



## **PUNJAB PUBLIC SERVICE COMMISSION**

### **COMBINED COMPETITIVE EXAMINATION FOR RECRUITMENT TO THE POSTS OF PROVINCIAL MANAGEMENT SERVICE -2020**

**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.

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

- Q.No.1:** What are the types of waterlogged soils? Give different factors responsible for their formation and also suggest appropriate strategies for their control. **(20 Marks)**
- Q.No.2:** Describe the general symptoms of bacterial and viral plant diseases; also give the principles of their control in detail. **(20 Marks)**
- Q.No.3:** Define soil organic matter; give its sources, composition and decomposition mechanism in soils. Describe in detail the roles of organic matter for improving soil productivity on sustained basis. **(20 Marks)**
- Q.No.4:** What is integrated nutrient management (INM)? What factors are considered important for integrated nutrient management for assuring sustainable crop production? **(20 Marks)**
- Q.No.5:** Canola is an important oil seed crop with low erucic acid and glucocinolate. What are the factors affecting quality of this crop. **(20 Marks)**
- Q.No.6:** What are the techniques of tissue culture to overcome the obstacles of conventional breeding for the improvement of crops? **(20 Marks)**
- Q.No.7:** What are the major management problems of important fruit crops in Pakistan? What propagation methods we can use for improving their fruit quality? **(20 Marks)**
- Q.No.8: Write short notes on the followings: (4x5=20 Marks)**
- i) Breeding methods for self, cross and asexually propagated crops
  - ii) Control of soil erosion
  - iii) Salt affected soils
  - iv) Major insect pests of sugarcane