

2024
M.Sc.
Second Semester
CORE – 08
BOTANY
Course Code: MBOC 2.41
(Cell & Molecular Biology)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Provide a detailed account on the architecture, assembly, growth, and expansion of cell wall. 14
2. Write notes on the following: 7×2=14
 - (a) Plasmodesmata
 - (b) Endoplasmic reticulum

UNIT-II

3. Discuss on the ultra-structure, function, and biogenesis of chloroplast. 14
4. Write notes on the following: 7×2=14
 - (a) Ribosomal make up in prokaryotes and eukaryotes
 - (b) Organization and function of microtubules

UNIT-III

5. Prepare and label the genetic code table. Discuss on its properties. 7+7=14
6. Write notes on the following: 7×2=14
 - (a) Topoisomerases
 - (b) End replication of eukaryotic lagging strand

UNIT-IV

7. Citing an example for each, discuss on inducible and repressible gene expression in prokaryotes. 7+7=14
8. Write notes on the following: 7×2=14
- (a) mRNA modification
 - (b) Translational elongation in prokaryotes

UNIT-V

9. Discuss on the molecular basis of mutation. 14
10. Write notes on the following: 7×2=14
- (a) Missense codons
 - (b) Frameshift mutation
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