



**Summer Semester 2007 Examination**  
University of South Australia

If you are required to use a calculator during your exam please note the following details:

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| <b>DIVISION OF<br/>INFORMATION TECHNOLOGY, ENGINEERING &amp; THE ENVIRONMENT</b> |
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| <b>SCHOOL OF NATURAL &amp; BUILT ENVIRONMENTS</b> |
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| Subject Area: | Contract Administration 2<br>Supplementary Exam | Catalogue Number: |  |
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| <b>BACHELOR OF CONSTRUCTION MANAGEMENT AND<br/>ECONOMICS</b> |
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| Examination Day: Wednesday | Examination Date: 21 February 2007 |
| Examination Time: 9.00am   | Length of Exam: 3 hours            |

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| Examination Venue: | Bonython Jubilee Building BJ 3/52 _____ |
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| <b>Instructions to Candidates</b><br><br><b>Answer any Five Questions</b><br><b>All Questions are of equal value</b><br><b>Closed Book Exam</b> |
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**Question 1.**

In a contract between a Principal and a Main Contractor, the scope of works involves the Fabrication and erection of four steel pylons at a site where there is ground water within 300mm of the surface. The excavation operations for the bases of the pylons will involve excavation to a depth of 1.2 metres, with the casting of reinforced concrete footing pads, including the casting-in of reinforcement mesh and holding down bolts.

The contract between the Principal and the Contractor is AS 2124-1992, un-amended.

The Principal has prepared a Geotechnical report, which clearly shows that the ground conditions are soft clay soil, part of a tidal flat condition at the outflow point where a river meets the ocean. Ground water is reflected in the Geotechnical report at 300mm below ground level, with the comment that the water level varies from ground level down to 500mm below the ground floor level.

The Superintendent Engineer allows the Tenderers to inspect an open excavation that is adjacent to the site, that is also 1.2 metres deep and shows the soft clay. In that excavation, ground water had been at 100mm below the surface, and the sides of the excavation have been supported by shoring, to prevent the sides of the excavation collapsing.

1.1. – Prepare a PERT Critical Path program (Use two pages opened flat of the exam book) based on the following precedence and duration periods as shown below. Show the contract period, the critical path and float periods.

| Activity   | Precedent Activity |
|--|--------------------|
| 1. Prepare shop drawings and arrange approval of drawings –15 days                           | -                  |
| 2. Fabricate steel pylon bases – 6 days  | 1                  |
| 3. Fabricate steel pylon towers –18 days   | 1                  |
| 4. Fabricate holding down bolts – 3 days   | 1                  |
| 5. Install De-watering equipment – 3 days  | 1                  |
| 6. Excavate pits for the bases of the 4 pylons, and install shoring – 8 days                 | 5                  |
| 7. Set up reinforcement mesh and holding down bolts, and cast concrete footing pads – 5 days | 4,6                |
| 8. Erect steel bases – 2 days  | 2,7                |
| 9. Erect steel pylons – 4 days   | 3,8                |

1.2. – The Contractor submits the Program to the Superintendent for approval, and he approves the Program.

The Contractor installs de-watering equipment and successfully de-waters the site to the point that the ground water is below the level of the bottom of the excavation level.

The Contractor excavates the first base and finds the soft clay, now- de-watered, stands up quite well without the need for any shoring. The Contractor decides to delete the shoring operations, and he completes Item 6 on the Program in 4 days.

He completes the excavation operations of the other three bases successfully.

During the excavation operations in the other three bases, the Contractor encounters material that is a 50-50 mixture of clay and beach sand material, which remains in position until the Contractor commences the installation of reinforcement and the Holding Down Bolts.

In each case, the soil collapses into the excavation while this work is proceeding.

The Contractor excavates the holes again, and he provides the shoring to support the sides of the excavation, in order to complete the concrete work in each base.

Item 7 on the Program takes a total of 15 days to complete

He now wants to claim an extension of time and a variation.

Write a letter of claim to the Superintendent setting out a claim that accurately reflects the situation on site. Make your own assumptions about the details of the costs involved.



Question 2.

- 2.1 Explain the meaning and significance of the term "Implied Term", as distinct from an "expressed term" in a building contract, and give an example of where an Implied term is enforceable, and an example where an Implied term is not enforceable.
- 2.2 Explain the meaning of the term "Without Prejudice", when used in a Mediation of a building dispute.
- 2.3 Explain the meaning of the term "Breach of contract" and give an example of a breach of contract, where the Main Contractor is alleged to be in breach, in its contract with a Subcontractor. Explain the process that the Subcontractor must follow of putting the Contractor into breach so as to be entitled to recover damages arising from the breach.

Question 3

- 3.1 Explain the advantages and disadvantages to the Contractor and to the Principal of a "Design and Construct" Contract, where the Contractor is also the responsible for the design of the Works.
- 3.2 Explain the meaning of the term "Novation", and how it can be used by a Building Owner to employ a Design Team to provide a basic design for the Works, to call tenders from suitable Contractors, and then to "Novate" the contract of employment between the Principal and the Designers to the successful tendering Contractor.
- 3.3 Explain the meaning of the term "Assignment", and how a Contract between two parties can be assigned, so that one of the parties can assign his rights and obligations to third party.

Question 4.

Review the outcome of the case in the House of Lords that dealt with "Mitsui Corporation v The Attorney General of Hong Kong", and address the following:-

- 4.1 What position did the Court take in respect of the Contractor's claim that clause 74 (4) ought to be amended, in circumstances where the ground conditions had changed significantly, because the Engineer had decided to change the type of support in the tunnel to such a substantial degree that the contract period had been extended from two years to more than four years?
- 4.2 The Principal's position was that, under Clause 15 of the contract the Contractor took all the risks associated with the uncertainties of the ground conditions. The Principal said that the Contractor was not entitled to any additional payment just because the ground conditions were, in fact, different from those anticipated in the rated Bill of Quantities. What response did the Court take in respect of the correct interpretation of Clause 15 in the contract?



**Question 5**

- 5.1 Discuss the obligations of a Contractor regarding the rectification of defects that he has permitted to be incorporated into the building Works.**
- 5.2 Describe the steps available to a Principal if a Contractor cannot, or refuses to rectify defects at any time during the Contract period**
- 5.3 Describe the steps available to a Contractor if the Architect orders remedial work to be done for defective work, but the Contractor considers that the defect has arisen as a result of a Design fault, and that it is not to be rectified at the cost of the Contractor.**

**Question 6.**

- 6.1 Outline the Principles of Natural Justice that must be observed by an Arbitrator in the conduct of an Arbitration.**
- 6.2 Describe the benefits to the parties, who are in a building dispute, in presenting their dispute to an Arbitrator, rather than a Judge in a Court**

**Question 7.**

- 7.1 Describe the process of progress payments in a building contract, including the management of variations to the contract, payment at Practical Completion, at Final Completion, and the management of retention money or Bank Guarantees, as between a Principal and a Contractor.**
- 7.2 Explain how an unconditional Bank Guarantee can be issued by the Bank for the benefit of the Principal and the cost of the Contractor, and the benefits to both parties in the contract for using Bank Guarantees.**



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