

B.Sc. Semester - 1 (CBCS) Examination
Nov/Dec - 2022 (NEW COURSE)
BIO-TECHNOLOGY(CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1** (a) Answer the following (Any **One** out of Two) : (07)
1. Discuss Recombinant DNA Technology.
 2. Discuss Ethical and Social Impacts of Biotechnology.
- (b) Attempt Any **One** (Out of Two) : (04)
1. Explain medical and environmental applications of Biotechnology.
 2. Write on Current Status of Biotechnology.
- (c) Attempt Any **Three** (Out of Five) : (03)
1. What do you mean by biotechnology?
 2. True or false: Agricultural impact of biotechnology has been important.
 3. Name two scientists who have contributed significantly in the field of biotechnology.
 4. True or false : Bt cotton is a product developed based on a prokaryotic cell potential.
 5. State function of restriction enzymes in RDT.
- Q.2** (a) Answer the following (Any **One** out of Two) : (07)
1. Discuss structure of a plant cell.
 2. Explain viral ultrastructure.
- (b) Attempt Any **One** (Out of Two) : (04)
1. Distinguish between a prokaryotic and a eukaryotic cell.
 2. Explain cell theory.
- (c) Attempt Any **Three** (Out of Five) : (03)
1. What is a cell?
 2. Name the types of bacteria based on their morphology/shape.
 3. True or false : An animal cell always has a cell wall.
 4. True or false : Oil immersion lens is important while studying a bacterial cell.
 5. For observing size and shape of a virusmicroscope is required.
- Q.3** (a) Answer the following (Any **One** out of Two) : (07)
1. Explain structure and function of mitochondria.
 2. Discuss structure and function of plasma membrane.
- (b) Attempt Any **One** (Out of Two) : (04)
1. Write on lysosome.
 2. Write on structure and function of golgi bodies.
- (c) Attempt Any **Three** (Out of Five) : (03)
1. What are glyoxisomes?
 2. True or false: Smooth endoplasmic reticulum is found in bacteria.
 3. State function of a chloroplast.
 4. What is the function of a peroxisome?
 5. True or false : Bacteria always have ribosomes.

- Q.4 (a)** Answer the following (Any **One** out of Two) : (07)
1. Explain ultrastructure of chromosome.
 2. Discuss cell cycle.
- (b)** Attempt Any **One** (Out of Two) : (04)
1. Explain : Regulation of cell cycle.
 2. Discuss : Meiosis.
- (c)** Attempt Any **Three** (Out of Five) : (03)
1. True or false: Bacterial cell has a nucleolus.
 2. True or false : Bacteria do not have a well developed nucleus.
 3. The division of cytoplasm is known as
 4. Replication and transcription take place in
 5. True or false : Regulation of cell cycle is not essential.
- Q.5 (a)** Answer the following (Any **One** out of Two) : (07)
1. Explain cytoskeleton and its importance.
 2. Discuss cell-cell interaction.
- (b)** Attempt Any **One** (Out of Two) : (04)
1. Write in brief on : flagella and cilia.
 2. Write a note on stem cells.
- (c)** Attempt Any **Three** (Out of Five) : (03)
1. What is cytoplasm streaming?
 2. Amoeboid movement is observed in..... .
 3. What is cancer?
 4. True or false: Cytoskeleton is made of fatty acids.
 5. True or false : Flagellin is proteinaceous in nature.
