



FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

JUNE EXAMINATION

DEPARTMENT OF QUALITY AND OPERATIONS MANAGEMENT

<u>PROGRAMME</u>	ND MANAGEMENT SERVICES ND OPERATIONS MANAGEMENT
<u>MODULE</u>	ORGANISATIONAL EFFECTIVENESS 1A
<u>CODE</u>	OEF11A2/ ORE11A1
<u>DATE</u>	30 MAY 2015
<u>DURATION</u>	3 HOURS
<u>TOTAL MARKS</u>	100

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<u>NUMBER OF PAGES</u>	4 PAGES

INSTRUCTIONS TO CANDIDATES:

- This paper consists of five questions
- Please answer all questions.
- Question papers must be handed in.
- This is a closed 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.

QUESTION 1

Work content can be increased by various factors. Discuss the factors that lead to excess work content in relation to the following

- 1.1 Work content added by poor design or specifications (6)
 - 1.2 Work content added by inefficient methods of manufacture or operation (8)
 - 1.3 Work content added by the contribution of human resources (6)
- [20]**
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QUESTION 2

- 2.1 Criticise the basic procedure of work study and provide practical examples for your criticism (10)
 - 2.2 Discuss any five basic elements involved in good housekeeping (10)
- [20]**
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QUESTION 3

- 3.1 Describe the Basic Elements of a system, and draw a diagram to support your answer (10)
 - 3.2 Explain elements of the communication process and draw a diagram to support your answer (10)
- [20]**
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QUESTION 4

Plascon South Africa supplies paint and related materials to the industrial/commercial sectors. Boasting a workforce of 1050 employees all working 8 hours per day, Plascon is the undisputed leader in both the decorative and industrial coatings market. Employees have access to the paint mixing machine 24 hours as there are two shifts, day and night shift.

It was only used 14 hours due to employees taking endless breaks and 120 employees being absent. Sizwe one of the machine operators was behind schedule finishing his tasks an hour after his shift. 250 of Plascon employees left them last year for their biggest competitor Dulux. They usually produce 15000 units however only 13500 units were produced due to employees mixing wrong colours which had to be disposed of because they were useless.

Calculate the following productivity factors:

4.1	Utilisation factor	(2)
4.2	Efficiency	(2)
4.3	Wastage	(2)
4.4	Absenteeism	(2)
4.5	Labour Turn-Over	(2)
		[10]

QUESTION 5

JHB Brown Wood is a well-known furniture manufacturing company. They have produced a total of 6000@R500 units over the past 2 years. They produced 2500@R200 units before increasing their resources. They received a loan from the bank which allowed them to increase their resources and increased their units to 3500@R300. They believe that after the changes that they have made they can improve their productivity. They had 2 employees before their finances improved, with each employee working the following hours: Worker one 22hours@25 and worker two 25hours@R30. After receiving the bank loan, they increased their manpower to 3 with each working the following hours: Worker one 20hours@R20, worker two 18hours@R20 and worker three 30hours@R30. The machine input before changes were made was 40hours@R40 and 60hours@R50 after changes. The material used after changes were 200Metres@R25, 50Litres@R25 and 40kg@R30. The material used before changes were 150Metres@R60, 40Litres@R15 and 30kg@R35.

Calculate the following:

(Round off to the second decimal place)

5.1	Specific Resource Productivity before and after	(15)
5.2	Productivity index and explain your answer	(5)
5.3	Total Resource Productivity and productivity index.	(8)
5.4	Explain your productivity index	(2)
		[30]

Total [100]