

ARUNACHAL PRADESH PUBLIC SERVICE COMMISSION

Subject: - AGRICULTURE SCIENCE - PAPER - I

Time: 3 (three) hours

Full Marks: 100

NOTE:- Question No.1 is compulsory. Answer any 5 (Five) from the rest.

- Q. 1 Write short notes on : (any five) (5 x 5 =25)
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| (a) Minimum tillage | (b) Rainfed cropping |
| (c) Biofertilizer | (d) Crop associated weeds |
| (e) Photoperiodism | (f) Land equivalent ratio |
| (g) Cole crops | (h) Cultivated species of <i>Citrus</i> |
- Q. 2 (a) Why are the production and productivity of crops of Arunachal Pradesh low ? (5+5+5=15)
(b) What measures will you suggest to increase the productivity of crops in Arunachal Pradesh ?
(c) 'Arunachal Pradesh is by default organic' - Explain.
- Q. 3 (a) What do you understand by sustainable Agriculture ? (3+5+7=15)
(b) Compare it with intensive agriculture
(c) Discuss in detail the management practices of sustainable agriculture.
- Q. 4 (a) Define evapotranspiration. (2+8+5=15)
(b) What are the factors affecting evapotranspiration?
(c) How is crop production affected by evapotranspiration ?
- Q. 5 (a) State the commercial cultivars of pineapple. (3+6+6 = 15)
(b) Write on the systems of planting of propagules of pineapple indicating the plant population per unit area.
(c) Discuss on the measures to combat non-uniform flowering in pineapple.
- Q. 6 (a) Define oxidative phosphorylation and photophosphorylation. (3+7+5=15)
(b) Distinguish between cyclic and non-cyclic electron transport process of photosynthesis.
(c) Outline the mechanism of opening and closing of stomata with reference to K⁺ ion transport mechanism.
- Q. 7 (a) Define mass selection. (2+5+8=15)
(b) Describe the procedure of mass selection in brief.
(c) Discuss the merits and demerits of mass selection.
- Q. 8 (a) Differentiate between the following (6+4+5=15)
(i) Fertilizer and Biofertilizers
(ii) Texture and Structure
(iii) Integrated Nutrient Management (INM) and Integrated Plant Nutrient Supply (IPNS)
(b) Comment on soil test based nutrient recommendations for crops and their adoption by farmers.
(c) How does soil acidity affect the crops ?