

Seat No. : _____

14F-107

May-2015

B.Sc., Sem.-II

Core Course-3 : Environmental Science

Time : 3 Hours]

[Max. Marks : 70

1. Answer any **two** of the following : **14**
 - (a) Explain the ultrastructure of the cell.
 - (b) Discuss the cytosol and cytoskeleton structures in a cell.
 - (c) Describe the powerhouse of the cell.
 - (d) Write a note on the organelle, considered as the distribution and shipping department for the cell's chemical products.

2. Answer any **two** of the following : **14**
 - (a) Describe ATP generation during glycolysis.
 - (b) Describe physico-chemical properties of enzymes.
 - (c) Explain anabolism giving an example.
 - (d) Describe facilitated diffusion for nutrient uptake by the cell.

3. Answer any **two** of the following : **14**
 - (a) Define cell cycle and briefly explain the stages of cell cycle.
 - (b) Compare and contrast between mitosis and meiosis.
 - (c) Discuss cell apoptosis and give its significance.
 - (d) Describe cell ageing in detail.

4. Answer any **two** of the following : **14**
 - (a) Discuss the operon model with example.
 - (b) Describe the translation in prokaryotes.
 - (c) Explain the concept of gene in brief.
 - (d) Write a note on cell signaling.

5. Answer in brief :

14

- (1) Give the function of cilia.
 - (2) Draw labelled diagram of cell cycle.
 - (3) Define M phase.
 - (4) What is Necrosis ?
 - (5) Define Respiration.
 - (6) What are Thylakoids ?
 - (7) Define Antiport.
 - (8) "Enzymes are known as Biocatalysts". Comment.
 - (9) Enlist the types of cell junction.
 - (10) List the intermediates of TCA cycle.
 - (11) What are stop codons ?
 - (12) Give the full form :
 - (a) PCD
 - (b) RER
 - (13) Enlist the co-enzymes involved in ETC.
 - (14) In which phase, each chromosome replicates to two sister chromatids ?
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