



KENYATTA UNIVERSITY

EXAMINATION FOR DIPLOMA IN INFORMATION TECHNOLOGY

SIT 029: SYSTEMS ANALYSIS AND DESIGN

2ND SEMESTER 2023/2024

TIME: 2 HOURS

INSTRUCTIONS: Answer Question ONE and ANY OTHER TWO.

SECTION A

Question One (Compulsory)

- a) Explain three tools used for fact finding. (6 marks)
- b) Outline one strength and one weakness of each of the following system changeover methods.
 - i. Pilot
 - ii. Phased
 - iii. Direct
 - iv. Parallel(8 marks)
- c) Outline four results of using wrong requirements in system development. (4 marks)
- d) A bus company applies the following rules in deciding what fares will be charged to its passengers: passengers under the age of 16 and old age pensioners are charged half the full fare. All other passengers are charged full fare except for the bus pass holders who do not pay fare.

Represent this information in a flowchart. (8 marks)
- e) State any four information system stakeholders. (4 marks)

Question two

- a) Explain three major information System security requirements. (6 marks)
- b) Give four reasons why one would outsource software rather than in house development. (4 marks)
- c) Give four guidelines for conducting an interview. (4 marks)
- d) Describe the three normal forms in a database i.e. 1st normal form, 2nd normal form and 3rd normal form. (6 marks)

INVOLVEMENT IN ANY EXAMINATION IRREGULARITY SHALL LEAD TO DISCONTINUATION

Question three

- a) Identify four types of feasibility.

(4 marks)

- b) An analyst has recorded the following at an interview: orders are received directly from customers. The order details are checked to ensure that the product and payment type are valid values. Rejected orders are sent back to the customers. Accepted order details are stored on an order file. At the end of the day dispatch notes are raised for all orders received that day. A copy of the dispatch note is sent to the customers and a second copy is sent to the warehouse. The dispatch date is noted on the order file. At the end of the week, an invoice is raised and sent to the customer. The invoice date is noted on the order file.

Required:- Represent this information in a DFD.

(16 marks)

Question Four

- a) Explain three major tasks done during the implementation stage of an information system

(6 marks)

- b) Describe the following keys as used in database design.

(4 marks)

- (i) Candidate key
- (ii) Primary key
- (iii) Composite key
- (iv) Foreign key

- c) Discuss the features of a user friendly system.

(6 marks)

- d) Outline four features of a good interview question.

(4 marks)

Question Five

- (a) What do you understand by system maintenance? Explain four types of system maintenance.

(10 marks)

- (b) Explain two types of system requirements.

(6 marks)

- (c) Describe two types of interview questions.

(4 marks)