

141044

COMBINED COMPETITIVE EXAMINATION (MAIN)
AGRICULTURE

Paper-I

Time : 3 Hours

Full Marks : 200

- Note :** (1) The figures in the right-hand margin indicate full marks for the questions.
(2) Attempt **five** questions in all
(3) Question No. 1 is compulsory.

1. Answer any **ten** of the following questions : 4×10=40
- (a) Why are biofertilizers considered as environment friendly?
 - (b) How are crops selected based on slope, water availability and soil reaction?
 - (c) What is brushening in rice?
 - (d) How is irrigation water applied to potato crop based on critical stages?
 - (e) How are riceland classified according to water regime?
 - (f) What are the Arnon's criteria of essentiality in plant nutrition?
 - (g) Differentiate between soil fertility and soil productivity.
 - (h) Mention some strategies to reduce the iron toxicity of transplanted rice.
 - (i) Give the common mechanism of biological nitrogen fixation.
 - (j) Why are entire requirement of phosphatic fertilizers applied as basal to most of the crops?
 - (k) Why is water use efficiency of drip irrigation higher than flood irrigation?
 - (l) What is the role of mulch in dryland agriculture?
2. Answer any **eight** of the following questions : 5×8=40
- (a) What do you mean by Evergreen Revolution? How can it be achieved?
 - (b) Differentiate between eluviation and illuviation.
 - (c) Why is weathering a constructive and a destructive process?

- (d) What are the advantages of transplanted cotton?
- (e) How does potassium help to overcome drought and salt stress?
- (f) Briefly describe the process of retting of jute.
- (g) How can wheat, barley and oat be differentiated based on ligule and auricle?
- (h) Mention the nitrogen and potassium deficiency symptoms in plant.
- (i) What is watershed management?
- (j) Briefly write down the nursery raising techniques of transplanted rice.
- (k) What are the losses caused by weed?
3. Answer any **five** of the following questions : 8×5=40
- (a) What is soil erosion? Enlist the adverse effects of soil erosion.
- (b) What is the planting material of sugarcane? Mention the important points to be considered for selection of planting materials of sugarcane.
- (c) What do you mean by social forestry? Describe the importance of social forestry in our country.
- (d) How can farm mechanization increase the crop production in Arunachal Pradesh?
- (e) Mention some extension strategies to convince the farmers about the ill effects of shifting cultivation.
- (f) Mention the important chemical and electrochemical changes of submerged soil of lowland rice.
4. Answer any **four** of the following questions : 10×4=40
- (a) What is SRI? Mention the features of SRI technique in rice. Describe the advantages of SRI technique elaborately.
- (b) What is soil formation? Describe the factors responsible for soil formation.
- (c) What is nitrogen use efficiency? How can nitrogen use efficiency be increased?
- (d) Briefly describe the agricultural marketing system of Arunachal Pradesh.
- (e) Describe different methods of weed control of crop and non-crop land.
5. Answer any **two** of the following questions : 20×2=40
- (a) What is sustainable agriculture? Describe the important management practices for sustainable agriculture.

- (b) Describe the package and practices of potato with reference to variety, planting time, spacing, nutrient management, method of planting, irrigation management and plant protection measures.
- (c) What is agroforestry? Describe different types of agroforestry system. How do these systems enhance ecological stability and production sustainability?
6. Answer any *four* of the following questions : 10×4=40
- (a) What is soil fertility? What is the role of organic matter in maintaining soil fertility?
- (b) What are the cultivated species of jute? Mention the differences between the two species.
- (c) How are wheat irrigated under limited and adequate availability of water?
- (d) What do you mean by cropping scheme? Describe the points to be considered for preparation of a cropping scheme.
- (e) Explain, in brief, the land and labour as important farm resources.
7. Answer any *two* of the following questions : 20×2=40
- (a) What is scheduling of irrigation? Describe elaborately different methods of scheduling irrigation.
- (b) What is drainage? Describe different methods of drainage. How are drainage spacing found out to drain out water from a waterlogged area?
- (c) What are the steps involved in the process of farm budgeting? Mention the advantages of farm budgeting.
8. Answer any *two* of the following questions : 20×2=40
- (a) What is mixed cropping? Give the principles of mixed cropping. Elucidate the advantages and disadvantages of mixed cropping.
- (b) What is soil erosion? Discuss different measures to control water erosion in hilly areas of Arunachal Pradesh.
- (c) How are agricultural markets classified according to seller and time? Briefly discuss the problems of agricultural marketing in Arunachal Pradesh.
9. Answer any *two* of the following questions : 20×2=40
- (a) What is crop rotation? What are the advantages of crop rotation? Mention the principles of crop rotation.
- (b) "Farming system is an important tool in scientific farm business." Explain how.
- (c) What are the principles of extension programme planning? Write the programme planning processes briefly.

10. Write explanatory notes on any **four** of the following :

10×4=40

- (a) Doubling farmers' income
- (b) Lab to land programme
- (c) Methods of evaluation of extension programme
- (d) Socio-economic survey
- (e) Krishi Vigyan Kendra
- (f) Role of agricultural extension