



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS  
UNIVERSITY EXAMINATION FOR THE DEGREE IN BACHELOR OF SCIENCE  
INFORMATION COMMUNICATION AND TECHNOLOGY  
4<sup>TH</sup> YEAR 2<sup>ND</sup> SEMESTER  
2024/2025 ACADEMIC YEAR  
MAIN CAMPUS**

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**COURSE CODE: ITB1406**

**COURSE TITLE: INFORMATION TECHNOLOGY & INNOVATION**

**VENUE: .....LAB 11.....STREAM.....**

**DATE: ..... 17/4/2025..... EXAM SESSION: .....15.00-17.00.....**

**TIME: 2.00 HOURS**

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**INSTRUCTIONS:**

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- 1) Answer QUESTION ONE (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) Mobile phones are NOT allowed in the examination room.**

**QUESTION ONE (COMPULSORY)****(30 MARKS)**

- a) Briefly describe the stages involved in the innovation development process (6 marks)
- b) Companies with strong investments in innovation tend to achieve better cash flows and earnings performances. Outline six ways innovation can add value to companies  
(6 Marks)
- c) Identify two major challenges faced by firms adopting Open Innovation and suggest strategies to overcome them. (6 Marks)
- d) What are the key characteristics of disruptive innovation? Provide an example of a company that successfully implemented a disruptive innovation. (6 Marks)
- e) State six barriers to Innovation in most organizations (6 Marks)

**QUESTION 2****(20 MARKS)**

- a) State four factors that influence an individual's decision to adopt or reject an innovation.  
(6 Marks)
- b) Explain Open Innovation Theory by Henry Chesbrough and describe how it differs from the traditional closed innovation model. (4 marks)
- c) Innovativeness is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a system. Briefly discuss five adopter categories with an appropriate illustration on the basis of innovativeness  
(10 marks)

**QUESTION 3****(20 MARKS)**

- a) Identify four benefits of Licencing Intellectual Property Rights (4 marks)
- b) Universities can often help small and big companies with R&D. Describe three ways of linking organizations to educational establishments (6 marks)
- c) Everett Rogers defines several intrinsic characteristics of innovation that influence an individual's decisions to adopt or reject an innovation. Explain five characteristics of an innovation affecting diffusion (10 marks)

**QUESTION 4****(20 MARKS)**

A technology firm aims to achieve long-term innovation success. Using the **RBV framework**, analyze how the firm's tangible and intangible resources can create a sustainable competitive advantage. (20 marks)

**QUESTION 5****(20 MARKS)**

Technologies such as IoT, AI, Blockchain, Cloud Computing, Cybersecurity, and 5G are increasingly converging. Discuss how the integration of these technologies is shaping digital transformation across industries. Use real-world examples to support your discussion. (20 marks)

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