

**UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS, PLANNING & BUILDING**

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

COURSE: CONSTRUCTION 1 (10270)

EXAMINATION: Internal Exam, Semester 1, 2002

**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 22234

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)

- a. List what items we should make note of when making an initial site investigation.
- b. Explain why each of these items needs consideration at the early stages of the project.
- c. Explain the difference between Planning Approval and Building Approval and the issues concerned with each.

Question 2 (20 Marks)

- a. What is "cut and fill" in relation to earthworks and why is it sometimes necessary?
- b. Explain the process of "cutting and filling" a site and use a diagram to show your understanding of it.
- c. What is a retaining wall and can it have any relationship to the "cutting and filling" process? Name a few types and explain their construction.
- d. Classify concrete footings into three basic types and briefly explain each.
- e. What is the difference between a raft slab system and timber floor system?

Question 3**(20 Marks)**

- a. Explain what you understand by the term brick veneer construction and use a sketch to illustrate the components.
- b. What is solid brick construction?
- c. What is a lintel and why are they necessary in domestic construction?
- d. Compare timber framed walls and roofs to steel framed explaining the differences and advantages of each.

Question 4**(20 Marks)**

- a. Name three different roof types and explain the differences between each one.
- b. Compare a conventional roof to a truss roof using sketches and indicate the various members that are typically involved in each.
- c. Answer either of the following :
 - 1) What do you understand about metal roofing including rainwater drainage?
Or
 - 2) Explain the construction of a tiled roof including rainwater drainage.
- d. What is sisalation, where is it found, and what is its purpose?

Question 5**(20 Marks)**

- a. Name two materials window frames are made from. Discuss their varying aspects and associated advantages or disadvantages.
- b. Modern building makes great use of panel products for walls, ceilings, floors and external claddings. Explain what you understand about their application in each of these areas.
 - c. What is a "wet" trade as compared to a "dry" trade and give examples?
- d. Discuss wall and floor tiling applications in bathrooms covering items such as required falls, recesses, waterproofing, junctions etc.

Question 6**(20 Marks)**

- a. The sewerage system can be broken into three main sections. Name each section and explain its characteristics and its function.
- b. What is the difference between a plumber and a drainer?
- c. List four items that should be considered when selecting a hot water service.
- d. What are circuit breakers and where would you find them?
- e. In electrical works if the supervisor was referring to 1st fix as opposed to 2nd fix what would he or she be talking about? Note typical examples.
- f. List all the relevant utilities in regard to domestic services and their areas of responsibility.