647510 **BSCbitCC1010** **Seat No :_____**

B.Sc. Semester - 1 (*CBCS*) Examination
Jan/Feb.-2022 (NEW 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.

Q 1 A	**Answer the following (Any one out of two)**	**07**
(i)	Write a note on: Ethical impacts of Biotechnology on society.	
(ii)	Write a detailed note on agricultural applications of Biotechnology.	
Q 1 B	**Attempt any One (Out of two)**	**04**
(i)	Write a note on: Current scenario of BT.	
(ii)	Write on: Historical perspective of BT.	
Q 1 C	**Attempt any Three (Out of five)**	**03**
(i)	Define: Biotechnology.	
(ii)	Enlist any three enzymes with biotechnological applications.	
(iii)	Enlist any three prime social impacts of BT on society.	
(iv)	Enlist any two medical fields where BT is successfully applied.	
(v)	State two uses of BT in Environmental Science.	
Q 2 A	**Answer the following (Any one out of two)**	**07**
(i)	Compare and contrast: Prokaryotic cell and Eukaryotic cell.	
(ii)	Write a detailed note on: Cell theory.	
Q 2 B	**Attempt any One (Out of two)**	**04**
(i)	Write on: Diversity of cell shape and cell size.	
(ii)	Write on: Ultrastructure of virus.	
Q 2 C	**Attempt any Three (Out of five)**	**03**
(i)	State the function of pili and fimbrae.	
(ii)	Enlist any three organelles which are present in eukaryotic cell but are absent in prokaryotic cell.	
(iii)	What is the benefit of micrometer size of a bacterial cell?	
(iv)	Enlist chemical constituents of a cell.	
(v)	Who has given the concept of cell evolution?	
Q 3 A	**Answer the following (Any one out of two)**	**07**
(i)	Write a detailed note on: Structure and function of mitochondria.	
(ii)	Write a detailed note on: Structure and function of ribosomes.	
Q 3 B	**Attempt any One (Out of two)**	**04**
(i)	Write a note on: Types of plastids.	
(ii)	Write on: Smooth and rough ER with their functions.	
Q 3 C	**Attempt any Three (Out of five)**	**03**
(i)	Mention the function of glyoxysomes.	
(ii)	What is the function of Golgi bodies?	
(iii)	State the difference between bacterial and mammalian ribosomes.	
(iv)	Name the enzymes exclusively present in mitochondria.	
(v)	What are the chemical constituents of a plasma membrane?	

Q 4 A	**Answer the following (Any one out of two)**	**07**
(i)	Write a detailed note on: structure, components and functions of nucleus.	
(ii)	Write a note on: Cell cycle and its regulatory check posts.	
Q 4 B	**Attempt any One (Out of two)**	**04**
(i)	Write on: Ultrastructure of chromosome.	
(ii)	Write an overview on: Mitosis.	
Q 4 C	**Attempt any Three (Out of five)**	**03**
(i)	Define: Nucleolus.	
(ii)	State the functions of histones.	
(iii)	What are CDKs? Mention its function.	
(iv)	How phosphorylation helps in cell cycle?	
(v)	What is C value paradox?	
Q 5 A	**Answer the following (Any one out of two)**	**07**
(i)	Write a detailed note on: Cell to cell interactions.	
(ii)	Write on: Cell locomotion.	
Q 5 B	**Attempt any One (Out of two)**	**04**
(i)	Write a note on: Microtubules.	
(ii)	Write a note on: Ultrastructure of flagella.	
Q 5 C	**Attempt any Three (Out of five)**	**03**
(i)	Define: Cytoplasmic streaming.	
(ii)	What is amoeboid type of cellular locomotion?	
(iii)	What are stem cells?	
(iv)	Define the term: Totipotency.	
(v)	Name any two cancer cell lines used for research.	

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