

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

SUBJECT CODE: 15ZL/MC/VP34

**B.Sc. DEGREE EXAMINATION - NOVEMBER 2016**  
**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. Define a) Homeostasis b) Blood Pressure c) Reflex Action.
2. Differentiate between Ammonotelic, Ureotelic and Uricotelic organism.
3. State any three functions of erythrocytes.
4. Comment on Respiratory Quotient and Heart Sound.
5. Give any three functions of saliva.
6. Draw a neat diagram of nephron and state any two functions.
7. Write a note on any two properties of muscles.
8. Classify neurons based on their shape.
9. Name the male sex hormones and state any two functions.
10. List any three causes of aging.

**SECTION B**

**ANSWER ANY FIVE QUESTIONS.**

**(5 x 6 = 30)**

11. Enumerate on the various physiological adaptations to diving and high altitudes.
12. Explain the working principles and application of ECG and EEG.
13. Write a short note on the composition of blood.
14. Explain the mechanism of absorption of digested food in humans.
15. Comment on the ultra-structure of the striated muscle.
16. Discuss the regulation of urine formation. Add a note on the composition of urine.
17. Draw and describe the female reproductive system.

**SECTION C**

**ANSWER ANY TWO QUESTIONS.**

**(2 x 20 = 40)**

18. Write an essay on the mechanism of osmoregulation in freshwater, marine and terrestrial vertebrates.
19. Explain the process of nerve impulse conduction. Add a note on its properties.
20. Describe the physiology of respiration in humans. Add a note on the respiratory pigments.
21. Write an essay on the structure, function and regulation of thyroid gland of man.

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