

M.Sc. Semester—I (CBCS Scheme) Examination
BOTANY
(Cell Biology, Cytology and Genetics)
Paper-I

Time : Three Hours]

[Maximum Marks : 80

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Illustrate your answers with suitable examples and diagrams.

1. Describe :
 - (a) Structure organisation of cell wall 5
 - (b) Importance of plasma membrane 5
 - (c) Applications of flow cytometry. 6

OR

 - (d) Lysosomal acid hydrolases 5
 - (e) Role of rough ER 5
 - (f) Principle of phase contrast microscopy. 6
2. Explain the role of cyclins and cyclin dependent kinase in regulation of cell cycle. 16

OR

 - (g) Protein targetting to any organelle 8
 - (h) Neurotransmitter signalling. 8
3. Explain :
 - (i) B-chromosome 5
 - (j) Organization of centromeres 5
 - (k) Heterochromatin. 6

OR

 - (l) DNA packaging 5
 - (m) Polytene Chromosome 5
 - (n) Banding techniques. 6
4. Describe :
 - (o) Mitochondrial Genome 5
 - (p) Paint mutations 5
 - (q) Tumor suppressor gene. 6

OR

 - (r) Molecular mechanism of mutation 5
 - (s) IS elements 5
 - (t) V-oncogene. 6
5. Describe genetic code, its nature and properties. Add note on its significance. 16

OR

 - (u) Hup genes 8
 - (v) Regulation of Lac Operon. 8

