

ARUNACHAL PRADESH PUBLIC SERVICE COMMISSION

AGRICULTURE PAPER – I

Time: 3 (Three) hours

Full marks: 100

*(Group – A is compulsory. Attempt any FOUR questions from Group – B).*

GROUP – A

(This Group is COMPULSORY)

Q. 1. Attempt any 10 (ten)

10x2=20

- a. What do you mean by sustainable management of natural resources?
- b. How does acid rainfall affect agricultural production?
- c. Explain what is meant by "Cropping pattern" ?
- d. What are the merits of Mixed farming?
- e. Define soil fertility and soil health.
- f. What are the different types of nitrogenous fertilizers?
- g. Write a note on regulated market.
- h. Distinguish between fixed cost and variable cost.
- i. Distinguish between bulk density and particle density.
- j. What are the advantages of inter-cropping?
- k. What is farm layout? How it is helpful in Farm management?
- l. What do you mean by cropping intensity?

GROUP – B

(Answer any Four.)

Q.2. Answer any 8 (eight) of the following questions.

2.5x8=20

- a) Explain what do you mean by Market Integration.
- b) Distinguish between Grading and standardization.
- c) What is climate resilient agriculture?
- d) What do you understand by training in relevance to Extension workers?
- e) What are method demonstration and result demonstration? Explain.
- f) Write a short note on soil nitrogen loss through denitrification.
- g) What is monitoring?
- h) What do you mean by rehabilitation of degraded areas?
- i) Write a brief note on water harvesting and conservation.
- j) Write briefly the significance of Social forestry programme.

Q.3. Answer any 5 (five) of the following questions.

4x5=20

- a) Briefly discuss the different categories of adopter farmers?
- b) Distinguish between marketable and marketed surplus.
- c) What should be the desirable characteristics of a green manuring crop?
- d) What are the major pollutants that lead to global warming? Discuss.
- e) What are the adverse effects of acid soils on plant growth?

- f) Write a note on the importance of agro-silviculture system. How can it be integrated into a farming system?
- g) "Scientific drainage system is more important in the hilly tracts of the North-East than irrigation, especially during the monsoon". Give your views with justification.

**Q.4 Answer any 4 (four) of the following questions.**

**5x4=20**

- a) What is soil aeration? Discuss the types of aeration between atmosphere and soil.
- b) Discuss in brief the impact of high-yielding and short duration varieties on shifts in cropping pattern in Arunachal Pradesh.
- c) How do you classify natural resources based on renewability? Explain with suitable examples.
- d) What are the different types of Factor-Product Relationships? Explain in brief.
- e) "Sustainable agriculture implies, among other things, conservation of natural resources and ecology". Give your comments.

**Q.5 Answer any 2 (two) of the following questions.**

**10x2=20**

- a) Write a brief note on management practices followed in reclamation of saline and alkaline soils.
- b) Define Integrated Farming System (IFS). What are the major components of IFS? Discuss the advantages of IFS.
- c) How does pH affect nutrient availability and plant growth? Describe the concept and mechanism of ion exchange in soil.

**Q.6. Answer any 4 (four) of the following questions.**

**5x4 = 20**

- a) Write the factors responsible for soil erosion. Explain the agronomic measures followed to control it.
- b) Discuss the various mechanisms followed for cultural and biological control of weeds.
- c) What is private extension? Give the names of the agencies involved in this type of technology dissemination.
- d) State the processes involved in reproduction and dissemination of weed seeds. What practices will you suggest for preventing introduction and spread of weeds?
- e) Discuss about the package of practices of two major oilseeds crops grown in Arunachal Pradesh.

**Q.7. Explain the criteria for scheduling irrigations. Write about the ways and means of reducing run-off losses of irrigation waters.**

**20**

**Q.8. Discuss climatic parameters in relation to agro-ecosystem. What are major threats to agro-ecosystems?**

**20**

**Q.9. What is integrated nutrient management? Briefly discuss about the mineral and organic constituents of soils and their role in maintaining soil productivity.**

**20**

**Q.10. Write short notes on, any 4(Four)**

**5x4 = 20**

- a) Wind breaks
- b) AGMARK
- c) Rainfed agriculture
- d) Landslide controls
- e) Green house effect