

Sample Paper – 2011
Class – XII
Subject – Biology

(Three hours)

Candidates are allowed additional 15 minutes for only reading the paper. They must NOT start writing during this time.

All working including rough work should be done on the same sheet as and adjacent to the rest of answer.

Answer all questions in Part I and any five from Part II choosing three questions from Section A and two from Section B. The intended marks for each question or parts of questions are given in brackets []

Part I
(Answer all questions)

Question 1

a) Give significant differences between the following
[5]

- i) Allopatric and Sympatric Speciation
- ii) Red and White Muscle fibres
- iii) Heart Wood and Sap wood
- iv) Antibody and Interferon
- v) Tropic and Nastic Movement

b) Answer the following
[2½]

- i) Expand IAA
- ii) Give an example of a connective tissue
- iii) What is the role of polyethylene glycol in somatic hybridisation?
- iv) Name the enzyme which plays an important role in ageing
- v) Name a plant growth inhibitor

c) Give the causal agents of following diseases
[2½]

- i) Measels
- ii) AIDS
- iii) Typhoid
- iv) Plague
- v) Malaria

d) Give significant contributions of the following scientists

[2]

- i) Andreas Wagner
- ii) P.K.Sethi
- iii) Ivan Pavlov
- iv) Karot Koff

e) Fill in the blanks with appropriate words

[2½]

- i) _____ carries blood from heart to other organs of the body
- ii) The process of inducing flowering in a plant by exposing to light is known as _____
- iii) In excess of oxygen the enzyme Rubisco participates in _____
- iv) The technique of growing plants in nutrient mist is known as _____
- v) The level of progesterone is maximum in _____ phase of menstrual cycle

f) Give the most significant role/ function of the following

[2½]

- i) SAN
- ii) T-cells
- iii) Semen
- iv) Pancreas
- v) Incomplete C-shaped rings of cartilage

g) Give reasons for the following

[3]

- i) Short day plants are called long night plants
- ii) Only one sperm fertilises the ovum
- iii) Transmission of nerve impulse across synapse is slower than its conduction along the length of neuron

Part II

Section A

(Answer any three questions)

Question 2

a) Give an account of various types of vascular bundles in plant

[4]

b) Give functions and deficiency symptoms of Nitrogen, Calcium and Boron in plants

[4]

c) Draw a labelled diagram of T.S. of dicot stem
[2]

Question 3

- a) Give a brief account of the light reaction in plants involving two photosystems
[4]
- b) Briefly describe the development of endosperm after fertilisation
[4]
- c) List four functions of gibberellins
[2]

Question 4

- a) Describe the process of expiration and inspiration in man
[4]
- b) i) Briefly describe how transmission of nerve impulse takes place in myelinated nerve fibre
[3]
- ii) What is the advantage of this type of conduction
[1]
- c) Give the functions of the following hormones
i) STH ii) Adrenaline
[2]

Question 5

- a) Draw a labelled diagram of T.S. of testes
[3]
- b) Give examples of antagonistic pairs of muscles in humans stating functions of each
[3]
- c) Give a brief account of the digestion of fats in humans
[4]

Question 6

- a) What is haemodialysis? How is it carried out
[4]
- b) Give a brief account of the events taking place during atrial systole and ventricular systole
[4]
- c) List four important characteristics of flowers pollinated by insects
[2]

Section B **(Answer any two questions)**

Question 7

- a) Briefly explain the origin of giraffe by Lamarck's Theory
[3]
- b) What are Darwin's finches? Write a brief note on it
[3]
- c) What are the main criticisms against Lamarck's Theory
[4]

Question 8

- a) What are missing links? Give an example along with its characteristics
[3]
- b) Give an account of Lederberg's replica plating experiment
[4]
- c) How is Cro-Magnon man different from Homo Sapiens
[3]

Question 9

- a) Write short notes on
 - i) CT scan
 - ii) Ultrasound Imaging
 - iii) DNA fingerprinting[6]
- b) Give the potential uses of the following
 - i) Luceana ii) Ashwagandha iii) Quinine iv) Vasaka[4]

Question 10

- a) What is addiction? What are main causes of drug addiction
[4]
- b) What is genetic counselling? Write a note on it
[4]
- c) What are bio-fertilisers? give examples
[2]