

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

PROGRAM: Bachelor of Construction Management & Economics
COURSE: Construction Cost Planning
EXAMINATION: Internal Examination, Semester 2, 2005
DURATION: 10 minutes reading time + 2 hours exam time
EXAMINER: Tom Heinrich (External 8374 4479)

INSTRUCTIONS TO CANDIDATES:

- This exam is worth 50% of the total course marks
- Attempt any three out of the four questions
- All questions are of equal value
- State any assumptions made

QUESTION 1.

a) Prepare a Developers Budget showing how much you are prepared to pay for land for an office development, based on the following assumptions:

Office Building – 4000m² FECA, 3600m² lettable area

Rental of \$275/m² p.a.

Construction cost of \$1500/m² plus \$250,000 for siteworks

2 Year period from inception to completion

Professional Fees on construction – 10%

Capitalisation rate – 8%

Building, Planning & other approval fees - \$300,000

Stamp duty & fees on land purchase – 4%

Holding charges on land – 6% p.a.

Finance charges – 8% p.a.

Developers profit – 10% of Gross Development Value

Leasing Costs – 5%

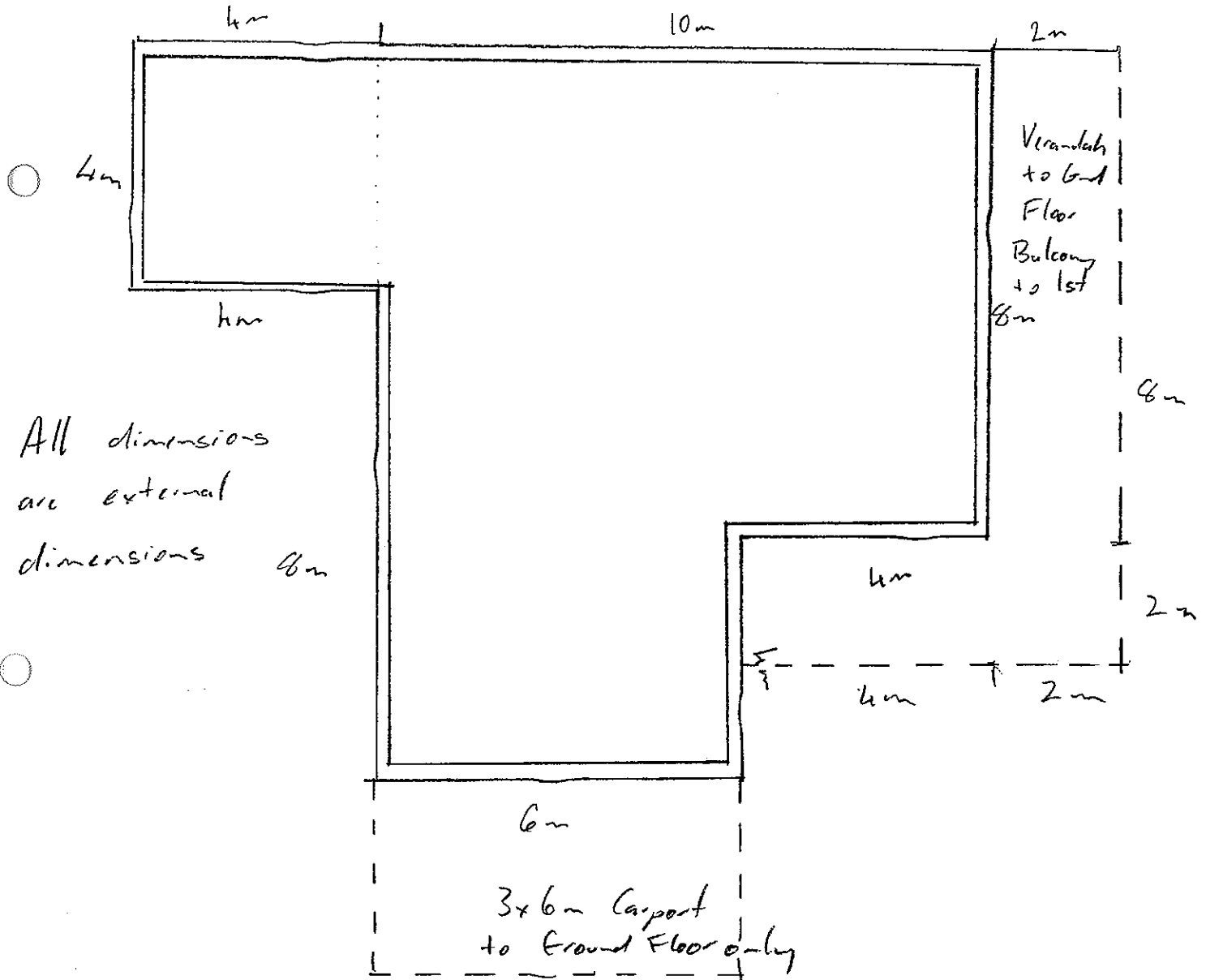
b) Define the term “sensitivity analysis” & discuss its importance.

QUESTION 2.

a) Based on the sketch below determine FECA, UCA & the Wall:Floor Area Ratio.

All external walls are 300mm thick, Ground to First Floor height is 3.0m and First Floor to eaves level is 3.0m. The Ground & First floors are exactly the same.

Floor Plan:



b) Based upon the plan form of this building explain why it may be more expensive than an "average" building of this type. Assuming that a two storey building is still required, what is the most cost efficient, easily constructed plan form & size to provide the required area.

QUESTION 3.

Given a cost per square meter for a previous project, discuss the factors that you would consider prior to using this rate for a new building proposal.

QUESTION 4.

a) You have been asked to provide a cost per square metre for an architecturally designed house. The only relevant information you have is a three year old record for another house. Using this data, determine an appropriate cost/m² for the new development.

Assume that the substructure will be 10% less expensive, the rest of the structure will be similar, the cost of joinery will be \$25,000 greater, the internal walls & doors will be similar, the finishes will be 15% more expensive and the services component will be 5% more expensive. (Detach the following page & hand it up with your exam paper).

	EXISTING RECORD	PROPOSED BUILDING
Building Type	Single Residence	Single Residence
Location	Adelaide	Adelaide
Locality Index	100	100
Tender Date	January, 2002	September, 2005
Building Price Index (DHC Index)	283.8	301.3
FECA	675m2	750m2
UCA	0 m2	0m2
UFA	600m2	600m2
Area Efficiency	89%	80%
No. of Storeys	2	2
Building Height	6.0m	6.2m
Floor/Floor Height	3.0m	3.1m
Wall Floor Area Ratio	0.85:1.00	0.64:1.00
Description	Irregular shaped	Rectangular
Type of Contract	Lump Sum Fixed Price	Lump Sum Fixed Price
Time for Completion	6 months	Average
Special Factors	Nil	Nil
Building Cost	\$876,150	
Building Rate	\$1,298.00	
Elemental Analysis		
01SB		60.00
02CL		5.00
03UF		105.00
04SC		15.00
05RF		95.00
06EW		180.00
07WW		95.00
08ED		12.00
09NW		90.00
10NS		35.00
11ND		30.00
12WF		10.00
13FF		85.00
14CF		60.00
15FT		65.00
16SE		Nil
17SF		24.00
18PD		18.00
19WS		7.00
20GS		Nil
21SH		Nil
22VE		Nil
23EC		Nil
24AC		100.00
25FP		15.00
26LP		45.00
27CM		8.00
28TS		-
Share of Preliminaries		139.00
Adjust for Date		-
Total Building Rate		\$1,298.00