

**6/H-63 (vii) (Syllabus-2015)**

**2018**

**( April )**

**ZOOLOGY**

**( Honours )**

**SEVENTH PAPER**

**( Biochemistry, Animal Physiology and  
Endocrinology )**

**Marks : 56**

**Time : 3 hours**

*The figures in the margin indicate full marks  
for the questions*

**Answer Question No. 1 and any four from the rest**

**1. Answer any three of the following :  $4 \times 3 = 12$**

(a) Explain the process of irreversible enzyme inhibition with an example.

(b) Describe briefly the structure of glycogen and hyaluronic acid.

(c) Discuss the process of gaseous exchange through gills.

(d) Write a note on various types of neurohormones.

(e) How is lactation regulated in mammals?



2. Deduce Michaelis-Menten equation and briefly describe the significance of  $K_m$ . 9+2=11

3. Describe the process of electron transport in mitochondria. Add a note on oxidative phosphorylation. 6+5=11

4. (a) What are amino acids? Give the classification of amino acids based on their chemical properties. 1+5=6

(b) Write a note on urea cycle. 5

5. Discuss the structure and functions of haemoglobin with suitable illustrations. 6+3+2=11

6. (a) Describe the mechanism of peptide hormone action. 6

(b) Write a note on placental hormones. 5

7. Give an account of various physiological changes that take place during menstrual cycle in human. 11

8. Write notes on any two of the following : 5½×2=11

(a) Osmoregulation in fish

(b) Pheromones

(c) Embryo transfer technology

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**6/H-63 (viii) (Syllabus-2015)**

**2018**

( April )

**ZOOLOGY**

( Honours )

**EIGHTH PAPER**

**( Developmental Biology, Environmental Biology  
and Biotechnology )**

*Marks : 56*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

Answer Question No. **1** and *any four* from the rest

**1.** Write in brief any *three* of the following :

$4 \times 3 = 12$

- (a) Patterns of cleavage
- (b) Concept of ageing
- (c) Biomagnification
- (d) Acid rains
- (e) Types of restriction enzyme



2. What are morphogenetic movements?  
Discuss various morphogenetic movements during the process of gastrulation with suitable diagrams.  $1+8+2=11$
3. Give an account of regeneration in invertebrates. 11
4. (a) Describe Shelford's law of tolerance.  
(b) Briefly describe the major terrestrial biomes of the world.  $5\frac{1}{2}+5\frac{1}{2}=11$
5. (a) State the causes and consequences of radioactive pollution.  
(b) Briefly describe the gasses responsible for ozone depletion and suggest some control measures.  $5+6=11$
6. Discuss different processes involved in nitrogen cycle. 11
7. Write short notes on any two of the following :  $5\frac{1}{2}\times 2=11$
- (a) Teratogenesis
  - (b) Biological indicators
  - (c) PCR

8. (a) Describe the application of cosmid vector in genetic engineering with suitable illustrations.  
(b) List various steps involved in Southern blotting with diagrams.  $5\frac{1}{2}+5\frac{1}{2}=11$

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