

# AE-782

M.Sc. (Final)

Term End Examination, 2016-17

# ZOOLOGY

## Paper - II

# Vertebrate Anatomy, Physiology, Immunology, Biomolecules and Metabolic Regulation

*Time : Three Hours]      [Maximum Marks : 100*

[Minimum Pass Marks : 36

**Note** : Answer **all** questions. All questions carry equal marks.

## Unit-I

1. Give a comparative account of evolution of heart and aortic arches in vertebrates with the help of diagrams and descriptions.

***OR***

Write short notes on the following :

- (a) Comparative account of human brain and brain of bird

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- (b) Pectoral girdles of reptiles, birds and mammals

**Unit-II**

2. Give a comparative physiology of digestion among vertebrate groups.

**OR**

Write short notes on the following :

- (a) Physiology of photoreception and phonoreception  
(b) Osmoregulation in fishes, amphibians and reptiles

**Unit-III**

3. Explain cells of immune system and their differentiation.

**OR**

Write short notes on the following :

- (a) Innate and acquired immunity  
(b) Antigen : Antibodies interactions in-vitro and in-vivo

**Unit-IV**

4. Describe the general properties and structure of monosaccharides, disaccharides and polysaccharides.

**OR**

( 3 )

Write short notes on the following :

- (a) Immobilised enzymes and their applications
  - (b) Biological significance and properties of fats, phospholipids and steroids.
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