UNIVERSITY OF SWAZILAND

FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS ADMINISTRATION

SUPPLEMENTARY EXAMINATION

JULY 2018

TITLE OF THE PAPER : OPERATIONS MANAGEMENT 11

DEGREE : BACHELOR OF COMMERCE

COURSE : BA 439 AND BA 507 (IDE)

TIME ALLOWED : THREE (3 HOURS)

Instructions:

1. THIS PAPER CONSISTS OF SECTION A AND SECTION B)
2. SECTION A IS CASE STUDY AND IT IS COMPULSORY QUESTION
3. ANSWER ANY TWO QUESTIONS FROM SECTION B

Note: You are reminded that in assessing your work, account will be given of accuracy of language and the general quality of expression, together with layout and presentation of your final answer.

THIS PAPER MUST NOT BE OPENED UNTIL THE INVIGILATOR HAS GRANTED THE PERMISSION

SECTION A – COMPULSORY

Mr Makhubu owns a fast growing Restaurant at Matsapha and needs the operations manager's expert to run his business effectively and efficiently. The quality of the services rendered to customers is very poor while the suppliers of the vegetables and other related products results in the poor menu rendered to customers. He heard about ISO 9000 (International Organization for Standardization which promotes worldwide standards for improvement of quality, productivity and operating efficiency through series of guidelines and standards. He also heard that Just in time (JIT) could be a solution on running his business efficiently and effectively.

Question 1.

a. Explain eight quality management principles Mr Mavuso should pursue to register for ISO 9000? **16 marks**
b. Advice Mr Mavuso on five areas where inspection of the food processing should occur. **10 marks**
c. Explain any seven elements of Total Quality Management (TQM) that he can apply to improve the delivery on time of the products and services. 12 marks
d. Further explain any seven obstacles of Total Quality Management Mr Mavuso he could encountered. 12 **marks**

Total Marks (50)

SECTION: ANSWER ANY TWO QUESTIONS IN THIS SECTION.

Question 2

i. *P-chart* and *c-chart* . Using the appropriate control chart, determine two-sigma control limits for each case :

a. An inspector found the average of 3.9 scratches in the exterior paint of each of the automobiles being prepared for shipment to dealers. **5marks**

b. Before shipping lawn mowers to dealers, an inspector attempts to start each mover and notes any that do not start on the first try. The lot size is 100 mowers, and an average of 4 did not start (4 percent). **5 marks**

ii. Process capability. Determine which of these three processes are capable **(5 marks)**:

Process	Mean	Standard Deviation	Lower Spec	Upper Spec
1	7.5	.10	7.0	8.0
2	4.6	.12	4.3	4.9
3	6.0	.14	5.5	6.7

Total 25 marks

Question 3

Control charts for means and ranges. Processing new accounts at a bank is intended to average 10 minutes each. Five samples of four observations each have been taken. Use the sample data to construct or determine upper and lower control limits for both a mean chart and range chart.

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
	10.2	10.3	9.7	9.9	9.8
	9.9	9.8	9.9	10.3	10.2
	9.8	9.9	9.9	10.1	10.3
	10.1	10.4	10.1	10.5	9.7
TOTALS	**40.0**	**40.4**	**39.6**	**40.8**	**40**

a. Determine the mean and range for each sample (**10 marks)**
b. Compute the average mean and average range **(6 marks)**
c. Obtain factors A2,D4 and D3 for n =4:A2 = 0.73, D4 = 2.28, D3= 0**(5 marks)**
d. Verify that points are within the limits. (if they were not , the process would be investigated to correct the assignable causes of the variation. **4 marks.**

Total: 25 marks

Question 4

Swaziland United Bakers follows a product and process design approach when baking the bread.

a. Explain the difference between product and process design in lean system. **5 marks**
b. Discuss any five benefits of design process Swaziland united bakeries should pursue. **10 marks**
c. Explain five elements of personnel and organizational that Swaziland United bakeries can use for lean systems. **10 marks**

Total: 25 marks