

ARUNACHAL PRADESH PUBLIC SERVICE COMMISSION

AGRICULTURAL SCIENCE – PAPER I

Time: 3 hours
Max. Marks: 100

NOTE: Question No. 1 is compulsory. Answer any five questions from the rest.

Q. 1 Write short notes on: (any five)

- | | |
|-------------------------------|-----------------------------|
| a. Relay Cropping | b. Photoperiodism |
| c. Integrated Weed Management | d. Inbreeding depression |
| e. Mixed farming | f. Buttoning of Cauliflower |
| g. Acid Soil | h. Self incompatibility |

5 x 5= 25

- Q. 2**
- What are the major constraints of food grain production in Arunachal Pradesh?
 - How the constraints could be overcome to increase the food production in Arunachal Pradesh.
 - Discuss briefly the problems and prospects of growing pulse crops in Arunachal Pradesh.

5+5+5=15

- Q. 3**
- What do you mean by the term 'multiple cropping?'
 - What is the significance of multiple cropping in present day agriculture?
 - State the impact of high yielding varieties of crops on multiple cropping.

3+6+6=15

- Q. 4**
- State the important characteristics of weed plants.
 - Mention the mechanisms of weed dissemination.
 - Explain crop-weed competition and herbicide selectivity.

5+4+6=15

- Q. 5** Write down the problems and prospects of horticulture development in Arunachal Pradesh in relation to soil, climate, marketing, transportation and processing with special reference to Apple or Pineapple.

15

- Q. 6**
- Briefly state the difference between Osmosis and Diffusion.
 - What do you understand by 'Passive absorption'? Draw a comparison between Active and Passive absorption. Discuss in brief the factors affecting water absorption in plants.

5 + 10= 15

- Q. 7**
- What are the classes of seeds in the commercial seed production of improved varieties?
 - Explain :
 - Polyploidy in Crop Improvement
 - Heterosis
 - Back cross method of plant breeding

6 + 9 = 15

- Q. 8**
- What are the causes of soil acidity?
 - What are the major problems of fertilizer management in acid soils?
 - Discuss the importance of integrated nutrient management in crop production.

5+5+5= 15