

# **AMRITA VIDYALAYAM**

## **ANNUAL EXAMINATION 2017 -'18**

**Class : XI**

**Marks : 70**  
**Time : 3 hrs**

### **BIOLOGY (044)**

#### **GENERAL INSTRUCTIONS:**

- 1. All the questions are compulsory.**
- 2. This question paper consists of 5 sections A, B, C , D and E.**
- 3. Section A are very short answer questions of 1 mark each.**
- 4. Section B are short answer questions of 2 marks each.**
- 5. Section C are also short answer questions of 3 marks each.**
- 6. Section D includes a value based question of 4 marks.**
- 7. Section E are long answer questions of 5 marks each.**
- 8. There is no overall choice, however an internal choice has been provided in one question of 2 marks, one question of 3 marks and all questions of 5 marks. A student has to attempt only one of the alternatives in such questions.**

#### **SECTION -A**

1. What are gemmae?
2. How important is the presence of air bladder in class Pisces?
3. Name the accessory and reproductive organs in a flower.
4. When is a mineral element considered as toxic to plants?
5. What is ABA? Why is it called as ‘stress hormone’?

#### **SECTION - B**

6. Write 4 important characteristics of pteridophytes.
7. Differentiate between polyp and medusa.
8. List the functions of cell wall.
9. Mention any 4 significance of mitosis.
10. The following abbreviations are used in context of excretory functions. What do they stand for?  
a) ANF                    b) ADH                    c) GFR                    d) DCT

**OR**

What are gonadotropins? Name the gonadotropins secreted by anterior pituitary.

#### **SECTION - C**

11. Define hormones and classify them on the basis of their chemical reaction.
12. What are neurotransmitters? What is their role in transmission of nerve impulses?
13. What does the hind brain consist of? Mention the function of each part.
14. Draw and label the structure of a nephron.
15. List any 3 categories of phytohormones. Write 2 uses of each.
16. Draw a schematic representation of TCA cycle.
17. Who proposed the fluid mosaic model of cell membrane. Explain it.
18. Briefly explain the structure of proteins.
19. Define the following terms.  
a) Bivalents                b) Chiasmata                c) Synapsis
20. Explain the steps involved in biological nitrogen fixation.
21. What are LHC? Describe its types.

22. Define macronutrients. Write the deficiency symptoms of the following elements.  
a) P                    b) Mg

OR

Explain the 3 types of phyllotaxy with examples.

**SECTION - D**

23. In order to make children aware of an important aspect of their health, a workshop was organized by the teachers about the significance of water intake during summer. Teachers told the children that sufficient water intake is crucial for proper digestion and excretion and thus for healthy living. Drinking enough water directly or through food helps the kidneys in their proper working.  
a) What is osmoregulation?  
b) "We urinate fewer times in summer than in winter and the urine passed is generally thicker". Give the reason behind this statement.  
c) As a student what initiative you would take to make this understand by others?

**SECTION - E**

24. Describe the mechanism of hormone action in various physiological and developmental effects with diagram.

OR

Explain the properties of enzymes and 6 classes of enzymes with their functions.

25. What is mitosis and meiosis? List out the differences between the two.

OR

Describe dark reaction of photosynthesis with special mention to C<sub>3</sub> cycle.

26. Explain glycolysis with necessary steps and enzymes.

OR

Give an account of composition of human blood with diagrams.