



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF BUSINESS & ECONOMICS
UNIVERSITY EXAMINATION FOR OF BUSINESS ADMINISTRATION (With IT)
FOURTH YEAR SEMESTER ONE
MAIN CAMPUS

COURSE CODE: ABA 441

COURSE TITLE: OPERATION MANAGEMENT

EXAM VENUE:

STREAM: REGULAR

DATE:

EXAM SESSION:

TIME: 2 HOURS

INSTRUCTIONS:

- 1. Answer Question ONE (COMPULSORY) and ANY other 2 questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE (COMPULSORY)

Case Study

Creature Care Animal Clinic

It has been three years since Dr. Julia Barr opened Creature Care Animal Clinic, a suburban veterinary clinic. Dr. Barr thought that by now she would be enjoying having her own practice. She had spent many years in college and worked to save money in order to start a business. Instead, she felt overwhelmed with business problems that were facing the clinic. She thought to herself: “I don’t produce anything. I just provide a service doing something I enjoy. How can this be so complicated?”

Company Background Dr. Barr opened Creature Care Animal Clinic as a veterinary clinic specializing in the care of dogs and cats. The clinic was set to operate Monday through Friday during regular business hours, with half days on Saturday and extended hours on Wednesday evening. Dr. Barr hired another full-time veterinarian, Dr. Gene Yen, a staff of three nurses, an office manager, and an office assistant. Both doctors were to work during the week and rotate the shift for Wednesday evenings and Saturdays. A similar schedule was set up for the nurses. The office manager worked during regular business hours, and the assistant worked on Wednesday evenings and Saturdays. Dr. Barr set up this schedule based on a clinic she had observed as a resident and thought it sounded reasonable. Since the clinic was small, Dr. Barr did not have a formal system of inventory management. All physicians and nurses were allowed to place purchase orders based on need. Initially this system worked well, but after a few months problems started developing. Frequently, there was excess inventory of certain items, and in many cases there were multiple brands of the same product. Sometimes medications passed their expiration dates and had to be thrown away. At the same time, the clinic often unexpectedly ran out of stock of certain supplies and rush orders had to be placed. On one occasion, they ran so low on bandages that the assistant had to be sent to the local drug store. Dr. Barr continued to rotate with Dr. Yen for coverage on Saturdays and Wednesday evenings. However, demand was increasing so rapidly on Saturdays that one doctor was not enough to provide needed coverage. Also, the Friday afternoon schedule was usually so packed that the staff frequently had to stay late in the evening. At the same time, there was little demand on Wednesday evenings and Dr. Barr found herself working on paperwork on those evenings, while the nurse and office assistant performed menial office tasks.

Required

- i) Identify the operations management problems that Dr. Barr is having at the clinic. (6mks)
- ii) The schedule Dr. Barr set up worked well at the clinic where she was a resident. What are some of the reasons why it might not be working here? (6mks)
- iii) Identify some of the reasons why the clinic is having inventory problems. (6mks)
- iv) What should Dr. Barr have done differently to avoid some of the problems she is currently experiencing? (6mks)
- v) What suggestions would you make to Dr. Barr now? (6mks)

QUESTION TWO

- a) Certain steps are common to the development of most product designs: idea generation, product screening, preliminary design and testing, and final design. All product designs begin with an idea. Briefly discuss various sources of idea that a company can rely on in developing a product design. (10mks)
- b) State the specific differences between intermittent operations and repetitive operations. (10mks)

QUESTION THREE

- a) Define the term value from a customer's perspective. (1mk)
- b) Examine the requirements for a successful value chain management system. (10mks)
- c) Highlight the benefits that would accrue to a manufacturing company from adopting a value chain management (9mks)

QUESTION FOUR

- a) Briefly discuss some of the motives firms may bear in mind in holding stocks. (10mks)
- b) Bondeni Animal feeds Ltd. buys and sells animal feeds on retail basis. The company has set a reorder level of 15 units and the order quantity of 20 units. The holding cost has been computed to be sh. 10 per unit per week and the cost of placing an order is sh. 25. The stock out cost has been determined at sh. 100 per unit. The inventory at the beginning of the first week was 20 units.

Additional information

The demand and lead time have been explained by the following probability distribution schedule respectively:

Demand(units)	
Number	Probability
0	0.02
1	0.08
2	0.22
3	0.34
4	0.18
5	0.09
6	0.97

Demand(week)	
Number	Probability
1	0.23
2	0.45
3	0.17
4	0.09
5	0.06

Required

Simulate the problem for 14 weeks and determine the average weekly cost using the following random numbers:

68, 52, 50, 90, 59, 08, 72, 44, 95, 85, 81, 93, 28, 89, 15, 60, 03. (10mks)

QUESTION FIVE

a) Define the following terms used in operations management (6mks)

i) Benchmarking

ii) Reverse engineering

iii) Buffer stock

iv) Production scheduling

v) Value addition in value chain management

vi) Just-in-time (JIT)

b) Briefly discuss the goals of Production/ Operation Management. (14mks)