

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SIXTH SEMESTER EXAMINATION, MAY 2024

THIRD YEAR [BATCH 2021-24]

ZOOLOGY [HONOURS]

Paper : CC 14

Date : 15/05/2024

Time : 11 am – 1 pm

Full Marks : 50

1. Answer **any five** questions : [5 × 2]

- i) Mention the advantages and disadvantages of FAP in animal evolution.
- ii) What is reciprocal altruism? Give a suitable example. (1+1)
- iii) What is ovaprim? What is spawning hapa? (1+1)
- iv) What is nuptial gift?
- v) What is zugunruhe?
- vi) Name two ethologists who won the Noble prize.
- vii) What are royal jelly and bee bread?
- viii) What do you mean by degree of freedom?

Answer **any four** questions : [4 × 10]

- 2. a) What is waggle dance? Mention its significance.
b) Add a short note with suitable examples on parental care in (i) fishes and (ii) amphibians.
c) Describe imprinting in animal behavior with a suitable example. [(2+2)+(2+2)+2]
- 3. a) Write explanatory note on any four glands found in honeybees that secrete pheromones.
b) Mention the duties performed by the worker bees in their hive. Add a note on polyethism in honey bee society.
c) Explain the critical period hypothesis in the context of imprinting and state how it influences the timing and permanence of the learned behavior. [4+(2+2)+2]
- 4. a) What is induced breeding?
b) What are the advantages of induced breeding?
c) Explain the evolution of altruistic trait with the help of Hamilton's rule.
d) What is the principle of vermicomposting?
e) Name one bacterial disease found in poultry. [2+3+2+2+1]
- 5. a) Write down the composition of silk.
b) What is chandraki?
c) Differentiate between Batesian and Mullerian mimicry with one example from each.
d) Describe the factors which drive the birds for migration.
e) What is Danier? [2+2+2+3+1]
- 6. a) Write the scientific names of two Indian bees. Which bee gives maximum honey?
b) Name the chamber where honey is stored in a Langstroth hive.
c) Mention the causative organisms and symptoms of Nosema and chalk brood diseases.
d) Name one stingless bee which is used for commercial honey production. [(2+1)+2+(2+2)+1]
- 7. a) What is IPM? What are EIL and ETL with respect to IPM?
b) Mention the scientific name of any stored grain that you have studied. Elaborate the nature of damage caused by it.
c) What is shellac? Mention its uses.
d) Write down the economic importance of cotton bollworm.
e) Name two host plants of Lac insect. [(1+2)+(1+1)+(1+2)+1+1]

8. a) Identify the type of data (nominal, ordinal, interval and ratio) represented by each of the followings.
- i) Blood Group
 - ii) Temperature
 - iii) Ethnic group
 - iv) Number of heart attacks
 - v) Calendar year
 - vi) Serum uric acid (mg/100ml)

The survival time in months for 51 patients suffering from Acute Myeloblastic Leukemia (AML) was diagnosed to be

18	31	31	31	36
01	01	39	20	04
45	36	12	08	01
15	24	02	33	29
07	05	01	02	12
09	01	01	09	05
27	01	13	01	05
01	03	04	01	18
01	02	01	08	03
04	14	03	03	13
13				

Calculate the sample mean and Standard Deviation.

[2+4+4]

Draw a histogram and show the distributions of survival times.

9. a) The mean weight of 150 students in a certain class is 60 kg. The mean weight of Boys is 70 kg and girls is 55 kg. Find the number of boys and girls in the class?
- b) If the total frequency (f_i) is 100 and given that mean (\bar{x}) = 3.68, find the two missing frequencies.

x	0	1	2	3	4	5	6	7
f	2	8	1	-	2	-	1	3

[5+5]

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