

Roll No. ....

Total Pages : 02

**GSE/D-21**

**798**

BOTANY

Paper II

Cell Biology

Time : Three Hours]

[Maximum Marks : 40

**Note :** Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. **1** is compulsory and short answer type. All questions carry equal marks. Draw neat and well labelled diagrams where they are necessary.

### **Compulsory Question**

1. (i) What do you understand by Inversion ?
- (ii) What are air vacuoles ?
- (iii) What is glycocalyx ?
- (iv) What are suicidal bags ?
- (v) Define hemicellulose.
- (vi) Define the term  $G_0$  phase.
- (vii) What is NOR ?
- (viii) What is autolysis ?

**1×8=8**

### Unit I

2. (a) "Nucleus is controlling centre of cell." Discuss the statement.  
(b) Write an explanatory note on the structure of ER. Discuss its types and functions. **4,4**
3. Write short notes on the following :  
(a) Grana (b) Vacuoles  
(c) Cristae. **3,3,2**
4. Write notes on the following :  
(a) Peroxisomes (b) Chloroplast. **4,4**
5. Discuss the ultrastructure of Golgi complex. **8**

### Unit II

6. Define Mitosis. Give its detailed account with its significance. How does it differ from meiosis ? **8**
7. Explain the following :  
(a) Sex determination in plants  
(b) Homologous chromosomes. **4,4**
8. Write short notes on the following :  
(a) Karyotype (b) Allopolyploidy  
(c) Centromere. **3,3,2**
9. What is chromosomal aberration ? Discuss the structural aberrations in chromosome. **8**