UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS, PLANNING & BUILDING

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

COURSE: **CONSTRUCTION 2N (10271)**

EXAMINATION: **Internal Exam, Semester 1, 2003.**

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
- All questions are of equal value.
- Attempt to answer five (5) questions only. You may illustrate your answer with carefully drawn sketch details suitably annotated.
- No reference materials are allowed.
- State any assumptions made

NOTES FROM EXAMINER:

Question 1 **(20 Marks)**

List the relevant items in respect of a builder's site investigation and discuss the issues and concerns involved in each. Use examples as appropriate to explain your arguments.

Question 2 **(20Marks)**

Portal frames are a popular structural system for industrial buildings. Discuss your understanding of this structural system in relation to the following.

a. What is a typical portal frame? Include a diagram to illustrate it.
b. How does this structure effect the flexibility of the floor plan?
c. What do you understand about flexible or rigid joints in these frames?
d. Describe what holding down bolts are in respect to this framing system.

Question 3 **(20 Marks)**

Tilt-up wall construction is an effective means to enclosing industrial buildings. Discuss this walling system in reference to the following.

a. What is tilt-up walling as termed in the building industry?
b. State the advantages and disadvantages of tilt-up walling.
c. Explain aspects of it's construction processes.
d. How can tilt-up walling be made more aethetically pleasing.

Question 4 **(20 Marks)**

Discuss suspended concrete floors under the following headings.

a. One and two way slabs in multistorey construction.
b. Different floor types in multistorey construction.
c. Construction of floors using temporary formwork.
d. Construction of floors using permanent formwork.

Question 5 **(20 Marks)**

Discuss cladding systems in respect of the following :

a. The difference between framed construction as compared to load bearing wall construction in multistorey buildings.
b. List and briefly explain the various types of cladding systems.
c. Discuss sound and thermal transmission issues in respect of the list in question 5 b).
d. What are open and closed joints as applied to cladding systems?

Question 6 **(20 Marks)**

Answer only four (4) of the following questions in respect to industrial/commercial buildings. All are equal value. Clearly indicate which questions are being answered.

a. Discuss exposed grid ceiling systems and their advantages.
b. Explain the concepts of simplicity, standardisation and symmetry as applied to a building's design using examples.
c. Explain the construction of an industrial concrete floor slab.
d. Various roofing products have minimum pitch requirements. Discuss this statement using examples as appropriate.
d. List and explain three advantages of using concrete frames in multistorey construction.
e. Discuss aspects in regard to demountable partition systems in fitting out floors.

END OF QUESTIONS