THE HONG KONG INSTITUTE OF SURVEYORS QUANTITY SURVEYING DIVISION ASSESSMENT OF PROFESSIONAL COMPETENCE FINAL ASSESSMENT – 17TH & 18TH SEPTEMBER 2014 PRACTICE PROBLEMS / PART II WRITTEN TEST NOTES TO ASSESSORS



SIMIART OS PRACTICE

ATTACHMENT 'A'

BILLS OF QUANTITIES

2. 150 mm Wall 300 m³ 2,000 Cone vol. In m3 / thk of w wall area [A] 5. 200 mm Wall 125 m³ 2 Cone vol. In m3 / thk of w wall area [A] 6. Bars 2 mm diameter and below in general reinforcement 7. Bars below 12 mm diameter in links, strups and binders 8. Not used	Ref.	期日	Quantity 数量	Unit 单位	Rate 单价	Total 息回		
Reinforced concrete Grade 45D/20 In 100 mm Wall			Given BG	Qty		Bulk check	result	Assessor's Notes
1. 100 mm Wail 450 m³ 4,500 Cone vol. in m3 / thk of w 2. 150 mm Wail 300 m³ 2,000 Cone vol. in m3 / thk of w 2. 150 mm Wail 125 m³ 2,000 Cone vol. in m3 / thk of w 2. 200 mm Wail 125 m³ 2,000 Cone vol. in m3 / thk of w 2. 200 mm Wail 125 m² 2,000 Cone vol. in m3 / thk of w 2. 200 mm Wail 125 m² 2,000 Cone vol. in m3 / thk of w 2. 200 mm Wail 24,250 m² 3,000 m² 3,000 m² 3,000 m² 42,000 kg 2. 200 mm Wail 24,250 m² 3,1250 m² 6,150 m² 6,150 m² 131,250 m² 6,150 m² 131,250 m² 6,150 m² 131,250 m² 6,150 m² 6,		INTERNAL WALLS AND PARTITIONS						
2. 150 mm Wall 300 m³ 2,000 Cone vol. In m3 / thk of w wall area [A] 5. 200 mm Wall 125 m³ 2 Cone vol. In m3 / thk of w wall area [A] 6. Bars 2 mm diameter and below in general reinforcement 7. Bars below 12 mm diameter in links, strups and binders 8. Not used		Reinforced concrete Grade 45D/20 in					Wall Area (m2	2)
3. 200 mm Wall	1.	100 mm Wall	450	m³			4,500	Conc vol. in m3 / thk of w
Formwork to	2.	150 mm Wall	300	m³			2,000	Conc vol. in m3 / thk of w
4. Wall 24.250 m² 14.250 m² 14.250 m² 14.250 m² 14.250 m² 15 incoorect 2 17.125 m² x² - 7.125 m² x²	3.	200 mm Wall	125	m³				Conc vol. in m3 / thk of w
Deformed high yield steel bar reinforcement 5. Bars 32 mm diameter and below in general reinforcement 6. Bars above 32 mm diameter in general reinforcement 7. Bars below 12 mm diameter in links, strrups and binders 8. Not used EXTERNAL WALLS Reinforced concrete Grade 45D/20 in 150 mm Wall 10. 200 mm Wall 11. Wall Porture Grade 45D/20 in Deformed high yield steel bar reinforcement 12. Bars 32 mm diameter in general reinforcement 13. Bars above 32 mm diameter in general reinforcement 14. Bars below 12 mm diameter in links, strrups and binders 15. Bars below 12 mm diameter in links, strrups and binders 16. Bars below 12 mm diameter in links, strrups and binders 17. Total (5) to (8) - 131,250 kg/m² and binders 18. Not used 19. Total cone m3 Total (5) to (8) - 131,250 kg/m² and binders 19. Total cone m3 Total (5) to (8) - 131,250 kg/m² and binders 19. Total cone m3 Total (5) to (8) - 131,250 kg/m² and binders 19. Total cone m3 Total (5) to (8) - 131,250 kg/m² and binders 19. Total cone m3 Total (7) to (8) - 875, strrups and binders 19. Total kg 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk of v 2,050 Cone vol. In m3 / thk o		Formwork to					7,125	= wall area [A]
Total kg	4.	Wall	24,250	m²		Qty 24,250 m2		- 7,125 m2 x 2
general reinforcement 6. Bars above 32 mm diameter in general reinforcement 7. Bars below 12 mm diameter in links, stirrups and binders 8. Not used 7. Bars below 12 mm diameter in links, stirrups and binders 8. Not used 8. Reinforced concrete Grade 45D/20 in 9. 150 mm Wall 9. 150 mm Wall 10. 200 mm Wall 11. Wall 11. Deformed high yield steet bar reinforcement 12. Bars 32 mm diameter and below in general reinforcement 13. Bars above 32 mm diameter in general 14. Bars below 12 mm diameter in links, stirrups and binders 7. Total (cg) to (8) – 131,250 kg 131,250 1. Total (cg) to (8) – 131,250 kg 1. Total (cg) to (10) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (2) – 155 kg 1. Total (cg) to (10) to (10) may 1. Total (cg) to (10) to (10		Deformed high yield steel bar reinforcement						
8. Bars above 32 mm diameter in general reinforcement rein	5.		42,000	kg		3	Total kg	
7. Bars below 12 mm diameter in links, strrups and binders 8. Not used 8. Reinorced concrete Grade 45D/20 in part of the part	6.		76,150	kg)	131,250	Ratio = Kg / Conc vol.
Strrups and binders		reinforcement				3		Total (5) to (8)≈ 131,250 kg divided by
Not used Second Sec	7.		13,100	kg			875	
Reinforced concrete Grade 45D/20 in September 10 September 1	8.	Not used		-		ratio 150 kg/m³ lis reasonable		Ratio = between 100 to 20
9. 150 mm Wall 300 m³		EXTERNAL WALLS						
9. 150 mm Wall 300 m³ 2.000 Cone vol. in m3 / thk of v 200 mm Wall 410 m³ 2.050 Cone vol. in m3 / thk of v 200 mm Wall 410 m³ 2.050 Cone vol. in m3 / thk of v 4050 = wall area [8] Firmwher wall area x 2sides Ory(11) = [8] x2 O		Reinforced concrete Grade 45D/20 in					Wall Ama (m2	2)
11.	9.	150 mm Wall	300	m³			2,000	Conc vol. in m3 / thk of wa
11. Wall	10.	200 mm Wall	410	m³				Conc vol. in m3 / thk of w = wall area [B]
11. Wall		Formwork to						Fmwk= wall area x 2sides
reinforcement Sams 32 mm diameter and below in general reinforcement Sams 32 mm diameter and below in general reinforcement Sams 32 mm diameter in general Sams 32 mm diameter in general Sams 32 mm diameter in general Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm diameter in links, grossly in errort Sams above 32 mm d	11.	Wall	2,750	m²		Qty 2,720 m2		$Q(y(11) = [B] \times 2$
12. Bars above 32 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars above 32 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12 mm diameter in links, stirrups and binders 12. Bars below 12. Bar		Deformed high yield steel bar reinforcement					Total ka	
13. Bars above 32 mm diameter in general feinforcement links, 21,300 kg Reasonable stirrups and binders Silvaria Reasonable stirrups and binders Reasonable stirrups and	12.	Bars 32 mm diameter and below in	497,000	kg		3	1,036,600	Ratio = Kg / Conc vol.
reinforcement kg/m³ ls errorl		general removesment				3	Total conc m3	Total Qty (12) to (15) / Qty (9) to (10)
stirrups and binders) ratio would be between 150 to	13.	Bars above 32 mm diameter in general reinforcement	518,300	kg) kg/m³ is	710	1,460 kg/m3 grossly in
lace 1 3	14.	Bars below 12 mm diameter in links, stirrups and binders	21,300	kg) ratio would be		
	15.	Not used		-				

THE HONG KONG INSTITUTE OF SURVEYORS QUANTITY SURVEYING DIVISION
ASSESSMENT OF PROFESSIONAL COMPETENCE FINAL ASSESSMENT – 17⁷¹ & 18⁷¹ SEPTEMBER 2014 PRACTICE PROBLEMS / PART II WRITTEN TEST NOTES TO ASSESSORS



SMART QS PRACTICE

ATTACHMENT 'A'

BILLS OF QUANTITIES

Ref. 向号	Item 项 []	Quantity 數獻	Unit 年位	Rate ##	Total 总额			
	PRECAST CONCRETE WALL PANELS TO EXTERNAL WALLS	Given BO	Qty		Bulk check	result	Asses	sor's Notes
	Preaat reinforced concrete wal panel construction constructed of concrete of minimum strength of 40 mPa of the teaulited profile and contels 550 mm wide. x 300 mm high including all necessary reinforcement, moulds, finished with class F3 or better formwork, finishes; hoisting, and setting in costilon and bedding; complete with anchorages, sealants and all necessary fixing accessories as described and as shown on Drawings No. ST-001					Ext face area (m2)	Internal face area (m2)	
16.	3000 x 1500 x 150 mm Thick typical precast wall panel (Ref. PC1)	10	No.			45		No.of panels x panel area 10 No. x 4.50 m2
17.	3000 x 1500 x 200 mm Thick typical precast wall panel (Ref. PC2)	45	No.			203		Ditto 45No. X 4.50 m2
18.	3500 x 1500 x 200 mm Thick typical precast wall panel (Ref. PC1)	25	No.			131		Ditto 25 No. x 5.25 m2
	INTERNAL WALL FINISHES					379	379	Ext face area [C] int face area [D] = [C]
	Cement and sand (1:3) screeds							
19	15 mm Screed on walls and columns to receive ceramic mosaic tiling	102	m²		Matches with tile area			Screed area = (lie area Qty (19) = Qty (22)
20.	Ditto to receive homogeneous tiling	1,040	m²		Matches with tile area			Qty (20) = Qty (23)
	Cement and sand (1:3) plaster steel trowel finish					Int. wall area (m	2)	Overali internal wali area =
21.	15 mm Plaster on walls and columns	38,000	m²		17,537 m ² Qty 38,000 m ² Is incoorect	14,250 4,429 (1,142) 17,537		(int. well area Qty(4) x 2) + (ext wall area (insitu [B] + precast panel area [D]) - Tiled areas Qty (19) & (20)
	50 x 50 x 10 mm XYZ Ceramic mosaic tiling laid on bedding and sturry, fixed with proprietary tile adhesive and tile grouting; all as described and in accordance with the manufacturer's instruction.							
22.	Walls and columns	102	m²		Matches with screed area			Tile area = Screed area Qty (22) = Qty (19)
	300 x 300 x 10 mm OPQ Homogeneous tilling laid on bedding and slurry, fixed with proprietary tile adhesive and tile grouting; all as described and in accordance with the manufacturer's instruction.							any (20) - WIY (13)
23.	Walls and columns	1,040	m²		Matches with			Tile area = Screed area Qty (23) = Qty (20)

CONTRACT NO. 123 MAIN CONTRACT

THE HONG KONG INSTITUTE OF SURVEYORS QUANTITY SURVEYING DIVISION ASSESSMENT OF PROFESSIONAL COMPETENCE FINAL ASSESSMENT – 17TH & 18TH SEPTEMBER 2014 PRACTICE PROBLEMS / PART II WRITTEN TEST NOTES TO ASSESSORS



SMART QS PRACTICE

ATTACHMENT 'A'

BILLS OF QUANTITIES

Ref.	ltem 項目	Quantity 数量	Unit 外位	Rate 件价	Total 总额	
	EXTERNAL WALL FINISHES	Given BC	Qty		Bulk check result	Assessor's Notes
	Cement and sand (1:3) plaster steel trowel linish					
24.	15 mm Plaster on walls and columns	4,050	m²		Matches with ext. Insitu r.c. wall area = paint area	Overall external wall area Qty(24) = ext wall area (Insitu r.c.) Qty[B] = paint area Qty(27)
	INTERNAL PAINTING					
	Prepare and apply one coat of water- based alkaline resistant primer and two top coats of water-based acrylic resin emulsion paint on					
25.	Plastered walls and columns	25,000	m²		17,537 m²	Paint area Qty (25) = Plaster area Qty (21)
					Qty 25,000 m ² Is incorrect	
	EXTERNAL PAINTING					
	Prepare and spray apply one primer coat of water-based multi-functional epoxy resin sealer, one coat of water-based acrylic resin texture coat, one mid-coat and one lopcoat on					
26.	Fairface walls	36	m²		379 m ² Qty 36 m2 does not match with precast wall panel area	Paint area Qty (26) = Precast wall area Qty [D]
27.	Plastered walls and columns	4,050	m²		Matches with ext. insitu r.c. wall area and plaster area	Paint area Qty (27) = Ext. wall area (insitu r.c.) Qty[B] = Plaster area Qty (21)

	Wall Area (m²) 7,125	Formwork Area (m ²) 14,250	Int wall finishes (m2) 14,250	Ext wall finishes (m2)
Internal walls	4.050	8,100	4.050	4,050
External walls (in-situ) External walls (precast panel)	379 11,554 x 2 sides	n/a	379	379
6	x 2 sides	22,350 m2	18,679 m2	4,429 m2
Overall total:	23,108 m2	¥2	23,108 m2	
		Conc Vol		
	Rebars (kg)	(m3)	Ratio (kg/m3)	
Internal r.c. walls	131,250	875	150	Reasonable
Ext\ernal r.c. walls (insltu)	1.036.600	710	1,460	Un-reasonable

CONTRACT NO. 123 MAIN CONTRACT

BQ/3

THE HONG KONG INSTITUTE OF SURVEYORS QUANTITY SURVEYING DIVISION ASSESSMENT OF PROFESSIONAL COMPETENCE FINAL ASSESSMENT - 17¹¹ & 18¹¹ SEPTEMBER 2014 PRACTICE PROBLEMS / PART II WRITTEN TEST NOTES TO ASSESSORS



Question No. 3 - Editing of BQ Descriptions

You are a Consultant QS currently preparing the tender documents for piling works. Your assistant QS, John, has completed a draft BQ (Attachment 'B') for your review and editing. You should write notes of comments with reasons for his attention.

You are not required to make any adjustment to the quantities.

Background information:

Type of piles :

: 1.50 m diameter bored piles without lining or

bell-out

No. of Piles

: 10 No. piles

Type of tests

: Pending Engineer's specification and items to

be added later

Method of measurement

: In accordance with HKSMM4 - Section V(e)

"Bored Piles" (a copy of Rages 33 to 35 is

attached)

[10 marks]