



HDR-003-001110

Seat No. _____

B. Sc. (Sem. I) (CBCS) Examination

November / December – 2017

BT-101 : Introduction to Biotechnology & Cell Biology
(Old Course)

Faculty Code : 003

Subject Code : 001110

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :**
- (1) All Questions are Compulsory.
 - (2) Figures to the right indicates marks.
 - (3) Draw the figure wherever necessary.
 - (4) Write answers of all questions in main answer sheet.

- 1 All questions compulsory : (1 mark each) **20**
- (1) Write examples of vectors.
 - (2) Who discovered Structure of DNA?
 - (3) Write any two Biotechnology based product.
 - (4) Who postulated cell theory?
 - (5) 1 micron = _____ meter
 - (6) _____ stains the gram negative cell wall.
 - (7) Peptidoglycan content is _____ than lipid in gram positive organism.
 - (8) TEM and SEM stand for _____ and _____
 - (9) Plasma membrane is made up of which biomolecules?
 - (10) Suicidal bags of cell are _____
 - (11) Power house of cell is _____
 - (12) Which enzymes are present in peroxisomes?
 - (13) At the end of meiosis _____ number of daughter cells are produced.
 - (14) Linker protein in nucleosome is _____

- (15) State phases of cell cycle.
- (16) Crossing over occurs in which stage of cell division?
- (17) Enlist locomotors organelles of a cell.
- (18) In an adult human being stem cells are found in which part of body?
- (19) Lymphoma is the cancer of _____
- (20) Flagella is made up of _____ protein.

- 2** (a) Answer any **3** : (2 marks each) **6**
- (1) Define biotechnology
 - (2) What is cell?
 - (3) What is thylakoid?
 - (4) Write types of histones.
 - (5) What are oncogenes?
 - (6) What is gametogenesis?
- (b) Answer any **3** : (3 marks each) **9**
- (1) Write a note on ethical and social impacts of biotechnology.
 - (2) Enlist various shapes of cells with examples
 - (3) Give an account on endoplasmic reticulum
 - (4) Explain nucleosome
 - (5) Write details of lampbrush chromosome
 - (6) Explain structure of flagella
- (c) Answer any **2** : (5 marks each) **10**
- (1) Give details of Cell-cell interaction
 - (2) Draw detail labeled diagram of meiosis
 - (3) Explain Cell wall
 - (4) Write a note on Electron microscopy
 - (5) Applications of Biotechnology in the field of agriculture.

- 3** (a) Answer any 3 : (2 marks each) **6**
- (1) What is metastasis?
 - (2) Define crossing over.
 - (3) What happens in S phase?
 - (4) Write functions of ribosomes.
 - (5) Explain negative staining
 - (6) What is rDNA technology?
- (b) Answer any 3 : (3 marks each) **9**
- (1) Write applications of Biotechnology in field of environment
 - (2) Explain cell theory
 - (3) Write functions of plasma Membrane
 - (4) Explain mitosis
 - (5) Write a note on glyoxisomes
 - (6) Write a note on stem cells
- (c) Answer any 2 : (5 marks each) **10**
- (1) Applications of Biotechnology in the field of Medicine
 - (2) Detailed structure of prokaryotic cell
 - (3) Give details of mitochondria
 - (4) Explain Ultrastructure of chromosome
 - (5) Write about types of cancer and oncogenes
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