

Time Allowed:	3 hours
Total Marks:	100
Special Requirements:	None
Examiner's Name:	Eng. Sipiwe Trinity Nyadongo

### **INSTRUCTIONS**

- 1. Answer any five (5) questions
- 2. Each question carries 20 marks
- 3. Use of calculators is permissible

# MARK ALLOCATION

QUESTION	MARKS
1.	20
2.	20
3.	20
4.	20
5.	20
6.	20

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7.	20
TOTAL	100

## **Question 1**

a)	Briefly	explain	the	aims	of	work-study	and	how	it	can	contribute	to	increased
	product	ivity.											[5]
b)	Explain	briefly tl	he me	ethod s	stud	y procedure.							[15]

b) Explain briefly the method study procedure.

## **Question 2**

a) Distinguish between Civil and Water Engineering and Industrial Engineering by highlighting the following for each discipline:

i.	Definition	[2]
ii.	Job description, (mention three (3) for each),	[6]
iii.	Types of industry where applicable, (mention two (2) for each).	[2]

b) Suppose that you were employed as an Industrial Engineer – at Edenville Bakery (biscuits manufacturing company), briefly explain the activities that you will be involved in to ensure the profitability of the company. [10]

## **Question 3**

a) Dybasty Investments Company's CEO heard about Work Measurement for the first time from a business seminar he attended in Pretoria. However he has little understand about it. As an Industrial Engineer – Consultant you have been tasked to present to the company head the following on Work measurement.

	C ,	
i.	Definition of work measurement,	[2]
ii.	The purpose of work measurement,	[4]
iii.	The uses of work measurement.	[4]

b) Discuss two techniques within indirect work measurement. [10]

### **Question 4**

Explain briefly four types of recording within method study, explaining the procedure for each. [20]

# **Question 5**

Develop a two-handed processes chart for the assembly of an Eversharp 15M pen. Include illustrations of the work area arrangement assuming refills are sub assembled already. Use Appendix 1 in answering the question.

The components of an Eversharp 15M pen are Refill, Barrel, back cap, front cap

[20]

# **Question 6**

a) 1	Define	the	follow	ving i	n Pro	oductiv	ity:
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	i.	Man-hour.	[2]
	ii.	Machine- hour.	[2]
b)	What	factors contribute to excess work content in production?	[6]
c)	"Wor	k Study is a direct means of raising productivity". Discuss	[10]

## **Question 7**

a)	Predet	ermined Time standards (PTS) are a type of Indirect Work measurement.	
	i.	Define PTS.	[2]
	ii.	Explain the origin and meaning of the "Therbligs".	[4]
b)	Briefly	v explain seven (7) "cautions and criticisms" that Managers using the Learning	5
	curves	should be aware of.	[14]

#### END OF EXAM

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Appendix 1 – Two-Handed Process Chart

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