

MIZORAM PUBLIC SERVICE COMMISSION

GENERAL COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO THE POST OF JR. GRADE OF MIZORAM FOREST SERVICE (ASST. CONSERVATOR OF FORESTS) UNDER ENVIRONMENT, FOREST & CLIMATE CHANGE DEPARTMENT, GOVERNMENT OF MIZORAM, 2023

AGRONOMY

Time Allowed : 3 hours

Full Marks : 100

The figures in the margin indicate full marks for the questions.

Answer any 5 (five) questions taking not more than 3 (three) questions from each section.

SECTION - A

1. (a) Define Agriculture and Agronomy. Explain the scope of Agronomy and its relation with other disciplines of science. (2+2+2+4=10)
(b) Explain the role of Agronomist. Also write about the different types of farming followed in India. (4+6=10)
2. (a) What is crop weather forecasting? Write the importance, methods and types of crop weather forecasting. (2+8=10)
(b) Define Agro-climate zone. Enlist the different Agro-climate zones of India and write briefly about any two of these. (2+4+4=10)
3. (a) Explain the photoperiodic effect on crops. How is yield effected by stress conditions? (5+5=10)
(b) What do you mean by growth and development of crops? Discuss in brief the influence of hereditary and climatic factors on growth and development of crops. (2+2+6=10)
4. (a) What do you understand by soil fertility and productivity? Mention some measures to increase the fertilizer use efficiency under the climatic condition of N.E. India. (2+2+6=10)
(b) Write about the mineralization of nitrogenous compounds in soil. Explain the role of soil organisms on soil fertility. (2+2+6=10)

OR

- (c) Describe about the changes in soil properties due to submergence. Write in brief about the modification of biological Environment for crops. (5+5=10)
- (d) Define tillage. Write about the objectives and types of tillage. What are the influence of tillage on soil physical properties? (2+2+2+4=10)
5. (a) What do you meant by seed treatment? How does the time and depth of sowing influence the crop yield? Explain vegetative propagation with examples. (2+2+2+4=10)
(b) Discuss about modern concept of tillage. What are the importance of implements for present agriculture. (2+2+2+4=10)

OR

- (c) What do you mean by optimum plant population? Explain different planting pattern in agriculture. (2+8=10)

- (d) Describe in short: (5×2=10)
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| (i) Broadcast sowing | (ii) Drilling or line sowing |
| (iii) Dibbling | (iv) Transplanting |
| (v) Gap filling and resowing | |

SECTION - B

6. (a) Write the best time and method of application of manures and fertilizers in crop field and factors affecting their application. (4+6=10)
- (b) What do you mean by - Basal application and split application of fertilizers? Discuss the role of Biofertilizers in crop production. (2+2+6=10)
7. (a) Different types irrigation systems with their advantages and disadvantages. (10)
- (b) What do you mean by crop water requirement and water use efficiency? Give a brief discussion about the factors influencing water use efficiency. (4+6=10)
8. (a) What do you mean by erosion? Write about different types of erosion and give some measures to prevent or reduce each type of erosion. (1+4+5=10)
- (b) What is watershed? Briefly discuss about its classification and steps involved in implementation of watershed. (1+4+5=10)
9. (a) Enlist the distinguishing characteristics of the three different farmings under dryland agriculture. Discuss about importance of dryland farming in Indian Agriculture and the major constraints of this farming. (5+2+3=10)
- (b) Give a brief discussion on basic aims and different techniques of soil moisture conservation in dryland farming. (2+8=10)

OR

- (c) Discuss in details about mulching, its type and effect on soil properties. (10)
- (d) Mention about the fate of herbicides in soil. Discuss in details about adsorption of herbicide in soil and the factors affecting it. (3+7=10)
10. (a) Prepare a lucid note about harvesting, threshing and winnowing. Write about any five indices used to evaluate and assess intercropping system. (5+5=10)
- (b) State the principles of weed management and mention the different methods of weed management. Summarize the advantages and disadvantages of Integrated Farming System. (5+5=10)

OR

- (c) What are the difference between - modern and sustainable agriculture? What are the problems involved in modern agriculture and their management practices? (2+2+6=10)
- (d) What do you mean by Intercropping? Mention the advantages and disadvantages of intercropping in cropping system. (2+4+4=10)