

Final Examination in **BIOLOGY – Std. 11**  
4-3-2016

M. Marks : 70  
Time : 3 hrs.

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Total printed pages :	09
Total printed questions :	25

**General Instructions:**

- i) The question paper comprises of five Sections A, B, C, D and E.
- ii) All questions are compulsory.
- iii) There is no overall choice however; internal choice has been provided in one question of 2 marks, one question of 3 marks and all the two questions of five marks category. Only one option in such question is to be attempted.
- iv) Questions 1 to 5 in section A are very short questions of one mark each. These are to be answered in one word or one sentence each.
- v) Questions 6 to 9 in section B are short questions of two marks each. These are to be answered in approximately 20 - 30 words each.
- vi) Questions 10 to 20 in section C are questions of three marks each. These are to be answered in approximately 30-50 words each. Question 21 is of 4 marks.
- vii) Questions 22 to 23 in section D are questions of five marks each. These are to be answered in approximately 80-120 words each.
- viii) Questions 24 to 25 in section E is based on OTBA of 10 marks. Answer them in 100 - 200 words each.

**Section – A**

(1 x 5 = 5 marks)

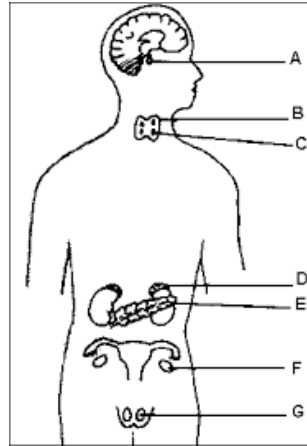
1. Why do cartilaginous fishes have to swim constantly?
2. Give two examples of plants whose adventitious roots are modified for the purpose of storage of food.
3. Give the scientific terms for the following :-
  - a) Stacks of closely packed thylakoids \_\_\_\_\_.
  - b) Extensive infoldings of the inner membrane of Mitochondria \_\_\_\_\_.
4. Name the following :-
  - a) Structural and functional unit of kidney \_\_\_\_\_.
  - b) The unit of nervous system \_\_\_\_\_.
5. Draw the path of a reflex action.

**Section – B**

(2 x 4 = 8 marks)

6. Define alternation of generation giving one suitable example of a life cycle of any lower plant.
7. Who gave the cell theory and what is the meaning of “Omnis cellula-e-cellula”?
8.
  - a) Define crossing over.
  - b) Explain Metacentric chromosome.

9. a) Label the given diagram.



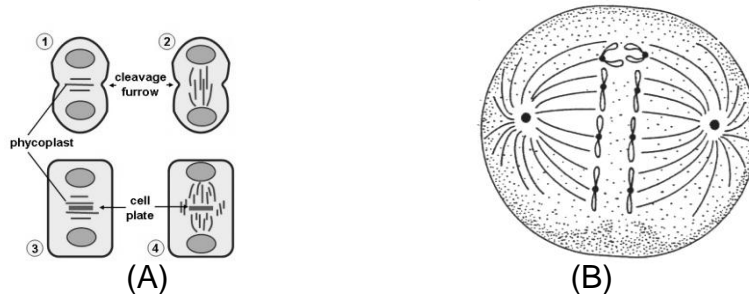
(OR)

- b) Explain the method of regulation of hormone secretion in a human body.

SECTION – C

(3 x 11 = 33 marks, 1 x 4 = 4 marks)

10. Differentiate between any TWO of the following :-  
 a) Pinnate and palmate leaves.                      b) Monocot and Dicot seeds.  
 c) Hypogynous and Epigynous flowers.
11. What is the stomatal apparatus? Explain the structure of stomata and two different types of guard cells. Draw the related diagrams.
12. Explain briefly:-  
 a) Compound Epithelium                      b) Areolar Tissue  
 c) Bone
13. Explain the process shown in the given diagrams:-



14. What is the relation between the following?  
 a) Chromatin and chromosomes                      b) Chloroplasts and chomoplasts  
 c) R.E.R. and S.E.R.
15. The role of Absciscic acid is both positive and negative, Justify this statement.
16. How does ATP synthesis takes place through Chemiosmosis? Explain and draw the related diagram.
17. Give the schematic representation of the process of Glycolysis.

18. Explain Differentiation, Redifferentiation and Dedifferentiation with suitable examples.
19. Draw a simple diagram of a human Nephron and describe the process of glomerular filtration.
20. How do pre synaptic neuron transmits an impulse across the synaptic cleft to the post synaptic neuron at a chemical synapse?
21. VALUE BASED QUESTION
- a) There are diverse varieties of plants and animals in the world but some of them are not useful and cause harm to us. Should we allow such living beings to survive or we should remove them from the face of the earth?
- b) Mention the examples of at least two plants and two animals who can cause harm to the human race by different modes.

SECTION – D

(5 x 2 = 10 marks)

22. a) Why do organisms need two different types of cell division? How are different cell divisions contribute in the life cycle of an organism?
- b) Describe the Cell cycle.

(OR)

In an Electron Microscope cells of plants and animals look different. What are the differences present between them? Show an enlarged view of any one Eukaryotic cell and label all the major organelles.

23. Compare Photosystem I and Photosystem II.

(OR)

Explain Hatch and Slack pathway of Photosynthesis.

SECTION – E (OTBA)