

B.Sc. Semester - 1 (CBCS) Examination
Jan/Feb.-2022 (OLD COURSE)
BIO-TECHNOLOGY(CORE)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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- Q1. (A) Answer the following question (Any one) 7
1. Discuss the application of biotechnology in the field of Medicine.
 2. Discuss the scope of Biotechnology in detail.
- Q1. (B) Answer the following question (Any one) 4
1. Discuss the ethical issues related to Biotechnology research.
 2. Enlist the contribution of biotechnology in the field of Environment.
- Q1. (C) Answer the following questions (Any three) 3
1. What is the role of Ligase in Recombinant DNA technology?
 2. Enlist the contributions of biotechnology in the field of Agriculture.
 3. Define: Biotechnology
 4. Enlist name of two scientists along with their contribution in the field of Biotechnology.
 5. Who invented Thermo-cycler?
- Q2. (A) Answer the following question (Any one) 7
1. Draw and label the ultra structure of prokaryotic cell. State the functions of each part of the cell in brief.
 2. Draw and label basic structure of Plant cell. State the function of each organelle.
- Q2. (B) Answer the following question (Any one) 4
1. State minimum four major differences between prokaryotic cell and animal cells.
 2. Write a brief note on Viruses in terms of their basic structure and types.
- Q2. (C) Answer the following question (Any three) 3
1. State the significance of cell size.
 2. Enlist four shapes of prokaryotic cells.
 3. Enlist name of four viruses.
 4. Enlist types of electron microscopy.
 5. Enlist basic chemical composition of cell.
- Q3. (A) Answer the following question (Any one) 7
1. Discuss the Plasma membrane in terms of its structure (Fluid-mosaic model) and functions.
 2. Draw and label the ultra-structure of Mitochondria and state the function of every part in brief.
- Q3. (B) Answer the following question (Any one) 4
1. Discuss Ribosome in terms of its types, structure and function.
 2. Write a detail note on structure and function of Chloroplast.
- Q3. (C) Answer the following question (Any three) 3
1. _____ is known as Power house of the cell.
 2. State the function of Peroxisomes.
 3. State the function of Glyoxisome
 4. Plant cell wall is mainly made up of what?
 5. State the function of Golgi bodies.

- Q4. (A) Answer the following question (Any one) 7
1. Discuss Mitotic cell division in detail.
 2. Discuss Nucleus with respect to its structure and function.
- Q4. (B) Answer the following question (Any one) 4
1. Write a detail note on Regulation of cell cycle.
 2. Discuss chromosomes in terms of its structure, types and function in the cell.
- Q4. (C) Answer the following question (Any three) 3
1. DNA replication starts at which phase of cell cycle?
 2. How many pair of chromosomes is present in human cells?
 3. In animal cell DNA is present in which organelle(s)?
 4. Enlist phases of meiotic cell division.
 5. At which location does spindle fiber attaches on chromosome?
- Q5. (A) Answer the following question (Any one) 7
1. Discuss Microtubule and microfilaments in terms of its structure and function.
 2. Write a detail note on Cancer in terms of its type, cause, effect and treatment.
- Q5. (B) Answer the following question (Any one) 4
1. Discuss the types of cell-cell interaction.
 2. Write a note on amoeboidal and ciliary movement of cell.
- Q5. (C) Answer the following question (Any three) 3
1. What is cytoplasmic streaming?
 2. Enlist functions of cytoskeleton.
 3. Stem cells are generally found in which part of the body?
 4. What is leukemia?
 5. What is totipotency of cell?
