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M.Sc. (IVth Semester) Examination, 2020

ZOOLOGY

(Animal Behaviour)

Time Allowed : Three Hours

Maximum Marks : 70

SECTION - A

Q. 1. Attempt any ten questions. Each question carries one mark. (Q.No. 1 to 5 fill in the blanks and 6 to 12 multiple choice type). **10**

- (i) In honey bee royal jelly is secreted from _____.
- (ii) In honey bees the drones (males) are produced from _____.
- (iii) The interaction in which an individual gives up or sacrifices some of its own reproductive potential to benefit another individual is called _____.

(2)

- (iv) The change of behaviour by life experiences is called _____.
- (v) A stimulus that triggers innate behaviour is called _____.
- (vi) Hunger and thirst are two examples of :
- (a) Behavioral stimuli
- (b) Directed taxes
- (c) Circadian rhythms
- (d) Random kinesis
- (vii) Animals move from a less desirable location to a more desirable location by means of :
- (a) Biological clocks
- (b) Courtship displays
- (c) Kinesis and taxis
- (d) Circadian rhythm

(3)

(viii) Inclusive fitness involves what ?

- (a) Just direct fitness
- (b) Just indirect fitness
- (c) Direct and indirect behaviour
- (d) Any type of fitness that benefits the individual

(ix) Which phrase best describes an instinctive behaviour :

- (a) Often occurs where mistakes are not costly
- (b) Usually performed incorrectly for the first time
- (c) Typically innate and relatively inflexible
- (d) Generally learned, flexible and cumulative

(4)

(x) How are mistakes in mate selection prevented ?

- (a) Pre-mating mechanisms (e.g. courtship)
- (b) Mating related mechanisms (e.g. genitalia)
- (c) Post-mating mechanisms (e.g. endocrine)
- (d) All of the above

(xi) Fixed action patterns are :

- (a) A sequence of unlearned acts
- (b) An unchangeable behaviour
- (c) Can not deviate from behaviour
- (d) All of the above

(xii) The kin selection theory explains that :

- (a) The closer the relationship, the less likely altruistic behaviour will be performed
- (b) The more distant the relationship the more likely altruistic behaviour will be
- (c) The closer the relationship the more likely altruistic
- (d) None of the above

(5)

SECTION - B

Q. 2. Attempt any five questions. Each question is of very short answer type and to be answered in 25-30 words. Each question carries 2 marks. **10**

- (i) What is reflex action ?
- (ii) Orientation
- (iii) Klinokinesis
- (iv) Polyphenism
- (v) FAP
- (vi) Pheromones
- (vii) Altruism

SECTION - C

Q. 3. Attempt any five questions. Each question carries 4 marks. Write short notes on the followings (250 words) : **20**

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(6)

- (i) Sun compass orientation.
- (ii) Tropotaxis
- (iii) Physiological basis of motivation
- (iv) Key stimuli
- (v) Various types of communication in honey bee.
- (vi) Reciprocal altruism
- (vii) Conditioning

SECTION - D

Q. 4. Attempt any three questions. Each question carries 10 marks and to be answered in more than 500 words. **30**

- (i) What is reflex action ? Describe the types of reflexes & reflex arc ?
- (ii) Distinguish between telotaxis and tropotaxis with suitable examples.

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(7)

(iii) Explain the role of hormones and pheromones in influencing the behaviour of animals.

(iv) Write an essay on social organisation in honey bee.

