

Seat No. : _____

AK-106

April -2018

B.Sc., Sem.-II

CC-3, Paper-103 : Environmental Science

(Cell : The Unit of Life)

Time : 3 Hours]

[Max. Marks : 70

1. Answer any **two** of the following :

14

- (1) Describe Chemical composition of Cell-membrane.
- (2) Discuss structural organization of cellular organelles.
- (3) Summarize differences in chemical constituents of Prokaryotic and Archeobacterial cells.
- (4) Explain ultrastructure of Flagella with diagram.

2. Answer any **two** of the following :

14

- (1) Explain organization of Electron Transport Chain and its working.
- (2) Write note on utilization of types of Carbons sources by living being.
- (3) List mode of passage of nutrients across the cell membrane and explain any one in detail.
- (4) Discuss chemical and physical properties of Enzymes.

3. Answer any **two** of the following :

14

- (1) Explain step-wise process of cell division by mitosis.
- (2) Define Meiosis. Give its significance and examples of cells undergoing meiotic division.
- (3) Explain why and how normal cell growth pattern changes to tumour formation.
- (4) Write a detailed note on Cell cycle.

4. Answer any **two** of the following :

14

- (1) Explain the Central-dogma of life with suitable diagram.
- (2) Describe process of Transcription with neat diagram.
- (3) How synthesis of specific enzyme is regulated in the cell ?
- (4) Explain process of signalling and communication in the cell.

5. Answer the following :

14

- (1) How Golgi bodies are formed ?
 - (2) Write function of Peroxysome.
 - (3) List chemical constituents of Ribosomes.
 - (4) List any three life forms having Eukaryotic cell structure.
 - (5) Identify feature of Photoautotroph types of organisms.
 - (6) List two anabolic types of biochemical reactions.
 - (7) Differentiate between Oxidation and Reduction.
 - (8) Name the site where effector molecule binds to bring conformational changes in enzyme.
 - (9) Define Senescence.
 - (10) Define Apoptosis.
 - (11) Who proposed Operon model ?
 - (12) Define Gene.
 - (13) List three steps of Translation process.
 - (14) Name the two nucleic acids on which Codon and Anti-codons are located.
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