

**SBOA SCHOOL & JUNIOR COLLEGE ,CHENNAI -101**

**HALF YEARLY EXAMINATION (2016-17)**

**BIOLOGY**

**Std : 11**

**CODE A**

**Marks : 70**

**Time :3 Hrs**

**General Instructions:**

1. All questions are compulsory.
2. This question paper consists four Sections A, B, C and D.
3. Section - A contains 5 questions of 1 mark each.
4. Section -B contains 5 questions of 2 marks each.
5. Section -C contains 12 questions of 3 marks each.
6. Section D contains 3 questions of 5 marks each and one question of 4 marks (Value Based Question).
7. There is no overall choice. However, an internal choice has been provided in One question of 3 marks and one question of 5 marks weightage. Attempt only one of the choices in such questions.
8. Wherever necessary, the diagrams should be drawn neat and properly labeled.

**SECTION – A**

1. In some plant species roots come out of the ground and grow vertically upwards to get oxygen for respiration. What are such roots called?
2. Name the instrument used for recording electrical potential produced by different parts of heart.
3. Suppose you accidentally find an old preserved permanent slide without a label, in your effort to identify it, you place the slide under microscope and observe the following features:-
  - a. Unicellular
  - b. Well defined nucleus
  - c. Biflagellate—one flagellum lying longitudinally and the other transversely.What would you identify it as? Can you name the kingdom it belongs to?
4. Give two reasons why breathing through nose is said to be healthier than through mouth ?
5. What is the function of Eustachian tube in ear?

**SECTION - B**

6. What do you understand by “Binomial Nomenclature”? Name the scientist who had proposed this system?
7. State the cell theory as understood today.
8. Differentiate rods and cones.
9. Describe the process of digestion of protein in the stomach.
10. 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 a dicot stem?

**SECTION C**

11. Amylase is secreted by two different glands. Name them .What is the action of amylase on food.
12. a. Where is the enzyme carbonic anhydrase located? What is its function?

- b. Mention the different ways by which  $\text{CO}_2$  is transported?
13. Differentiate between skeletal muscles, smooth muscle, and cardiac muscle (at least two points in each)

or

- Draw the diagram of a sarcomere of skeletal muscle showing different regions .
14. Explain the structure of Golgi apparatus with the help of neatly labelled diagram .
15. Cnidarians exhibit two basic body forms. What are they? How do they differ from each other? Give one example in each.
16. Algae are divided into three main classes. What are the three classes? Differentiate them on the basis of photosynthetic pigment and stored food.
17. Draw and describe the different types of aestivation found in flowering plants along with diagrams.
18. a. Name the hormones produced by thyroid gland and pineal gland .  
b. List any 3 important roles of thyroid hormone in human system .
19. Explain the inbuilt mechanism in kidney for the regulation of glomerular filtration rate.
20. Describe interphase stage of cell cycle .
21. Give a brief account of the mechanism of chemical and electrical synapses.
22. What are the hormones produced by the anterior pituitary? What functions does it serve?

## SECTION D

### (Value Based Question)

23. A) Swathi is a member of NGO. She wants to have a campaign in nearby slum areas. What awareness about personal hygiene should be given?  
B) What sanitation measures for maintaining social and public hygiene in their areas should be given?
24. a. Why are cockroaches called “uricotelic” insects?  
b. Draw a well labeled diagram showing the alimentary canal of cockroach .
- or
- a. Why are frogs called “ureotelic” animals?  
b. Draw a well labeled diagram showing the complete digestive system in frog .
25. a. Draw a labelled diagram of the longitudinal section of Kidney and label the parts .  
b. Differentiate cortical and Juxta medullary nephrons .
26. Describe in detail the structure of contractile proteins with neatly labeled diagrams.

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**SBOA School & Junior College, Chennai.**  
**Half Yearly Examination 2016 – 2017**  
**Biology**  
**Code – B**

**Std: XI**  
**Time: 3hrs**

**Marks: 70**

**General Instructions:**

1. All questions are compulsory.
2. This question paper consists four Sections A, B, C and D.
3. Section - A contains 5 questions of 1 mark each.
4. Section -B contains 5 questions of 2 marks each.
5. Section -C contains 12 questions of 3 marks each.
6. Section D contains 3 questions of 5 marks each and one question of 4 marks (Value Based Question).
7. There is no overall choice. However, an internal choice has been provided in One question of 3 marks and one question of 5 marks weightage. Attempt only one of the choices in such questions.
8. Wherever necessary, the diagrams should be drawn neat and properly labeled.

**Section – A**

1. What are casparian strips?
2. Name two proteolytic enzymes in the pancreatic juice that help in the process of digestion.
3. What is Metaphase plate?
4. What are floating ribs?
5. What do you understand by  $pO_2$  and  $pCO_2$ ? Define the term.

**Section – B**

6. Define uricotelism with example.
7. What are Cnidoblasts? Where do you find them?
8. Name the hormone secreted by Pineal gland. Mention any one function.
9. What are hepatic caecae?
10. Name the instrument used to hear the lub-dub sounds of the cardiac cycle? What do the sounds relate to?

**Section – C**

11. Explain the three types of movements exhibited in the cells of the human body with examples.
12. Write the differences between root hairs and trichomes.
13. What is the role played by Carbonic anhydrase at the tissue site and Alveolar site.
14. Write short notes on Erythrocytes and Thrombocytes based on their site of formation, total count and function.
15. How does Cytokinesis in Plant Cells differ from that in animal cells?

(or)

What is the significance of Mitosis?

16. Give a brief description about adrenal cortex.

17. Explain the following:

- a) Ear ossicles                      b) Eustachian Tube                      c) Pinna

18. Mention the types of cells that constitute the gastric glands of the stomach and their secretion.

19. Write note on Archaeobacteria.

20. Draw a neat labelled diagram of longitudinal section of kidney.

21. List down any three differences between the members of class chondrichthyes and osteichthyes.

22. Mention the three types of cell junctions and their function.

### **Section – D**

23. Name and mention the complex protein which is distributed at regular intervals on the protein Tropomyosin. How do you relate this protein in your day to day life. What value you learn from this.

24. Draw a neat labeled structures of the sarcomere. Write short notes on the myosin filament.

(or)

Give the function of the following:

- a) Oxytocin                      b) Fovea                      c) IRV                      d) H – zone  
e) Thecodont dentition

25. a) The thoracic chamber is anatomically air tight chamber. Discuss.

b) List the five steps involved in the process of respiration.

26. a) Discuss the thorax of Cockroach.

b) Draw and label the Alimentary Canal of Cockroach.

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