



FACULTY OF ENGINEERING AND BUILT ENVIRONMENT

SUPP-EXAMINATION 2016

DEPARTMENT

DEPARTMENT OF QUALITY AND OPERATIONS
MANAGEMENT

<u>PROGRAMME</u>	ND MANAGEMENT SERVICES ND OPERATIONS MANAGEMENT
<u>MODULE</u>	ORGANISATIONAL EFFECTIVENESS 2B
<u>CODE</u>	ORE22B2/OEF22B2
<u>DATE</u>	10 JANUARY 2017
<u>DURATION</u>	3 HOURS
<u>TIME</u>	8:00 – 11:00
<u>TOTAL MARKS</u>	100

<u>EXAMINER</u>	MR V. LUKONGA
<u>MODERATOR</u>	MS TM. NEMARUMANE
<u>NUMBER OF PAGES</u>	8 PAGES

INSTRUCTIONS TO CANDIDATES:

- Please answer all questions.
- Calculators are allowed
- Question papers must not 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 exam apply.

...Cont/

QUESTION 1

1.1. Draw and name ANY four standard symbols used in Time Study. (4)

[4]

QUESTION 2

Azzo textile is a company in JHB it manufactures blankets. The following information was collected on the 4th of April 2012 to analyze the current situation in departments. They make different types of blankets in different sizes. Each type of blanket is manufactured in a specific department. King department they make king size blankets, Queen dep they make Queen size, Prince department they make double bed size blankets, Princess they make single bed size blankets and in Council department they sort the orders of blankets. All departments are located in one big building to allow the inspector to travel by foot around the departments. They are three inspectors at Azzo they all do the same work but working in different days of the week. Thabo was the inspector being observed doing the inspection in this case study.

The inspector's duty is to record the following activities in each department "except in the council department": (A-open the storage, B-record the number of blankets, C-check any defects and D-close the storage). The time to carry out these activities differs in each department. In Prince department the following time was used: A-1min, B-50 seconds, C-2min 10 seconds, D-1min 5seconds. In Princess Department A-1min 20seconds, B-3min seconds, C-3min 15 seconds, D-1min. In King department A-2min, B-2min 30seconds, C-2min 10 seconds, D-1min 5seconds. In Queen department A-1min 35 seconds, B-55 seconds, C-2min 35 seconds, D-2min.

His work start by walking to Prince department because is the closest to his office. Then he walks to king department, from King he goes to Princess and then he walks to Queen department and lastly he goes to the council department to do sorting of orders for 1hour and when he is finished that's when he walks back to his office. His office is 4 meters north from the door. Prince department is located 8meters east of the office towards window 1. King department is 10meters north of Prince. Queen is 4meters east of Council towards door 2. Princess is 5 meters from king towards window 2.

Use the following scale to complete the flow Process chat provided (30 marks) and to answer question 2.1 – 2.8 (16 marks)

5seconds = 2meter
1meter = R3

- 2.1. How much money does the company loose when the inspector is sorting the orders?
.....
- 2.2. What is the total time (seconds) used by the inspector opening the storage and closing the storage in all departments?
- 2.3. How much money does it cost to check defects in all departments?
- 2.4. How much money does it cost the company when the inspector is opening storage, checking of defect and closing the storage, I King, Queen and Prince department?
.....
- 2.5. How much money does the company loose when the inspector is travelling?
- 2.6. What is the total time (seconds) the inspect use when he is travelling?
- 2.7. How much will the company save if they eliminated “recording the number of blankets” in Prince department and Queen department?
-
- 2.8. What is the total time of all the operations and inspections?

[46]

NO:..... SIGN:.....

[illegible]

QUESTION 3

Complete the time study sheets provided below. (41)

Elapsed time (2)

Recorded Time (3)

Watch Error (4)

Note:

ALL answers must be in **2 decimal** places

The observed times provided are in seconds

The study began 10:00 in the morning and ended at 11:55 morning.

Allowances are as follows:

Policy Allowance (1 min14 seconds)

Delay Allowance (210 cm)

Work Contingency Allowance (0.15 hrs)

Fatigue Allowance (109 cm)

Personal needs Allowance (1.6%)

[50]

Total: [100]

	FIRST NAME	S-NAME	STUDENT #	COURSE	SIGNATURE

OBSERVATION SHEET

DEPARTMENT; A	Time Finished	TEBS	DATE (yy/mm/dd)
DIVISION; five		+ TEAS	OPERATION NO;
MACHINE DESCRIPTION;	- Time Started	+Obs Time OF all elements	TAKEN BY;
WORKER; m / f			Elapsed time=
	= Elapsed Time	= RT	Recorded Time=
			Watch Error (ET-RT/ET *100)
			=

[illegible][illegible]

ANALYSIS SHEET

DEPARTMENT; A	DATE (yy/mm/dd)
MACHINE no;	OPERATION NO;
MACHINE DESCRIPTION;	TAKEN BY;
TASK DESCRIPTION;	

		Elements											
		1	2	3	4	5	6	7	8	9	10	11	12
Cycle Number	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
	9												
	10												
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	23												
	24												
	25												
	26												
	27												
	28												
	29												
Totals													
No of Obs													
Elem Basic Time													

SUMMARY SHEET

SUMMARY SHEET	
DEPARTMENT;	DATE (yy/mm/dd)
MACHINE DISCR;	OPERATION NO;
TASK DESCRIPTION;	TAKEN BY;
PART DESCRIPTION;	

[illegible]

TOTAL REPRESENTATIVE BASIC TIME		
Personal needs Allowance		
Fatigue Allowance		
Rest Allowance		
BASIC WORK CONTENT		
Work Contingency Allowance		
Tool Maintenance Allowance		
Working Allowance		
TOTAL BASIC WORK CONTENT		
Delay Allowance		
OCCUPIED TIME		
$MCT = (OT \text{ of } IW + UT)$		
$UTA = (MCT - BT \text{ of } IW)$		
Unoccupied Time Allowance		
STANDARD TIME		
Policy Allowance		
ALLOWED TIME (SECONDS)		
ALLOWED TIME (STD. MIN)		
ALLOWED TIME (STD. HR)		

Total: [100]

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