

- E. Fill in the blanks with appropriate words.** [5]
- When a biochemical reaction in a cell is inhibited by its own metabolites, this control is termed as.....
 - pollutant gases produced by human activities, industries and automobiles, etc. are calledemission
 - The changes in the nucleotides in the genes are also calledmutations.
 - The genotypic ratio matches with the phenotypic ratio in..... dominance.
 - The joining of micromolecules in linear fashion and formation of macromolecule is called.....

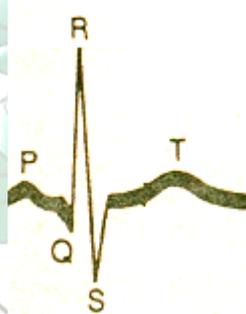
- F. Expand the following:** [3]
- SCNT
 - ELISA
 - GMP

- G. Briefly answer the following questions.**
- Which compounds of carbon are called hydrates of carbon and why? [1]
 - How can a child have blood group O if the parents have blood group A and B? [1]
 - What is cell cycle? [1]
 - What are the two functional parts of the eye? [1]
 - The condition in which immune response develops against a person's own thyroid gland. What is the disease called? [1]
 - Why is cerebral cortex highly folded? [2]

Section B (6x10=60)
(Attempt any six questions)

Question 2.

- a) The electrocardiogram is a graphic representation of cardiac impulses in the heart chambers. Interpret the representation of waves of the electrocardiogram given below. [3]



- Why do fishes and mammals living in Arctic and Antarctic regions have large proportion of unsaturated fatty acids in their cell membrane? [2]
- What is insulin resistance? [2]
- Define genome. [1]
- How does poison and radiation render enzymes nonfunctional? [1]

Question 3

- Which type of variations are non-heritable and why? [2]
- Draw a neat labelled diagram of VS of a mammalian heart. [3]
- Why the number of trophic levels in a food chain in an ecosystem is limited to five? [2]
- What is adaptive immune response? [1]
- Which two antagonistic hormones play their role in maintaining blood sugar level and how [2]

Question 4

- a) Define Quantitative inheritance. Write the ratio of progeny between Mulattoes. [3]
b) Draw the diagrammatic representation of mechanism of action of steroid hormone. [2]
c) How does body removes excess heat from the body? [1]
d) What are the disadvantages of plant cloning? [2]
e) How are coenzymes formed from nucleotides? [1]
f) Why are plants in ecosystem also known as 'Energy transducer'? [1]

Question 5.

- a) Draw the diagram to show the differences between components of sympathetic and parasympathetic systems. [4]
b) What are isozymes? Give an example. [2]
c) What are the causes of discontinuous variations? Give an example of discontinuous variation [2]
d) What is respiratory distress syndrome? [1]
e) Name one structural polysaccharides. [1]

Question 6.

- a) Briefly explain the mechanism of action of renin. [2]
b) Draw the diagrammatic representation of exchange of oxygen and Carbondioxide in the lungs. [2]
c) What are the components of Limbic system? [2]
d) How does cell permeability influences enzyme function? [2]
e) State the function of Foramen of Monro? [1]
f) What are the two ring forms of hexoses in solution? [1]

Question7.

- a) Man cannot survive in water for long but whale can. How? [2]
b) Name the types of RNA and write their respective function. [3]
c) What is operant conditioning? Give an example. [2]
d) Mention any two significance of continuous variation. [1]
e) What are the different phases of karyokinesis? [2]

Question 8.

- a) What are the different parts through which an impulse travels during a reflex action? [2]
b) What is Michaelis constant? [1]
c) Briefly explain the role of memory cells in long term immunity. [3]
d) Why the circulation in fish is called single circulation? [2]
e) Explain the significance of surface area to volume ratio during gas exchange. [2]