



ROLL NO

**PUNJAB PUBLIC SERVICE COMMISSION**  
**COMBINED COMPETITIVE EXAMINATION**  
**FOR RECRUITMENT TO THE POSTS OF**  
**PROVINCIAL MANAGEMENT SERVICE, ETC -2023**  
**CASE NO. 1C2024**

**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** Pakistan is a predominately an arid to semi-arid country. What are different challenges and strategies for successful dryland crop production in Pakistan? **(20 Marks)**
- Q.No.2** What are basic concepts of evaluation in agriculture extension? Enlist major considerations of evaluation and how evaluation of different agricultural extension methods is applied? **(20 Marks)**
- Q.No.3** What is the impact of climate change on biodiversity and food security? What are the threats in biodiversity and how does conservation affect the variety of plant and animal life in a particular habitat? **(20 Marks)**
- Q.No.4** Ever-increasing population in the country is likely to exert pressure on natural resources for more food production in future. Elaborate latest water management interventions for improving water use efficiency in agricultural systems. **(20 Marks)**
- Q.No.5** **a)** Street-vended foods are the most sold food items in Pakistan yet they are source of several food-borne illness. Enlist food contamination mechanisms and suggest preventive measures and interventions to control food safety hazards.  
**b)** Draw a sketch of the hierarchy of regulations to prevent contaminants and natural toxicants. **(10+10=20 Marks)**
- Q.No.6** Modern era at scientific, economic and social level is driven by use of artificial-intelligence based information technology. Discuss the challenges and opportunities of IT usage in enhancing agricultural productivity and profitability in Pakistan. **(20 Marks)**
- Q.No.7** How WTO regime can be helpful in protecting the economies of developing countries? Discuss the implications of WTO protocols on agricultural trade with special reference to Pakistan's agriculture sector. **(20 Marks)**
- Q.No.8** Agroforestry practices normally help to conserve, and even improve, the soil. What are different steps and components in the decision-making process in getting started with successful agroforestry systems? **(20 Marks)**



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**CASE NO. 1C2024**

**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 the chemical composition of hereditary material in cell and explain three main differences in DNA and RNA. **(20 Marks)**
- Q.No.2** Define biotechnology and agro-biotechnology. Write in detail the scope of biotechnology for crop improvement. **(20 Marks)**
- Q.No.3** What is cottage industry? Can cottage industries boost the economic conditions of a common man? Write a brief note on apiculture, sericulture and lac culture. **(20 Marks)**
- Q.No.4** What are plant viruses, modes of transmission and describe different strategies to control the plant viruses? **(20 Marks)**
- Q.No.5** Write short notes on the followings: **(4x5=20 Marks)**  
(i) Micropropagation  
(ii) Anther culture  
(iii) Somatic hybridization  
(iv) Protoplast culture
- Q.No.6** Describe physical, chemical and biological properties of soil? **(20 Marks)**
- Q.No.7** Write short notes on the followings: **(4x5=20 Marks)**  
(i) Agri-biotechnology in 21<sup>st</sup> century  
(ii) Hybridization techniques and procedures  
(iii) Gene cloning in plant breeding  
(iv) Role of oilseed crops in agriculture
- Q.No.8** Explain the physiological requirements and problem for successful cultivation of mushrooms. Describe the nutritional value of mushrooms and explain the remedial measures for controlling mushroom poisoning. **(20 Marks)**