

**JL – 6/14**

**Botany**

**Paper – II**

*Time : 3 hours*

*Full Marks : 200*

*The figures in the right-hand margin indicate marks.*

*Answer any **five** questions.*

1. Describe briefly the general characteristic and multiplication of Viruses. 40
2. Describe, in detail, the structure and organization of an Eubacterial cell. 40
3. What is a Genome ? Discuss how does the complexity of bacterial genes differ from that of the eukaryotic genome. 40
4. Describe, in detail, the regulation of gene action in prokaryotes with special reference to lac operon. 40
5. Describe, in detail, the mechanism of transpiration and its advantages and disadvantages. 40

ZK – 6/1

( Turn over )

6. Give a comprehensive account of the following :

10×4 = 40

- (a) Mutation and polyploidy in crop improvement
- (b) RNA polymerase and transcription
- (c) Mineral nutrition
- (d) Role of enzymes

7. Give a brief account of the following : 10×4 = 40

- (a) Photorespiration
- (b) Genetic code and protein synthesis
- (c) Phage count and phage growth
- (d) Sterilization technique

8. Discuss, in detail, the following : 10×4 = 40

- (a) Water relationship of plant cells
- (b) Somatic hybridization
- (c) Photoperiodism
- (d) Archaea-General features

