INTERNATIONAL UNIVERSITY OF EAST AFRICA
'Learning to Succeed'

FACULTY OF SCIENCE AND TECHNOLOGY

END OF SEMESTER EXAMINATIONS - DECEMBER 2025

PROGRAMME: BSEM
YEAR/SEM: YEAR 3/SEMESTER 1
COURSE CODE: BSE3103
NAME: INDIGENOUS TECHNICAL KNOWLEDGE

DATE:
TIME:

INSTRUCTIONS TO CANDIDATES:

SECTION A

Attempt all questions in section A by circling the correct answer

Question 1:

1. During the preparation phase of PRA, training community members alongside institutional staff primarily serves to: (2marks)

A. Save costs on professional facilitation

B. Increase familiarity and trust between the PRA team and the community

C. Reduce the workload of the facilitators

D. Ensure strict adherence to PRA technical standards

Question 2:

2. What is the defining characteristic of "Gender" as a social construct? (2marks)

A. It includes biological differences between women and men.

B. It varies only between countries but not over time.

C. It encompasses socially constructed norms, behaviors, and roles.

D. It refers specifically to environmental impacts on women.

Question 3:

3. The practice of promoting "selective logging" and "controlled burning" as methods for maintaining ecological balance in forests is an example of Indigenous Knowledge contributing to which specific aspect of forestry? (2marks)

A. Forest Economics

B. Sustainable Forest Management

C. Silviculture

D. Forest Policy and Governance

Question 4:

4. The unethical commercial use of Indigenous medicinal or agricultural knowledge without community consent is best defined as:

(2marks)

A. Cultural diffusion

B. Bioprospecting

C. Biopiracy

D. Patent infringement

Question 5:

5. The principle of "Guild Planting" in permaculture is most closely aligned with which indigenous agricultural practice? (2marks)

a) Monoculture

b) Fallowing

c) Intercropping and companion planting

d) Controlled burning

Question 6:

6. In establishing the participatory rural appraisal team, inclusion of members from different socio-economic levels is essential mainly to: (2marks)

A. Satisfy gender balance requirements

B. Increase the number of data sources

C. Ensure diverse perspectives and community representation in analysis

D. Facilitate competition between community groups

Question 7:

7. Which of the following is a specific example of an indigenous water conservation technique used in arid regions of Africa, as mentioned in the case studies? (2marks)

a) Desalination plants

b) Centralized water treatment facilities

c) The construction of sand dams and rock catchments

d) Installing high-pressure sprinkler systems

Question 8:

8. Which of the following best differentiates mapping from transect walks in participatory

rural appraisal? (2marks)

A. Mapping gathers secondary data, while transect walks focus on literature reviews.
B. Mapping is a static representation of the area; transect walks involve dynamic field observation.
C. Both use direct observation, but mapping excludes spatial dimensions.
D. Transect walks are more suitable for literate communities only.

Question 9:

9. “Sui generis” systems are being developed primarily to: (2marks)
A. Create trade incentives for Indigenous communities
B. Harmonize intellectual property laws globally
C. Provide unique, culturally appropriate legal protection for traditional knowledge
D. Replace all forms of customary law

Question 10:

10. Gender mainstreaming in environmental conservation aims to achieve all of the following *except*: (2marks)

A. Challenging and transforming gender norms and stereotypes.

B. Integrating gender considerations only into the design of policies.

C. Ensuring equal opportunities, rights, and benefits for women and men.

D. Analyzing gender roles and power dynamics that affect access to resources.

Question 11:

11. When designing participatory rural appraisal activities, the “activity design” should be completed after: (2marks)
A. Preliminary visits and team training
B. Problem ranking and matrix scoring
C. Objective setting and team formation
D. Program formulation with donors

Question 12:

12. The history plot technique provides the most critical input for which aspect of participatory rural appraisal planning? (2marks)

A. Identifying current crop patterns

B. Understanding long-term socio-environmental changes

C. Mapping topographic features

D. Determining income distribution among households

Question 13:

13. In seasonal calendars, the primary advantage of understanding repetitive patterns is to: (2marks)

A. Identify annual rainfall averages

B. Predict social interactions and cultural events

C. Synchronize interventions with critical community activity periods

D. Support the classification of community members by wealth

Question 14:

14. The principle of permaculture that most directly aligns with the indigenous participatory rural appraisal practice of building terraces and ponds to capture rainwater for later use is: (2marks)

A. Observe and Interact

B. Obtain a Yield

C. Catch and Store Energy

D. Use and Care for the Earth

Question 15:

15. In global environmental policy, Indigenous participation in initiatives like REDD+ exemplifies: (2marks)

A. Intellectual property commercialization

B. Recognition of Indigenous peoples as environmental stewards and stakeholders

C. Replacement of traditional conservation with scientific management

D. Privatization of communal forests

Question 16:

16. In matrix ranking, if community perceptions differ widely among groups, the facilitator should: (2marks)

A. Average the scores mathematically

B. Re-run the ranking process excluding outliers

C. Facilitate negotiation and consensus building among diverse groups

D. Choose the most educated group’s ranking

Question 17:

17. The Venn diagram technique is fundamental because it: (2marks)

A. Quantifies income disparities in the village

B. Reveals institutional relationships and the strength of community linkages

C. Helps in classifying natural resources by ownership

D. Shows gender participation in household chores.

Question 18:

18. Which method of transmitting Indigenous Knowledge involves learning through direct involvement in traditional activities such as hunting, gathering, and farming? (2marks)

A. Oral Tradition

B. Apprenticeships

C. Observation and Participation

D. Storytelling and Legends

Question 19:

19. The follow-up phase in participatory rural appraisal implementation emphasizes: (2marks)

A. Terminating field activities after data collection

B. Returning to the field to support community-led program implementation

C. Conducting external evaluation by donors only

D. Training new facilitators for future participatory rural appraisals

Question 20:

20. What is one of the key challenges in integrating indigenous knowledge into development projects related to collective ownership and generational transmission? (2marks)

A. Language and communication barriers

B. Intellectual property rights and ownership

C. Cultural differences and misunderstandings

D. Lack of recognition and validation

SECTION B

Choose 3 questions from section B

Question 1:

1. Discuss the core principles of indigenous knowledge in natural resource management (20marks)

Question 2:

2. Discuss the key tools used in recording indigenous technical knowledge (20marks)

Question 3:

3. a) Explain the characteristics of indigenous technical knowledge (10marks)

b) Explain the characteristics of Western knowledge (10marks)

Question 4:

4. Explain the approaches used by indigenous people in disaster management (20marks)

Question 5:

5. Indigenous knowledge contributes to water conservation in various ways. Elucidate the statement. (20marks)

Question 6:

6. Discuss ways in which indigenous knowledge is significant to development (20marks)

Question 7:

7. The integration of Indigenous Knowledge is presented as crucial for effective climate change action**.** Discuss the specific contributions that indigenous knowledge can make to both climate change adaptation and mitigation. (20marks)

Question 8:

8. Critically evaluate the proposition that "development projects

cannot offer sustainable solutions to local problems without using indigenous knowledge" by discussing the multifaceted significance of Indigenous Knowledge for sustainable development, and analyzing the significant challenges that hinder its effective integration. (20marks)

Question 9:

9. Critically evaluate the challenges facing the fisheries sector. (20marks)

Question 10:

10. Explain the benefits and challenges of community-based conservation (20marks)

Question 11:

11. Critically evaluate the proposition that the integration of Indigenous Technical Knowledge and modern science is not merely beneficial but essential for addressing the multifaceted crisis in global fisheries. (20marks)

Question 12:

12. Indigenous organizations play a crucial role in decision-making processes for development, particularly in areas where indigenous communities are directly affected. Discuss the statement. (20marks)