



Occupational Profile / Examination Specification

For

Electrical Contractors Estimator

ELECTRICAL CONTRACTORS**ESTIMATOR****EXAMINATION SPECIFICATION**

This examination will be developed based on the following format:

<u>SECTION I</u>	<u>VALUE</u>
(1) 50 Multiple Choice Items	50%
(A) items – General Skills	6%
(B) items – Pre-bid / Pre-proposal	6%
(C) items – Quantity Take-off	20%
(D) items – Costing	10%
(E) items – Bid / Proposal	6%
(F) items – Post Bid	2%
<u>SECTION II</u>	
(1) Quantity Take-off Item	20%
(2) Essay/Letter Writing Item	10%
(3) Working With Specifications	<u>20%</u>
TOTAL VALUE	100%

Scope of Work

Electrical Estimator

An electrical estimator is the person responsible for providing an accurate estimate of the cost of construction and of any changes to the work. In addition the estimator keeps historical records on costs of all kinds and assembles bids and bid closure deadlines.

ELECTRICAL CONTRACTORS ESTIMATOR OCCUPATIONAL PROFILE / EXAMINATION SPECIFICATION

SECTION: GENERAL SKILLS

6 items

VALUE: 6%

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#1 3 items	Communicate clearly with own forces, owner, client, consultant, regulatory agencies and other contractors (30)	<ul style="list-style-type: none"> a) Communicate the various types of contracts to field staff. b) Produce written correspondence and reports. c) Make oral presentations. d) Electronically communicate by telephone, internet, computer software, etc. e) Free-hand draw. f) Maintain good relations with owner, client and consultants. g) Know the architect's/consulting engineer's role. h) Know the contractual responsibilities of the owner, client and consultant. i) Know the authority and legal responsibilities of government inspectors. j) Know the code requirements for specialty trades. k) Know the contract documents and progress information usually required by owner/client/consultants. l) Know the cost implications of legislation. m) Respect the company's policies and procedures and understand the levels of authority.
#2 2items	Respond to design/build and construction requests. (47)	<ul style="list-style-type: none"> a) Knowledge of current codes and regulatory agencies. b) Knowledge of software packages. c) Participate as a partner in a multidisciplinary design/build team. d) Perform elemental cost analysis. e) Interpret client's needs. f) Respond to an expression of interest request. g) Assemble pre-qualification documents. h) Develop project budgets.
#3 1item *	Read the marketplace. (2)	<ul style="list-style-type: none"> a) Effectively communicate orally and in writing. b) Make presentations. c) Use a historical database.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
		<ul style="list-style-type: none"> d) Report to management on company's overall performance and estimating accuracy in the market. e) Report on competitors' bidding history.
#4 1 item *	Ensure a list of acceptable suppliers, carriers and rental companies is maintained. (43)	<ul style="list-style-type: none"> a) Assess the reliability of service. b) Evaluate the cost in comparison to reliability.
#5 1 item *	Establish a historical database of information from jobs and/or estimates completed. (1)	<ul style="list-style-type: none"> a) Knowledge of computer databases containing historical cost information. b) Maintain an efficient manual database. c) Maintain a historical database. d) Knowledge of the master format (detailed) and elemental cost systems (preliminary). e) Prepare and maintain labour productivity records. f) Perform cost benefit or life cycle analysis. g) Conduct a time study of a unit cost of labour. h) Compile a list by project, on competitor's bidding practices.
#6 1 item*	Keep abreast with technological changes in the industry. (46)	<ul style="list-style-type: none"> a) Maintain a current library of codes and regulations b) Maintain current estimating practices. c) Maintain current catalogues. d) Use computer software packages.

* Note: Test only one of these tasks on an examination at a time

SECTION: PRE-BID/PRE-PROPOSAL**6 items****VALUE: 6%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#7 1 item *	Collect relevant information on prospective construction work. (7)	<ul style="list-style-type: none"> a) Research prospective work. b) Maintain a database of prospective work. c) Assess the reliability of the owner.
#8 1 item	Determine, in consultation with senior management, which jobs to tender. (4)	<ul style="list-style-type: none"> a) Determine the information required to make decision to bid a job. b) Determine the value of the project in order to assess the company's capacity to carry out the work. c) Report to company management on main aspects of project to be tendered. d) Knowledge of types of bid. e) Knowledge of competitors. f) Prepare a bid strategy.
#9 1 item	Brief senior management on major bid assumptions. (25)	<ul style="list-style-type: none"> a) Identify the risks associated with the project. b) Identify unclear documentation. c) Evaluate the budget. d) Express a confidence factor for subcontract awards. e) Communicate the schedule. f) Communicate the resources required to complete the project. g) Determine and apply for bonding if necessary.
#10 2 items	Study plans, specifications, addenda and all construction conditions set by owner/architect. (52)	<ul style="list-style-type: none"> a) Detect early determination of any discrepancies, ambiguities, omissions, etc. in contract documents. b) Study drawings and specifications early in the job. c) Knowledge of performance requirements (accelerated schedule, etc.) d) Detect potential claims. e) Be aware of any environmental conditions of a contract. f) Understand the liability of errors or omissions in drawings and noting such to management and owner/consultant. g) Knowledge of document hierarchy. h) Knowledge of construction material standards.
#11 1 item *	Compile a checklist of all trade divisions. (5)	<ul style="list-style-type: none"> a) Knowledge of scope of work conditions on members imposed by local trade

		<p>associations.</p> <p>b) Research contract items that subcontractors commonly exclude.</p> <p>c) Knowledge of local bid depository rules of procedure and scope of work.</p> <p>d) Maintain a record of receipt and distribution of all bid documents (plans, specifications, and addenda).</p> <p>e) Solicit selected trade contractor quotations through trade journals, selected mailing and telephoning.</p>
#12 1 item	Conduct pre-construction site inspection in conjunction with project management. (51)	<p>a) Assess existing structure, utilities, storage space, obstructions, site access, etc.</p> <p>b) Conduct a job site analysis (notes, pictures, and reports).</p>
#13 1 item	Brief senior management on market position. (26)	<p>a) Communicate the list of competitors.</p> <p>b) Communicate the advantages of the project.</p> <p>c) Communicate the disadvantages of the project.</p>

* Note: Test only one of these tasks on an examination at a time

SECTION: QUANTITY TAKE-OFF**20 items****VALUE: 20%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#14 5 items	Clarify with consultant all discrepancies, ambiguities, omissions, etc. (10)	<ul style="list-style-type: none"> a) Accurately record all oral and written queries. b) Accurately check and note all addenda.
#15 9 items	Measure quantities from bid documents. (9)	<ul style="list-style-type: none"> a) Interpret project drawings. b) Interpret specifications. c) Know document hierarchy. d) Interpret codes and regulatory agency requirements. e) Take-off quantities in an organized fashion. f) Summarize and verify quantities. g) Take-off quantities for such non-standard items as renovation, demolition, unique construction methods, specifications, etc. h) Know construction materials and methods. i) Knowledge of new or innovative methods and materials. j) Knowledge of material specifications and costs. k) Ability to adjust labour. l) Layout, circuit and quantify.
#16 4 items	Preparing a take-off summary. (21)	<ul style="list-style-type: none"> a) Compile all material, labour, and equipment for costing. b) Compile all subcontractor work for costing. c) Compile all indirect labour work for costing. d) Compile all mobilization and general requirements for costing. e) Adjust labour. f) Use computer software packages.
#17 2 items	Coordinate and communicate with subcontractors/suppliers on scope of work. (11)	<ul style="list-style-type: none"> a) Effectively communicate orally and in writing. b) Distribute addenda to subcontractors/suppliers.

SECTION: COSTING**10 items****VALUE: 10%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#18 3 items	Calculate costs for standard work. (16)	a) Interpret catalogues and applicable discounts. b) Interpret supplier quotations and ensure material conforms to specifications. c) Knowledge of types of equipment and standard applications. d) Apply labour, material and equipment costs. e) Knowledge of material specifications and costs.
#19 1 item	Calculate unit costs. (15)	a) Compile all material, labour, equipment and general requirements to determine unit prices. b) Compile unit costs for additions and deletions.
#20 1 item	Calculate contractor's costs. (19)	a) Assess, in consultation with company management and project management, the cost of general requirements for: <ul style="list-style-type: none"> • supervision; • temporary offices and administration; • site access, protection and security; • temporary utilities; • construction facilities and service (surveys, trucking, cleanup, etc.); • hoisting; • small tools and equipment. b) Assess, in consultation with senior management, the estimated cost of bonds, insurance, permits, etc.
#21 1 item *	Calculate costs for specialty and subcontract work. (17)	a) Interpret catalogues and applicable discounts. b) Interpret supplier quotations and ensure material conforms to specifications. c) Knowledge of the types of equipment and standard applications. d) Adjust labour for project conditions. e) Knowledge of material specifications and costs.
#22 2 items	Calculate miscellaneous costs. (20)	a) Knowledge of cash allowances. b) Cost solicited and unsolicited alternatives. c) Prepare separate prices.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#23 1 item *	Calculate costs for out-of-town conditions. (82)	<ul style="list-style-type: none"> a) Assess local labour situations, accessibility to site, travel requirements, lodging, local bylaws, availability of material and equipment, climate, etc. b) Analyze local labour availability and productivity.
#24 1 item *	Solicit competitive prices for rental or lease/purchase of equipment. (81)	<ul style="list-style-type: none"> a) Knowledge of availability, applications, cost effectiveness and capacities of various types of equipment. b) Knowledge of cost implications of lease vs. purchase. c) Negotiate considerations. d) Knowledge of material specifications and costs.
#25 2 items	Finalize costs. (new)	<ul style="list-style-type: none"> a) Compile all material, labour and equipment costs. b) Compile all subcontractor costs. c) Compile all indirect labour costs. d) Compile all mobilization and general requirements costs. e) Verify all costs.

* Note: Test only one of these tasks on an examination at a time

SECTION: BID/PROPOSAL**6 items****VALUE: 6%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#26 4 items	Complete tender submission (22)	<ul style="list-style-type: none"> a) Identify and submit unit prices, alternative prices and other items required in the tender submission. b) Knowledge of company overhead and mark-up. c) Identify all applicable taxes to be included. d) Submit bonds. e) Prepare tender forms.
#27 2 items	Review and finalize bid submissions in consultation with management team. (23)	<ul style="list-style-type: none"> a) Analyze construction methods. b) Knowledge of new methods of construction. c) Knowledge of the type of contract, contract partners, and local conditions and indirect costs. d) Confirm risks of taking the project.

SECTION: POST BID**2 items****VALUE: 2%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#28 1 item	Communicate the scope of the estimate to the project management team. (27)	<ul style="list-style-type: none"> a) Convey the special conditions about the project. b) Convey the estimated plan and cost of construction. c) Participate as a team member. d) Present the schedule. e) Transfer all pertinent project information to project manager.
#29 1 item *	Analyzing project in detail to realize cost savings through redesign. (48)	<ul style="list-style-type: none"> a) Knowledge of design methods of construction. b) Knowledge of alternative methods of construction. c) Knowledge of alternative products and materials.
#30 1 item *	Assist in costing changes to contract. (28)	<ul style="list-style-type: none"> a) Knowledge of company procedures in processing change orders. b) Determine impact costs for changes to the work.
#31 1 item *	Participate in post-tender negotiations. (29)	<ul style="list-style-type: none"> a) Knowledge of negotiating skills. b) Determine impact costs for changes to the work.

* Note: Test only one of these tasks on an examination at a time

The essay component of the examination, worth 50%, consists of requesting the candidate to write some form of correspondence, performing a quantity take-off, and working with an actual set of specifications for the purpose of demonstrating their comprehension and ability to perform estimating tasks.