ΠΑΜΙΒΙΑ UΠΙVERSITY
OF SCIEΠCE AΠD TECHΠOLOGY

FACULTY OF COMPUTING AND INFORMATICS
DEPARTMENT OF INFORMATICS

QUALIFICATION: BACHELOR OF INFORMATICS	
QUALIFICATION CODE: 07BAIT	LEVEL: 6
COURSE CODE: PAI621S	COURSE: PRINCIPLES AND APPLICATION OF INFORMATICS
SESSION: NOVEMBER 2023	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 70

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S):	Dr Irja Shaanika
MODERATOR:	Ms Albertina Shilongo

INSTRUCTIONS FOR THE CANDIDATE
1. Answer ALL the questions on the answer scripts provided. Answer EACH section on a new page.
2. Write clearly and neatly.
3. Be guided by the number of marks allocated when answering the questions.
4. Show all your calculations.
5. Number your questions clearly.

PERMISSIBLE MATERIALS
1. Calculator.

THIS EXAMINATION PAPER CONSISTS OF 5 PAGES
(INCLUDING THIS FRONT PAGE)

Section A: True and False Questions   **[15 marks]**
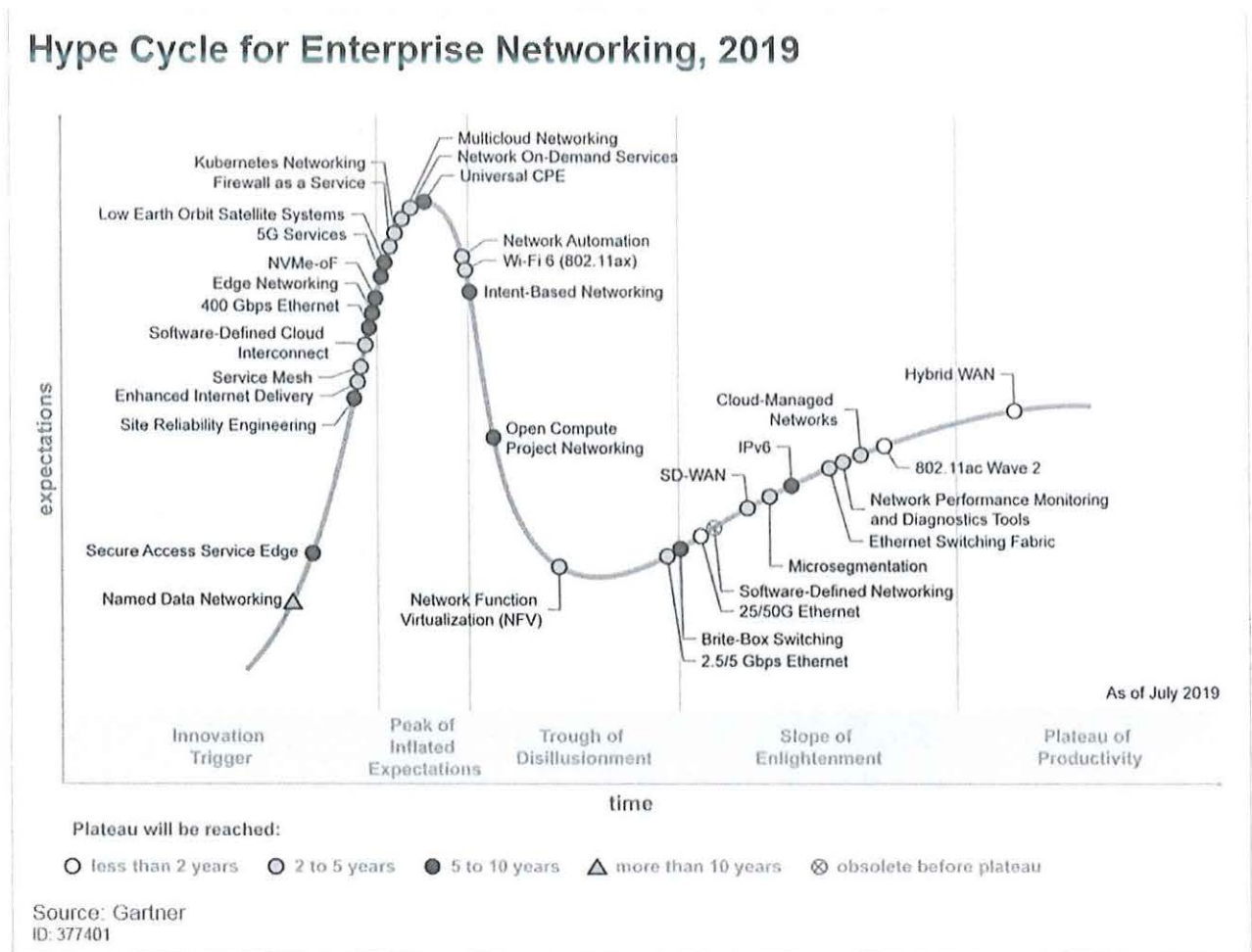
1. Lack of mass adoption means that the technology's commercial viability is unproven in the Innovation Trigger phase.   [1 mark]

2. In the first phase of the Gartner Hype Cycle which is the Innovation Trigger   - the technology is accessible only to limited entities such startup firms.   [1mark]

3. Unlike other innovations, IT innovations have this in particular: they all reach the plateau of the productivity phase.   [1mark]

4. Like the domain expert, the process analyst is familiar with all the details of the business process.   [1 mark]

5. Process identification is continuous by nature to enable organisation to maximise profit.
   [1 mark]

6. A business process architecture can have more than three levels.   [1 mark]

7. When two or more activities are not interdependent, they are concurrent.   [1 mark]

8. With XOR-split routes at least two outgoing branches can be taken.   [1 mark]

9. Joins have one incoming sequence flow and multiple outgoing sequence flows (representing the branches that diverge.   [1 mark]

10. Collapsing a sub-process implies losing its content.   [1 mark]

11. Automatic process discovery is part of the workshop-based discovery.   [1 mark]

12. Conducting interviews in a backward way permits us to follow the flow of processing in the order of how it unfolds.   [1 mark]

13. Steps that do not add value to the customers mean they are not necessary for the business.
    [1 mark]

14. Why –why diagram depicts the relationship between a given negative effect and its causes.
    [1 mark]

15. One of the reasons for re-designing an existing business process relates to the organic nature of the organisation.   [1 mark]

Analyse the Gartner Hype Cycle illustrated below and answer the following questions.

Hype Cycle for Enterprise Networking, 2019

Source: Gartner
ID: 377401

Question 1: Discuss the Gartner hype cycle timeline and its implications for technology investments. [5 marks]

Question 2: Discuss the characteristics of the technology at the Innovation Trigger phase.   [4 marks]

Question 3: Briefly explain why in the Trough of Disillusionment phase only a small percentage of the organisations are adopting the technology.   [4 marks]

Question 4: Distinguish between the roles of a process analyst and of a domain expert in the process modelling project: [5 marks]
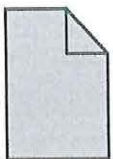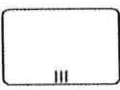
Question 5: Imagine carrying out a process discovery project in a political environment where groups of stakeholder's fear loss of power, loss of influence or loss of position, which discovery methods would you use to maintain maximum objectivity?   [3marks]

Question 6: The cycle time of an activity or a process can be divided into waiting time and processing time. Differentiate between waiting time and processing time.   [4marks]
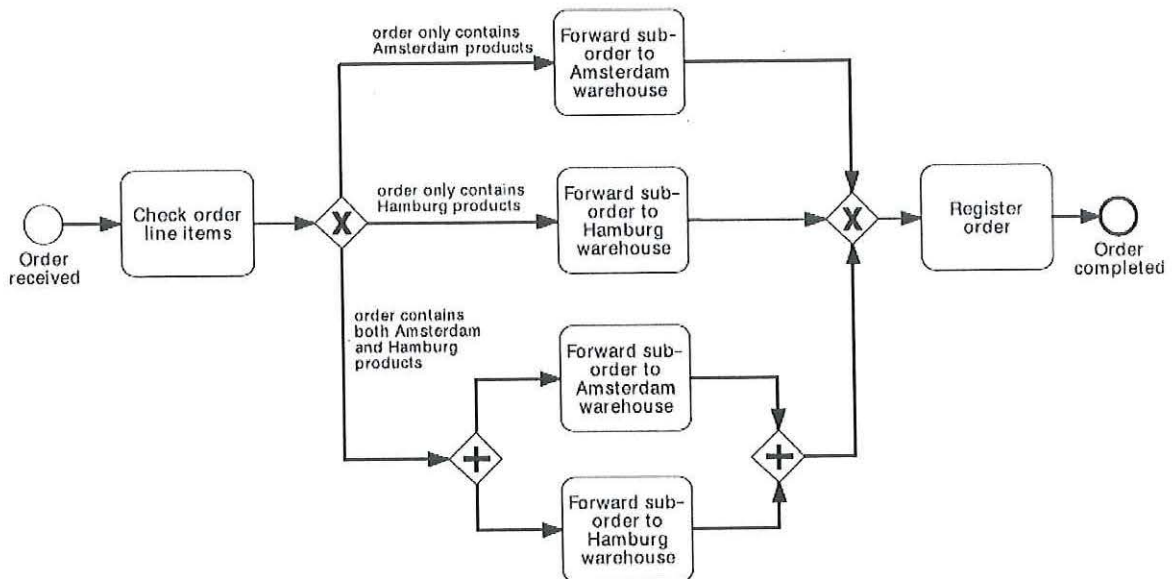
Section C: Practical Questions: [30 Marks]

Question 1: For each of the graphical notations shown below, state the name and its purpose in the business process modelling project.   [10 marks]

Graphical notation	Name of notation	purpose of the graphical notation
a) ◯- - - - - - - - - - ▶		
b) ——————▶		
c) · · · · · · · · · · · · · · ·		
d) [document symbol]		
e) [sub-process box with III]		

Question 2: Calculate cycle times for the following process model. Show all the necessary steps of how you arrived at the answer.   [10 marks]

Question 3: Transfer the following verbal description into a business process management notation (BPMN). [10 marks]

a) An offer is required to be made by the sales department of a specific company. At this point, the commercial manager has to perform a feasibility check based on the business requirements & needs to ensure that the offer is feasible.

b) If the offer is not feasible, the customer has to be informed and at this point, the process ends after informing him.

c) If the offer is feasible, the personnel needs & availability have to be checked. After clarifying the availability based on the business resources, the offer has to be created by the commercial employee and the process ends with creating the offer.

The End