

W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY  
OF  
AGRICULTURE AND TECHNOLOGY  
UNIVERSITY EXAMINATIONS 2017/2018**

**END OF SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF  
SCIENCE IN SOFTWARE ENGINEERING**

**ICS 3109: BUSINESS PROCESS RE-ENGINEERING AND CHANGE  
MANAGEMENT**

**DATE: FEBRUARY 2018**

**TIME: 3 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO  
QUESTIONS**

**QUESTION ONE**

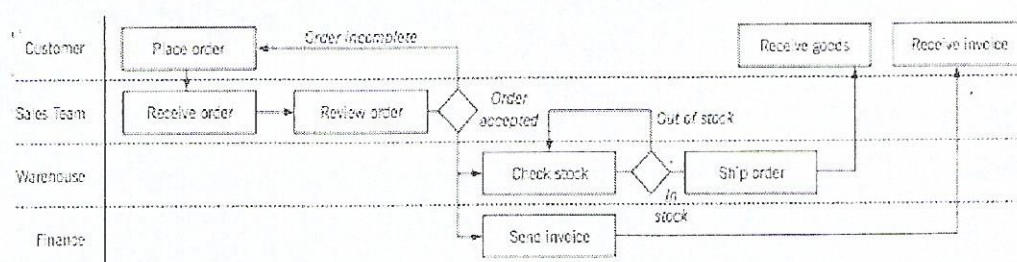
- a) Any redesign team must understand the process but should not overanalyze it, in order to avoid "analysis paralysis".

**Required:**

- (i) Expound on the statement above (2 Marks)  
(ii) Discuss **FOUR** essential activities for building process understanding (8 Marks)
- b) Explain the concept of discrete event simulation and discuss its relevance and use in process modeling (6 Marks)
- c) What is "Value-added Analysis" and how does it apply to BPR? Discuss. (4 Marks)

**QUESTION TWO**

Jibambe is a company that sells CDs and DVDs by mail order. Customer orders are received by the sales team that checks that customer details are completed properly on the order form (e.g., delivery address and method of payment). If they are not, a member of the sales team contacts the customer to get the correct details. Once the correct details are confirmed, the sales team passes a copy of the order through to the warehouse team to pick and pack, and a copy to the finance team to raise an invoice. The finance department raises an invoice and sends it to the customer within 48 hours of the order being received. When a member of the Jibambe warehouse team receives the order, they check the real-time inventory system to make sure the discs ordered are in stock. If they are, they are collected from the shelves, packed and sent to the customer within 48 hours of the order being received, so that the customer receives the goods at the same time as the invoice. If the goods are not in stock, the order is held in a pending file in the warehouse until the stock is replenished, whereupon the order is fulfilled. This process can be illustrated as follows:



**Required:**

- a) Highlight **TWO** major problems in the order fulfillment process (2 Marks)

- b) Address these problems explaining your approach clearly and re-drawing the process map above (8 Marks)
- c) Six Sigma is a popular model for process improvement. Justify the use of such a model and explain the five-stage DMAIC pattern applied in Six Sigma (10 Marks)

### QUESTION THREE

- a) Although "quality" is a broad term, its conceptualization can be approached from common perspectives such as:
  - (i) Product based
  - (ii) User based
  - (iii) Value based
 Critically discuss each of these perspectives (6 Marks)
- b) What is total quality management (TQM)? Explain the problem solving sequence for TQM with respect to process management (10 Marks)
- c) Highlight **FOUR** general classifications of quality costs (4 Marks)

### QUESTION FOUR

You have been tasked with the responsibility of implementing a BPR plan in your organization. Processes have become complex and inefficient with passage of time. Using a suitable case study:

- a) Define the term "process" and identify **FOUR** symptoms of poor processes (6 Marks)
- b) Discuss **FOUR** factors that can cause such complexities and inefficiencies to arise (8 Marks)
- c) Map out a suitable methodology for this implementation and explain each step (6 Marks)

### QUESTION FIVE

- a) Distinguish between the following terms as they are used in business process re-engineering:
  - (i) Effectiveness vs. automation (2 Marks)
  - (ii) Re-engineering vs. simplification (2 Marks)
- b) Although business strategy is concerned with developing financial and strategic performance, the underlying logic is that financial and strategic performance will be achieved through effective processes.
  - (i) Alongside the overall goal of delivering value for the customer, the process perspective contributes to the strategic impact of a business in **FOUR** other ways. Discuss (8 Marks)
  - (ii) Explain **THREE** levels at which a process perspective can be used to analyse a business (6 Marks)

*Cost Control  
Revenue  
Investment  
Capacity*



c) Evaluate the usefulness of information technology in business process and reengineering

(2 Marks)