

**D-6541**

**M.Sc. (IV<sup>th</sup> 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 \_\_\_\_.

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- (iv) The change of behaviour by life experiences is called \_\_\_\_.
- (v) A stimulus that triggers innate behaviour is called \_\_\_\_.
- (vi) Hunger and thrust 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

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(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

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(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

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

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

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