

Seat No. : _____

ZE-118

May-2014

B.Sc., Sem.-II

BTI-103 : Biotechnology

(Biology of the Cell)

Time : 3 Hours]

[Max. Marks : 70

1. Answer any **two** : **14**
- (a) Compare the characteristics of prokaryotic and eukaryotic cells.
 - (b) Draw the well-labelled diagrams of an animal cell and plant cell.
 - (c) “Lysozymes are called the garbage disposal system of the cell”- Explain.
 - (d) Enlist the cell organelles and describe any one of them in detail.
2. Answer any **two** : **14**
- (a) Write down a note on Electron transport chain.
 - (b) Describe the process of photosynthesis in detail.
 - (c) Explain nutrient uptake by passive transport mechanism.
 - (d) Define Enzyme and explain its properties.
3. Answer any **two** : **14**
- (a) Describe the differences between mitosis and meiosis.
 - (b) Describe the different checkpoints which control the cell cycle.
 - (c) Write a note on ‘Cell cycle’.
 - (d) Discuss programmed cell death in detail.
4. Answer any **two** : **14**
- (a) Describe ‘central dogma of Life’ with diagram.
 - (b) Explain operon model using an appropriate example.
 - (c) Enlist the types of Cell junction and describe any one in detail.
 - (d) Discuss the initiation and elongation of transcription process.

5. Define the following terms :

14

- (1) Chloroplast
 - (2) Fungi
 - (3) Cytosol
 - (4) Anabolism
 - (5) Respiration
 - (6) Active transport
 - (7) Allosteric control
 - (8) Go Phase
 - (9) Mitosis
 - (10) Tumour
 - (11) Apoptosis
 - (12) Translation
 - (13) Plasmodesmata
 - (14) Gene
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