



INDIAN SCHOOL SOHAR
FIRST TERM EXAM-2017
BIOLOGY

17.09.17
STD XI

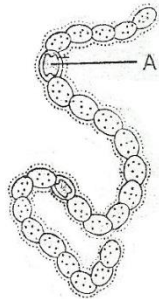
Marks: 70
Time: 3Hrs

General Instructions:-

- This question paper consists of five sections **A, B, C, D & 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 and section **D** is **1** questions of **4** marks and section **E** is of **3** questions of **5** marks each.
- All questions are compulsory.
- 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.
- 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 **80-100** words each and section **E** in **80-120** words each.
- Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION-A

1. State the two main postulates of the cell theory. (1)
2. Name the most abundant protein in the animal world and in the whole of the biosphere. (1)
3. Write the main modification in the plant parts of *Opuntia*, and *Rhizophora*. (1)
4. In the given figure state the significance of the part marked 'A'. (1)



5. How are ligaments different from tendons? (1)

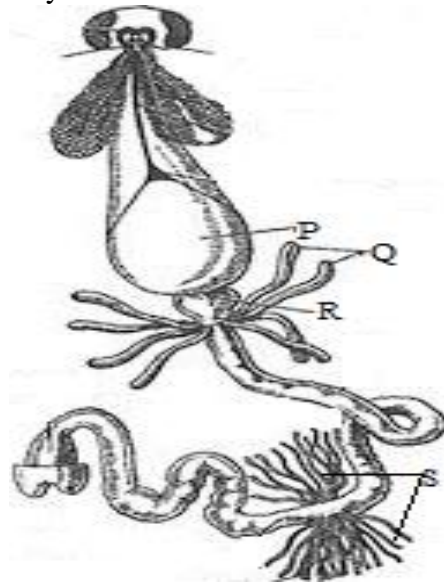
SECTION-B

6. The arrangement of flowers on the floral axis is termed inflorescence. How are they classified depending on whether the apex gets converted into a flower or not? Give two differences. (2)
7. Draw a neat sketch of the longitudinal section of a monocotyledonous seed and label any four embryonic parts. (2)
8. How significant are the following peculiar features to organisms? (2)
 - (a) Ostia in Porifera, (b) Flame cells in Platyhelminthes
 - (c) Cnidoblast in Coelentrata (d) Water vascular system in Echinodermata.
9. How does the position of centromere form the basis of classification of chromosomes? Support your answer with diagrams. (2)

OR

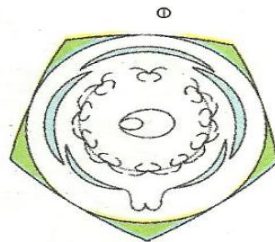
Like mitochondria, the chloroplast said to be semiautonomous. Justify

10. In the given figure of the alimentary canal of cockroach. Label the parts marked P to S. (2)



SECTION-C

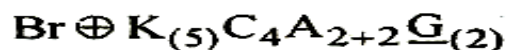
11. A flower is the reproductive unit in angiosperms. Describe the arrangement of floral members in relation to their insertion on the thalamus. (3)
12. (a) List the salient features that distinguishes chordates from non-chordates. (3)
 (b) Sub phyla Urochordata and cephalochordate are often referred to as protochordates. Justify. (3)
13. Given below is the floral diagram of *Pisum sativum* belonging to family Fabaceae. (3)



- (a) What was this family earlier known as?
 (b) Comment on the aestivation of petals here.
 (c) Describe the reproductive parts using technical terms.

OR

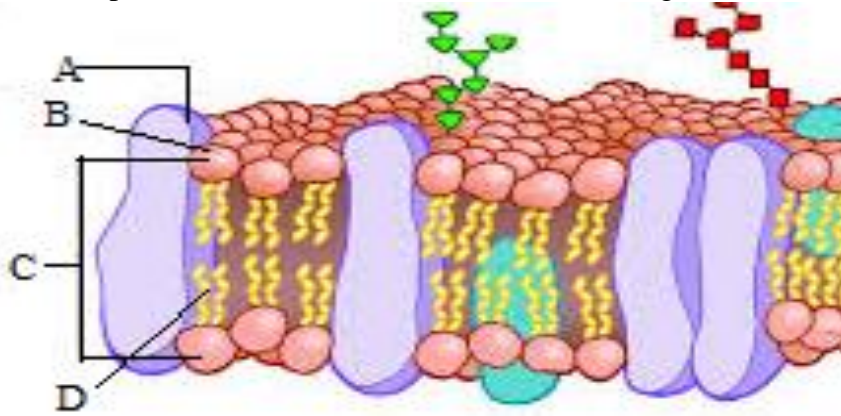
Given below is the floral formula of plants belonging to 'potato family'. Describe the floral characters using the formula.



14. How does the structure of flagella differ from that of centrosome in a eukaryotic cell? (3)
15. Nucleic acids exhibit wide range of secondary structures. Explain the secondary structure exhibited by DNA. (3)
16. How are simple tissues found in the flowering plants classified based on the structural and functional difference? (3)
17. Enzymes accelerate the biochemical reactions. Describe the steps in the catalytic cycle of an enzyme action. List two factors which would affect enzyme action. (3)
18. The interphase, though called the resting phase is the time when the cell is preparing for division. Explain the three phases into which it's further divided. (3)
19. Angiosperms and gymnosperms bear seeds. In what way does the female gametophyte differ from that of gymnosperms? (3)
20. A student prepared a transverse section of a plant stem taken from the school garden. How would he ascertain that it is a dicot stem and not a monocot stem? (three main points) (3)

21. Study the diagram of the plasma membrane and answer the following:-

(3)



- (a) Label the parts marked A, B, C and D.
(b) How does the quasi- fluid nature of the membrane serve the cell?
22. Sexually reproducing plants exhibit alternation of generation during their life cycle. How do plant groups differ in their life cycle patterns? Give an example each.

(3)

SECTION-D

23. A woodcutter felled old temperate trees and he then used the dark brown portion having series of concentric rings for making furniture. Seeing such an act Rajat an environmentalist informs him about the consequences of deforestation.
- (a) How would Rajat, explain to him the significance of these rings?
(b) Why would the woodcutter prefer the dark brown wood for making furniture?
(c) List any two ways by which trees contribute in maintaining ecological balance.
(d) What values are displayed by Rajat?

(4)

SECTION-E

24. (a) Muscles play an active role in all the movements of the body. Tabulate the structural and functional differences between the different types of muscle tissues.
(b) Areolar and adipose tissue are loose connective tissue. How do they differ in their function?

(5)

OR

- (a) Explain the process of secondary growth in stems of woody angiosperms.
(b) The lawn grass (*Cyanodon dactylon*) needs to be mowed frequently to prevent its over-growth. Which tissue is responsible for this rapid growth? Mention two other characteristic features of this tissue.
25. M Phase is the most dramatic period of the cell cycle. Explain the key events that occur during the four stages of the M Phase. Why is mitosis also called equational division?

(5)

OR

Biologists describe the protein structure at four levels. Explain them give an example each. Why does starch turn blue black in the presence of iodine and not cellulose?

26. All single-celled eukaryotes are placed under Protista. This kingdom forms a link with other kingdoms. How are the organisms of this kingdom classified?

(5)

OR

How is kingdom Fungi classified based on their morphology, reproduction and nature of fruiting body? Give an example each.

*****THE END*****