

Khulna University

School: Life Science Discipline: Agrotechnology Program: Bachelor (Hons)

Year: 3rd Term: 1st Examination Year: 2025 Session: 2024-2025

081108 AT 3101: Production Technology of Field Crops

Full Marks: 60 Time: 03 Hours Credit: 03



- Full marks for each question are indicated in the right margin and all questions carry equal weight.
- Use separate sheet for each section.
- There are four questions in each section, answer any three from each.

Section A

- 1a. Define harvest index. Differentiate between actual yield and attainable yield. [L1,2; CLO1] 1+2
- b. 'Deviation in sowing time of field crops may lead to lower yield' - justify. [L5; CLO1] 2.5
- c. Clarify the terms: i) Vegetative lag phase; ii) Booting stage. [L4; CLO1] 2.5
- d. Explain fertilizer management in transplanted paddy field with a diagram. [L4; CLO3] 2
- 2a. If the land becomes flooded and unsuitable for growing rice seedlings, what will be your suggestions for the farmers to grow seedlings? [L2; CLO3] 2
- b. Distinguish between timely fixed rice varieties and periodically fixed rice varieties. [L4; CLO3] 2
- c. Name the rice growing seasons in Bangladesh. Which is the highest rice producing season? Justify your answer. [L1,5; CLO3] 3
- d. Briefly describe the vegetative stages of wheat plant. [L2; CLO3] 3
- 3a. Diagrammatically show the tillering pattern of rice. [L2; CLO3] 2
- b. Compare between the root system of sugarcane with a diagram. [L4; CLO3] 3
- c. List down the climatic requirements, seed rates, and yield of *Cheena*. [L1; CLO3] 2
- d. 'Climate plays an important role in the growth and yield of sugarcane' – justify. [L5; CLO3] 3
- 4a. Differentiate between the followings: i) Topping and Desuckering; ii) Tying and wrapping. [L4; CLO3] 3
- b. Analyze the maturity symptoms of sugarcane. [L4; CLO3] 2
- c. Briefly narrate the harvesting methods of tobacco. [L2; CLO3] 2
- d. What is curing of tobacco? Discuss the different types of curing. [L1,2; CLO3] 3

Section B

- 5a. Define field crops. Classify field crops based on the economic uses. [L1,3; CLO1] 3
- b. 'Proper tillage operation may alter soil health, crop growth, and productivity' - analyze critically. [L4; CLO2] 2.5
- c. When and why are additional nutrients supplied to the crops? How are the nutrients supplied to the crops? [L2; CLO3] 2.5
- d. If there is a scarcity of water, what will be your suggestions for retting of jute? [L4; CLO3] 2
- 6a. Put your thoughts about the end point determination of jute retting. [L2; CLO3] 3
- b. Mention the yield components of jute. Give the equations of jute yield calculation on a green weight, stripped weight, and dry weight basis. [L2; CLO3] 3
- c. How can farmers obtain both fiber and seed from the same jute plant? [L2; CLO3] 2
- d. Clarify the terms: i) gummy fibre; ii) specks. [L4; CLO3] 2

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| 7a. Differentiate between sympodial and monopodial branches of cotton. [L2; CLO3] | 1.5 |
| b. Point out the major constraints of cotton cultivation in Bangladesh. Suggest your opinions with clarification to alleviate these constraints. [L2,5; CLO3] | 3.5 |
| c. 'Green manuring may improve the soil's physical, chemical, and biological properties in favor of crop growth' - justify. [L5; CLO3] | 2.5 |
| d. Make a checklist of agronomic practices for crop quality improvement. [L2; CLO3] | 2.5 |
| 8a. What is IYP-2016? Write the aims of IYP-2016. [L2; CLO3] | 2.5 |
| b. 'Timely and effective weeding, thinning, and gap filling may intensify the crop yield' - analyze. [L4; CLO3] | 2.5 |
| c. How can the cropping intensity in the coastal region be improved? Suggest your thoughts considering the area-specific constraints. [L2,5; CLO3] | 3 |
| d. Characterize the term pegging of groundnut. [L2; CLO3] | 2 |