



**FACULTY OF MANAGEMENT
JUNE SUPPLEMENTARY EXAMINATION**

DEPARTMENT OF BUSINESS MANAGEMENT

<u>MODULE</u>	:	PROJECT MANAGEMENT
<u>CODE</u>	:	STM8X05
<u>DATE</u>	:	JULY 2017
<u>DURATION</u>	:	3 HOURS
<u>TIME</u>	:	08:30 – 11:30
<u>TOTAL MARKS</u>	:	100

<u>EXAMINER(S)</u>	:	Prof C Marnewick
<u>EXTERNAL MODERATOR</u>	:	S Fore (CPUT)
<u>NUMBER OF PAGES</u>	:	4 Pages

INSTRUCTIONS TO CANDIDATES:

- Question papers must be handed in.
- This is an open book assessment.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Write neatly and legibly
- Structure your answers by using appropriate headings and sub-headings.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

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PROJECT MANAGEMENT (STM8X06)

Read the attached case study '*Tastee Snax Cookie Company (A & B)*' and answer the following four questions

QUESTION 1

Draw an activity-on-node network for the project described in the case.

(25)

QUESTION 2

How long will the project take to complete? Which activities are on the critical path?

(5)

QUESTION 3

Which activities are candidates for reduction if the project completion time is to be shortened? Motivate your answer.

(10)

QUESTION 4

What is the cheapest way to shorten the project duration by:

- 4 weeks
- 5 weeks
- 6 weeks
- What is the maximum number of weeks by which the project can be shortened and what will the cost be?

(20)

QUESTION 5

The cash flows of three different Projects A, B and C is given in the table below (in ZAR, South African rand, R):

Year	Project A	Project B	Project C
0	- R 175 000	- R 150 000	- R 300 000
1	+ R 15 000	+ R 5 000	+ R 30 000
2	+ R 20 000	+ R 15 000	+ R 30 000
3	+ R 50 000	+ R 20 000	+ R 50 000
4	+ R 50 000	+ R 30 000	+ R 120 000
5	+ R 50 000	+ R 60 000	+ R 120 000
6	+ R 50 000	+ R 90 000	+ R 120 000

Table 1.1: Table of cash flows for Project A, B and C

Based on the above table, answer the following questions:

1.1 Calculate the **net profit** of each project.

(6)

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- 1.2 Based on your answer to Question 1.1, identify which project you would select to implement. Motivate your answer. (1)
- 1.3 Re-evaluate all the projects using the **shortest payback** method to identify which project you would now select for development, based on the shortest payback period. Justify your answer by referring to the projects' payback periods and possible profits in the payback year. (4)
- 1.4 Calculate the **return on investment (ROI)** of each of the projects given in Table 1.1. (6)
- 1.5 Based on your calculation of the ROI of each project in Question 1.4, identify which project you would select to implement. (1)
- 1.6 Assume a *discount rate* of 10%. Calculate the *Net Present Value (NPV)* of the each project. Use the 10% discount rate from Table 1.2 given. (6)

Year	Discount factor at 12%
0	1.000
1	0.9091
2	0.8264
3	0.7513
4	0.6830
5	0.6209
6	0.5645

Table 1.2: Table for Question 1.6

- 1.7 Which is the best project to implement and why? (2)

QUESTION 6

Sipho is the project leader and his duty is to make sure the project is finished in time. The other members and their job specifics are:

- Nomsa: Analyse existing systems (2 weeks)
- Bennie: Obtain user requirements (3 weeks)
- Maggie: Plan office layout (3½ weeks)
- Alice: Finalise office layout (4 weeks)
- Arthur: Issue tender (4½ weeks)

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PROJECT MANAGEMENT (STM8X05)

(Note: the weeks in brackets denote the scheduled time within which each person's part of the project is to be completed. The longest time, i.e. 4½ weeks is the scheduled time for the completion of the whole project).

After the first week Nomsa is delayed by a week, but she finished by the end of the 3rd week. By the end of the 4th week Bennie has finished but Maggie was delayed for a week. This was the last delay in the project.

Name and describe three ways that a manager can use to visualise this data. Present this data visually in all the three ways. Accept that each activity, allocated to a specific person, starts at the same time.

(14)

[100]

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