



# TECHNICAL UNIVERSITY OF MOMBASA

## INSTITUTE OF COMPUTING AND INFORMATICS

### DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

#### UNIVERSITY EXAMINATION FOR:

**BTIT/SEP 2012/J-FT Y4S2(S)**

**EIT 4418: WORKFLOW MANAGEMENT SYSTEMS**

**END OF SEMESTER EXAMINATION**

**SERIES:AUGUST2016**

**TIME:2 HOURS**

**DATE:**Pick DateSelect MonthPick Year

#### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

#### **Question ONE**

- a) Define the following terms:
- Process
  - Activity
  - Business Process (6 marks)
- b) Identify main challenges of workflow management. (4 marks)
- c) Describe the typical features associated with many Workflow Management Systems (4 marks)
- d) Distinguish between Organizational business processes and Operational business processes. (4 marks)
- e) *“When an insurance company receives a claim related to a policy, several activities must be performed in a logical sequence. First, the client submits the claim, then, the claim is evaluated in order to authorize its payment and finally the amount is disbursed.  
Note that the claim cannot be evaluated before it is submitted nor can the amount of the claim be disbursed before the claim is evaluated.”*  
Identify and draw the suitable basic control flow pattern for the above narration. (4 marks)
- f) Describe the roles of four stakeholders within the business process domain. (8 marks)

## Question TWO

a) “An employee requests a loan from the company. To grant the credit to the employee, it must be approved by the boss and by the financial area. When both of them approve the request, the money is disbursed to the employee”.

Identify and draw the suitable workflow modeling patterns for the above narration. (4 marks)

b) With the aid of a diagram explain the Workflow Reference Architecture. (8 marks)

c) Describe the following categories of workflow management systems, giving one advantage and disadvantage in each case.

i). Production Workflow Systems (4 marks)

ii). Messaging-based Workflow Systems (4 marks)

## Question THREE

a) Distinguish between single-application workflow and System Workflow (4 marks)

b) Describe the following activities carried out during the business process cycle:

i). Design and analysis

ii). Configuration

iii). Enactment

iv). Evaluation (8 marks)

c) With the aid of a diagram, briefly describe the following Advanced Branching and Synchronization Patterns:

i). Multiple Choice (4 marks)

ii). Synchronizing Merge (4 marks)

## Question FOUR

a) Identify the benefits of workflow management system. (4 marks)

b) Briefly describe the following terminologies

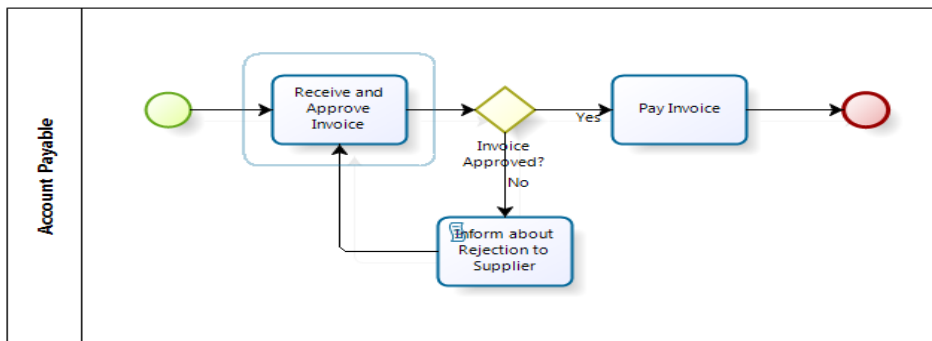
i). Business Process

ii). Instance (4 marks)

c) Briefly explain key goals of business process management. (4 marks)

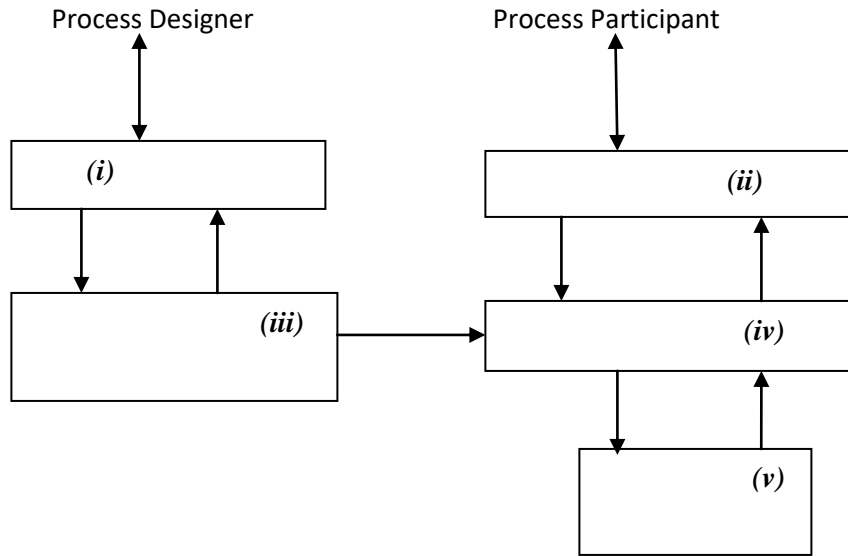
d) Distinguish between Multiple-application workflow and Human Interaction Workflows (4 marks)

e) Identify and explain the following workflow modeling structural pattern. (4 marks)



**Question FIVE**

- a) Define the term ‘workflow management system’ (2 marks)
- b) Describe the following trigger patterns:
  - i). Transient trigger (2 marks)
  - ii). Persistent trigger (2 marks)
- b) Identify and describe the labeled major components of Workflow Management System in the following diagram. (10 marks)



- c) *“The Accounting Department receives and pays invoices. The payment of an invoice can be made by a bank transfer, check or credit card. Only one payment method is used”.* Identify and draw the suitable basic control flow pattern for the above narration. (4 marks)