Civil Services (Main) Examination, 2009

# ZOOLOGY

## (Paper I)

**Time Allowed : Three Hours** **Maximum Marks : 300**

### QUESTION PAPER SPECIFIC INSTRUCTIONS

*(Please read each of the following instructions carefully before attempting questions)*

There are EIGHT questions divided in two Sections.
Candidate has to attempt FIVE questions in all.
Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.
The number of marks carried by a question/part is indicated against it.
Wherever any assumptions are made for answering a question, they must be clearly indicated.
Word limit in questions, wherever specified, should be adhered to.

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## SECTION 'A'

**1.** Write concise accounts of any three of the following in about 200 words each: **20×3=60**

- **(a)** Symmetry in non-chordates
- **(b)** Life history of Obelia
- **(c)** General features of Monotremata
- **(d)** Digital tips in vertebrates

**2.** Write brief notes (of about 200 words each) on the following: **20×3=60**

- **(a)** Flightless birds
- **(b)** Parasitism in Crustacea
- **(c)** Affinities and systematic position of Balanoglossus

**3. (a)** Describe torsion and detorsion in Mollusca. **30**

**(b)** What is metamerism? Describe its importance in invertebrates. **30**

**4.** Write brief notes (of about 200 words each) on the following: **20×3=60**

- **(a)** Parental care in Amphibia
- **(b)** Migration of fishes
- **(c)** Social behaviour of Apis

## SECTION 'B'

**5.** Write brief accounts of any three of the following in about 200 words each: **20×3=60**

- **(a)** Biological examples of Regression Analysis
- **(b)** Gel Electrophoresis
- **(c)** Radioactive Tracers
- **(d)** Instinct and Learning

**6. (a)** Describe ecological succession giving suitable examples. **30**

*English version compiled from published transcriptions and cross-checked across sources; not a facsimile of the official UPSC question paper.*



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**(b)** What are transgenic animals? Describe their importance in research. **30**

**7.** Write short notes (of about 200 words each) on the following:

**20×3=60**

**(a)** Social hierarchies in Primates

**(b)** Environmental biodegradation

**(c)** Applying remote sensing in studying distribution of animals

**8.** Comment on the following:

**30×2=60**

**(a)** Navigation in birds

**(b)** Forensic biotechnology and its applications



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