

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF APPLIED SCIENCE**  
**COMPUTER SCIENCE DEPARTMENT**  
**DECEMBER EXAMINATIONS 2005**

**SUBJECT:** SOFTWARE PROJECT MANAGEMENT  
**CODE:** SCS4103

**INSTRUCTION TO CANDIDATES**

Answer **Question 1** and **ANY OTHER** three questions. Question 1 carries **40 marks** and all other questions carry **20 marks**.

**Time: 3 hours**

**QUESTION ONE**

Bukalanga Travel Agency is a Victoria Falls-based travel agency that specializes in the rental of high quality self-catering accommodation in Zimbabwe mainly targeted at the affluent market. This affluent market makes extensive use of the Internet and it was felt that being unable to offer this service would increasingly become a weakness. Bukalanga Travel Agency senior managers' strategic review recommended an internet-booking project to set up an Internet service. Project activity outline together with expected durations is shown in Table 1 below.

**Table 1**

Task No.	Deliverable Name	Duration (Days)	EST	EFT	LST	LFT
1	Project Initiation Document	1	0	1	0	1
2	Project/Quality Plan	2	1	3	1	3
3	Checkpoint Reports	10	-	-	-	-
4	Work Package Authorisation	5	5	10	5	10
5	Interview Notes	10	10	20	10	20
6	Requirement Specification	8	20	28	20	28
7	Hardware Specification	5	20	25	25	30
8	Website	25	28	53	28	53
9	Interface to Customer Database	10	28	38	32	42
10	Interface to Booking System	10	28	38	32	42
11	Management Information System	20	28	40	30	42
12	Communication Links	12	25	37	30	42
13	Trained Booking Personnel	6	40	46	42	48
14	Trained IT Personnel	6	53	59	53	59
15	Tested System	4	46	50	48	52
16	Implemented System	3	54	57	56	59
17	Product Description	2	3	5	3	5
18	Quality Log	1	-	-	-	-
19	Quality Review Results	5	-	-	-	-
20	Test Plans	4	28	32	48	52
21	Test Results	4	50	54	52	56

**Notes**

1. EST - Earliest Start Time.
2. EFT - Earliest Finish Time.
3. LST - Latest Start Time.
4. LFT - Latest Finish Time.

- a. Draw a network diagram for Bukalanga Travel Agent's project. [20]
- b. Show and calculate the **Critical Path**. [5]
- c. Draw a GANTT CHART on the basis of a network diagram from (a), above. [15]

#### QUESTION TWO

- a) List symptoms of groupthink [GT]. [5]
- b) Discuss the dangers of this phenomenon and explain how it might be avoided. [14]

#### QUESTION THREE

- a) State three sub-models of the COCOMO II model. [6]
- b) Discuss each sub-model you have stated in i) above. [14]

#### QUESTION FOUR

From the novice to the most experienced and senior project manager triple constraint issues are at the core of the most crucial decision about a project. With reference to evaluation of Information Systems development explain each of the following elements of the triple constraints:

- i) Time [6]
- ii) Cost [7]
- iii) Performance [7]

#### QUESTION FIVE

Discuss five factors that should be taken into account by engineers during the process of building a release of a large system. [20]

#### QUESTION SIX

- a. Ideally, the requirements for an Information System project would be specified in some detail before planning begins. If the requirements are not detailed enough, what steps can the project manager take to improve the likelihood of the project's success? [10]
- b. Two basic ways of breaking down a project into plannable chunks are the use of work breakdown structure and product breakdown structure.  
  
Contrast the advantages and disadvantages of these approaches. [10]

**END OF QUESTION PAPER**