FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2020
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll Number

BOTANY

TIME ALLOWED: THREE HOURS	**PART-I (MCQS) MAXIMUM MARKS = 20**
PART-I(MCQS): MAXIMUM 30 MINUTES	**PART-II MAXIMUM MARKS = 80**

NOTE: (i) **Part-II** is to be attempted on the separate **Answer Book.**

(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the question will not be considered.

PART-II

Q. No. 2. Discuss the life cycle of late blight of potato. Discuss its epidemics, disease forecast and control. **(20)**

Q. No. 3. Write a note on sporophyte of *Pinus*. Compare reproductive characteristics of *Pinus* with *Selaginella*. **(20)**

Q. No. 4. Write down the discovery, chemical structure, and role of gibberellins in regulating various physiological processes in plants. **(20)**

Q. No. 5. Describe nitrogen cycles between the abiotic environment and organisms. Briefly describe how human activities have changed global nitrogen budget. **(20)**

Q. No. 6. How Morgan and his students demonstrated that gene was linked in fruit flies? How linkage is related to some events in meiosis? **(20)**

Q. No. 7. Differentiate between plasmid and vector. Briefly explain bacteriophage lambda (λ) vector. Describe its working and selection process. **(20)**

Q. No. 8. Write down a comprehensive notes on any **TWO** of the followings: **(10 each)** **(20)**

(a) The four components of taxonomy.

(b) Distribution of gymnosperms in Pakistan.

(c) Differences in vascular system of stem of monocot and dicot plants.

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