



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14/15, Ahmadu Bello Way, Victoria Island, Lagos**

**SCHOOL OF SCIENCE AND TECHNOLOGY**  
**October, 2013 Examination**

**Course Code: ACP 303**

**Course Unit: 2**

**Course Title: Permanent Crops Production**

**Instruction: Answer 4 Questions (All questions carry equal marks)**

**Time Allowed: 2 HOURS**

1.
  - a. List and describe the major nursery activities in permanent crop production.
  - b. Mention 3 permanent crops in which nursery operations are necessary.
  - c. Why is hardening off necessary in the final transplanting of seedlings to the field?
  - d. Why is partial processing necessary in permanent crops produce harvesting?
2.
  - a. Discuss Cacao under the following headings:  
    - i. Family
    - ii. Genus
    - iii. Specie
    - iv. Varieties
    - v. Climatic requirements
    - vi. Method of propagation
    - vii. Uses
  - b. What are the qualities of first grade cocoa beans?
3.
  - a. Describe the agro-climatic and edaphic factors required in the cultivation of Coffee.
  - b. Describe nursery and field operations in coffee cultivation.
  - c. State 4 uses of coffee.
  - d. Mention four pests and diseases in coffee and how they can be controlled.
4.
  - a. Briefly discuss cola under the following headings:  
    - i. Botany
    - ii. Inflorescence
    - iii. Pollinators
    - iv. Propagation
  - b. List 5 nutritional components of the kola nut.
  - c. Identify two uses of kola nut
  - ii. Describe the different levels of kola trade in Africa.
5.
  - a. What is the botanical name for Oil Palm?
  - b. Discuss Oil Palm under the following headings:  
    - i. Light requirements
    - ii. Soil pH
    - iii. Dry season nursery
    - iv. Land preparation
  - c. Mention 3 parasitic diseases in Oil Palm and how they can be treated.

6.
  - a. What is the botanical name for Cashew?
  - b. Distinguish between banana and plantain.
  - c. Describe the field maintenance operations in banana plantation.
  - d. State five uses of bananas.