INTERNATIONAL INDIAN SCHOOL DAMMAM

MODEL EXAMINATION - JANUARY- 2015

XI

BIOLOGY

Time: 3 hrs.

Max. Marks: 70

SET A

General Instructions:

i) All questions are compulsory.

ii) The question paper consists of five sections A, B, C, D and E. Section A contains 5 questions of 1 mark each, Section B is of 5 questions of 2 marks each, Section C has 12 questions of 3 marks each, Section D has 1 question of 4 marks whereas Section E is of 3 questions of 5 marks each.

iii) There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and one question of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.

iv) Wherever necessary, the diagrams drawn should be neat and properly labeled.

v) OTBA has 2 questions of 5 marks each.

SECTION A (1x 5 = 5)

Q: 1 What term is given to the arrangement of leaves on the stem? Name any 2 types.

Q: 2 What does the pineal gland secrete?

Q: 3 Define apical dominance. Give an application of apical dominance.

Q: 4 What are porins?

Q: 5 Define root pressure.

SECTION B (2x 5 = 10)

Q: 6 Describe Tertiary and quaternary structure of proteins.

OR

Q: 6 What are coenzymes?

Q: 7 Differentiate between pinnately compound leaves and palmately compound leaves.

Q: 8 How does bile help in the digestion of fats?

Q: 9 Explain the structure of actin filament.

Q: 10 Write short notes on any four types of stem modifications with examples.
Q: 11 Diagrammatically represent a standard ECG and explain the different segments on it.

Q: 12 Describe Calvin cycle with the help of schematic diagram.

Q: 13 Describe the model of DNA as given by Watson and Crick.

Q: 14 Differentiate between the anatomy of a dicot stem and that of a monocot stem, with reference to the following.
   i) Epidermis       ii) Hypodermis       iii) Vascular bundles

Q: 15 What are the steps involved in formation of a root nodule in soya bean?

Q: 16 Explain the mechanism of concentration of filtrate.

Q: 17 Draw a diagram to show the sigmoid growth curve and write the names of three phases in it. Mention the type of growth and write the mathematical expression.

Q: 18 Describe the first three stages of Prophase I of meiosis.

Q: 19 Describe the electron microscopic structure of cilia.

Q: 20 Give the schematic representation of citric acid cycle.

Q: 21 Explain the mechanism of transport of oxygen in humans.

Q: 22 Write a short note on blood vascular system of cockroach.

OR

Q: 22 a) Write the scientific name of cockroach?
   b) How many segments are present in the abdomen of cockroach?
   c) Where do you find malpighian tubules? Mention its role.

SECTION D

Q: 23 Maya went to a garden and saw many beautiful flowering plants. The flowers are brightly coloured and show beautiful appearance. Maya asked the gardner about about the variation of colours in flowers. Gardner told her about the plastids.

   a) Which plastids are found in flowers and fruits? Name the pigments present in it.
   b) Which plastids are known as ‘kitchen of the cell’? Write a short note on it.
   c) What are the values shown by Maya?
SECTION E

Q: 24  a) Give a brief account of generation and conduction of nerve impulse. 

b) Draw a neat diagram showing axon terminal and synapse.

or

Q: 24  With the help of a labeled diagram describe the structure of human ear.

OPEN TEXT BASED ASSESSMENT (OTBA)

Q: 25 i) What are mangrove forests? What is its significance in the ecosystem? (2m)

ii) Mention the purpose of "Citizen sparrow programme." (2m)

iii) Write the hierarchy of taxonomic categories. Write the scientific name of house sparrow. (1m)

Q: 26 i) What is global warming? What are the consequences of increase in temperature of water bodies? (2m)

ii) Do you think the extinction of species will affect the ecosystem? Justify. (3m)