

Section-A

(Long answer type questions) 5*4=20

1. Explain detailed structure of Nucleus with suitable diagram.

Or

Describe cell cycle and its regulation.

2. Name various levels of protein structure. Give detailed account of secondary structure of proteins.

Or

Describe double helical structure of DNA.

3. Give detailed account of Sex-Linked Inheritance with examples.

Or

Describe Mendel's Laws of Inheritance.

4. Define Operon. How does Lac Operon operate in bacteria.

Or

Give detailed account of various human genetic disorders and their primary cause.

Section-B

(Short Answer Type Questions) 3*8=24

5. Write down applications of Biotechnology in day to day life.
6. What do you mean by Programmed Cell Death.

7. Define Buffer. Name various Buffer systems present in human body.
8. Define the fate of Acetyl-Co-A under Anaerobic conditions.
9. Why Crossing-Over is important in plant improvement.
10. What do you mean by Multiple Allelism.
11. How bacterial gene expression differs from eukaryotic gene expression with reference to mRNA structure.
12. Explain Chromatography technique.

Section-C

(Very Short Answer Type Questions). 2*8=16

13. How plants respond to different types of stresses.
14. Define Zwitter ion.
15. What is Isoelectric point of proteins.
16. Name various types of RNAs and their function.
17. How cell wall of bacteria differ from Eukaryotes.
18. Define Glycolysis.
19. What is Electron Transport Chain.
20. Define term Ph.

Section-D

(Objective Type Questions). 1*10=10

21. (i) The term Biotechnology was given by.....
- (ii) Which organelle is regarded as power house of cell