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Total No. of Printed Pages—4

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PAR/CCM-73/13

2014

ZOOLOGY

FIRST PAPER

Full Marks : 200

Time : 3 hours

The figures in the margin indicate full marks
for the questions

GROUP—A

(Marks : 100)

Answer Question No. 1 and any three
from the rest

1. Answer the following questions in brief
(any four) : $10 \times 4 = 40$

- (a) Describe the process of conjugation in *Paramecium* and discuss its significance with special reference to the phenomenon of rejuvenation in this animal.
- (b) Name the intestinal helminth parasites of man. Discuss the adaptive features of their life cycle and pathogenesis.
- (c) Write a note on polymorphism in Coelenterata.

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(Turn Over)

- (d) Honeybee is a social insect. Discuss.
- (e) What is pearl? Elaborate on the formation of pearl with reference to pearl fisheries in India.
2. What are the salient features in the anatomy of *Amphioxus*? Discuss the affinities of *Amphioxus*. 20
3. Why is *Sphenodon* called a living fossil? Discuss the affinities of this species with other vertebrates. 20
4. Describe the respiratory organs and mechanism of respiration in pigeon. Write about the functional significance of Air sacs. 20
5. Discuss the reptilian and mammalian affinities of prototheria. 20
6. What is migration of bird? What are the different factors responsible for migration in birds? 20

(3)

GROUP—B

(Marks : 100)

Answer Question No. 7 and *any three*
from the rest

7. Answer/Write briefly on any *four* of the
following : 10×4=40

(a) Relationship between an ecosystem and
the laws of thermodynamics

(b) Waggle dance

(c) Explain ecological pyramids and
productivity.

(d) What is induced breeding? Write in
detail the mechanism of induced
breeding and its role in pisciculture.

(e) T-test in biostatistics

8. What are the factors responsible for water
pollution? What are the principal effluents of
oil, paper and textile industries? Write in
brief the management strategies and
remedial measures of these waste water
effluents. 20

9. Give an account of the morphology and life
history of Lac insect. Discuss the economical
impact of Lac culture. 20

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(Turn Over)

10. Describe the ecological pyramids in the backdrop of ecological energetics in food chains. 20
11. Compare the structure of the heart of reptiles and mammals. State the significance of the differences. 20
12. State the concept of mean, median and mode. Write about their applications in biological science. 20
