

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
SCHOOL OF AGRICULTURE AND AGRICULTURAL TECHNOLOGY
DEPARTMENT OF CROP SCIENCE AND TECHNOLOGY

2017/2018 RAIN SEMESTER EXAMINATIONS

COURSE TITLE: ROOTS AND TUBERS, FIBRE AND SUGAR CROPS

COURSE CODE: CST 502

TIME ALLOWED: 3 HOURS

INSTRUCTION: ANSWER FIVE (5) QUESTIONS WITH AT LEAST ONE FROM EACH SECTION

SECTION A

- ✓ 1. (a) Explain briefly the ecological adaptation of cocoyams in Nigeria.
(b) State the agronomic practices involved in cocoyam production in Nigeria
(c) Using a plant spacing of 50cm x 50cm for Tannia calculate the plant density required to plant up 300 hectares of land.
- 2(a) Using a well labelled diagram distinguish between Xanthosoma Spp and Colocasia Spp in terms of morphology and environmental requirements.
(b) Write short notes on the following: (i) cocoyam root knot nematode (ii) Cocoyam leaf hopper (iii) Leaf blight of cocoyams (iv) Soft rot of cocoyams

SECTION B

- ✓ 3. Classify edible yams and discuss briefly the origin and distribution of these yams
4. Discuss the production practices involved in sweet potato cultivation from land preparation to maturity of the crop.

SECTION C

5. Explain the following terminologies frequently utilized in cotton production and generally in agronomy:

- (i) First true leaf (ii) Retting in Jute/Fibre processing (iii) Subtending leaves (iv) First square (v) First flower (vi) Boll (vii) Vegetative branches (viii) Fruiting branches (ix) Retention (x) Tipping (xi) Shedding (xii) Vegetative growth rate (xiii) Cut-out or last effect (xiv) Nodes above whit flower (NAWF) (xv) Nodes above cracked boll (NACB)

- ✓ 6. (a) Briefly Describe cotton floral biology
(b) A Jute fibre merchant that owns a 50 hectare Jute plantation has invited you for an interview as an Agronomist to manage his farm. Can you briefly describe the recommendation you will give to him in:
(i) Fertilizer and manure application assuming his soil status is low, medium or high
(ii) Sowing method and seed rate (iii) Integrated weed management

SECTION D

7. Discuss the production of Kenaf under the following headings: (i) Ecology (ii) Land preparation (iii) Growth and development (iv) Fertilizer application (v) Harvesting and processing

- 8.(a) Describe the process of fibre extraction in Sisal
(b) Industrially, Sisal production is of great importance. Substantiate this assertion.

SECTION E

- 9.(a) Discuss the cultivation of Irish potatoes under the following headings: (i) Origin and Distribution (ii) Climate (iii) Soil (iv) Seed preparation
(b) Discuss the cause of bitterness in Carrots and how it can be prevented.
- 10.(a) Discuss the following cultural practices involved in the cultivation of Carrots:
(i) propagation/seed treatment (ii) Soil preparation (iii) Planting (iv) liming
(b) (i) Explain briefly the effect of moisture stress, irregular watering and importance of irrigation in the cultivation of Carrots. (ii) State the importance of raised beds in Irish potato cultivation (iii) State the good management practices that will ensure optimum fertilizer response in Carrot cultivation

SECTION F

- ✓ 11. Discuss the following operations highlighting their importance in Sugarcane production:
(i) Propping (ii) Detrashing (iii) Earthing up (iv) removal of water shoots
- ✓ 12.(a) Mention four (4) uses of sugar beet.
(b) List the botanical names and family of (i) Sugarcane (ii) Sugar beet
(c) Write short note on the processing of Sugar beet
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