all related accessories as shown on drawings and as specified, ABB, Katco or equal			
16.6.1	Isolating switch rated 2x10A IP 65	No	E	8%
16.6.2	Isolating switch rated 2x16A IP 65	No	E	8%
16.6.3	Isolating switch rated 2x20A IP 65	No	E	8%
16.6.4	Isolating switch rated 4x10A IP 65	No	E	8%
16.6.5	Isolating switch rated 4x16A IP 65	No	E	8%
16.6.6	Isolating switch rated 4x20A IP 65	No	E	8%
16.6.7	Isolating switch rated 4x25A IP 65	No	E	8%
16.6.8	Isolating switch rated 4x32A IP 65	No	E	8%
16.6.9	Isolating switch rated 4x40A IP 65	No	E	8%
16.6.10	Isolating switch rated 4x63A IP 65	No	E	8%
16.6.11	Isolating switch rated 4x160A IP 65	No	E	8%
<b>16.7</b>	<b><u>Supply, install and connect the following:</u></b>			
16.7.1	Conduits and control wiring related to mechanical system (all pumps, AC and Fans)	LS	E	8%
<b>16.8</b>	<b><u>Earthing</u></b> Earthing system shall be made by closed circuit cable of 95mm <sup>2</sup> bare copper conductor with earth rods supplied installed, connected and tested complete with all the equipment and accessories, to ensure a resistance less than 5 ohms, including grounding of main electrical room, technical services, voids, attics, and fixed machinery / equipment as specified	LS		
<b>16.9</b>	<b><u>Panel Boards</u></b> Supply, install and connect the following panelboards, complete including protective devices, measuring devices, contactors, auxiliaries, and all related accessories as shown on drawings and as specified, ABB, Schneider or equal			
16.9.1	ATS, 4x630A	No	E	8%
16.9.2	MDB	No	E	8%
16.9.3	UMDB	No	E	8%
16.9.4	USDB-XRAY	No	E	8%
16.9.5	FDB-ER	No	E	8%
16.9.6	FDB-OPD	No	E	8%
16.9.7	FDB-PR	No	E	8%
16.9.8	FDB-REC	No	E	8%
16.9.9	FDB-CLNC	No	E	8%
16.9.10	FDB-ICU	No	E	8%
16.9.11	FDB-XRAY	No	E	8%
16.9.12	FDB-LAB	No	E	8%
16.9.13	FDB-EMR	No	E	8%
16.9.14	FDB-SPL	No	E	8%
16.9.15	FDB-ER-AC	No	E	8%
16.9.16	FDB-OPD-AC	No	E	8%
16.9.17	FDB-REC-AC	No	E	8%
16.9.18	FDB-PR-AC	No	E	8%
16.9.19	FDB-TF	No	E	8%
16.9.20	FDB-ATS	No	E	8%
16.9.21	UFDB-ER	No	E	8%
16.9.22	UFDB-PR	No	E	8%

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16.9.23	UFDB-CLNC	No	E	8%
16.9.24	UFDB-REC	No	E	8%
16.9.25	UFDB-EMR	No	E	8%
16.9.26	UFDB-ICU	No	E	8%
16.9.27	UFDB-LAB	No	E	8%
16.9.28	UFDB-OPD	No	E	8%
16.9.29	UFDB-OR	No	E	8%
16.9.30	UFDB-XRAY	No	E	8%
16.9.31	MCC-1	No	E	8%
16.9.32	MCC-TF	No	E	8%
16.9.33	MCC-FANS	No	E	8%
16.9.34	ATS/EMERGENCY	No	E	8%
16.9.35	ATS-FP	No	E	8%
16.9.36	FDB-LIFT1	No	E	8%
16.9.37	FDB-LIFT2	No	E	8%
<b>16.10</b>	<b><u>Uninterruptible power supply system UPS</u></b> Supply, install connect, test and commission the following uninterruptible power supply Units complete with batteries ,15 min, autonomy , and all needed cables panel board,Control interfaces software , Socomec , Schneider or equal			
16.10.1	UPS 15 KVA, 3Phase Input, 3 Phase Output	No	E	10%
16.10.2	UPS 100 KVA,3Phase Input, 3 Phase Output	No	E	10%
<b>16.16</b>	<b><u>Lightning Protection System</u></b> Supply, install connect, test and commission a complete lightning Protection System, including conductors, air terminals, down conductors, earth pits and all needed accessories etc, as specified and as shown in the drawing	LS	E	15%
<b>16.12</b>	<b><u>Telephone Distribution</u></b> Supply, install and connect the following telephone distribution fittings including all conduits, conduit fittings, boxes, fixing, accessories and wiring as specified and as shown on the drawings			
16.12.1	MDF Telephone cabinet (200 Pair) including surge arrestor	No.	E	15%
16.12.2	Wall mounted telephone outlet RJ11	No.	E	15%
16.12.3	TEL. terminal box TC (60 Pair)	No	E	15%
16.12.4	TEL. terminal box TC (50 Pair)	No	E	15%
16.12.5	50P Telephone cables Cat 3	MR	E	15%
16.12.6	60P Telephone cables Cat 3	MR	E	15%
<b>16.13</b>	<b><u>Electronic Private Automatic Branch Exchange</u></b> Supply, install and connect the following PABX complete including fixing,main key, accessories and batteries as specified and as shown on the drawings , Panasonic or equal			
16.13.1	PABX 100 Extension and 8 External line expendable	LS	E	15%
<b>16.14</b>	<b><u>Data Distribution</u></b> Supply, install and connect the following data distribution fittings including all conduits, conduit fittings, boxes, fixing, accessories and wiring as specified and as shown on the drawings , made in Europe or equal			
16.14.1	Main Data cabinet	LS	E	13%
16.14.2	Floor Data cabinet	LS	E	13%
16.14.3	Wall mounted data outlet UTP Cat 6, RJ45	No	E	13%
16.14.4	Wall/Ceiling mounted camera data outlet UTP Cat 6, RJ45	No	E	13%
16.14.5	Wall mounted access point data outlet UTP Cat 6, RJ45	No	E	13%

## Division 16 - ELECTRICAL WORKS

HARBATA GOVERNMENTAL HOSPITAL

Date: May, 2025

### BILL OF QUANTITIES

Item No.	Description of Material	Unit	Applicable Formula	Percentage %
<b>16.15</b>	<b><u>Addressable Fire Alarm System</u></b> Supply, installed, connected and tested, complete working system including conduits, boxes, special conductors, junction derivation and outlet boxes, connectors, fittings and all the accessories and back batteries, as specified and shown on drawings, Simplex or Equal, Fire Cable FP 200 fire rated			
16.15.1	Fire Alarm Control Panel FACP, 4 Loops	LS	E	10%
16.15.2	Addressable Smoke detector	No	E	10%
16.15.3	Addressable Heat detector	No	E	10%
16.15.4	Addressable electronic sounder	No	E	10%
16.15.5	Addressable manual break glass	LS	E	10%
16.15.6	Control and monitor module	No	E	10%
	Dot Matrix Printer			
<b>16.16</b>	<b><u>NURSE CALL SYSTEM</u></b> Supply, install, connect and test, complete working system including conduits, boxes, special conductors, junction derivation and outlet boxes, connectors, fittings and all the accessories, including nurse call extension and push button lamp for each patient room, nurse call main unit at secretary counter, panic push button and cord push button			
16.16.1	Nurse Call System - Patients DPT	Item	E	12%
16.16.2	Nurse Call System - Emergency DPT	Item	E	12%
16.16.3	Nurse Call System - ICU DPT	Item	E	12%
<b>16.17</b>	<b><u>Public Address System</u></b> Supply, installed, connected and tested, complete working system including conduits, boxes, special conductors, junction derivation and outlet boxes, connectors, fittings and all the accessories, as specified and shown on drawings (all cables should be fire rated)			
16.17.1	Speakers, Quest or equal	No	E	12%
16.17.2	Amplifiers, Quest or equal	Item	E	12%
16.17.3	Stand Microphone, Quest or equal	No	E	12%
16.17.4	Public address pull box	No	E	12%
16.17.5	Public Address cabinet	No	E	12%
<b>16.18</b>	<b><u>Generators</u></b> Supply install and connect the following stand-by generating set complete including sound-proofing room, exhaust system, daily fuel tanks, anti-vibration absorbers, pipes, starting system, batteries and charger, sound-proofing works, connection to main fuel storage tank with all related auxiliaries and accessories required for proper operation as recommended by the manufacturer, Auto starter Battery changer			
16.18.1	Diesel generator set of 200 KVA	No.	E	12%
16.18.2	Diesel generator set of 100 KVA	No.	E	12%
16.18.3	Synchronization panel for two 200KVA and one 100KVA generators	No.	E	12%
16.18.4	Installation of generator system, exhaust piping with stainless jacketing, hot air discharge system, daily fuel tank 2000L, fuel pump connected to the main tank, residential Muffler, floating concrete base for the Genset, etc...	LS	E	12%
<b>16.19</b>	<b><u>Satellite TV System :</u></b> Supply, install and connect the following TV system fittings including dishes, conduits, conduit fittings, fixing accessories, line amplifiers, splitters, tee-units, IF/RF switches and wiring as specified and as shown on the drawings with roof surge arrestor			
16.19.1	TV head end equipment Including all the dishes, the filters, the amplifiers & all needed accessories	LS		
16.19.2	TV socket	LS		
16.19.3	TV Wall mounted terminal box	No.		
16.19.4	9 input, 9 output Multiswitch	No.		
16.19.5	9 input, 6 output Multiswitch	No.		

Division 16 - ELECTRICAL WORKS				
HARBATA GOVERNMENTAL HOSPITAL			Date: May, 2025	
BILL OF QUANTITIES				
Item No.	Description of Material	Unit	Applicable Formula	Percentage %
16.20	<u>Closed Circuit TV System</u>  <u>Supply, install and connect CCTV Central console including multiplexer, switcher, switching relay modules, keyboard, monitors, time lapse DVR and all related accessories, supports, cable trunking, complete as shown on drawings and as specified and as recommended by the manufacturer.</u>			
16.20.1	IP POE Colored Fixed Mini Dome Camera	No.	E	10%
16.20.2	IP POE outdoor colored CCTV camera including	No.	E	10%
16.20.3	Network video recorder (NVR), 64 Channels, 20 days storage	LS	E	10%
16.20.4	Network video recorder (NVR), 32 Channels, 20 days storage	LS	E	10%
16.20.5	55" color LED video monitor	No.	E	10%
16.21	<u>BED HEAD UNIT SYSTEM</u>  Supply, Install and Test bed head units for Single Bed Head Unit with all related accessories ,			
16.21.1	Bed Head unit of Single bed	No.	E	20%
16.22	Supply , install and test Electrical lock, door card reader , card reader panel .	LS	E	20%
16.23	Supply , install and test audio interphone.	LS	E	20%
16.24	<u>Transformer</u> Supply , install and connect 400 KVA transformer , oil type with Buchholz Relay , step down from 11.5 KV to 380 V , with voltage regulation , Switch gears and all related Accessories .  Transformer , 400 KVA , oil type with 3 switch gears , 1 incoming , 1 outgoing and 1 for portection	LS	E	20%
16.25	<u>External works</u> Supply , Install and connect main power supply(from EDL to transformer)and the telephone main cable , including power and telephone manholes , pipes , sleeves and all nessecary works and accessories (Excavation , duct banks , conduits , ect ...)			
16.25.1				
16.25.2	Power Manholes & Pipes	LS	E	20%
16.25.3	Telephone Manholes & Pipes	LS	E	20%
16.25.4	Allow for connecting the electrical and low current installations to site mains(3 pipes of 6 inches and 1 pipe of 2 inches)	LS	E	20%
16.26	Allow for testing and commissioning of the entire electrical and low current works	LS	E	20%
16.27	Allow for providing shop drawings for the entire of electrical and low current works	LS	E	20%
16.28	Allow for providing as-built drawings for the entire of electrical and low current works	LS	E	20%



**Division 31 - EARTHWORK**

<b>HARBATA GOVERNMENTAL HOSPITAL</b>				<b>Date: May, 2025</b>
<b>BILL OF QUANTITIES</b>				
<b>Item No.</b>	<b>Description of Material</b>	<b>Unit</b>	<b>Applicable Formula</b>	<b>Percentage %</b>
	<p><b><u>DIVISION 31- EXCAVATION AND FILLING</u></b></p> <p>N.B: Excavation quantities are measured net - allow in unit rate for the cost of all supplementary and excess quantities required for working space, side batter, volume bulking, compaction and the like.</p> <p>Excavate to any depth in any type of material, <u>INCLUDING for breaking out any existing walls, pavings, footings, underground walls, obstructions, utilities and the like; supporting sides of excavations; shoring, strutting, supporting and protecting existing structures adjacent; dewatering (if deemed necessary); trimming, compacting and testing; backfilling and filling to final design elevations; removal of surplus excavated material from site; and all other related ancillaries as indicated or required</u></p> <p>N.B. No excavated sand to be removed or used for any type of work (refill, plaster, concrete, etc.) without the written approval of the engineer. All unsuitable excavation should be removed from site as per the engineer instruction. The excavation natural component are:</p> <ul style="list-style-type: none"> <li>- Agricultural soil.</li> <li>- Sand</li> </ul> <p>Cost of all the above should be included in the cost of the items below.</p>			
1	<p>Excavation to level as base line phase 1.</p> <p>The contractor must submit full shop drawings for all the excavation works showing all the levels, sections, and any required drawings, to be approved by the consultant.</p>	m3	B	100%
B	<p><b>Filling</b></p> <p><u>Allow for backfilling with selected fill; include compaction of layers of 25cm and all necessary works; as per the specifications and drawings</u></p>			
2	Under Building			
C	<p><b>Base Course</b></p>			
3	<p>Granular hardcore base course layer under grade slabs; 150mm compacted thickness; include subgrade preparation and compaction as required</p>	m3	B	100%