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ZOOLOGY

(Major)

Paper : 6.1

Full Marks : 60

Time : 3 hours

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

1. Answer the following questions : 1×7=7

- (a) Name the book of Aristotle in which he gave the description on animal behaviour.
- (b) What is meant by r-selected or k-selected species?
- (c) Who first proposed the term IRM?
- (d) Which part of the brain controls motivation in vertebrates?
- (e) Name the social unit of monkey in which individual monkeys are smaller in size, shy to intruders and remain hidden in foliage.

(2)

- (f) Write True or False :
Gathering of a mass of *Drosophila* on the same rotting fruit forms 'aggregation'.
- (g) State the type of reflexes which develop from the previous experiences.

2. Give very short answers to the following :

2×4=8

- (a) Mention various components of innate behaviour and learned behaviour.
- (b) Write the significance of sign stimuli.
- (c) "Reasoning is called the highest form of memory." Justify it.
- (d) Write the role of pheromones as sex attractants.

3. Give short answers to the following questions

(any three) : 5×3=15

- (a) Write briefly about the important methods used in Ethological studies. 5
- (b) Define territory of an animal species. Explain the territorial behaviour of animals with appropriate examples. 1+4=5
- (c) Explain the conditions that are generally taken into account in measuring feeding and drinking motivation. 5

(3)

- (d) Write a note on 'homing behaviour' in animals. 5
- (e) What is imprinting? Give appropriate explanation of imprinting, taking examples from bird species. 5

4. Answer the following questions : 10×3=30

- (a) Elaborate Rothenbuhler's experiment to show the genetics of hygienic behaviour honeybees. Add a note on the role of behaviour genetics in development of Ethology. 7+3=10

Or

Mention two common methods that are used in studying hormone-behaviour interaction. Write how the hormones control (i) sexual behaviour and (ii) aggregative behaviour of animals.

2+4+4=10

- (b) What is communication in animals? Explain how animals communicate with other members of the species through chemical, visual and audio signals.

1+9=10

Or

Narrate two important models of motivation in Ethology. Write how these methods of motivation are assessed.

8+2=10

(4)

- (c) What is meant by cyclic behaviour of animals? Describe the circadian rhythm as an example of cyclic behaviour.

2+8=10

Or

Name two orders of social insects with examples. Explain how honeybees communicate with other bees of the colony regarding food and water through different dancing patterns.

2+8=10

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