



Time Allotted : 3 Hours

(EE)

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

**Group-A (Very Short Answer Type Question)**

1. Answer any ten of the following :

[1 x 10 = 10]

- What refers to as "Staff of life"?
- Carnauba is an example of \_\_\_\_\_ wax.
- Where can scientists obtain stem cells?
- Cancer is caused by.....
- Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?
- Name of a transport protein is.....
- The ability of the immune system to recognize self-antigens versus nonself antigen is an example of.....
- \_\_\_\_\_ has a spiral metabolic pathway.
- The longest-lasting immunity to an infectious agent is.....
- Nuclear DNA replicates in the \_\_\_\_\_ phase.
- Name the inhibition where end products of biosynthesis pathway inhibit the activity of the first enzyme?
- Arrange the following sequences of tumor development in the correct order?
  - Metastasis
  - Progression
  - Promotion
  - Initiation

**Group-B (Short Answer Type Question)**

Answer any three of the following

[5 x 3 = 15]

- Discuss five Kingdoms of Classification. [5]
- Define amino acid. What is the biological significance of it? [5]
- What are the stages of cancer, and what do they mean? [5]
- Write a short note on molecular basis of information transfer. [5]
- Write a short note on Electrophysiology [5]

**Group-C (Long Answer Type Question)**

Answer any three of the following

[15 x 3 = 45]

- Why Biology is as important as a scientific discipline like Mathematics, Physics and Chemistry? [5]
  - Mention the most exciting aspect of biology as an independent scientific discipline. [10]
- Discuss about three major kingdoms of life. [3]
  - Define spontaneity. [2]
  - Discuss ATP used as an energy currency. [10]
- What are enzymes? [2]
  - Discuss about the factors affecting enzymatic activity. [8]
  - What is Michaelis-Menten constant? [2]
  - Name three Cu containing enzymes. [3]
- What is Immunology? Briefly discuss the basic aspect of immunology. [5]
  - Discuss about the basic aspect of pathogen. [5]
  - Discuss about antigen-antibody reaction. [5]
- Define nucleic acid. [2]
  - Briefly discuss about the monomers of nucleic acids. [3]
  - Write a short note on Nitrogenous base. [10]