

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086  
(For Candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15ZL/MC/VP34

**B.Sc. DEGREE EXAMINATION - NOVEMBER 2019**  
**BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY**  
**THIRD SEMESTER**

**COURSE : MAJOR CORE**  
**PAPER : VERTEBRATE PHYSIOLOGY**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION A**

**ANSWER ALL THE QUESTIONS. (10 x 3 = 30)**

1. What is the Role of secretory cells in the stomach?
2. List out the adaptations to high altitudes.
3. State three differences between Homeotherms and Poikilotherms.
4. Lymph acts as 'Middle man' – Justify.
5. Outline the schematic chart of Ornithine cycle.
6. Define GFR.
7. Draw a neat labelled sketch of Multipolar neuron.
8. List out the applications of EEG.
9. Diagrammatically represent the mechanism of peptide hormone action.
10. Comment on the causes of ageing.

**SECTION B**

**ANSWER ANY FIVE QUESTIONS. (5 x 6 = 30)**

11. Explain the physiology of digestion in buccal cavity and small intestine.
12. Illustrate the regulation of heartbeat in human.
13. Discuss the osmoregulatory mechanism in freshwater and marine water teleosts.
14. Give a brief account on Autonomic nervous system.
15. Describe the uterine cycle of human female.
16. Write the principle and applications of Electrocardiogram.
17. Tabulate the various zones of adrenal gland and comment on their secretion and functions.

**SECTION C**

**ANSWER ANY TWO QUESTIONS. (2 x 20 = 40)**

18. Give a detailed account on transport of oxygen and carbon dioxide.
19. Explain the mechanism of urine formation and add a note on the regulation of kidney function.
20. Outline the types of muscles and discuss in detail about 'Sliding filament theory' of muscle contraction.
21. Describe the structure and functions of Pituitary gland.

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