



**INDIAN SCHOOL SOHAR**  
**PRE FINAL EXAM-2018**  
**BIOLOGY**

STD XI

Marks:70

4.2.18

Time:3Hrs

**General Instructions:-**

- (i) This 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** is of **12** questions of **3** marks each, Section **D** contains **1** question of **4** marks and section **E** is of **3** questions of **5** marks each.
- (ii) All questions are compulsory.
- (iii) There is no overall choice. However, an internal choice is provided in one question of **2** marks, one question of **3** marks and all questions of **5** marks weightage. Attempt only **one** of the choices in such questions.
- (iv) Questions of section **A** are to be answered in one word or one sentence each, section **B** in approximately 20-30 words each, section **C** in 30-50 words each and section **D** in 30-40 words and section **E** in 80-120 words each.
- (v) Wherever necessary, the diagrams drawn should be neat and properly labeled.

**SECTION-A**

1. How does an archaebacteria differ from other bacteria? 1
2. What are the peculiar features found in Platyhelminthes that (a) makes it parasitic and (b) helps in osmoregulation. 1
3. Name the following: 1
  - a) Nucleic acids that behave like enzymes.
  - b) The most abundant protein in the whole biosphere.
4. Name the type of joint between the following: - 1
  - a) atlas / axis
  - b) carpals and metacarpals.
5. Underground parts of a plant are not always roots. Justify the statement on the basis of external features. 1

**SECTION-B**

6. Bring out two major differences between ascospores and zoospores. 2
7. Study the following table showing the partial pressure of oxygen and carbon dioxide at different parts involved in diffusion and fill in the blanks. What are the factors that can affect the rate of diffusion across the alveoli? 2

Respiratory gas	Alveoli	Blood (deoxygenated)	Blood (oxygenated)	Tissue
Oxygen	104	i) _ _ _ _	ii) _ _ _	40
Carbon dioxide	40	iii) _ _ _ _	iv) _ _ _	45

**OR**

The entire process of response to a peripheral nervous stimulation, that occurs involuntarily is called reflex action. Depict with the help of a flow chart the path travelled by a reflex action in a knee jerk reflex.

8. By looking at a plants anatomy, how can you tell whether the plant is C<sub>3</sub> or C<sub>4</sub> plant?(Two points) 2

9. What is the fate of ammonia synthesized by nitrogenase? 2
10. Name the tissue where the following structures occur:- 2
- |                    |                   |
|--------------------|-------------------|
| a) Neuroglial cell | b) Companion cell |
| c) Harvesian canal | d) Chondrocytes.  |

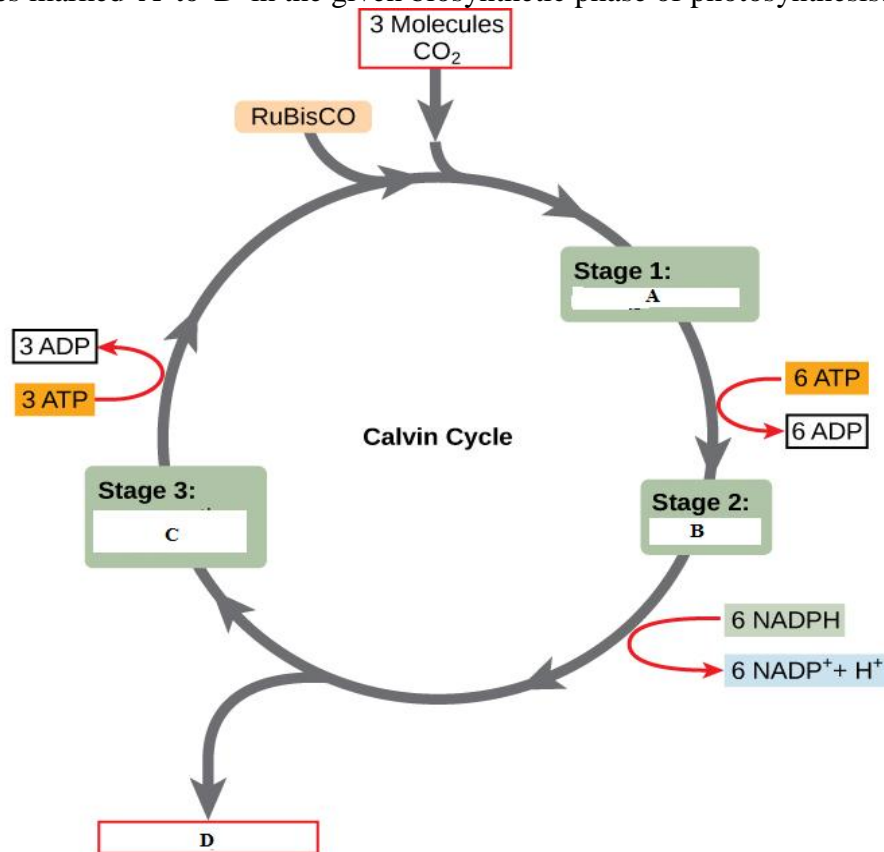
**SECTION-C**

11. The functioning of the kidneys is efficiently monitored by a hormonal feedback mechanism. Explain the regulation of urine formation by JGA. 3
12. Draw a neat labeled diagram of the human duodenum and the duct system of the associated digestive glands pouring their secretions into it. 3

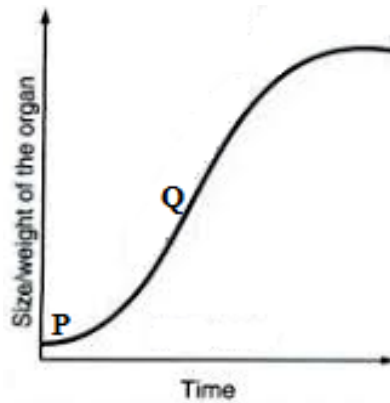
**OR**

In humans, the excretory system consists of a pair of kidneys. Draw a neat labeled diagram of the longitudinal section of the kidney.

13. What would happen if : 3
- You forget to add cytokinin to the culture medium.
  - Some solute is dissolved in pure water..
  - A ring of bark upto the depth of phloem is removed.
14. a) Depict the stages marked 'A' to 'D' in the given biosynthetic phase of photosynthesis. 3



- b) How many ATP and NADPH molecules will be required to make one molecule of glucose through this pathway?
15. Enzymes are bound by non-protein constituents to make it catalytically active. Explain the three types of non-protein constituents, cite an example each. 3
16. Given below is an idealized growth curve typical of many higher plants and plant organs. Study the graph and answer the following: 3



- a) Label the parts marked 'P' and 'Q'.
- b) What would happen if the nutrient supply becomes limited?
- c) What kind of a growth curve can you expect in a tree showing seasonal activities? How can we express such a growth curve?

17. Describe the following steps that occur during various stages of meiosis and represent them diagrammatically. 3
  - a) Synapsis
  - b) crossing over
  - c) Chiasma.
18. Prokaryotic cells are represented by bacteria. Mention the function of the following structures in a prokaryotic cell: 3
  - a) mesosome
  - b) pili and fimbriae
  - c) polysome.
19. Define aestivation in plants. Describe the different types of aestivation with one example each. 3
20. On the basis of structural modification, location and function of the cells, how are simple epithelial tissue further classified? 3
21. Xylem and phloem constitute the complex tissues in plants. Explain the components of phloem and their function. 3
22. Different plant groups as well as individuals representing them differ in their haploid and diploid phases. How do bryophytes and pteridophytes differ in their dominant phases. What is such a pattern known as? 3

#### SECTION-D

23. Keerthi and her friends went on an educational trip from the foothills of the Himalayas, from Kashmir to Arunachal Pradesh. They observed that many local people there were having swollen necks. They noticed that girls and women are more prone to this disease than boys and men. They were very curious to know its cause. They approached their teacher who helped them find answers to all their queries. Now please help Keerthi and her friends to find out the solutions to the following questions. 4
  - (a) Name the disease that these people are probably suffering from?
  - (b) Mention any two roles played by the hormone.
  - (c) What effect does this condition have on a female during pregnancy? (any two points)
  - (d) How can such diseases be cured in order to build a healthy tomorrow?

#### SECTION-E

24. a) All vertebrates possess two separate circulatory pathways. Explain, double circulation in man and give its significance. 5
- b) Why is SAN called the pacemaker of the heart?

**OR**

- a) Neurons are excitable cells. Explain the generation and conduction of nerve impulse along a neuron.

- b) Mention the function of the following:  
(i) The receptors of vestibular apparatus      (ii) Fovea.

25. a) How does oxidative phosphorylation differ from photophosphorylation? (three points)      5  
b) List the events that occur during the photochemical phase of photosynthesis?

**OR**

- a) What is meant by EMP pathway and where does it occur in a cell?  
b) Glycolysis is present in all organisms. Schematically represent the steps:  
(i) Where ATP is utilized      (ii) Synthesis of ATP and NADH<sub>2</sub> takes place.

26. a) Describe briefly, all those events that occur during the Mitosis phase of Cell cycle that prepares the cell for nuclear division.      5  
b) Why is the concentration of certain molecules significantly higher in the vacuolar sap than the cytoplasm?

**OR**

- a) 'Biologist describe the structure of proteins at four levels'. Differentiate between the levels of structural organization of different proteins.  
b) How is a peptide bond formed in a polypeptide or a protein?

\*\*\*\*\*THE END\*\*\*\*\*