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4/11/19 M

Your Roll No.....

Sr. No. of Question Paper : 7974

J

Unique Paper Code : 32237901

Name of the Paper : Animal Behaviour and Chronobiology

Name of the Course : B.Sc. (H) Zoology : DSE-1

Semester : V (CBCS)

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt Five questions in all including Question No. 1 which is compulsory.

1. (a) Define the following :

- (i) Reciprocal altruism
- (ii) Reinforcement
- (iii) Menotaxis
- (iv) Infanticide

P.T.O.

(v) Latent learning

(vi) Nidifugous birds (1×6=6)

(b) Differentiate between the following :

(i) Innate and learned behaviour

(ii) Altricial and precocial

(iii) Primary and secondary orientation

(iv) Circadian and circannual rhythms

(v) Eusocial and semisocial animals

(vi) Hormone and pheromone (2×6=12)

(c) Give Contributions of the following :

(i) Karl von Frisch

(ii) Oskar Heinroth

(iii) Franz Halberg

(iv) C. O. Whitman (1×4=4)

(d) State true or false :

(i) Honeybees perform waggle dance to communicate about food source at short distances.

(ii) Cheater gene influences infidelity in humans.

(iii) Animals may be brightly colored to advertise to mates or warn potential predators of its toxicity.

(iv) In scan sampling, the behaviour of all individuals of a group of animals are recorded at fixed time intervals.

(v) Movement directed toward a light source is called positive chemotaxis. (1×5=5)

2. (a) Describe the Pavlov's experiment on classical conditioning. (6)

(b) Draw a neat labelled diagram of different types of dances performed by forager honeybees to communicate about food source. Discuss the advantages of waggle dance for honeybee society. (3,3)

3. (a) Write a note on Zeitgeber. Describe the factors responsible for its effectivity. (3,3)

(b) With the help of suitable examples, explain exogenous and endogenous rhythms. (6)

4. (a) What is imprinting? Explain the contribution of Konrad Lorenz in describing the phenomenon of imprinting. (6)
- (b) Describe, with examples, the concept of sexual conflict in parental care. Add a note on the benefits and costs associated with parental care. (3,3)
5. (a) Define altruism and explain how natural selection will favor altruistic behavior. (6)
- (b) Classify and explain various form of orientation with suitable example. (6)
6. (a) Explain proximate and ultimate causes of behavior with help of suitable examples. (6)
- (b) Differentiate between classical and operant conditioning with suitable examples. (6)
7. Write short notes on any **three** of the following :
- (a) Kin selection
- (b) Biological oscillations
- (c) Society organization in honeybees
- (d) Parasitic brood care
- (e) Role of melatonin (3×4=12)