

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

**PROGRAMS:** Bachelor of Construction Management & Economics &  
Diploma in Built Environment

**COURSE:** CONSTRUCTION SCIENCE 1 (13008)

**EXAMINATION:** Semester 1, 2001

**DURATION:** 10 mins. of reading time followed by 2½ hours of exam time.  
Note that ENTEXT students are allowed 10 minutes  
additional time per hour of exam time. In this case 25  
minutes of additional time.

**EXAMINER:** Stephen Pullen Tel. 22753

**INSTRUCTIONS TO CANDIDATES:**

- This exam is worth 50% of the total course marks.
  - Attempt all questions.
  - *All questions are of equal value.*
  - No reference materials are allowed. Calculator is allowed.
  - State any assumptions made.
- 

**NOTES FROM EXAMINER:**

---

**Question 1** **(20 marks)**

Write notes on defects that can occur with ceramic tiling and the causes of these defects. Use sketches and diagrams where appropriate.

**Question 2** **(20 marks)**

Describe how you could assess the condition of fully hardened and matured reinforced concrete using on site tests. Explain which properties of the reinforced concrete you are testing and what factors affect these properties. Use sketches and diagrams where appropriate.

**Question 3** **(20 marks)**

What are the conditions that contribute to the rot or decay of timber? What can you do to minimise these factors? Describe the methods that are used to prevent the degradation of timber. Explain the terms modulus of elasticity and modulus of rupture for timber.

**Question 4** **(20 marks)**

Write notes on the following aspects of glass and glass products. Use diagrams where appropriate.

- (i) The manufacture of float glass

- (ii) The potential and actual strength of glass and the reasons for the difference.
- (iii) Describe in detail two glass products which have been developed to overcome this problem.
- (iv) What are GRC and GRP?

**Question 5**

**(20 marks)**

What is the Galvanic Series and show how it can help predict corrosion by giving examples. What other factors are important in determining the likelihood of corrosion. Provide diagrams where appropriate.

END OF QUESTIONS