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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATION, 2022/2023 ACADEMIC YEAR**  
**THIRD YEAR, FIRST SEMESTER EXAMINATION**  
**FOR THE BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER**  
**SCIENCE**  
**KCS 205 – SYSTEMS ANALYSIS AND DESIGN**

Date: 16<sup>th</sup> December, 2022  
Time: 11:30am – 1:30pm

**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (30 MARKS)**

- a) Explain different things that the system analyst needs to capture and document during system investigation and survey. (4 Marks)
- b) Distinguish between functional system requirement and technical system requirements; give examples in each of them. (6 Marks)
- c) State and explain the three most common methods of system investigation used during data collection to develop a system. (6 Marks)
- d) Explain the roles of the following system project team skills.
  - i) System administrator
  - ii) System designer(6 Marks)
- e) Briefly discuss different activities that a system developer has to undergo during system development life cycle. (8 Marks)

**QUESTION TWO (20 MARKS)**

- a) Explain factors to consider when designing an effective questionnaire during system planning. (5 Marks)
- b) Explain four advantages of using a Prototype methodology model of develop a system. (5 Marks)
- c) Explain reasons as to why conducting feasibility study is important when developing a system. (10Marks)

**QUESTION THREE (20 MARKS)**

- a) Explain different factors that the system developer involves during the system design phase. (10 Marks)
- b) By use of a well-drawn diagram to describe how waterfall model methodology of developing systems works. (10 Marks)

#### **QUESTION FOUR (20 MARKS)**

- a) Documentation in system planning and development is the umbrella term that encompasses all written documents and materials dealing with a system product's development and use. Discuss the objectives of this system documentation.  
(10 Marks)
- b) Identify and explain any five types of feasibility that should be carried out by a system developer.  
(10 Marks)

#### **QUESTION FIVE (20 MARKS)**

- a) Explain any four main differences between management information systems (MIS) and decision support systems (DSS).  
(4 Marks)
- b) Describe the four types of systems maintenance.  
(8 Marks)
- c) Discuss the four system implementation methods that can be used during implementation phase.  
(8 Marks)