



PUNJAB PUBLIC SERVICE COMMISSION

**COMBINED COMPETITIVE EXAMINATION
FOR RECRUITMENT TO THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE, ETC -2021
CASE NO. 3C2022**

SUBJECT: AGRICULTURE (PAPER-II)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE:

- All the parts (if any) of each Question must be attempted at one place instead of at different places.
- Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- Extra attempt of any question or any part of the question will not be considered.

NOTE:

Attempt FIVE Questions in All. Attempt in Urdu or English.

- Q.No.1:** Define Hybridization and describe its various types with examples; also describe the significance of hybridization in plant breeding? **(20 Marks)**
- Q.No.2:** Explain the soil fertility problems of Pakistan and how soil organic matter play the role of catalyst for improvement soil health? **(10+10=20 Marks)**
- Q.No.3:** What is integrated pest management? What factors are considered important for integrated pest management for assuring sustainable crop production and healthy environment? **(10+10=20 Marks)**
- Q.No.4:** What are crop and growth models? Discuss factor affecting the expression of crop growth models. Elaborate how crop model(s) help in mitigating the threat of Climate change in Pakistan? **(10+10=20 Marks)**
- Q.No.5:** Discuss the propagation methods for fruit and ornamental plants nurseries? Explain the management and marketing strategies for establishing economical viable nursery business? **(10+10=20 Marks)**
- Q.No.6:** Describe the role of molecular markers in marker assisted breeding for the improvement of crop plants? **(20 Marks)**
- Q.No.7:** Define Polyploidy and describe various types of polyploidy; describe its role in agriculture with examples for the evolution of various crop species? **(20 Marks)**
- Q.No.8:** **Write a short note on the followings:** **(4x5=20 Marks)**
- Mutation breeding
 - Agricultural pollution
 - Role of organic matter in agriculture
 - Role of tissue culture in agriculture