

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

**PROGRAMS:** Master of Project Management  
Graduate Diploma in Project Management  
Graduate Certificate in Building & Planning

**COURSE:** TIME, COST & QUALITY MANAGEMENT A (BUSS 5163)

**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:** Mike Durand Tel – 0407 611 837

**INSTRUCTIONS TO CANDIDATES:**

- This exam consists of 7 questions and you need to **answer only 5 questions.**
  - Each question carries 20%
  - No reference materials are allowed. Calculator is allowed
- 

**Question 1**

- a. Budgeting and cost estimating are necessary to plan for the cost of a project. Describe the ways in which a budget for a project may be developed and explain what is meant by program budgeting.
- b. A project has a budgeted cost at completion of \$ 800,000 and is estimated to take 40 months to complete. At month 25 it has an actual cost of \$550,000, a scheduled cost of \$500,000 and an earned value of \$530,000. Draw an approximate cumulative cost graph for this project showing the earned value, actual cost of work performed and the budgeted cost of work scheduled. Calculate the schedule and cost variances at month 25.

**Question 2**

- a. Discuss the definition and concepts of value management and value engineering. Outline the steps you would take to perform a value engineering process.
- b. Describe how value management and value engineering can improve capital productivity and competitiveness.
- c. When is the best time in the life of a project to apply these practices? Explain the reason for your answer.

**Question 3**

Benchmarking and Process Re-engineering are two improvement approaches that organisations may use to perform better. For each of them describe what they are, what they are used for and how do organisations implement them.

**Question 4**

- a. For the schedule of activities shown below, determine how long the project will take and determine the critical path.

Activity	Depends on	Duration (Days)	Staff Required
A	Start	3	3
B	A	2	4
C	B, H	1	5
D	C	3	2
E	D, I	3	2
F	E, K, O	1	2
G	Start	2	2
H	G	4	2
I	H, M	1	4
J	G	2	2
K	J	2	5
L	Start	2	3
M	L	2	3
N	M, J	5	2
O	N, C	4	1

Draw a resource histogram assuming that activities start at their earliest start time.

- b. By delaying the start of non-critical activities, find the minimum peak requirement of staff. If the maximum number of staff available is 7, what is the minimum number of days in which the project can be completed?

**Question 5**

What is Quality Function Deployment (QFD) and what are this technique's principal benefits?

Describe the process of building the House of Quality. What functions and departments in the organisation should be involved in each step of the process?

**Question 6**

- a. What is the purpose of a work breakdown structure and describe the steps to design and use such a structure. In what ways may the work breakdown structure be used to monitor and control a project?
- b. What tools are available to a project manager to effectively control a project? Identify some characteristics of a good control system

**Question 7**

ISO 9001:2000 is an international quality standard. Briefly summarise the key elements of this standard and discuss if these elements are something every organisation should be implementing.

What is Total Quality Management (TQM)? Discuss how TQM and a quality assurance system conforming to ISO 9001 can support each other in an organisation.

\*\*\*\*\*END\*\*\*\*\*