



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2017/2018
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
COMMERCE

BMS 401: PRODUCTION AND OPERATIONS MANAGEMENT

DATE: Monday, 27th November 2017

TIME: 8.00a.m-10.00a.m

INSTRUCTIONS:

1. Question 1 is compulsory and carries 30 marks
2. Answer question 1 and any other TWO questions

TIME :2 HOURS

Question One

- (a) The product is one of the critical elements of the production and operations system. Discuss any **three** factors that encourage adaptation of products in international business operations (6marks)
- (b) Distinguish between forward scheduling and backward scheduling. (4marks)
- (c) Many firms based in western countries often outsource part of their business operations to foreign locations such as India and China. Expound on four reasons why businesses might opt for a global/foreign location. (8marks)
- (d) Identify and explain the steps involved in the Six Sigma maintenance process (10marks)
- (e) Highlight two characteristics of batch production systems (2marks)

Question Two

(a) Operations planning and scheduling systems mainly deal with the volume and timing of output, the utilization of operations capacity at desired levels of competitive effectiveness. Describe five components of the operations planning and scheduling system. (10marks)

(b) Fanaka Limited is in the business of selling handmade mats. These mats costs Fanaka Limited Ksh. 15 each. Customers want to buy the mats at a rate of 240 pieces a week. The company operates 52 weeks a year and the estimated ordering cost is sh. 50 Annual holdings costs are estimated at 20% of the unit costs. If the lead time is two weeks calculate:

- i. The Economic Order Quality (5marks)
- ii. The total annual cost using the EOQ (5marks)

Question Three

(a) Explain **Three** objectives of Material Requirements Planning (6marks)

(b) Operations managers often use forecasts of product demand to estimate the short-term workload the facility must handle. Discuss **five** strategies operations managers uses to manage capacity in the short run. (10marks)

(c) Outline **four** module of the active planning phase of production planning and control. (4marks)

Question Four

(a) The following table shows data for a single machine:

Job	Processing Time (days)	Due date(days)
A.	17	45
B.	12	35
C.	22	27
D.	18	54
E.	26	47

Compute the following job performance measure using the First Come First Serve, Longest Processing Time and Critical Ratio sequencing rules and advise on the most efficient rule.

- i. Average Flow Time
- ii. Average Lateness
- iii. Make Span
- iv. Average Work in Process

(20marks)