

5. (a) Why are honeybees referred to as eusocial insects? Describe with a relevant diagram how do foraging honeybees communicate among themselves about the food source when a good quality food is located beyond 100 meters away from the hive. 8
- (b) Discuss the infanticide behaviour of males. What tactics are adopted by females to counter the infanticide by the males? 7
6. Write short notes on any **three** of the following :
3×5=15
- (a) Egg rolling behaviour of graylag geese
 - (b) Courtship in three-spined Stickleback Fish
 - (c) Stimulus filtering
 - (d) Inclusive fitness
 - (e) Artificial Intelligence
 - (f) Role of studying animal behaviour in wildlife conservation

[This question paper contains 4 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : **2044** **I**

Unique Paper Code : 2232012403

Name of the Paper : Animal Behaviour -
DSC

Name of the Course : **B.Sc. (H) Zoology**
(NEP-UGCF)

Semester : IV

Time : 2 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) Attempt **four** questions in all including Question No. 1 which is compulsory.
- (c) **All** questions carry equal marks. **All** parts of a question should be answered together.

1. (a) Define the following (Any **four**) : 1×4=4

- (i) Ethology
- (ii) Kinesis
- (iii) Instinctual behaviour
- (iv) Reasoning

- (v) Intrasexual selection
 (vi) Code breaker
 (b) Differentiate between the following by giving one relevant example each (any **four**) :
 $2 \times 4 = 8$
- (i) Pheromones and Hormones
 (ii) Habituation and Reinforcement
 (iii) Kinesis and Taxis
 (iv) Simple Reflex and the Conditioned Reflex
 (v) Polyandry and polygyny
 (c) Match the List-I with List-II : $0.5 \times 6 = 3$

List-I		List-II	
(Scientists)		(Contributions)	
(i) Konrad Lorenz	(a)	Classical Conditioning	
(ii) Ivan Pavlov	(b)	Operant Conditioning	
(iii) Karl von Frisch	(c)	Tail wagging dance in honeybees	
(iv) Robert Trivers	(d)	Kin Selection	
(v) W.D. Hamilton	(e)	Imprinting	
(vi) B.F. Skinner	(f)	Reciprocal Altruism	

2. (a) Define communication. Critically analyse the significant roles of tactile, auditory and visual communication by giving two appropriate examples each. 8
 (b) Discuss in detail how is the Fixed action pattern differed from an imprinted or a conditioned response by giving relevant examples. 7
- 3 (a) What is courtship and describe the adaptive significance of the courtship behaviour? Describe briefly the courtship rituals in an insect and a bird. 8
 (b) What is an altruistic behaviour? How is altruistic behaviour explained by kin selection? 7
- 4 (a) What do you understand by the term learnt behaviour? Describe in detail by giving appropriate examples the diversity of learnt behaviours. 8
 (b) What is conditioned reflex? When will you say that conditioning has taken place with respect to a stimulus? Explain by designing an experiment. 7