

# CBSE Class 11 Biology Sample Paper Set 3

**Time Duration: 3Hrs**

**Maximum Marks: 60**

## **General Instructions:**

1. All questions are compulsory.
2. The question paper comprises of five sections A,B,C, D and E .
3. There is no overall choice however, internal choice has been provided in one questions of 2 marks, one questions of 3 marks and all the two questions of 5 marks category. Only one option in such questions is to be attempted.
4. Questions 1 to 5 in section A are very short questions of 1 mark each
5. Questions 6 to 9 in section B are short questions of 2 marks each.
6. Questions 10 to 20 in section C are questions of 3 marks each . Question 21 is of 4 marks.
7. Questions 22 to 23 in section D are questions of 5 marks each.
8. In the exam, section E will have three questions (question number 24,25 and 26 covering a total of 10 marks) based on OTBA study material provided by CBSE. This sample paper does not have this section.

### **Section-A**

1. Yellowing of edges in leaves is seen in a plant. Which nutrient deficiency is cause of it? [1]
2. Name the cells responsible for maintaining a current of water through the body in poriferans. [1]
3. How does endoplasmic reticulum arise? . [1]
4. There are fewer bones in human skull as compared to other animals. What advantage does it have in comparison to other vertebrate animals? [1]
5. Name an angiospermic plant with respiratory roots. [1]

### **Section-B**

6. Explain molecular homology with an example. [2]
7. Why do leaves of grasses roll on a dry and sunny day? Give reason. [2]
8. (a) Give examples of any one neutral and one basic amino acids. [1/2]  
(b) Name any one essential amino acids in humans. [1/2]  
(c) In a protein, which bond link two amino acids? [1]
9. Why the wood of different trees is valued differently for specific purpose? [2]  
or  
Differentiate between neurons and neuroglia. [2]

### Section-C

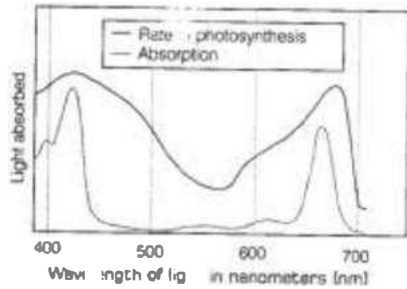
10. 'Bryophytes are referred to as amphibians of plant kingdom'. Justify the statement [3]
11. Inflammatory responses can be controlled by a certain steroid. Name the steroid, its source and also state its other important functions. [3]
12. In cellular respiration, both aerobic and anaerobic modes of respiration release energy. Which of them releases more energy to be utilised by cell? Give an account of net gain of energy (ATP) during that process. [3]
13. Distinguish between the following. [3]
- (a) Prostomium and peristomium.
- (b) Septal nephridium and pharyngeal nephridium.
14. Write down the significance of mitosis. [3]
15. To get a carpet-like grass, lawns are mowed regularly. Is there any scientific explanation for this? [3]
16. (a) Define vascular cambium. [1]
- (b) Write down the differences between fascicular and interfascicular cambium. [2]
17. Plants are autotrophic, can you think of some plants that are partially heterotrophic? [3]
18. Based on the external features, explain how a flower is a modified shoot. [3]
19. Radha was running on a treadmill at a great speed for 15 minutes continuously. She stopped the treadmill and abruptly came out. For the next few minutes, she was breathing heavily/fast. Answer the following questions.
- (a) What happened to her muscles when she did strenuously exercised?
- (b) How did her breathing rate change? [3]
20. Write a short note on guttation. How is it different from transpiration? [3]
- or
- Explain the kind of interactions between water molecules, that are responsible for the upward movement of water up to great heights in plants. [3]
21. Ritu and her friends went on a school tour to Uttarakhand. As the bus moved past the circular, sharp turns on the narrow roads elevating the mountains at a fast speed, everyone in the bus felt that they were moving in a circular motion. Suddenly, Ritu began to feel dizzy and started vomiting. The teacher accompanying them made her lie down and instructed others to calm down and rest peacefully rather than rushing. He also explained the reason to them with a scientific explanation.
- (a) Why did Ritu start feeling dizzy all of a sudden?
- (b) Which sensory organ gets affected while moving up at high altitudes?
- (c) What scientific explanation, the teacher might have given to students?
- (d) What values are reflected by the teacher? [4]

## Section-D

22. Describe the structure of the nucleus with a well labelled diagram. [5]

or

In the figure given below, the black line (upper) indicates action spectrum for photosynthesis and the lighter line (lower) indicates the absorption spectrum of chlorophyll-a. Based on diagram answer the following.



(a) What does the action spectrum indicate? How can we plot an action spectrum? Explain with an example. [2]

(b) How can we derive an absorption spectrum for any substance? [1]

(c) If chlorophyll-a is responsible for light reaction of photosynthesis, why do the action spectrum and absorption spectrum not overlap? [2]

23. Based on the types of reactions catalysed, give an account of enzymes. [5]