UNIVERSITY OF JOHANNESBURG

FACULTY OF ENGINEERING AND BUILT ENVIRONMENT

NOVEMBER EXAMINATION 2017

DEPARTMENT	**DEPARTMENT OF QUALITY AND OPERATIONS MANAGEMENT**
PROGRAMME	ND MANAGEMENT SERVICES ND OPERATIONS MANAGEMENT
MODULE	ORGANISATIONAL EFFECTIVENESS 2B
CODE	OEF22B2
	DATE : SUMMER EXAMINATION 2017 14 NOVEMBER 2017
TOTAL MARKS	100 **DURATION** : (SESSION 1) 08:30 - 11:30

EXAMINER	MR V. LUKONGA
MODERATOR	MR. M. MOLEFE
NUMBER OF PAGES	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

Discuss the following

1.1. Define Time Study. (2)
1.2. Human labour (**work)** is divided into two concepts, namely: restricted work and unrestricted work. Discuss and give one example for each concept. (6)

[8]

QUESTION 2

Lim is a young and motivated entrepreneur, his business is making and selling clothes. He designs clothes for all genders and in different styles. The idea of selling to all genders has opened up a big market for his business, leading to rapid growth of the market to a point that he is forced to increase the supply because the demand is now high than what he can supply. He decided that he will expand his business, by buying more machinery and employ more workers to meet the demand. More workers will mean more responsibilities for him and it will also mean that more of his time will be out of the office checking on his workers. He decided to map up a plan of action on how he will be walking around the organisation to monitor all his employees. The first thing was to find out where all the workers are located in the building and measure the distance he will be walking upon each visit.
From his office he will firstly check on Khotso (located 15 m towards window 5), then he goes to Tshepo (18m towards door 3), next is Khaya (9m towards window 3), from there he goes to see David (15m towards window 2), then Sindi (7.5m towards window 1), then he goes to Precious (12m towards door 1), next is Collen (9m towards door 2), he will then go to Cliff 9m towards window 3), Mape is located 13.5m towards window 2 from Cliff. Distance from Mape to office is 22.5m.

Use the case study provided to draw a flow diagram **(10marks)** and answer questions 2.1 – 2.9 **(18 marks)**

Scale:
8cm = 12m
2cm = R9

NOTE: all answers must be written on the space provided (.....) next to the question.

	FIRST NAME	S-NAME	STUDENT #	COURSE	SIGNATURE

2.1. How much does it cost the organization when Lim walks from Office to Sindi (through David, Mape, Cliff, Collen and Precious)**?**.....

2.2. If the total distance of Lim traveling from Office to Collen, is reduced to half, how much money will the organization have saved? (Through Khotso, Tshepo. Khaya, David, Sindi and Precious).....

2.3. How much is the total distance (in centimetres) does the Lim travel from Khotso to Mape (through Tshepo, Khaya, David, Sindi, Precious, Collen, and Cliff). .....

2.4. From department Khaya: How much money will the company save if they move Mape to same location as Precious? (Through David, Sindi, Precious, Collen and Cliff) .....

2.5. From the Ofiice : How much money will the company save if they move Sindi to same location as Khotso? (Through Tshepo, Khaya and David).....

2.6. What is the total cost of Lim travelling from Office up until he comes back again to Office.....

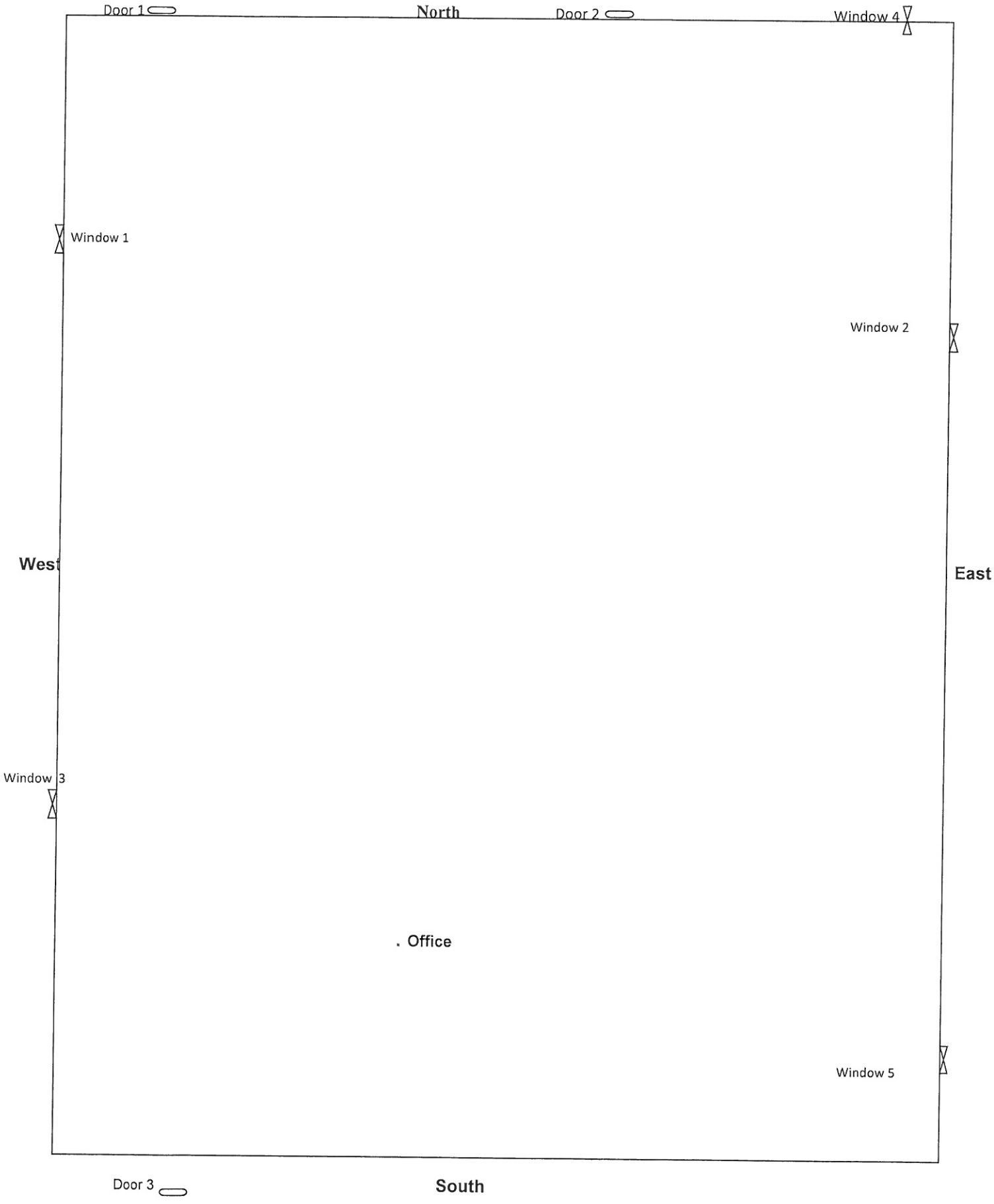
2.7. IF Lim would walk from office to Collen and then comes back to office, for THREE times. What will be the total cost? (Mape and Cliff).....

2.8. From Office: which route cost less to get to Precious (and how much is the cost). (Through Khotso, Tshepo. Khaya, David and Sindi) OR (Through Mape, Cliff and Collen).....

2.9. How much does it cost the organization for Lim to travel from David to Mape? (Through Sindi, Precious, Collen and Cliff).....

[28]

Flow diagram



QUESTION 3

Following the case study from questions 1. One of Lim's workers Collen was observed doing his job *"cutting the material"*: The following activities were observed:
Switch on the computer 45 seconds (only happens in C1). Set the measurement in the computer 550 centi-minuts, 575 centi-minuts, 565 centi-minuts, 560 centi-minuts. Choose the material from the material container 0.025 hrs, 0.03 hrs, 0.02 hrs, 0.03 hrs. Align the material in the machine 788 seconds, 796 seconds, 790 seconds, 784 seconds. Wait for machine to cut 4 minutes,5 minutes, 490 centi-minuts, 485 centi-minuts. Take a sample and check for any defects 1 minute, 62 seconds (only happens in C2 and C4). After the job is completed he shuts down the computer programme 98 seconds.(only happens in C4) 98 seconds. Pack the four completed materials in a box 2420 centi-minuts (only happens in C4).

The study started at 10:00 and ended at 11:15, TEAS of 3 minutes and TEBS of 2 minutes was recorded.

Use the case study above to complete the time study sheets provided below.

Observation Sheet	(21)
Analysis Sheet	(8)
Summary Sheet	(24)
Watch Error	(4)
Unoccupied Time Allowance	(7)

Note:

The observed times provided MUST be ALL converted to seconds
Allowances have been provided in the sheets.
ALL answers must be in 2 decimal places (**except** Average and Rating which must be in whole number)

[64]

	FIRST NAME	S-NAME	STUDENT #	COURSE	SIGNATURE

OBSERVATION SHEET

DEPARTMENT;	Time Finished	TEBS	DATE (yy/mm/dd)
DIVISION;		+ 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)

Element Break Points;	TEBS;
	TEAS;

Elem no	Rating	Obs Time	Basic Time	Total Basic Time	Elem no	Rating	Obs Time	Basic Time	Total Basic Time	Elem no	Rating	Obs Time	Basic Time	Total Basic Time

ANALYSIS SHEET

DEPARTMENT;	**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												
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	23												
	24												
	25												
	26												
	27												
	28												
	29												
Totals													
No of Obs													
Elem Basic Time													

SUMMARY SHEET

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

Elm no	Type of elm	Element Description	Element basic time	Volume	Frequency	Element Repres Basic Time
		Switch on the computer				
		set the measurement in the computer				
		Choose the material				
		Align the material in the machine				
		wait for machine to cut				
		check for any defects				
		Pack the material				
		After the job is completed he closes the computer programme.				

TOTAL REPRESENTATIVE BASIC TIME		
Personal needs Allowance (1.1%)		
Fatigue Allowance (200 cm)		
Rest Allowance		
BASIC WORK CONTENT		
Work Contingency Allowance (0.04 hrs)		
Tool Maintenance Allowance (3minute)		
Working Allowance		
TOTAL BASIC WORK CONTENT		
Delay Allowance (320 cm)		
OCCUPIED TIME		
MCT = (OT of IW + UT)		
UTA = (MCT – BT of IW)		
Unoccupied Time Allowance		
STANDARD TIME		
Policy Allowance (110cm)		
ALLOWED TIME (SECONDS)		
ALLOWED TIME (STD. MIN)		
ALLOWED TIME (STD. HR)		

[54]

Total: [100]

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