

## **LIST OF COMPETENCIES**

## PROFESSIONAL QUANTITY SURVEYORS COUNCIL (PQSC)

### LIST OF COMPETENCIES

In pursuance with section 20 (2)(b)(iii), all applicants must demonstrate that they have gained the requisite level of competence in the following areas of professional practice as defined below.

There are two categories of competencies, namely:

1. Mandatory
2. Optional.

All applicants must gain experience in all Mandatory Competencies and at least two Optional Competencies and the required level, described below:

- Level 1 – Demonstrate knowledge and understanding of the particular competency
- Level 2 – Provide evidence of application of knowledge and understanding of the particular competency
- Level 3 – Provide reasoned advice and depth of technical knowledge of the particular competency

#### Mandatory Competencies (All at the specified Level)

Ref	Competency	Level
MC01	Conduct rules, ethics and professional practice	1
MC02	Construction technology and process	1
MC03	Business Administration	1
MC04	Client care	1
MC05	Conflict Avoidance	1
MC06	Management and dispute resolution	1
MC07	Data Management	1
MC08	Sustainability	1
MC09	Team work	1
MC10	Accounting principles	1
MC11	Health & Safety	1
MC12	Commercial management of construction [Cost Planning]	2
MC13	Communication and negotiation	2
MC14	Contract administration	2
MC15	Quantification and costing of construction works	2
MC16	Procurement and tendering	3
MC17	Project financial control and reporting	3
MC18	Contract practice	3

#### Optional competencies (Choose 2 @ Level 2)

Ref	Competency	Level
OC01	Programming and Planning	2
OC02	Feasibility Studies	2
OC03	Risk Management	2
OC04	Value Management	2
OC05	Building Information Modelling ( BIM ) management	2
OC06	Project Management	2
OC07	Insurance	2

## Mandatory competencies

<p><b>MC01</b></p> <p><b>Conduct rules, ethics and professional practice</b></p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of the role and significance of PQSC and its functions. Show an appreciation of your personal professional role and society's expectations of professional practice and PQSC's Rules of Conduct, Conduct regulations and the Act, including the general principles of law and the legal system, as applicable in your country of practice.</p>
<p><b>MC02</b></p> <p><b>Construction technology and process.</b></p> <p>Candidates should have a clear understanding of the design, construction technologies and processes commonly used in the industry.</p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of the principles of design and construction, for examples;</p> <ul style="list-style-type: none"> <li>• Stages of design from inception to completion.</li> <li>• Impact of current legislation and regulations (both local &amp; international).</li> <li>• Post contract operation &amp; maintenance.</li> <li>• Design solutions for different types of construction</li> <li>• Construction methods and techniques to suit functional requirements of the design.</li> <li>• Impact of different design solutions on cost &amp; planning.</li> </ul>
<p><b>MC03</b></p> <p><b>Business Administration</b></p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of business management, operations, decision making, planning as well as the efficient organisation of people and other resources to direct activities towards common goals and objectives.</p>
<p><b>MC04</b></p> <p><b>Client care</b></p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of the principles and practice of Client care including:</p> <ul style="list-style-type: none"> <li>• Identifying and understanding Clients / Stakeholders / 3<sup>rd</sup> parties</li> <li>• Appropriate behaviors to establish good Client relationships</li> <li>• System &amp; Procedures for managing the process of Client care &amp; complaints</li> <li>• Data collection &amp; analysis to define needs of Clients</li> </ul>
<p><b>MC05</b></p> <p><b>Conflict Avoidance</b></p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of the techniques for conflict avoidance as follows:</p> <ul style="list-style-type: none"> <li>• Techniques for conflict avoidance, conflict management and dispute resolution procedures including for instance adjudication &amp; arbitration.</li> <li>• How various forms of contract deal with dispute avoidance and their provisions for resolving disputes</li> <li>• Legal and statutory requirements for the resolution of disputes in construction contracts</li> </ul>

		<ul style="list-style-type: none"> <li>• Conflict management and dispute resolution procedures within the construction process including negotiation</li> <li>• Mediation and conciliation, adjudication, arbitration,</li> <li>• Independent expert determination and litigation.</li> </ul>
<b>MC06</b> <b>Management and dispute resolution</b>	Level 1	Demonstrate knowledge and understanding of the techniques for conflict management and dispute resolution procedures.
<b>MC07</b> <b>Data Management</b>	Level 1	Demonstrate knowledge and understanding of the sources of information and data, and of the systems applicable to your area of practice to manage, acquire, distribute, store, protect and archive data.
<b>MC08</b> <b>Sustainability</b>  Candidates be aware of the various ways in which sustainability can impact on development and construction.	Level 1	<p>Demonstrate knowledge and understanding as follows:</p> <ul style="list-style-type: none"> <li>• The principles of sustainability within development and the construction process</li> <li>• How national and international legislation, regulations and taxation relate to sustainability and affect construction</li> <li>• Criteria by which sustainability is measured in relation to finished buildings</li> <li>• The principles of how design, technology and construction processes can contribute to sustainable building</li> </ul>
<b>MC09</b> <b>Team work</b>	Level 1	Demonstrate knowledge and understanding of the principles, behavior, dynamics and objectives of working in a team.
<b>MC10</b> <b>Accounting principles</b>	Level 1	Demonstrate knowledge and understanding of accounting concepts and the format and preparation of management and company accounts, including profit and loss statements, cash flow statements and balance sheets.
<b>MC11</b> <b>Health &amp; Safety</b>	Level 1	Demonstrate knowledge and understanding of the principles of Health & Safety in line with the local regulations.
<b>MC12</b> <b>Commercial management of construction [Cost Planning]</b>  Candidates should have an awareness of how commercial	Level 1  Level 2	Demonstrate knowledge and understanding of the principles of commercial management & policies in construction & also the rules & practice that defines how business can be conducted and the terms of any contract in which one 's organization engages in.

<p>competitiveness weighs against profitability.</p>		<p>Apply your knowledge to the financial management of construction projects, including regular monitoring and reporting on cashflow and profitability.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> <li>• Collecting of data for reports</li> <li>• Carrying out cost to completion exercises</li> <li>• Analysis of budgeted v/s actual expenditures.</li> <li>• Preparing cashflows</li> <li>• Prepare cost value reconciliations</li> <li>• Manage the financial and risk implications of any variations.</li> <li>• Applying value engineering processes</li> <li>• Preparing and submitting cost data for in-house and/or external use (Post Contract analysis).</li> <li>• The benefits of setting targets and the use of key performance indicators (KPI's) as a means of increasing project and company performance</li> <li>• The benefits of team working.</li> </ul>
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<p><b>MC13</b></p> <p><b>Communication and negotiation</b></p>	<p>Level 1</p>	<p>Demonstrate knowledge and understanding of effective oral, written, graphic and presentation skills including the methods and techniques that are appropriate to specific situations</p>
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<p><b>MC14</b></p> <p><b>Contract administration</b></p> <p>Candidates should understand the contractual provisions in respect of the particular forms of contract they are involved with.</p>	<p>Level 1</p>	<p>Demonstrate knowledge &amp; understanding of the following:</p> <ul style="list-style-type: none"> <li>• Contractual, legislative and statutory terminology &amp; requirements of a construction contract.</li> <li>• Various standard forms of contract and sub-contract used in the construction industry.</li> <li>• Basic contractual mechanisms and procedures applied at various stages of the Contract.</li> <li>• Roles and Responsibilities of the Contract administrator.</li> </ul>
	<p>Level 2</p>	<p>Provide evidence to demonstrate involvement with administering a contract , for examples;</p> <ul style="list-style-type: none"> <li>• Issuing formal notifications</li> <li>• Issuing formal instructions</li> <li>• Dealing with payment provisions</li> <li>• Managing change procedures</li> <li>• Dealing with completion and possession issues</li> <li>• Making monthly applications</li> <li>• Issuing valuations/certificates</li> <li>• Assessing/submission of claims for extension of time</li> <li>• Assessing entitlement for loss and expense claims</li> </ul>

		<ul style="list-style-type: none"> <li>• Advising all stake holders of their contractual rights &amp; obligations</li> <li>• Dealing with dispute provisions.</li> </ul>
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<p><b>MC15</b></p> <p><b>Quantification and costing of construction works</b></p> <p>Candidates should be aware of various method of quantifying and pricing construction works.</p>	Level 1	<p>Demonstrate knowledge &amp; understanding of the following:</p> <ul style="list-style-type: none"> <li>• The quantification of construction works (including both measurement and definition)</li> <li>• the various standard methods of measurement</li> <li>• the costing of construction works</li> </ul>
	Level 2	<p>Provide evidence to demonstrate involvement with the preparation of the following:</p> <ul style="list-style-type: none"> <li>• Principles of taking off (both manual or computerised )</li> <li>• Pricing documents, such as bills of quantities, schedule of activities/works, schedule of rates, builder's quantities, variation accounts</li> <li>• Valuation of variations using tendered rates, fair valuation/rates for new items of work, quotations, or dayworks</li> <li>• Agreement/negotiation of variations</li> </ul> <p>How the candidates deal with the following matters must be clearly shown;</p> <ul style="list-style-type: none"> <li>• Query lists</li> <li>• Take off lists</li> <li>• Quantity checks</li> <li>• Building up rates from first principles</li> <li>• Price adjustments</li> <li>• Prime cost and provisional sums</li> <li>• Preliminaries &amp; Generals , overheads and profit , any professional fees within variations</li> </ul>

<p><b>MC16</b></p> <p><b>Procurement and tendering</b></p> <p>Candidates must have a sound working knowledge of the procurement routes and tendering procedures used in construction projects. The traditional contracts v/s design &amp; build contracts.</p>	Level 1	<p>Demonstrate knowledge and understanding of the various procurement routes and tendering procedures. Additionally the importance of procurement and tendering along the supply chains – Starting at the tendering exercise at employer's level, and the Main Contractor's tendering strategies and up to the procurement of the sub-contractors/ vendors .</p>
	Level 2	<p>Provide evidence to demonstrate involvement with the preparation of respective tender document with respect to the chosen procurement routes.</p>

	Level 3	Give expert advice on the suitability of various procurement routes. Manage the tendering and negotiation process and present reports on the outcome.
<b>MC17</b>  <b>Project financial control and reporting</b>  Candidates must have a sound know how of the principles of cost control & reporting on a construction project.	Level 1	Demonstrate knowledge & understanding of the following: <ul style="list-style-type: none"> <li>• Cost control during a project</li> <li>• Legal and contractual issues</li> <li>• Impact of time and quality on cost</li> <li>• Cost control , reporting and forecasting</li> <li>• Principles of risk allowances / contingencies</li> <li>• Variations</li> </ul>
	Level 2	Provide evidence to demonstrate involvement with the preparation of Financial report including forecasting, risk analysis, dashboard reviews .
	Level 3	Expert advice on the following: <ul style="list-style-type: none"> <li>• Strategies and procedures to control forecasted expenditure in line with a budget.</li> <li>• Implementing change control procedures within the contract</li> <li>• Establishing financial reporting systems towards strategic decision making process.</li> <li>• Applying risk management &amp; analysis techniques</li> </ul>
<b>MC18</b>  <b>Contract Practice</b>  Candidates should be aware of all the main standard forms of contract and a thorough understanding of contract law & legislation.	Level 1	Demonstrate knowledge & understanding of the various forms of contract used in the construction industry and/or your area of business, for instance, among others; <ul style="list-style-type: none"> <li>• Basic Contract law &amp; legislation</li> <li>• Contract documentation</li> <li>• Contractual provisions such as LAD, insurance, retention bond, performance bond, advance payment guarantees, possession of site, practical completion and other contractual mechanisms.</li> <li>• Various standard forms of contract and sub-contract &amp; their applications</li> <li>• Basic contractual mechanisms &amp; procedures at various stages of the contract such as change procedures, valuations, loss &amp; expenses &amp; final account.</li> <li>• Implications and obligations that apply to the parties to the contract.</li> <li>• Third party rights including relevant legislation;</li> </ul>
	Level 2	Provide evidence to demonstrate involvement with the preparation of contract document, making contractual claims, sending formal claims notifications, appropriate use of contractual provisions etc...
	Level 3	Provide expert advice on issues such as ;

		<ul style="list-style-type: none"><li>• Selection of appropriate form of contract &amp; warranties in respect of the chosen procurement route</li><li>• Most suitable contractual procedure at various stage of a contract.</li><li>• Evaluate the relevance and implications of amendment made to standard conditions of contracts.</li><li>• Contractual claims &amp; relevant scenarios.</li></ul>
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## Optional competencies

<p><b>OC01</b></p> <p><b>Programming and planning</b></p> <p>Candidates should be aware of the various principles &amp; techniques related to programming &amp; planning on their projects.</p>	<p>Level 1</p>	<p>Demonstrate knowledge &amp; understanding of the following:</p> <ul style="list-style-type: none"> <li>• Understand the need for pre-contract planning and programming techniques</li> <li>• Various planning techniques such as Gantt Charts, Network analysis, Critical Path Analysis, Work breakdown structure etc.</li> <li>• Understand the impact of change on a program.</li> <li>• Understand the importance of good programming when doing a resource forecast such materials, man-power plant etc.</li> <li>• The use of programming to forecast expenditure &amp; income.</li> <li>• The importance of programming in managing the various contractual issues raised/occurred during construction.</li> </ul>
	<p>Level 2</p>	<p>Assess, interpret and report on projects program for examples;</p> <ul style="list-style-type: none"> <li>• Use of planning techniques to report on progress</li> <li>• Report Client's financial forecast based on project program.</li> <li>• Calculate the Critical path network or Programme Evaluation &amp; Review Technique (PERT) analysis as appropriate to determine the longest path.</li> <li>• Identifying impact of contractual provisions on the effective planning of projects.</li> </ul>
<p><b>OC 02</b></p> <p><b>Feasibility Studies</b></p> <p>Candidates should be aware of the various elements of a feasibility study and development appraisal techniques and the factors that can affect them.</p>	<p>Level 1</p>	<p>Demonstrate knowledge &amp; understanding on the following:</p> <ul style="list-style-type: none"> <li>• Process of carrying a development appraisal using techniques such as residual valuation</li> <li>• Understanding the various financial elements of a development appraisal such as land, construction costs, finance costs, lease cost, income stream &amp; profit.</li> <li>• Impact of non-financial factors such as town planning</li> <li>• Understand the basic principles of various appraising techniques such as value management, value engineering, life cycle &amp; whole life costing and risk management.</li> </ul>
	<p>Level 2</p>	<p>Provide evidence to demonstrate involvement in the following:</p> <ul style="list-style-type: none"> <li>• Provide cost data for development appraisal , particularly in respect of construction costs</li> <li>• Evaluating a project's potential for success using appropriate techniques.</li> </ul>

<p><b>OC03</b></p> <p><b>Risk management</b></p> <p>Candidates should understand how risk is dealt with on construction projects.</p>	Level 1	<p>Demonstrate knowledge and understanding on the following:</p> <ul style="list-style-type: none"> <li>• Principles of risk management</li> <li>• Risk involved with various procurement routes</li> <li>• Mitigation strategies</li> <li>• Techniques to quantify risk.</li> <li>• Effect of risk on planning and cost.</li> </ul>
	Level 2	<p>Provide evidence to demonstrate involvement in the following:</p> <ul style="list-style-type: none"> <li>• Identification of various risks.</li> <li>• Identify who owns the risks in relation to chosen procurement route on a project.</li> <li>• Devising strategies to mitigate risk.</li> <li>• Data collection towards quantification of risk.</li> <li>• Effect of risk on planning.</li> <li>• Effect of risk on cost management.</li> </ul>

<p><b>OC04</b></p> <p><b>Value Management</b></p>	Level 1	<p>Demonstrate knowledge &amp; understanding of Value Management and various techniques to achieve it. Understand the difference between Value Management, value engineering and cost cutting. Also he / she must be able to differentiate between benefits, risks and costs of a project.</p>
	Level 2	<p>Critically appraise and analyze all tasks, activities and processes involved in the project in order to determine whether better value alternatives or solutions are available and to apply right decisions.</p> <p>Candidates must be able to demonstrate his ability to combine different planning tools and methods to find the optimum balance of project benefits in relation to project costs and risks.</p>

<p><b>OC05</b></p> <p><b>Building Information Modelling ( BIM ) management</b></p> <p>Principles and technologies involved in implementing BIM.</p>	Level 1	<p>Demonstrate knowledge and understanding of the technical, process and collaborative aspects of the use of BIM on projects. For instance:</p> <ul style="list-style-type: none"> <li>• Understanding BIM strategies &amp; implementation.</li> <li>• Understanding various technical options and solutions for information modelling.</li> <li>• Knowledge of relevant internationally recognized management standards</li> <li>• Awareness of the interfaces between BIM software, quantification software and cost data sets.</li> </ul>
	Level 2	<p>Provide evidence to demonstrate involvement in the following:</p>

		<ul style="list-style-type: none"> <li>• Apply management systems to facilitate the use of BIM on projects including reporting procedures</li> <li>• Prepare a BIM execution plan</li> <li>• Design &amp; Implement a BIM management process</li> <li>• Maintain an information model</li> <li>• Agreeing and implementing contractual aspects of BIM</li> <li>• Facilitating and managing project team members for BIM implementation</li> <li>• Using quantification software to extract quantities from BIMs for cost estimating/ cost planning.</li> </ul>
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<b>OC06</b> <b>Project Management</b>	Level 1	Demonstrate knowledge and understanding of Project Management and the various stages involved in project management. Understand the stages of RIBA, PROCSA and the various processes and knowledge areas and their application in projects.
	Level 2	<p>Provide evidence as Project manager in managing simultaneously the four critical elements of a project;</p> <ol style="list-style-type: none"> <li>1. Time (Task durations , critical path, dependencies of tasks)</li> <li>2. Cost (Contingencies, Profit )</li> <li>3. Resources (People, Plant &amp; Materials )</li> <li>4. Scope (Project size, objectives &amp; requirements)</li> </ol> <p>Candidates must be able to provide evidence how the above elements are being managed and what are the various planning techniques &amp; managing procedures he/ she has put in place to manage design changes, track procurement, follow up on milestones, issue formal notifications, enhancing team building among all stake holders etc.</p> <p>At the end of the day, as project manager his/ her aim is to optimize value for money for the Client.</p>

<b>OC07</b> <b>Insurance</b>	Level 1	<p>Demonstrate knowledge and understanding of the principles and practices of insurance related to your area of practice for instance;</p> <ol style="list-style-type: none"> <li>1. Insurance provisions within the standard forms of contract.</li> <li>2. Statutory insurances (Workmen compensation etc)</li> <li>3. Specific insurance mechanisms such as joint names, subrogation, net contribution clauses in the aggregate, each &amp; every event and excess provisions</li> <li>4. Performance &amp; retention guarantees, Professional indemnity</li> </ol>
Candidates should be aware of how insurance is used to deal with risk in development & also understand the contractual requirements under the various standard forms of contract.		

	Level 2	Provide evidence to demonstrate involvement in the compiling data for insurance claim & eventual negotiation with parties concerned to settle the claim.
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