

## CBSE-2006 BIOLOGY

**CLASS XII**

**TIME-3 HOUR**

### **General instructions:**

- 1. This question paper consists of four Sections A, B, C and D. Section A contains 5 questions of 1 mark each, Section B is of 10 questions of 2 marks each. Section C is of 10 questions of 3 marks each and Section D is of 3 questions of five marks each.*
- 2. All questions are compulsory.*
- 3. There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and three questions of 5 marks weight age. Attempt only one of the choices in such questions.*
- 4. Question numbers 1 to 5 are to be answered in one word Or one sentence each.*
- 5. Question numbers 6 to 15 are to be answered in approximately 20-30 words each.*
- 6. Question numbers 16 to 25 are to be answered in approximately 30- 50 words each.*
- 7. Question numbers 26 to 28 are to be answered in approximately 80— 120 words each.*

### **SECTION - A**

**Q. 1.** Name the system, which provides an accessory route for the flow of interstitial fluid into the blood. **(1)**

**Q. 2.** Name the two hormones which control blood glucose level through their antagonistic effect. **(1)**

**Q. 3.** Why does failure of testes to descend into the scrotum produce sterility? **(1)**

**Q. 4.** Why is blue baby syndrome considered to be fatal for infants? **(1)**

**Q. 5.** What is meant by carrying capacity of the environment? **(1)**

### **SECTION - B**

**Q. 6.** Why is the water movement blocked through the cell wall beyond the end o dermis and is forced to move through the cell membrane in the plant roots? Name the two corresponding pathways of water movement. **(2)**

**Q. 7.** List the three major requirements for biological nitrogen fixation in a root nodule. What is the end product? **(2)**

**Q. 8.** Name and explain the type of nutrition found in *Ascaris* and rabbit respectively. **(2)**

**Q. 9.** Why can a red muscle fibre work for a prolonged period, while a white muscle fibre suffers from fatigue after a short duration of work? Explain **(2)**

**Q. 10.** Which type of plants show successful grafting? Why is it so? **(2)**

**Q. 11.** Why is abscisic acid considered antagonistic in its effect to that of gibberellins? Give two reasons. **(2)**

**Q. 12.** What are “keystone” species? What is the influence of their removal on the community characteristics? **(2)**

**Q. 13.** List any four factors which may lead to loss of biodiversity. **(2)**

**Q. 14.** Name the two main categories of mutagens. Give one example of each. **(2)**

**Or**

What is interspecific hybridization? Give one example of a crop in which it is practised and mention one advantage derived from it.

**Q. 15.** Write the full name of EEG Explain its working in brief. **(2)**

### **SECTION - C**

**Q. 16.** What are the two main components which together form a photosystem in thylakoids? Mention their role. **(3)**

**Q. 17.** Draw a schematic labelled diagram to show the ATP synthesis by inner membrane particles of mitochondrion. **(3)**

**Q. 18.** Describe how carbon dioxide moves from the tissues to the lungs in humans. **(3)**

**Or**

How is the carbon dioxide released from the blood into the alveoli of lungs? Explain.

**Q. 19.** Explain the saltatory conduction of nerve impulse through an axon. **(3)**

**Q. 20.** Name the two types of induced movements of curvature occurring in plants, produced in response to external stimuli. Explain them with one example of each **(3)**

**Q. 21.** Briefly describe the stages of spermatogenesis in humans **(3)**

**Q. 22.** Explain the significance of thermal stratification in a lake with reference to winter, summer and spring seasons. **(3)**

**Q. 23.** Why is it recommended to integrate commercial forestry practices in the forest conservation and management programme? Explain the two programmes practised under this category. **(3)**

**Q. 24.** What is a Genetically Modified crop? Mention two advantages of developing such crops over the conventional breeding methods. **(3)**

**Q. 25.** Why is suspension culture constantly agitated? Give three reasons. **(3)**

### **SECTION - C**

**Q. 26.** List any four differences between non-cyclic and cyclic photophosphorylation. Do they both occur simultaneously in the chloroplast? Give reason. **(5)**

**Or**

Explain the involvement of two cell types in the C plants in avoiding the occurrence of photorespiration.

**Q. 27.** Describe the changes which the glomerular filtrate undergoes as it passes down the various regions of a nephron in humans to form urine. **(5)**

**Or**

- i. Where and how is the cardiac impulse generated in human heart? Explain.
- ii. How does this impulse travel to the different chambers of the heart?

**Q. 28.** How is specific immunity generated in our body? Why is specific immunity considered to be unique in its function? Write any four features of this type of immunity. **(5)**

**Or**

What is meant by sustainable agriculture? Give any three reasons why sustainable agriculture is considered environment-friendly. Mention any two ways how biotechnology can contribute to sustainable agriculture.