

FINAL EXAM STUDY GUIDE
Cost Estimating and Contract Administration

1 & 2 Stakeholders and Project Delivers Systems

- a) Identify internal and external stakeholders
- b) Identify the roles of the principal stakeholders
- c) Describe the three most prevalent project delivery methods; recognize and/or explain the differences
- d) Explain the organizational structure and contractual relationships within the traditional method

3. Preliminary Cost Estimates

- a) Describe the different preliminary cost estimating methods
- b) Use Order of Magnitude and Unit of Area methods to determine preliminary cost estimates

4. Project Manual – Technical Specifications

- a) What are the contract documents?
- b) Identify and explain the terms; Divisions, Sections, Parts and Articles
- c) Name the three Parts that apply to all technical sections
- d) Recognize and explain the six-digit Section numbering system
- e) Know the numbers and names of the Divisions that apply to building construction

5. Project Manual – Front-End Documents

- a) What comprise the front-end documents?(Names of the Divisions)
- b) Provide and/or identify examples of content from both Division '00' and Division 01.

6. Construction Drawings

- a) Identify the disciplines that contribute to the overall construction drawings for a commercial building project?
- b) List or identify drawing types that apply to the different disciplines
- c) Identify typical content that applies to the various types of drawings

7. Bidding Process & Surety Bonds

- d) Describe the documents that bidders require to compile a bid
- e) Describe the three common surety bonds, their face values, when they would be used, and how to calculate premium costs to purchase
- f) Explain how and when a Consent of Surety document is used.
- g) Describe how changes are documented during the bidding period
- h) Determine costs borne by Surety company when a contractor is in default and can not complete the contract
- i) List the bidding documents submitted by each bidding contractor
- j) Describe the different major types of costs that must be included in a bid, besides overhead and profit (Not trade categories)
- k) Describe factors that might render a bid non-compliant
- l) Describe the process when all bids received are over budget

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- 8. Contracts**
- a) Explain factors that must be present for a contract to be valid
 - b) Identify the different types of CCDC contracts
 - c) Differentiate between the terms general and supplementary conditions.
 - d) Identify the parties to a construction contract.
 - e) Describe the different parts of a CCDC contract
 - f) Identify content that would apply to the various parts of a contract
- 9. Construction Phase**
- a) Describe the activities that take place during mobilization
 - b) Describe the monthly progress payment and certification process
 - c) Describe the shop drawing approval process
- 10. Contract Administration**
- a) Calculate lien holdback amounts for progress payments, including early release of holdback for some subcontractors
 - b) Describe the various documents used for changes to the work.
 - c) Know the lien holdback percentage and the duration of the lien period in Manitoba
 - d) Calculate the unpaid balance of a contract value to determine whether a project is ready for a certificate of substantial performance. (Also calculate the qualifying balance).
 - e) How can monies be set aside to cover deficiencies at the end of the project. Can the funds in the lien holdback account be used for deficiencies?
- 11. Measuring Quantities Generally**
- a) Differentiate between *formats*; two page or consolidated
 - b) Differentiate between *methods*; by material or by assembly
- 12. Measuring Excavation and Backfill**
- a) Calculate volumes for excavation and backfill using bank measure
 - b) Apply swell and compaction factors to computed volumes
 - c) Explain the key terms used in this Module – recognize definitions
- 13. Pricing Generally**
- a) Identify direct and indirect costs
 - b) Identify the three different types of unit prices
 - c) Use the R.S.Means Cost Guide to find applicable unit prices
- 14. Pricing Excavation Work**
- a) Apply unit pricing to calculated quantities
- 15. Pricing Equipment (NOT covered in your program)**

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16. Pricing General Expenses

- a) Identify cost items as either office or site overhead – know the difference

17. Concrete Quantities

- a) Calculate volumes for piles, footings, walls, grade beams and slabs.
- b) Calculate formwork contact area for footings, walls and grade beams.
- c) Calculate length and weight of rebar in piles, walls and grade beams

18. Concrete Pricing

- b) Apply unit pricing to calculated quantities

19. Masonry Quantities

- a) Calculate the number of standard CMUs in a given length of wall
- b) Determine the number of special units (lintel U-blocks) in a given length of wall
- c) Calculate the total quantity of joint reinforcement in a given length of wall
- d) Calculate the amount of rebar required in a given wall construction.