

UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS, PLANNING & BUILDING

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

COURSE: **CONSTRUCTION MANAGEMENT 1 (08186)**
BUIL 1007

EXAMINATION: **Semester 2, 2002**

DURATION: **3 Hours of Exam time plus 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: **Virginia Mehrtens, Tel 8302 2041**

INSTRUCTIONS TO CANDIDATES:

- This exam is worth 40% of the total course marks
- You must answer Questions 1 in Section A, and any four Questions from Section B. **(Five questions total.)**
- The value of each question is noted adjacent to the question
- **No resources or reference material is permitted.**
- State any assumptions made

Section A You must answer Question 1

Question 1 (20 %)

1. Explain what is meant by the term **sustainable development**. (5%)
2. Explain why there is a **role for the construction industry** in the pursuit of sustainable development. (5%)
3. *Agenda 21 on Sustainable Construction* has identified some of **the issues and challenges for construction management** as follows:
 - process and management issues
 - product and building issues
 - resource consumption issues
 - materials issues
 - water issues land issues

Choose two sets of issues from the list above, give a brief explanation for each and then identify some of the **resulting challenges** for the construction industry. (10%)

Section B Choose any four questions from this section.

Question 2 (20%)

In discussing the current construction industry there are generally three sectors identified according to the type of construction project.

1. Identify each of the **sectors** and describe the **type of construction project** in each sector. Include in your answer some **examples** of projects in each sector. (8%)
2. Identify and explain at least **three points of difference** between the sectors. (6%)
3. Time, cost and quality are the traditional objectives of construction projects, but more recently there have been two further objectives often identified. Identify and explain these **two more recent additional project objectives**. (6%)

Question 3 (20%)

The Department of Industry Science and Resources outlined a multi-dimensional cluster **framework** to describe the groups within the **construction industry**. The framework identifies information and knowledge flow between the following groups:

- Regulatory framework
- Supply network
- Project-based firms
- Property sector
- Technology support infrastructure

1. Select **three groups** from the list above, and for each group explain briefly some of their **activities** and identify at **least two typical actors**. (14%)
2. Describe at least one way in which the **project-based firms** interrelate with the **property sector**. Include in your answer an example of this interrelationship. (3%)
3. Describe at least one way in which the **project-based firms** interrelate with the **supply networks**. Include in your answer an example of this interrelationship. (3%)

Question 4 (20%)

The overall purpose of **management** is to help organisations achieve **objectives**, and the following **management processes** have been identified:

- Planning
- Organising
- Motivating
- Controlling

1. Explain briefly the **management processes** listed above, and identify some of the common **objectives of construction organisations**. (10%)
2. Managing projects presents some specific challenges in comparison to managing organisations. Identify and discuss **at least three characteristics of projects** which influence their management and differentiate them from the management of organisations. (10%)

Question 5 (20%)

1. Identify and describe the role of the **key participants in the development process** for construction projects. (8%)
2. The **construction process**, or building process, is one stage in the development process and can be summarised as follows:
 - Plan and schedule construction activities
 - Obtain approvals
 - Procure subcontractors
 - Establish management systems
 - Establish site facilities
 - Coordinate and supervise construction activities
 - Pay for work completed

Choose **four of the activities in the construction process** as listed above, describe and discuss them briefly, including **examples** of how these processes are carried out on a project. (12%)

Question 6 (20%)

1. Explain how the **features of a proposed construction site and its boundaries** may influence the following:
 - Selection of plant and methods
 - Siting of facilities and storage areas
 - Sequence of operations
 - Access (10%)
- 2 Illingworth (1996, p1) states that: “*Construction involves two fundamental activities: the handling of materials and their fixing in the final location.*”

Explain the role of both **temporary works** and **plant** in construction and describe **three examples** of each. (10%)

Question 7 (20%)

1. Explain briefly your understanding of the **four major areas of the management of a construction organisation** as listed below:
 - Marketing management
 - Production (or Project) management
 - Financial management
 - Human Resource management (12%)
2. Discuss the importance of **cash flow** in the **financial management** of construction organisations. (8%)

END OF QUESTIONS