

C 31173

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Name.....

Reg. No.....

**THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017**

(CUCBCSS—UG)

Complementary Course

ZOL 3C 03—PHYSIOLOGY, TOXICOLOGY AND ETHOLOGY

Time : Three Hours

Maximum : 64 Marks

**Part A**

*Answer all ten questions.  
Each question carries 1 mark.*

Identify the correct answer :

1. Active transport across plasma membrane requires :

- |              |              |
|--------------|--------------|
| (a) ATP.     | (c) GTP.     |
| (b) Glucose. | (d) Na ions. |

2. Lack of appetite is known as :

- |               |              |
|---------------|--------------|
| (a) Anorexia. | (c) Analgia. |
| (b) Dyslexia. | (d) Anaemia. |

3. Which among the following vitamin is involved in blood coagulation ?

- |        |        |
|--------|--------|
| (a) C. | (c) K. |
| (b) D. | (d) A. |

4. The hormone secreted by the kidneys to regulate blood volume :

- |                     |                |
|---------------------|----------------|
| (a) ADH.            | (c) Adrenalin. |
| (b) Erythropoietin. | (d) Renin.     |

5. The neurotransmitter that enables synaptic transmission in mammals :

- |                             |                |
|-----------------------------|----------------|
| (a) Acetylcholine.          | (c) Serotonin. |
| (b) Acetylcholine esterase. |                |

Name or fill up the following :

6. The food additive known as ajinomoto is \_\_\_\_\_.

7. The scientist who is considered as the father of ethology.

**Turn over**

8. The hormone that is known as the 'cuddle hormone'.
9. The period of suspended development during unfavourable conditions is known as \_\_\_\_\_.
10. Pavlov's experiment proved \_\_\_\_\_.

(10 × 1 = 10 marks)

### Part B

*Give short answers to any seven of the following questions.*

*Each question carries 2 marks.*

11. Why is the plasma membrane defined as the 'unit membrane'?
12. What is haemostasis?
13. What is summation of stimuli?
14. Write a short note on blood groups and compatibility in blood transfusion.
15. Distinguish between an osmoconformer and an osmoregulator.
16. What are the reasons for muscle fatigue?
17. What is a xenobiotic? Name any *one* xenobiotic and explain how it affects human life.
18. What is tetanus? How is it prevented?
19. Give two examples for the uses of toxic chemicals.
20. What is habituation?

(7 × 2 = 14 marks)

### Part C

*Answer any four of the following questions in about a paragraph each.*

*Each question carries 5 marks.*

21. Citing one example, describe how active transport mechanisms work.
22. Distinguish the different categories of muscles.
23. Distinguish between ammonotelism, ureotelism and uricotelism. Give one example for each.
24. Write a brief note on Konrad Lorenz's contribution on the phenomenon of imprinting.
25. Describe the parts and working of a heart-lung machine.
26. What is the principle behind MRI?

(4 × 5 = 20 marks)

**Part D**

*Write an Essay on any two of the following questions.*

*Each question carries 10 marks.*

27. Describe the structure of the plasma membrane according to the fluid-mosaic model. Illustrate wherever necessary (3 marks for labelled sketch).
28. Describe the processes involved in the digestion of food and the absorption of nutrients in the human digestive system.
29. Describe the structure and working of the human heart. Illustrate wherever necessary.
30. Give an account of learned behaviour and how they influence the life of an org.

(2 × 10 = 20 marks)