



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE**

**ENGINEERING**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF**

**BACHELOR SCIENCE IN COMPUTER SECURITY AND FORENSICS**

**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2024/2025 ACADEMIC YEAR**

**MAIN CAMPUS**

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**DATE:16/1/25**

**EXAM SESSION:9-11.00 AM**

**COURSE CODE: ICB 3205**

**VENUE:LAB 12**

**COURSE TITLE: SYSTEM ANALYSIS AND DESIGN**

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**INSTRUCTIONS:**

- 1. Answer Question 1 (Compulsory) and ANY other two questions**
  - 2. Candidates are advised not to write on the question paper**
  - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
  - 4. No mobile devices (e.g. laptops, phones. e.t.c.) are allowed into the Examination Room**
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**QUESTION ONE****[30 MARKS]**

- a) Differentiate between the following terms:
  - i) A system and Information system (2marks)
  - ii) System analysis and System design (2marks)
  - iii) Information and Data (2marks)
- b) State any FOUR ways of developing a system (4marks)
- c) Explain any FOUR challenges of using information systems (4marks)
- d) Using a diagram, explain the basic components of an organization information system. (4marks)
- e) Discuss different phases that a system designer has to go through during system development life cycle. (12marks)

**QUESTION TWO****[20 MARKS]**

- a) By using a diagram, explain FOUR types of information systems that serve different organization levels. (10marks)
- b) Explain any FIVE characteristics of *Executive Support Systems* as used in business information systems. (10marks)

**QUESTION THREE****[20 MARKS]**

- a) Describe the term *prototyping*. (2marks)
- b) Explain FOUR benefits of using prototyping during system development. (8marks)
- c) Discuss any FIVE computer security areas that involves protection of data against accidental or deliberate threats which might cause unauthorized modification or destruction of data and information. (10marks)

**QUESTION FOUR****[20 MARKS]**

- a) Discuss any FIVE major types of business information systems (10marks)
- b) Explain FIVE main differences between management information systems (MIS) and decision support systems (DSS). (10marks)

**QUESTION FIVE****[20 MARKS]**

- a) State and explain FOUR effective security management of e-business systems that can minimize errors, fraud and losses in internet-based systems that interconnects today's e-business enterprises. (8marks)
- b) Discuss SIX benefits of using information systems in various sectors across the world. (12marks)

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