

**APC (QSD) - LIST OF TOPICS IN PAST WRITTEN PRACTICE PROBLEMS**

		Topics	Year
1		<b>QS practice</b>	
1	1	Proposal for QS services	
1	2	Proposal for QS services for design and build	2002
1	3	Fee calculations	
1	4	Set-up of a QS practice	
1	5	Staffing requirements for estate management and downsizing	2002
1	6	Quality assurance to ISO 9000	2000
1	7	Document control system	2001
1	8	PRC projects	
1	9	Improvement of business opportunity	
1	10	Improvement of profitability	
1	11	Future of QS profession	
1	12	Partnering	
2		<b>Information technology</b>	
2	1	QS software	
2	2	Electronic dissemination of tender documents	
2	3	Electronic tender documents	2000
2	4	Electronic tendering	2005
2	5	Using e-mails	
2	6	Project web sites	2005
2	7	Web cam	
2	8	Digital photos	
2	9	CAD and BQ	
3		<b>Estimating</b>	
3	1	Calculation of land bid price	2000
3	2	Construction cost estimate for land bid	1998
3	3	Unit cost per floor area estimate	2005
3	4	Elemental cost estimate	
3	5	Approximate quantities estimate	
3	6	Tender Price indices	2008
3	7	Identification of cost adjustment items and adjustment of cost estimate for different sizes, shapes, quality, standard, etc.	2004, 2006
3	8	Preliminary indication of costs of a number of godowns and cost study of alternative scheme	2002
3	9	Preliminary construction cost estimate for an Industrial Office Building	1997
3	10	Rough indication of costs of high rise buildings and pros and cons of two alternative schemes of different numbers of blocks and storeys	1999
3	11	Additional costs for the provision of bay windows	1999
3	12	Cost reconciliation between different cost yardsticks	2001
3	13	Factors affecting unit price levels	2005
3	14	Costs-in-use calculation	2001
3	15	Cost reconciliation between different estimates	2008
3	16	Apportionment of costs	
3	17	Cost benefit analysis for air-cooled system	1997

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		Topics	Year
3	18	Value engineering	2001
3	19	Prefabricated construction vs in-situ construction	2007
3	20	Steel scaffolding	
3	21	System formwork	
3	21	Cost and time factors in development and construction	2003
3	22	Development programming	2003
3	23	Cost impact items between single and two-blocks of tower	2008
3	24	Cost comparison between adding one floor to the building and spreading the area equally to each floor	2006
3	25	Cost plan update incorporating the cost saving options and advise implications.	2007
3	26	To identify quantity factor / cost anomalies in Structural Frame items in	2007
4		<b>Contractual arrangement</b>	
4	1	Commitment between prospective developer and contractor for land bid	2000
4	2	Choice of contract types	
4	3	Lump sum contracts without BQ	
4	4	Lump sum contracts with BQ	
4	5	Schedule of rates contracts	
4	6	Remeasurement contracts	
4	7	Prime cost contracts	
4	8	Prime costs and fees	
4	9	Guaranteed maximum price	
4	10	Design and build contract	2007
4	11	Management contracting contract	
4	12	Construction management contract	
4	13	Serial contracts	
4	14	Contracts for maintenance and repair	
4	15	Term Contracts for maintenance works	2002
4	16	Build-operate and transfer contracts	
4	17	PFI-PPP contracts	
4	18	Prime contracting	
4	19	Nominated sub-contracts and domestic sub-contracts	2004, 2006
4	20	Direct contracts	
4	21	Choice of contract type for piling works and remeasurement / variation	2001
4	22	Alternative tendering methods to shorten overall programme when design is not yet complete	1998
4	23	Tendering methods for temporary works with design element and risk	2004
4	24	Contractor's joint venture agreement	2000
4	25	Indemnity agreement to a running infrastructure contract's employer for addition of piling work to the infrastructure contract to save time	1998
4	26	Why not without BQ	2000
4	27	Direct contracts for materials supply	2001
4	28	Simple contract and contract under seal	2004
4	29		

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		Topics	Year
5		<b>Form of contracts and preliminaries</b>	
5	1	Comparison between civil engineering and building contract forms	2001
5	2	Entries to Appendix to Conditions of Contract	2002
5	3	Special conditions of contract	
5	4	Preliminaries items to address contract commencement; and advise the difference between the provisions in New and Old Standard Form of Building	2007
5	5	Precedence of documents and basis of contract	2003
5	6	Clauses for phased possession	2000
5	7	Clauses for phased commencement	
5	8	Clauses for phased completion	
5	9	Corresponding arrangement for liquidated damages, insurances, bonds, defects liability periods, etc.	
5	10	Special characteristics of site possession for renovation works	2002
5	11	Practical completion, occupation permits, certificate of compliance	
5	12	Preliminaries items relating to A&A works	2004
6		<b>Measurement and Bills of Quantities</b>	
6	1	Standard methods of measurement	2004
6	2	Deviations from standard method of measurement	2004
6	3	Preambles	2004
6	4	Drafting special preambles	
6	5	Functions of bills of quantities	
6	6	Types of bills of quantities	
6	7	Provisional quantities	
6	8	Approximate quantities	
6	9	Quantities to be verified by tenderers	
6	10	Format of bills of quantities	
6	11	Extra over items	
6	12	Measurement and pricing of excavation and working spaces	2001
6	13	Measurement and pricing of piles	
6	14	Special methods of measurement and billing for renovation works	2002
6	15	Measurement and pricing of existing hidden defects in renovation works	2002
6	16	BQ production information and programme	2000
6	17	BQ production processes and quality assurance	2000
6	18	Bulk-checking techniques	
6	19	Handling of amendments and addenda	
7		<b>Drawings</b>	
7	1	Types of drawings (BQ, tender, contract, shop, as-built, etc.)	2000
7	2	Handling of discrepancies	

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		Topics	Year
8		<b>Specification</b>	
8	1	Specification	
8	2	Performance specification	
8	3	Prescriptive specification	
8	4	General specification	
8	5	Particular specification	
8	6	Notes on drawings	
8	7	Employer's requirements	
8	8	Design brief	
8	9	Handling of discrepancies	
8	10	Query lists	
9		<b>Other tender documents</b>	
9	1	Components of tender documents	
9	2	Conditions of tendering	
9	3	Form of tender	2003
9	4	Tender validity period	
9	5	Schedule of Rates for maintenance works	2002
9	6	Pitfalls of standard schedule of rates	2002
9	7	Various methods to adjust P. C. rates	2000
9	8	Use of contingency sum	
9	9	Use of daywork schedule	
9	10	Tender addendum	
9	11	Liability for underground conditions and utilities	
9	12	Order of precedence in Drawings and Specification contract	2006
9	13	Tenderer to fill in the completion in the Form of Tender	2006
10		<b>Tendering</b>	
10	1	Prequalification of tenderers	2005
10	2	Measures to prevent a tenderer from withdrawing his tender after collecting tender documents or after tender submission	2001
10	3	Tender deposit	2001
10	4	Tender bond	2001
10	5	Components of tender submissions	
10	6	Essential points during site inspection for estimating	2001
10	7	Build-up of preliminaries	2002, 2005
10	8	Rate build-up from first principle	
10	9	Preparation of simple quotation with simple contract terms	2001
10	10	Preliminary programme for construction of transfer lift tower	2006
10	11	Preliminary design	
10	12	Method statement	
10	13	Organisation chart	
10	14	Site layout plan	
10	15	List of sub-contractors	2004
10	16	Mode of submission of tenders	
10	17	Tender opening form and protocol	

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		Topics	Year
10	18	Confidentiality of tenders and related professional ethics	2003
10	19	Information required for assessment of tenders	2003
10	20	Supply contract terms	2005
10	21	Early procurement of NSC	2008
10	22	Bar chart programme for preparation of foundation tender	2007
10	23	Tender arrangement for incorporating both Engineer's design and contractor's design for lateral support system	2007
11		<b>Tender analysis and award</b>	
11	1	Arithmetical check of tenders	
11	2	Correction of tender errors	
11	3	Differences in treatment of arithmetical errors in tenders for lump sum contracts and remeasurement contracts	
11	4	Essential contents of tender reports	
11	5	Tender reports for design and build	2000
11	6	Checking simple quotation	1999
11	7	Front loading of tenders	
11	8	Treatment of high and low tender rates	2001
11	9	Tender evaluation criteria	2006
11	10	Marking scheme for tender evaluation	
11	11	Lowest-bid-win tendering system	
11	12	Tender evaluation of term contracts based on schedule of rates	2002
11	13	Disclosure of tender evaluation criteria for term contracts based on schedule of	2002
11	14	Tender query	
11	15	Tender interview time arrangement and agenda	2001
11	16	Essential items for letter of acceptance	1999
11	17	Discounts and discounting methods	2000
11	18	Lapse of tender validity period	
11	19	Imposition of terms by Main Contractor upon acceptance of nomination of sub-contractors or suppliers	
11	20	Irregularities in tender submissions	2003
11	21	Tender price increase due to market factors	2009
12		<b>Bonds and warranties</b>	
12	1	Surety bond	2002
12	2	On-demand bond	1999
12	3	Non-submission of performance bond	1999
12	4	Expiry date for performance bond	1999
12	5	Parent company guarantee	
12	6	Joint venture company guarantee	
12	7	Form of direct warranty	2006
12	8	Form of collateral agreement	
12	9	Non-disclosure agreement	
12	10	Advance payment bonds	
12	11	Retention bonds	
12	12	Bonds for liquidated damages	
12	13	Product warranty - remedies of defects by NSC	2006

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		Topics	Year
13		<b>Insurances</b>	
13	1	Need for insurances	2002
13	2	Scope of insurance cover	2002
13	3	Period of insurance	2002
13	4	Comments on Contractors' All Risks Insurance Policy	2002
13	5	Cross liability clause	2002
13	6	Liability for excesses in Contractors' all risks insurance	1999
13	7	Why specifying insurance excesses	2002
13	8	Mortgagee clause	2002
13	9	Insurances for renovation works	2002
13	10	Comments on Employees' Compensation Insurance Policy	2002
13	11	Insurance for people on site	2002
13	12	Insurance for NSC's materials delivered to Site	2007
13	13	Insurance for damages caused to temp works by NSC's fallen tower crane	2007
14		<b>Post contract management</b>	
14	1	First site meeting	2001
14	2	Attending site meetings	
14	3	Construction programme	2002
14	4	Site survey upon commencement	
14	5	Crisis due to obstructions by local residents to commencement of works	1999
14	6	Action upon damage to utility cables	1999
14	7	Reliability of endorsed site records	
14	8	Causes and measures to address the problem of fraudulent records	2001
14	9	Supplemental agreement for delays plus major change in scope and phases	2000
14	10	Inter-contractor liability for protection and damage	
14	11	Main Contractor's in-house rules upon NSC	2005
14	12	Practical Completion certificate, effect of	2005
14	13	Employer with financial difficulties	2005
14	14	Additional works added to original contract	2005
14	15	Pay for Safety and Environment Scheme	2006
14	16	Discrepancies amongst various parts of the contract document for a Drawing & Specification Contract	2006
14	17	Procurement of additional works to be carried out by designated maintenance contractor	2008
14	18	Variations issued after P.C. / Substantial Completion	2008
14	19	Site safety standard	1997
14	20	Comment on validity of claim for ELS based on Engineer's design	1997
15		<b>Post contract cost control</b>	
15	1	Financial reports	
15	2	Cost monitoring	
15	3	Alternative cost studies	
15	4	Cash flow table	2002
15	5	Accuracy of cash flow forecasts	2001

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		Topics	Year
15	6	Cashflow - explain the contractor's cash flow pattern from the contract	2007
16		<b>Payments</b>	
16	1	Terminologies relating to valuations, certificates and payments	
16	2	Terms of payments	2001
16	3	Progress payments	2001
16	4	Stage payments	2001
16	5	Milestone payments	2001
16	6	Letter of credits	
16	7	Payment procedures and timing	
16	8	Preparation for the first payment	2001
16	9	Procedures for interim payments	
16	10	Payment for preliminaries	
16	11	Payment for work-related items	
16	12	Payment for premiums for insurances and bonds	
16	13	Payment for materials	2001,2003
16	14	Payment for off-site materials	
16	15	Advance payments and deposit payments	
16	16	Retention money - early release to NSC	1997
16	17	Pre-requisite for final payment	2001
16	18	Early payment cut-off in view of potential delay and L.D.	2000
16	19	Set-off validity and procedures	
16	20	Under-valuation	
16	21	Under-certification	
16	22	Late payments	
16	23	Interests on late payment of certified amount	2002
16	24	Direct payments to NSC	1997
16	25	Sub-Contractor with cash flow problem / arrangement of direct payment	2001
16	26	Payment valuation for material on site and workdone for reinforcement measured as Provisional Quantities	2007
17		<b>Extension of time and LAD</b>	
17	1	Liability for neutral events	2002,2003
17	2	Implication of notice of delay	1999
17	3	Notice of delay for extension of time and time bar	2002
17	4	Admissible items to Liquidated and Ascertained Damages	2002
17	5	Extension of time for late site possession	2002
17	6	Extension of time for delay in possession of the second part of the site by two months	1998
17	7	Extension of time for abnormal inclement weather after substantial delay to site possession when the contract clause for EOT has been deleted	1998
17	8	Inclement weather after other legitimate delay	2000
17	9	Extension of time for additional work ordered during periods of Contractor's	1998, 2004
17	10	Implication of inclement weather on renovation works	2002
17	11	Extension of time for delay by utility companies	2002
17	12	Extension of time for delay in obtaining BD consent to Architect's design	2002

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		Topics	Year
17	13	Validity of extension of time for investigation into defective piles	1999
17	14	Lift contractor's limitation on LAD and alternative solutions	2000
17	15	LAD argument between Main Contractor and Sub-Contractor	2000
17	16	Completion time & liquidated damages for renovation works	2002
17	17	Recovery of LAD on failure to achieve contract completion date	2008
17	18	Q.S. to make deduction of LAD from progress payment	2008
17	19	Sufficient LAD to cover Employer's loss of profit	2008
17	20	Validity of non-completion certificate without first assessing a prima facie valid EOT application	1999
17	21	Delay analysis programme	
17	22	Suspension of work for neutral event leading to possible determination	2003
17	23	Disruption by separate contractors engaged direct by Employer	2004
17	24	Validity of deducting Liquidated Damages (a) in the absence of a valid non-completion certificate and (b) by a subsequent non-completion certificate	1999
17	25	Applicability of site investigation report	
17	26	Burden of delay due to inaccurate site investigation report	2001
17	27	Delay on material delivery caused by unforeseen event	2007
17	28	Definition of "inclement weatehr"	2007
18		<b>Prolongation Cost and Direct Loss and/or Expense</b>	
18	1	Prolongation cost calculation	2002
19		<b>Valuation of Variations</b>	
19	1	Change in access, working conditions, working hours, etc.	
19	2	Substantial change in rock contents	
19	3	Enforceability of unreasonable rates	2000
19	4	Problems with use of alternatives upon Employer's verbal comments without Architect's instruction	1999
19	5	Civil SMM item coverage for fence walls and curbs	1999
19	6	Extra cost for carrying out work in wet season instead of dry season	1998
19	7	Prolongation cost calculation	2002
19	8	Pro-rata rates	
19	9	Desirability and drawbacks of valuation by daywork	
19	10	Omission of significant part of the works - loss of profit	2006
19	11	Valuation of variations involving unreasonably high and low contract rates	2003
19	12	Cost claim for unpriced preliminaries items in star rates for variations	2003
19	13	Main Contractor's profit on sub-contractor's quotations for variations	2003
19	14	Valuation of Variations - marble tiling	2008
19	15	Valuation of variations - Sheet piling, shoring, excavation	1997
19	16	Valuation of Variations - comment on valuation of VO : omit glass block and add solid walls	2006
19	17	Valuation of variations - Trench excavation	2007

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		Topics	Year
20		<b>Defects</b>	
20	1	Defects Liability Period	2002
20	2	Rights / obligations / actions of the Client about defects found during DLP	2001
20	3	Conclusiveness of final certificate	2001
20	4	Discovery after final certificate of use of substitution materials without approval	1998
20	5	Refusal to rectify defects promptly	1997
20	6	Defects not included in the Defects List	2006
21		<b>Determination</b>	
21	1	Notice procedures	
21	2	Duties and actions of a consultant QS after determination	2001
21	3	Site survey	
21	4	Titles to work, materials and plant	
21	5	Arrangement for completion after determination towards end of works	1999
21	6	Preparation of completion contract	
21	7	Court proceedings in view of the arbitration clause	1999
22		<b>Dispute resolution</b>	
22	1	Dispute resolution methods	
23		<b>Industry</b>	
23	1	Jessie Grove's Report on Review of General Conditions of Contract for Construction Works <a href="http://www.etwb.gov.hk/archive/index.htm">http://www.etwb.gov.hk/archive/index.htm</a>	
23	2	Electronic Services Delivery for Works Project <a href="http://www.etwb.gov.hk/condoc/index.htm">http://www.etwb.gov.hk/condoc/index.htm</a>	
23	3	Report of the Construction Industry Review Committee <a href="http://www.etwb.gov.hk/archive/archives/review/report.htm">http://www.etwb.gov.hk/archive/archives/review/report.htm</a>	
23	4	Consultation Paper on Legal Framework of the Construction Industry Council <a href="http://www.info.gov.hk/archive/consult/2003/eicb.pdf">http://www.info.gov.hk/archive/consult/2003/eicb.pdf</a>	
23	5	multi-tier sub-contracting	
23	6	Consultation Paper on Operational Framework of the Voluntary Subcontractor Registration Scheme <a href="http://www.info.gov.hk/archive/consult/2003/evsrs.pdf">http://www.info.gov.hk/archive/consult/2003/evsrs.pdf</a>	
23	7	Consultation Paper on Contracts for the Supply of Goods <a href="http://www.info.gov.hk/archive/consult/2001/supply-e.pdf">http://www.info.gov.hk/archive/consult/2001/supply-e.pdf</a>	
23	8	Registration of workers <a href="http://www.etwb.gov.hk/current/index.htm">http://www.etwb.gov.hk/current/index.htm</a>	
23	9	Pay for safety and environmental scheme	2006