V &CPatelEnglish School
Final Examination

Std.: XI | **Max Marks: 70**
Subject: Biology | **Date: 16 /03/2018**
Time: 3 hrs.

General instructions:

(1) All questions are compulsory.
(2) The question paper consists of five sections.
Section A- 5 questions of one mark each
Section B – 5 questions of two marks each
Section C – 12 questions of three marks each
Section D – 1 question of 4 mark
Section E – 3 questions of 5 marks each
(3) There is no overall choice. However an internal option has been provided in one question of 2 marks, one question of 3 marks and three questions of 5 marks weightage. A student has to attempt only one of the alternative in such question.
(4) Wherever necessary , diagrams drawn should be neat and properly labeled

SECTION – A

Q-1 What are thallophytes?

Q-2 Both Gymnosperms and angiosperms bears seeds, then why are they classified separately?

Q-3 Name the important barrier between the protoplasm and outer environment in an animal cell. Is it living or dead?

Q-4 A plant cell is kept in certain solution get plasmolysed. What was the nature of the solution?

Q-5 Mention the site of glycolysis and TCA cycle.

SECTION – B

Q-6 What are the modifications that are observed in birda that help them to fly.

Q-7 Differentiate between

(1) Racemose Inflorescence and Cymose Inflorescence

(2) Axile placentation and Free central placentation

Q-8 What are porins? What role do they play in diffusion?

OR

RuBisCO is an enzyme that acts both as carboxylase and oxygenase. Why do you think RubisCO carries out more carboxylation in C_4 plants?

Q-9 Bile is an enzyme free alkaline fluid, yet it is very important for digestion of food. Why?

Q-10 List the factors responsible for binding and dissociation of oxygen with haemoglobin.

SECTION – C

Q-11 Rahul has seen a frog in his garden during monsoon and asked few questions to his mother.

(1)What is the scientific name of frog?

(2) Name the class of vertebrates in which they are placed? Why are they so called?

(3) Compare the skin of frog with skin of lizard and fish.

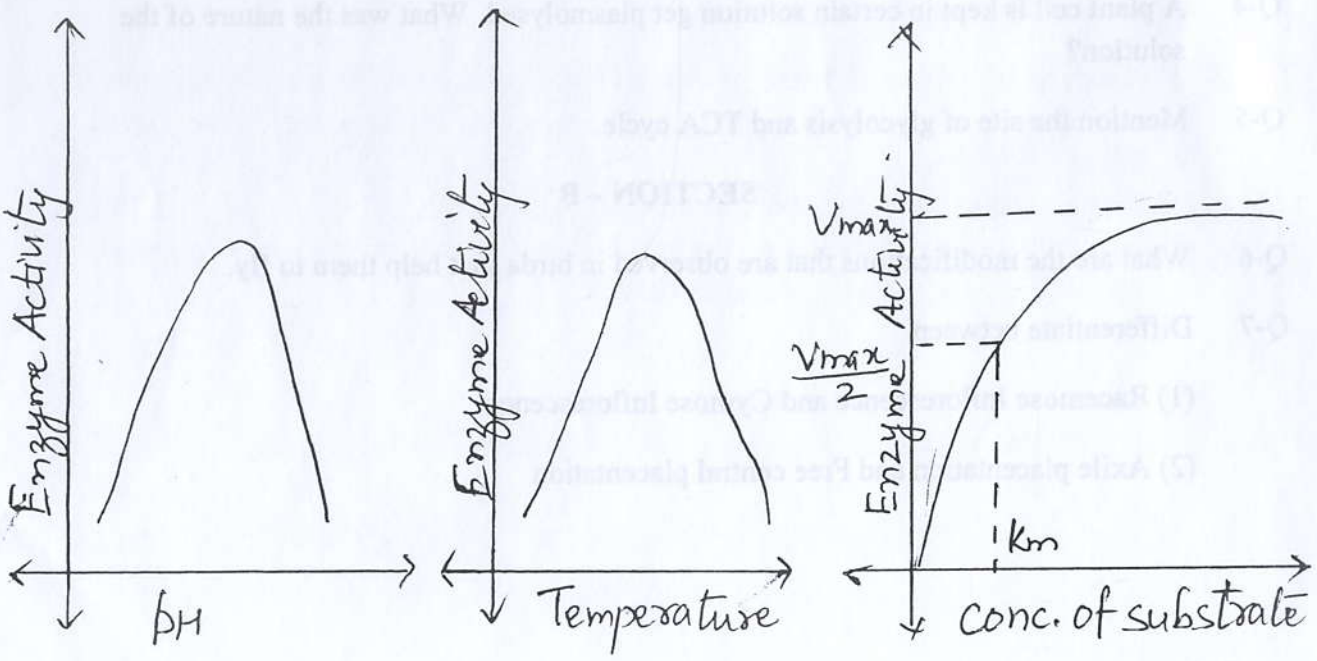
Q-12 Describe any three modifications of tap root system.

Q-13 Cut a transverse section of young stem of a plant from your garden and observe it under the microscope. How would you ascertain whether it is a monocot stem or dicot stem. Give reasons.

Q-14 Write two important function of each of the following.

(1) Cell wall (2) Centriole (3) Endoplasmic reticulum

Q-15 Observe the graph and comment on them.



Q-16 The teacher has focused an unlabelled slide showing a stage of mitosis type of cell division. Some students identified as metaphase while some as anaphase. Afterwards the teacher identified it as metaphase. What is the difference between metaphase and anaphase? Show diagrammatically both the stages of cell division.

Q-17 Discuss the factors responsible for ascent of xylem of sap in plants.

Q-18 List the three phases of Calvin Cycle of photosynthesis. Describe the chemical steps in these phases in brief.

Q-19 Glycolysis is known as EMP pathway. Why? Represent schematically glycolysis.

Q-20 Answer briefly.

(1) Why are villi present in the intestine and not in stomach?

(2) Proteases are secreted in inactive form?

(3) What are glisson's capsule?

Q-21 List the factors in our body that are favourable for diffusion of O_2 from alveoli to tissue and that of CO_2 from tissue to alveoli. Explain each in brief.

OR

Explaain the process of inspiration under normal conditions.

Q-22 Draw a neat and labeled diagram of human heart.

SECTION – D

Q-23 The students of class XI had performed the practical to test the presence of glucose, proteins and lipids in the suitable food items. After performing the practical the teacher asked the following questions to the students.

(1) A sample of glucose gives red precipitate with benedicts solution while a sample of sucrose gives red precipitate with benedicts only after it is warmed in diluted HCl. Why?

(2) Why does cooking change the texture of an egg?

(3) Why do fishes and mammals living in Arctic and Antarctica have large proportion of unsaturated fatty acids in their membranes?

SECTION – E

Q-24 (1) Describe the following: (1)Synapsis (2) Bivalent (3) Chiasma

(2) List the components of a nucleotide. Name the type of nucleoside and nucleotide formed when purine is one of the components of nucleotide.

OR

Explain the cartwheel structure of flagellum observed through an electron microscope.

Q-25 With the help of diagram explain the path of water movement from soil to the xylem.

OR

(1) Mention the steps of TCA cycle where reducing power is generated.

(2) Describe cyclic photophosphorylation operative in chloroplast. Why is it called cyclic?

Q-26 (1) What is saltatory conduction? What is its significance?

(2) What is Eustachian tube? What is its role in our body?

(3) Why is blind spot insensitive to light, though it is a part of photosensitive layer of eyes?

OR

(1) Why has ureotelism evolved to replace ammonotelism?

(2) Draw a neat and labeled diagram to show contractile unit of striated muscle.