

**2 0 1 6**

( 3rd Semester )

ZOOLOGY

Paper : ZL-III

**( Evolution and Behaviour )**

*Full Marks : 55*

*Time : 2½ hours*

( PART : B—DESCRIPTIVE )

( Marks : 35 )

*The questions are of equal value*

1. Describe the theory of Natural Selection with reference to the correlation between malaria and sickle-cell disease.

*Or*

What is speciation? Discuss the various types of speciation.

2. Explain the concepts of the primordial soup theory and RNA world hypothesis.

*Or*

Explain the evolutionary steps in horses.

3. Describe the most relevant hominid fossils in the lineage of modern humans.

*Or*

Compare and contrast the concepts of Batesian and Müllerian mimicry citing suitable examples.

4. Explain the concepts of altruism and reciprocal altruism.

*Or*

Give an account on infrasound and echolocation in animals.

5. Discuss the principle of evolutionary arms race with examples.

*Or*

Explain the principles of regulation of behaviour by hormones.

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Subject Code : **III**/ZOO (iii)

Booklet No. **A**

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Date Stamp .....

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**To be filled in by the Candidate**

DEGREE 3rd Semester  
 (Arts / Science / Commerce /  
 ..... ) Exam., **2016**

Subject .....

Paper .....

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**To be filled in by the Candidate**

DEGREE 3rd Semester  
 (Arts / Science / Commerce /  
 ..... ) Exam., **2016**

Roll No. ....

Regn. No. ....

Subject .....

Paper .....

Descriptive Type

Booklet No. B .....

**INSTRUCTIONS TO CANDIDATES**

- 1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.**
- 2. This paper should be ANSWERED FIRST and submitted within 45 minutes of the commencement of the Examination.**
- 3. While answering the questions of this booklet, any cutting, erasing, overwriting or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.**

Signature of  
Scrutiniser(s)

Signature of  
Examiner(s)

Signature of  
Invigilator(s)

## III/zoo (iii)

2 0 1 6

( 3rd Semester )

### ZOOLOGY

Paper : ZL-III

#### ( Evolution and Behaviour )

( PART : A—OBJECTIVE )

( Marks : 20 )

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

#### SECTION—I

( Marks : 5 )

1. Put a Tick (✓) mark against the correct answer in the corresponding brackets : 1×5=5

(a) The phrase 'survival of the fittest' was coined by

(i) Charles Darwin ( )

(ii) Jean Baptiste de Lamarck ( )

(iii) Herbert Spencer ( )

(iv) J. B. S. Haldane ( )

( 2 )

(b) The 'Age of Reptiles' applies to

(i) Cenozoic Era ( )

(ii) Paleozoic Era ( )

(iii) Proterozoic Era ( )

(iv) Mesozoic Era ( )

(c) According to plate tectonics theory, the original supercontinent around one billion year ago was

(i) Pangaea ( )

(ii) Rodinia ( )

(iii) Gondwana ( )

(iv) Laurasia ( )

(d) The principle of dancing in bees was discovered by

(i) Katy Payne ( )

(ii) Konrad Lorenz ( )

(iii) Nikolaas Tinbergen ( )

(iv) Karl von Frisch ( )

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( 3 )

(e) A hormone responsible for behaviours such as mood, sleep-wake cycle, etc., is

(i) melatonin ( )

(ii) progesterone ( )

(iii) oxytocin ( )

(iv) testosterone ( )

( 4 )

SECTION—II

( Marks : 15 )

2. Write short notes on the following in 5 to 8 sentences each : 3×5=15
- (a) Lamarckism

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( 5 )

(b) Concept of symbiogenesis

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( 6 )

(c) Volant adaptation

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( 7 )

(d) Imprinting

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( 8 )

(e) Types of scent markings in vertebrates

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