

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
(For candidates admitted during the academic year 2011– 2012)

**SUBJECT CODE: 11ZL/MC/VP64**

**B. Sc. DEGREE EXAMINATION APRIL 2014**  
**BRANCH VI.A. - ADVANCED ZOOLOGY & BIOTECHNOLOGY**  
**SIXTH SEMESTER**

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

**MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS: (10 X 3 = 30)**

1. Name the three cells of the Gastric gland.
2. Enlist any three properties of Hemoglobin.
3. Distinguish Cardiac rhythm and Cardiac output.
4. Distinguish giving an example – Ammonotelism & Uricotelism.
5. Match the following
  - a) Marine Elasmobranchs - Harderian gland
  - b) Marine turtles - Nasal gland
  - c) Marine birds - Cloacal gland
6. Draw and label a nephron.
7. What are the following? a) Diabetes insipidus b) Aerobic dive limit
8. Give the cause and any one symptom of Nitrogen narcosis and Diver's paralysis.
9. Give the synonym for:
  - a) Muscle Hemoglobin b) Osmoregulators c) ADH
10. What are neurotransmitters? Give any two examples.

**SECTION – B**

**ANSWER ANY FIVE OF THE QUESTIONS: (5 X 6 = 30)**

11. What is Bile? Add a note on its composition and functions.
12. With suitable diagrams explain conduction of heart beat.
13. Enumerate the strategies for osmotic and ionic regulation in a freshwater teleost.
14. Draw and label L.S of a kidney. Add a note on its role in homeostasis.

15. Enumerate any six mechanisms by which acclimatization to high altitude takes place.
16. Adrenaline is commonly referred to as the 'Emergency hormone' - Justify.
17. What is Bioluminescence? Add a note on its significance.

### SECTION – C

**ANSWER ANY TWO QUESTIONS:**

**(2 X 20 = 40)**

18. Explain the mechanism of urine formation.
19. Explain the Physiology of respiration in man.
20. Draw and label a multipolar neuron. Explain conduction of nerve impulse.
21. Describe the mechanism of muscle contraction.

\*\*\*\*\*