

Total Pages : 4

**End Semester Examination of Semester–II, 2016**

**Subject : ZOOLOGY (PG)**

**Paper : ZOOPG–204**

**Group : Gr A + Gr B**

**Full Marks : 40**

**Time : 2 Hrs**

*The figures in the margin indicate the marks  
corresponding to the question*

*Candidates are requested to give their answers  
in their own word as far as practicable.*

*Illustrate the answers wherever necessary.*

**Use separate Answer scripts for Group A and Group B**

**Group A (Marks : 20)**

**Answer Question No. 1 and  
any one out of Question No. 2 and Question No. 3**

1. Answer **any five** questions : 2x5=10
- i) Name the endocrine glands involved in the homeo-static mechanism in our body.
  - ii) What do you mean by ‘Hypophysiotropic hormones’? Give an example.
  - iii) Mention two important functions of Insulin.
  - iv) What do you mean by Neuro-endocrine integration?

( 2 )

- v) What are the characteristics of G-protein coupled receptors?
- vi) What is meant by positive feedback control of hormone secretion? Give suitable example.
- vii) Define apocrine secretion, citing examples from hormones.
- viii) What are the catecholamines? Mention their sources in our body.
2. a) What are the types of hormonal feedback mechanism involved in the maintenance of Homeostasis? Give an example with schematic representation.
- b) Name the hormones secreted from Adrenal medulla. Mention two important functions of them.
- c) Mention the different chemical nature of hormones with one example for each.  $(2+2)+(1+2)+3$
3. a) Mention the sources and chemical nature of the following signalling molecules (any three) :
- i) PGDF                      ii) NO
- iii) Epinephrine            iv) Testosterone.
- b) Schematically represent the signalling pathway through which Insulin works.
- c) Outline the role of cAMP in PKA activation.  $3+5+2$

( 3 )

**Group B (Marks : 20)**

**Answer Question No. 1 and  
any one out of Question No. 2 and Question No. 3**

1. Answer any five questions : 2x5=10

- i) Discuss the advantages of Lineweaver-Busck plot over enzyme substrate saturation plot.
- ii) What are the rate limiting steps of glycolysis?
- iii) What is glycogenin?
- iv) Mention the sources of neoglucogenesis.
- v) Why reversible covalent modification of enzyme is important?
- vi) What is the role of enzyme as molecular marker?
- vii) What are the importance of isozymes in biological sciences.
- viii) What are acidic amino acids – give example.

2. a) Differentiate between uncompetitive and non-competitive type of enzyme inhibitors. Discuss the changes that will be observed in the saturation plot.
- b) What is Ketosis? How are the Ketone bodies produced in our body. How does our body try to prevent

Ketosis?

$$(2\frac{1}{2} + 2\frac{1}{2}) + (1+2+2)$$

( 4 )

3. a) Describe the rate limiting step of fatty acid synthesis.
- b) Discuss the steps of Ketone body formation in animal tissue.
- c) How many ATPs will be gained by a cell upon complete oxidation of stearate? 3+3+4
-