

Name (print clearly): _____

You are taking this exam under the College of Engineering Honor Code as a graduate engineer. After completing the exam, please write and sign (if true): "*I have neither given nor received aid on this exam, nor have I concealed any violation.*" If you bring me a self addressed, stamped envelope (2 stamps, please), I will send the exam and course grade to you.

1. (15%) Identify the following, as they pertain to this course:

accident

activity

balanced bid

bonding capacity

construction by force account

cost plus a fee contract

FBM

general partnership

labor unit cost variance

latest finish time

liquidated damages

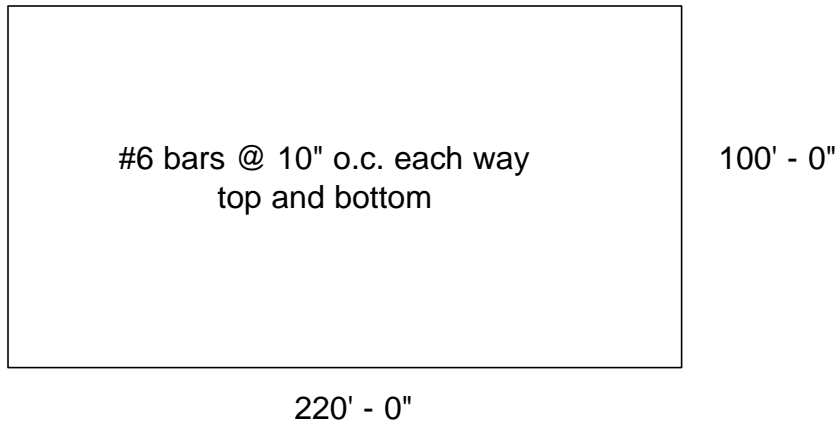
mediation

retained income

surety

weekly time card

2. (10%) Estimate the reinforcing steel **material cost** using the standard CEE 431 format for the concrete slab below. #6 bars cost \$500 / Ton, and weigh 1.5 pound / foot. Make up any information that you find missing. **SHOW ALL WORK.**



3. (25%) (a) Write an **advertisement for bid** for a lump sum contract construction of the new Bigger County Courthouse. Make up items as necessary to make a good example.

(b) Write a **letter of intent** that will allow Overall Construction (General Contractor) to begin demolition of the old Bigger County Courthouse, as part of its contract to construct the new Bigger County Courthouse. Make up items as necessary to make a good example.

(a) Write a lump sum **agreement** between Overall Construction (General Contractor) and Doolittle Painting (Subcontractor) for painting the new Bigger County Courthouse. Make up items as necessary to make a good example.

4. (25%) (1) For each phrase below, name the document that most probably would contain the phrase.
(2) In the context of each phrase, identify items that are ***bold and italicized***. List the items that are **bold and underlined**.
- (a) The undersigned agrees, if awarded the contract, to commence the work within 15 calendars after the date of receipt of ***notice to proceed***, and to complete the work within 360 calendar days -----
- (b) ----- delete all references to walnut paneling in the board room and add board room walls to the surfaces to be painted as specified -----
- (c) The Subcontractor agrees to ***indemnify*** ----- the Contractor, the Owner, -----
- (d) The ***Owner*** reserves the right to reject all proposals -----
- (e) The Contractor is solely responsible for -----construction ***means, methods*** -----
- (f) The Owner will ----- 10% ***retainage*** ----- until ***substantial completion***.
- (g) Your ***proposal*** to construct the Hill Feed Headquarters has been accepted -----
- (h) Before the first Application for Payment, the Contractor shall submit to the Architect a ***schedule of values*** -----
- (i) The Contractor shall execute the entire Work described in the **Contract Documents**, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.
- (j) The parties shall be deemed to have made these rules a part of their ***arbitration*** agreement whenever they have provided for -----
- (k) ----- if the ***Obligee*** shall accept the bid of the Principal and the ***Principal*** shall enter into a Contract w/ the Obligee in accordance with the terms of such bid -----

5. (10%) (a) During a windstorm, bricks on the roof parapet of the Success Store fell and injured a passenger in a car driving past the building. Which insurance of each of the following parties would cover its liability for injury to the passenger?

- (i) Success Store:
- (ii) Blissful Construction, the general contractor who completed construction of the Success Store three years earlier:
- (iii) Pointed Architects, who designed Success Store:
- (iv) Bill Rodman, the driver and owner of the automobile:

(b) During construction of the Crazy Building, an ironworker employed by Bracing Steel Erectors, the steel erection subcontractor, threw a bolt at a fellow worker, that missed the fellow worker and hit a bricklayer employed by Blocke Construction, the masonry subcontractor, and the bricklayer fell in front of a moving Bobcat tractor. The operating engineer driving the Bobcat tractor for Generous Construction, the general contractor, swerved and hit the corner of the structural steel. Which insurance of each of the following parties would cover its cost or liability for the property damage or injury?

- (i) Crazy's liability for injury of the bricklayer and Bobcat driver:
- (ii) Blocke's medical insurance for injury of the bricklayer:
- (iii) Bracing's liability for injury to the bricklayer and driver and damage to Bobcat:
- (iv) Generous' liability for injury to the bricklayer and driver:
- (v) Generous' cost to repair the Bobcat:
- (vi) Generous' and/or Bracing's cost to repair the damaged structural steel:

6. (15%) For the project operating chart below, show the responsibilities of the parties for each function by putting numbers shown in Responsibilities Key in the appropriate places on the chart. The single contract method is used. Contracts are lump sum. The general contractor will perform carpentry construction and concrete construction. Subcontractors do all other construction.

Function	Owner	Architect/ Engineer	General Contractor	Sub Contractor
certificate of insurance for workers compensation				
change order				
concrete purchase order				
design contract agreement				
design of roofing				
samples of exterior brick				
selection of tower crane for site				
method of installing roof				
painting agreement				
performance bond				
prime contract proposal				
project specifications				
reinforcing steel shop drawings				
room finish schedule				
selection of drywall contractor				
EXAMPLE: addenda	3	4	1	

Responsibilities Key

1. receives
2. transmits
3. **must** sign/approve
4. prepares/originates/proposes

Note: You may use more than one number in a box. However, that usually is not necessary, because 4 generally implies 3 and 2, 3 generally implies 2 and 1, and 2 generally implies 1. For example, the architect will review and approve the addenda in the process of preparing it.

Note: The terms are quite specific. For example, a Certificate for Payment is an item of paper that states an amount to be paid. It is prepared by a party, it is received and/or reviewed and/or approved by parties, but no party pays the Certificate for Payment itself.