LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**M.Sc.** DEGREE EXAMINATION – **ADVANCED ZOOLOGY & BIOTECH.**

THIRD SEMESTER – NOVEMBER 2010

# ZO 3810 - INTEGRATED PHYSIOLOGY

Date : 01-11-10 Dept. No. Max. : 100 Marks

Time : 9:00 - 12:00

**PART-A (10x2 = 20 marks)**

**Answer all the questions.**

1. Define cyclomorphosis by citing an example.
2. Distinguish bioluminescence from fluorescence.
3. Reveal the chemical structure of Haemoglobin.
4. Compare graphically the physiology of osmo conformer and regulator in relation to external environment.
5. What do you know about Juxtra glomerular complex?
6. Sketch the histology of Gastric gland.
7. Name any two neuromuscular disorders.
8. Comment on Warburg’s yellow enzyme.
9. Comment on sleep-wake rhythm.
10. Expand: GnRH and SCN.

**PART-B (4x10 = 40 marks)**

**Answer any four questions.**

1. Compare the positive and negative feedback mechanisms in the light of hormones.
2. Explain the role of neuroendocrine regulation in diapause.
3. Highlight the mechanism of G-protein signaling.
4. How do neurons transmit and receive information?
5. Explain the mechanism of BMR.
6. Examine the neural, chemical and electrical basis of visual image processing.

**PART-C (2x20 = 40 marks)**

**Answer any two questions.**

1. Describe the physiology of muscle contraction in the light of striated muscles and cardiac muscles.
2. Elucidate the regulation of hypothalamic-pituitary, thyroid, adrenal and growth hormone axis.
3. Compare the osmoregulations in aquatic and terrestrial systems.
4. a) Examine the electrical events during the process of hearing.

b) Highlight the impact of global warming on cellular respiration.

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