



**KISII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**FOURTH YEAR EXAMINATION FOR THE AWARD OF THE  
DEGREE OF BACHELOR OF INFORMATION SCIENCE  
SECOND SEMESTER, 2023/2024  
(AUGUST-DECEMBER, 2023)**

**INS 405: ADVANCED INFORMATION RETRIEVAL**

**STREAM: Y4 S2**

**TIME: 2 HOURS**

**DAY:**

**DATE:**

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**INSTRUCTIONS**

- 1) Do not write anything on this question paper.**
- 2) Answer Question ONE [Compulsory] and any other TWO questions**

**Question 1.**

- i) Explain the functions of search engines in information retrieval (10 marks)
- ii) Explain how Page Ranking is achieved by search engines during information retrieval (10 marks)
- iii) Using a well-illustrated diagram, explain the interaction between the user and the information retrieval system (10 marks)

**Question 2.**

- a) Explain the vertical taxonomy of an information retrieval system (10 marks)
- b) Explain the query Representation in an information retrieval system (10 marks)

**Question 3.**

- a) Explain filtering as used in information retrieval system (10 marks)
- b) Discuss the performance measures of information retrieval systems (10 marks)

**Question 4.** Write brief notes on the following concepts:

- i) Boolean logic Operators (4 marks)
- ii) Structural Queries (5 marks)
- iii) The Thesauri (5 marks)
- iv) Fuzzy set (5 marks)
- v) Semantic Networks (5 marks)

**Question 5.**

- i) Explain what is meant by interactive retrieval (10 marks)
- ii) Explain the difference between mining and browsing (10 marks)