

**UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF NATURAL & BUILT ENVIRONMENTS**

PROGRAM(S): **Bachelor of Construction Management & Economics &
Diploma in Built Environment**

COURSE: **CONSTRUCTION 1 (CIVE 1001)**

EXAMINATION: **Internal Exam, Semester 1, 2004**

DURATION: **3 Hours of Exam time preceded by 10 minutes of Reading
time, a total of 3 Hrs 10 Mins.
For ENTEXT students 10 minutes of Reading time plus 3.5
Hours of Exam time, a total of 3 Hrs 40 Mins.**

EXAMINER: **Sam Baroudi, Tel. 8302 2234**

EXAM REVIEWED BY : **Stefan Hornlund**

INSTRUCTIONS TO CANDIDATES:

- This exam is worth 50% of the total course marks
 - Attempt to answer **five (5) questions only**. Note that some questions provide alternative part questions for you to answer. You may illustrate your answer with carefully drawn sketch details, suitably annotated.
 - All questions are of equal value
 - No reference materials are allowed.
 - State any assumptions made
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NOTES FROM EXAMINER:

Question 1

(20 Marks)

Earthworks usually signal the commencement of building works on a site. Discuss the following in respect to earthworks associated with residential building works.

- a. What methods could you use to determine the soil types that exist on site?
- b. How would you go about providing a level platform for the upcoming building works if the site is sloping with an overall fall of 1.2 metres over the house location? Use diagrams as necessary.
- c. How could you utilise retaining walls in these earthworks if necessary?
- d. The terms "foundations" and "footings" as related to each other are commonly misused. Define these terms and explain what you understand by them in respect of our case.

Question 2**(20 Marks)**

You have commenced building works for a new housing project and it is your responsibility to ensure the concrete works are constructed in accordance with best practice. Make reference to each item below in describing your approach.

- a. Nominate a typical footing/floor system for the proposed house and describe its characteristics. Use a diagram as appropriate.
- b. What measures could be adopted to ensure the works are set out correctly?
- c. Explain how you would construct this footing/floor system?
- d. Who might need to inspect the work prior to pouring concrete and why?

Question 3**(20 Marks)**

Brick Veneer construction is arguably the most common cladding system used for domestic walling in Australia. Answer the following in respect to this.

- a. Explain what you understand by the term brick veneer construction and use a sketch to illustrate the components.
- b. How does solid brick construction differ to brick veneer? Compare their benefits and drawbacks.
- c. What is the purpose of lintels in this type of construction giving examples of material types and possible locations.
- d. Compare timber framed construction to steel frame explaining the differences and advantages of each.

Question 4**(20 Marks)**

If you were engaged to consult on roofing solutions for a simple domestic type of project what would your response be to the following issues? Diagrams may assist in your explanation.

- a. Name three different roof types and explain the differences between each one.
- b. Compare two common forms of roof framing, explaining the characteristics of each.
- c. What type of roofing material would you recommend to enclose the roof frame and why? A description of its construction should be stated.
- d. Would you recommend the use of sisalation? What is it and why use it?

Question 5**(20 Marks)**

Today's housing has various building services which people have come to rely on in their everyday lives. Discuss the following aspects in this regard from a building professional's perspective.

- a. The sewerage system can be broken into three main sections. Name the sections and what part they play in removing effluent from a building location.
- b. Why is sanitary ware important to a finished building? Discuss with examples.
- c. What would you understand from your electrician if they said the electrical works were complete up to "1st fix" and "2nd fix" would be completed next week? Why is it important that both these stages occur prior to occupation, noting examples?
- d. What is an electrical meter box and what sorts of things would you find in there? What is the purpose of these items post construction, i.e. to the owner?

Question 6**(20 Marks)**

Building items involved in the fitting out and finishing of houses require careful consideration to ensure the client's best interests are catered for. Discuss only four (4) of the following issues towards ensuring appropriate outcomes. All are of equal value and you must clearly indicate which questions are being answered.

- a. Compare two common materials that window frames are made from and discuss their advantages or disadvantages.
- b. Issues involved in the provision of a tiled floor within a bathroom.
- c. Various joinery items and trims involved in the finishing of internal surfaces.
- d. Choice of an external door type with reasons why and associated requirements.
- e. Aspects of typical stair construction that should always be accounted for.
- f. Your choice of material to finish wall frames as opposed to brick walls inside a room. Discuss both situations.

END OF QUESTIONS