

II TERMINAL EXAMINATION (2017-2018)

**Class XI**  
**Biology (044)**  
**SET: A**

Time allowed: 3 Hrs

Maximum Marks: 70

**General Instructions:**

1. There are a total of 26 questions and five sections in the question paper. All questions are compulsory.
2. Section A contains question number 1 to 5, Very Short Answer type questions of one mark each.
3. Section B contains question number 6 to 10, Short Answer type I questions of two marks each.
4. Section C contains question number 11 to 22, Short Answer type II questions of three marks each.
5. Section D contains question number 23, Value Based Question of four marks.
6. Section E contains question number 24 to 26, Long Answer type questions of five marks each.
7. There is no overall choice in the question paper; however, an internal choice is provided in one question of two marks, one question of three marks and all three questions of five marks. An examinee is to attempt any of the questions out of the two given in the question paper with the same question number.
8. Where ever necessary draw neat and labeled diagrams.

**SECTION\_A**

1. What is  $G_0$  phase or Quiescent stage? 1
2. What are buliform cells in Monocot leaves? Mention their functions. 1
3. Both cellulose and the starch are the homopolymers of Glucose. Starch gives blue-black colour with Iodine but not the cellulose. Why? Give reason. 1
4. Give the direction of path of conduction of an impulse through a nerve cell or neuron. 1
5. Name the hormone produced by our heart and the hormone produced by our kidneys. 1

**SECTION -B**

6. Give the location of valves in our cardio-vascular system. Mention the function of valves.

OR

Describe the role of our liver and the skin in excretion. 2

7. How do Rhizobium fixes atmospheric Nitrogen? What is the role of leg-haemoglobin? 2

8. What are essential and non-essential amino acids? 2

9. What are simple leaf and a compound leaf? 2

10. What are Ureotelic and Uricotelic animals? Give one example of each. 2

**SECTION -C**

11. Mention any six the functions of plant hormone Auxins. 3

12. Draw a neat and labeled diagram of sagittal section showing parts of the Human eye. 3

13. Describe the C<sub>3</sub> or Calvin cycle. 3

14. Describe the sliding filament theory of muscle contraction. 3

15. What is aestivation in floral bud? Describe valvate and imbricate aestivation with one example each. 3

16. How is lymph formed? Mention any four functions of lymph. 3

17. Define: (a) Racemose inflorescence  
(b) Zygomorphic flower  
(c) Hypogynous flower 3

18. Draw a neat and labeled diagram of a nephron with vasa recta. 3

19. Differentiate between (a) Trichome and Root Hairs  
(b) Radial and Conjoint Vascular Bundles 3

20. Describe the three types of Phyllotaxy. Give one example of each. 3

21. Draw a neat and labeled diagram of the cell organelle Mitochondria.  
OR

Draw a neat and labeled diagram of the cell organelle Chloroplast. 3

22. Fill in the gaps in a given table: A,B,C,D,E and F 3

| S.No | Endocrine Gland | Hormone                        | Major Function                                                      |
|------|-----------------|--------------------------------|---------------------------------------------------------------------|
| 1    | Pancreas        | <b>A</b>                       | Increasing uptake of glucose by cells                               |
| 2    | Pineal Gland    | Melatonin                      | <b>B</b>                                                            |
| 3    | Pituitary Gland | LH in females                  | <b>C</b>                                                            |
| 4    | <b>D</b>        | Melanocyte stimulating hormone | Regulate pigmentation of skin                                       |
| 5    | Adrenal Gland   | <b>E</b>                       | Produce anti- inflammatory reaction and suppresses immune responses |
| 6    | <b>F</b>        | Secretin                       | Stimulates the secretion of water and bicarbonates by pancreas      |

#### SECTION -D

23. Masood saw a person on a bus stand suddenly fall down, breathing fast and unable to stand upright. Masood call an ambulance and took him to a nearby hospital. Doctor examines the person and ECG is taken. Later the doctor told Masood that the person's ECG is normal and the problem is due to indigestion and anxiety.

- (a) What values are shown by Masood?  
(b) How the doctor is able to tell that the person's heart is normal after taking the ECG? Explain. 4

SECTION -E

24. Describe the main events taken place during the cell division Mitosis in the animal cell.

OR

Describe the major events taken place during the Prophase I of cell division Meiosis I. What is the significance of crossing over? 5

25. Describe the steps involved in splitting of glucose molecule into two molecules of pyruvic acid in the cytoplasm of a living cell.

OR

Explain Kreb's cycle. What happen to  $FADH_2$  and  $NADH$  formed during Kreb's Cycle. 5

26. Explain the process of secondary growth in the stems of woody angiosperm.

OR

- a. Mention the location and function of different types of meristem.
- b. What is stomatal apparatus? Explain the structure of stomata with a labeled diagram. 5