

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

**FIRST YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN COMMUNITY
DEVELOPMENT**

**CDEV 315: TECHNOLOGY AND COMMUNITY
DEVELOPMENT**

STREAM: R

TIME: 2 HRS

DAY: TUESDAY [11.30 A.M-13.30 P.M] DATE: 27/01/2026

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

Vision: Nurture and Transform for the World

Mission: To Contribute to the World through Education, Research, Training, Consultancy, Innovation, Outreach and Collaboration

INSTRUCTIONS: Answer Question one (COMPULSORY) and any other two questions.

Question 1 (30 Marks)

- (a) Define the term Community Development **(2 Marks)**
- (b) List FOUR Core Principles of Community Development **(4 Marks)**
- (c) Explain THREE fundamental dimensions of technology. **(6 Marks)**
- (d) Differentiate between the Software/Knowledge and Orgware/Organizational of technology. **(4 Marks)**
- (e) Briefly explain the concept of Skill Biased Technical Change (SBTC). **(5 Marks)**
- (f) Distinguish between Functionality Awareness and Application Awareness in the context of information technology (IT) for community development. **(4 Marks)**
- (g) Briefly explain the concept of the Opportunity Cost of Delay as it relates to a community's decision to adopt a productivity-enhancing technology. **(5 Marks)**

Question 2: (20 Marks)

A government extension agency introduces a new, high-yield, drought-resistant seed variety (Innovation) to a rural farming community. The agency hosts initial awareness meetings (Knowledge stage) and distributes basic pamphlets. A handful of respected local farmers, who have access to diverse resources (Early Adopters), trial the seeds on a small scale and achieve significantly better yields. However, the majority of the community's farmers are still discussing the potential benefits and risks, remaining hesitant to commit to a trial.

- (a) Based on Rogers' Diffusion of Innovations (DOI) Theory: State FIVE critical role of the Early Adopters in this phase of diffusion **(5 Marks)**
- (b) Explain FIVE distinct Social Constraints that might be preventing the majority of farmers (e.g., the Late Majority) from moving forward in the adoption process, despite the visible success of the Early Adopters. **(10 Marks)**
- (c) If the agency wanted to move the hesitant farmers towards the Decision (Trial) stage list FIVE awareness strategies that would be the most effective **(5 Marks)**

Question 3: (20 Marks)

A well-funded international NGO installs a modern, fully equipped computer lab with 20 workstations and high-speed internet in a remote community center to improve local education and employment prospects. Six months later, a review finds that the usage rate is below 15%. Most residents can access the center physically, but a significant portion of the adult population reports feeling intimidated by the complex operating systems. Furthermore, the local municipal electricity supply is highly erratic, causing the system to be inaccessible for most of the day, forcing users to revert to old paper-based methods for critical tasks.

- (a) From this situation discuss THREE Dimensions of the Digital Divide that are most evident in this case. **(6 Marks)**
- (b) Explain three Human Capital/Skill Constraint and two Infrastructure Constraint that the community is likely facing. **(10 Marks)**
- (c) As a community developer list FOUR ways of addressing the digital divide from the case scenario **(4 Marks)**

Question 4: (20 Marks)

A small fishing village received a highly-automated, high-capacity, computerized water filtration unit (High Technology) from a foreign donor five years ago. The unit drastically reduced the time needed for water purification. Recently, the unit broke down and requires a proprietary part that must be flown in from the donor country, which is prohibitively expensive. The village leaders are now considering replacing it with a community-built, slow-sand filtration system that uses locally sourced materials and can be maintained by a locally trained water committee.

- (a) Using the THREE Dimensions of Technology, critically evaluate why the initial computerized water filtration unit failed to be a sustainable long-term solution. **(6 Marks)**
- (b) Explain FIVE reasons why the proposed solution is an Appropriate Technology **(10 Marks)**
- (c) Outline FOUR advantages of implementing an appropriate technology to a community **(4 Marks)**

Question 5: (20 Marks)

The introduction of a new mobile money platform (L.U.Tech) in a geographically isolated community has enabled local women entrepreneurs to receive direct, digital payments for their crafts and access small, secured loans instantly. This has significantly increased their financial independence and empowerment. However, some traditional male elders are complaining that this financial change is disrupting traditional family roles and power dynamics. Furthermore,

they express concern that younger family members are becoming socially alienated by constantly using their phones within the home, even during communal gatherings.

- (a) Discuss FIVE ways the mobile money platform acts as a Technology Enabler of Community Development. **(10 Marks)**
- (b) Analyze the social changes described in the case and discuss THREE Social and TWO Cultural Effects on the Family. **(10 Marks)**