



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCES
SEPTEMBER 2020_1 EXAMINATION**

COURSE TITLE: PERMANENT CROP PRODUCTION

COURSE CODE: ACP303

TOTAL SCORE: 70 MARKS

TIME ALLOWED: 3 hours

INSTRUCTION: Answer compulsory question 1 (25marks) and any THREE questions (15 marks each)

QUESTION 1 COCOA

- a) Discuss Black pod and Swollen shoot diseases of cocoa, and outline their causal agents and mode of transmission.

Black pod (8 marks)

Cocoa Swollen Disease (9 marks)

- b) Describe the steps for establishing cocoa plantation. (8 marks)

Total marks Obtainable = 25 marks

QUESTION 2 COFFEE

- a) List any two common diseases of coffee, and outline their causal agents and Symptoms of transmission. (12 marks)

- b) Describe optimum environmental requirement for coffee production. (3 marks)

Total marks Obtainable = 15 marks

QUESTION 3 KOLA NUT

- a) List any two common diseases of Kola nut, and outline their causal agents and mode of transmission and symptoms. (5 marks)

- b) Describe the required climate and soil for choosing a site for Kola nut production (5 marks)

- c) Write a short descriptive note on the botany/morphology of Kola nut. (5 marks)

Total mark Obtainable = 15 marks

QUESTION 4 Oil Palm)

a) Write a short note on the field establishment (Soil, Climate and Field practices) of oil palm.

(10 marks)

b) List any four insect pests of oil palm and state damages they can do. (2 marks)

c) List Economic importance of oil palm. (3 marks)

Question 5

(a) Write a short note on field establishment (including soil & climate) of rubber.

b) List any five diseases of rubber.

C) State the advantages of vegetative propagation of rubber.

(15 marks)

Question 6

a)

i) Describe the methods of weeding in oil palm. (2 marks)

(ii) List the Quality indices of oil palm. (1 ½ marks)

(iii) List evidence of readiness for harvest in oil palm. (1 ½ marks)

b) Explain Sterilization in oil palm processing (5 marks)

c) List any 5 implements used in production and harvesting of permanent crops. (5 marks)