

Seat No. : _____

15G-104

May-2015

B.Sc., Sem.-II

**Core Course 3 : Biotechnology, Paper-103
(Biology of the Cell)**

Time : 3 Hours]

[Max. Marks : 70

1. Answer any **two** of the following : **14**
 - (A) Describe the powerhouse of the cell.
 - (B) Explain Endoplasmic reticulum & enlist its function.
 - (C) Discuss the fluid mosaic model of membrane.
 - (D) Write a note on the organelle responsible for photosynthesis in a cell.

 2. Answer any **two** of the following : **14**
 - (A) Discuss the electron transport chain.
 - (B) Explain the mechanism of enzyme catalysis.
 - (C) What is catabolism ? Explain an ATP account for Glycolysis.
 - (D) Describe active transport with example.

 3. Answer any **two** of the following : **14**
 - (A) Enlist the difference between meiosis and mitosis.
 - (B) Discuss the use and significance of each type of cell division.
 - (C) Define apoptosis and give its importance.
 - (D) Write a note on Growth and Tumor.

 4. Answer any **two** of the following : **14**
 - (A) Discuss the central dogma of life with diagram.
 - (B) Describe steps of transcription in prokaryotes.
 - (C) Explain Cell junction and its types.
 - (D) Describe operon model with example.

 5. Answer in brief : **14**
 - (1) Give the function of flagella.
 - (2) Give the nature of cytosol.
 - (3) Define passive transport mechanism.
 - (4) Enlist the co-enzymes involved in ETC.
 - (5) What are Allosteric enzymes ?
 - (6) Name any two fungi.
 - (7) Define Symport.
 - (8) Define Fermentation.
 - (9) Name the structure formed as a network of protein cables during cell division.
 - (10) Enlist the structural genes within *Lac* operon.
 - (11) Differentiate between apoptosis and necrosis.
 - (12) What are neurotransmitters ?
 - (13) Who discovered the cell ?
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