7

2018

# ZOOLOGY – HONOURS

## Seventh Paper

## (Unit – I)

## Full Marks – 50

*The figures in the margin indicate full marks*
*Candidates are required to give their answers in their own words as far as practicable*

Answer ***Question No. 1*** and ***any four*** questions from the rest

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

(a) State the difference between breeding hapa and hatching hapa.

(b) What is 'chandraki' ?

(c) What is the difference between LC50 and LD50 ?

(d) State the characteristic features of penaeid and non-penaeid prawns.

(e) State the composition of honey.

(f) What do you mean by Alternative hypothesis ?

(g) Name four common breeds of cow in India.

(h) What is 'mother of pearl' ?

(i) Explain the term 'level of significance'.

2. (a) Give an account of life cycle and control of brinjal fruit borer studied by you. 3+2

(b) Define probability. What do you mean by standard error ? What is the probability of getting tail in a throw of a coin ? 2+2+1

3. (a) State the principles of composite fish culture. Mention one disadvantage of such culture. What do you mean by hypophysation ? Name one synthetic hormone used in this process. 2+1+1+1

(b) Body length of fishes of a species was measured from two ponds. Their measurements are as follows (in cm.) :

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pond A | 20 | 24 | 20 | 28 | 22 | 20 | 24 | 32 | 24 | 26 |
| Pond B | 12 | 10 | 8 | 10 | 6 | 4 | 14 | 20 | 10 | 6 |

Calculate whether the mean difference in total body length between the fishes of the two ponds is significant or not.

(It is given that $t_{0.05} = 2.10$ for df 18). 5

4. (a) Give a brief account of fish byproducts. Name one fish disease and its causative agent. 4+1

(b) Two curly-winged flies when mated, produced 61 curly- and 35 straight-winged progeny. Use a chi-square test to determine whether these numbers fit a 3:1 ratio.

(Use 5% level of significance and assume that for 1 degree of freedom $\chi^2_{0.05} = 3.84$) 5

5. (a) Name different strains of lac insect. Discuss the precautions to be taken during artificial inoculation of lac. 2+3

(b) What do you mean by mode of a frequency distribution ? Compute the median and mode of the following distribution of tracheal ventilation scores (ml. per minute) of a sample of beetle.

| Range | 61 – 65 | 66 – 70 | 71 – 75 | 76 – 80 | 81 – 85 |
|---|---|---|---|---|---|
| Frequencies | 12 | 25 | 45 | 30 | 8 |

2+3

6. (a) Discuss the basic requirements to design a deep litter for poultry birds in intensive system of management. Give an account of the pathogenicity and control of coccidiosis among poultry birds. 3+2

(b) What are the properties of 't'-distribution ? Differentiate between unpaired and paired 't'-test. 2+3

7. (a) State the characteristic features of an ideal rearing room of silkworm. Name two-species of Indian pearl oyster with their distribution. 3+2

(b) What are the important characteristics of chi-square ? Calculate Karl Pearson's co-efficient between marks in Zoology and Botany obtained by 5 students of a college : 2+3

| Marks in Zoology | 35 | 30 | 15 | 45 | 20 |
|---|---|---|---|---|---|
| Marks in Botany | 25 | 25 | 20 | 35 | 15 |

8. Write notes on ***any four*** of the following : 2½×4

(a) Ecology of *Bandicota bengalensis.*

(b) Intensive fish farming — merits and demerits.

(c) Standard Langstroth box used in bee keeping.

(d) Criteria for applying 't' test.

(e) Standard deviation and variance.

(f) Damage caused by *Sitophilus* sp. and its control measure.

(g) Semi-intensive prawn farming.