

**TECHNICAL UNIVERSITY OF MOMBASA**  
**SCHOOL OF BUSINESS DEPARTMENT OF MANAGEMENT SCIENCE**  
**PAPER A (FEB-MAY 2016)**  
**END OF SEMESTER EXAMINATION QUESTIONS**  
**COURSE CODE AND TITLE: BPC 4403\_MATERIALS PLANNING, PRODUCTION**  
**AND CONTROL**  
**CLASS: BCOM (PROCUREMENT OPTION) YEAR 4**

**INSTRUCTIONS:**

- i. Answer question one and any other two questions
- ii. Do not write on the question paper
- iii. Time allowed is 2 hours

**QUESTION ONE**

a) The following information was extracted from the books of Nyali Holdings regarding its stocks:

|      |                        |                |
|------|------------------------|----------------|
| i.   | Reorder quantity       | 1,800          |
| ii.  | Reorder period         | 4 weeks        |
| iii. | Maximum consumption    | 450 units/week |
| iv.  | Normal consumption     | 300 units/week |
| v.   | Minimum consumption    | 150 units/week |
| Vi   | Maximum reorder period | 5 weeks        |
| Vii  | Minimum reorder period | 3 weeks        |

**Required**

Determine the following stock levels for Nyali Holdings:

- i. Re-order level (5 marks)
  - ii. Maximum stock level (5 marks)
  - iii. Minimum stock level (5 marks)
- b) With examples, discuss the following materials management philosophies:
- i. Materials Requirement Planning (MRP) (5 marks)
  - ii. Distribution Requirement Planning (DRP) (5 marks)

- c) Materials handling is one of the major and most costly operations in an organization.  
Explain the principles of efficient material handling (5 marks)

### **QUESTION TWO**

- a) Marketers often identify four or five stages through which a product passes. This life cycle stages have been well linked to marketing strategy. Explain how materials production and management can also be linked to the life cycle stages (12 marks)
- b) In most manufacturing organizations, there are a few common symptoms which indicate that the management should seriously consider adapting to lean manufacture. If these symptoms are ignored, it may turn into a serious problem and result in a critical situation for the organization. Explain the symptoms that indicate the need for lean manufacturing in an organization (8 marks)

### **QUESTION THREE**

- a) With examples, explain how the Hoshin planning method is used to achieve greater results at a faster rate when implementing lean manufacturing (10 marks)
- b) Clearly explain the importance of effective material handling in organization (10 marks)

### **QUESTION FOUR**

- a) Distinguish between Value analysis and value engineering and discuss the steps followed in Value Analysis/Value Engineering (VA/VE) approach (10 marks)
- b) Facility or plant location is the determination of the positioning, situation or choice of site for productive or operative facilities. With examples, explain the need for facility location planning (10 marks)

### **QUESTION FIVE**

- a) Explain how the location of a new facility location can be determined using the simple median method (10 marks)
- b) The layout of a factory, workshop or working area means the position of the departments or shops in the factory and of the machines, workplaces and storage points in the working areas including offices and staff facilities relative to one another. Explicitly discuss the major objectives of plant layout planning (10 marks)