



**PUNJAB PUBLIC SERVICE COMMISSION**  
**COMBINED COMPETITIVE EXAMINATION**  
**FOR RECRUITMENT TO THE POSTS OF**  
**PROVINCIAL MANAGEMENT SERVICE, ETC -2022**  
**CASE NO. 2C2023**

**SUBJECT: AGRICULTURE (PAPER-I)**

**TIME ALLOWED: THREE HOURS**

**MAXIMUM MARKS: 100**

**NOTE:**

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. 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** Climate shocks have started to shake the agricultural system of Pakistan. How climatic factors affect physiological processes of crop plants and results in yield reduction?  
(20 Marks)
- Q.No.2** Suggest a lay out and work plan for evaluation of an extension program with suitable examples.  
(20 Marks)
- Q.No.3** What are the morphological features, behavior and habitats of major wild life species found in Pakistan?  
(20 Marks)
- Q.No.4** a. Lay down schematic diagram of Indus river system of Pakistan depicting rivers, dams, head works, and barrages along with irrigated and link canals.  
b. Suggest strategic and management roadmap for enhancing and sustaining natural water resource base in the country to ensure food security.  
(10+10=20 Marks)
- Q.No.5** Tillage may be described as the practice of modifying the state of the soil in order to provide conditions favorable to crop growth. What are the objectives of tillage and why attention must be paid to the depth, time, direction and intensity of tillage?  
(20 Marks)
- Q.No.6** Discuss the application of near-infrared spectroscopy as a process analytical technology for real-time product monitoring in dairy processing. Also explain its impact on the nutritional profile of processed food items.  
(20 Marks)
- Q.No.7** a. What are the key indicators of agriculture growth in Pakistan? What is the relative contribution of indicators of agriculture in the national economy?  
b. Discuss contemporary challenges for agricultural growth in Pakistan. Suggest measures to overcome such challenges.  
(10+10=20 Marks)
- Q.No.8** What is the role and advantages of IT and ICT in agriculture development? How different ICT tools are used in agriculture?  
(20 Marks)



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**SUBJECT: AGRICULTURE (PAPER-II)**

**TIME ALLOWED: THREE HOURS**

**MAXIMUM MARKS: 100**

**NOTE:**

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. 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** Describe Hardy Weinberg law along with its conditions of equilibrium? Justify with an Example. (20 Marks)
- Q.No.2** Rank different strategies of resistance breeding for the improvement of the crops? Elaborate reason of ranking and express your perspective. (20 Marks)
- Q.No.3** What is IPM? Describe the components of IPM for assuring sustainable crop production. (20 Marks)
- Q.No.4** Describe types of germplasm resources. Explain different methods for screening of crop germplasm for the sources of disease resistance? (20 Marks)
- Q.No.5** Define resistance, tolerance and susceptibility. Please give the details of the plant defence mechanisms against viral diseases. (20 Marks)
- Q.No.6** Define Somaclonal variation. Describe its various factors and causes? (20 Marks)
- Q.No.7** What is weathering? Give a brief overview of physical and chemical weathering. Describe the factors controlling weathering. (20 Marks)
- Q.No.8** Write shorts notes on the followings: (5X4=20 Marks)
- i. Soil survey
  - ii. Salt affected soil
  - iii. Waterlogged soil
  - iv. Soil fertility