

**PD-545**  
**M.Sc. Biotechnology**  
**1st Semester Examination, Dec 2020**  
**Paper-II**  
**Cell Biology**

Time: Three Hours]

[Maximum Marks: 80  
[Minimum Pass Marks: 29

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Note: Answer from **both** the sections as directed. The figures in the right-hand margin indicate marks

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**Section-A**

1. **Answer the following questions:** 1X10
- (a) What is the cell shape of *E.coli*?
  - (b) What are Desmosomes?
  - (c) What is Histone?
  - (d) What is Metaphase?
  - (e) What is a receptor?
  - (f) What is osmosis?
  - (g) What is super-coiling of DNA?
  - (h) What is gametogenesis?
  - (i) Write any one function of RNA?
  - (j) Define Apoptosis.
2. **Answer the following questions:** 2X5
- (a) Write a note on Cytoskeleton.
  - (b) Write about biology of cancer.
  - (c) Write about isolation of cells.
  - (d) Write a note on development in *Drosophila*.
  - (e) Write a note on abnormalities in Meiosis.

**Section - B**  
**Unit-I**

3. **Answer the following questions:** 15X4
- Write an essay on Cellular organelles.
- OR
- Explain in detail on Cell junctions.

**Unit-II**

4. Write about Chromatin concept in detail with neat diagram.
- OR
- Explain in detail on Cell cycle.

**Unit-III**

5. Write an essay on Cell motility.
- OR
- Write about cellular responses to environmental signals in plants and animals.

**Unit-IV**

6. Write an essay on replication of DNA.
- OR
- Write about spatial and temporal regulation of gene expression.
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