

2017

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** from the rest

1. Answer **any five** of the following : 2×5
- What is ovaprim ? State its role in aquaculture.
 - What is reeling ?
 - Name two American breeds of fowl.
 - What is honey dew ? How does it affect host plant ?
 - What do you understand by "goodness of fit" ?
 - What is pebrine disease ?
 - Write the chemical composition and uses of fish meal.
 - Briefly explain "Poison distribution".
 - "The LD₅₀ value of DDT for rat is 100 mg/kg" — explain.

2. (a) Mention scientific names of two brackish water prawn species in India. Give a comparative account of extensive and semi-intensive prawn farming. 2+3

- (b) What is median ? How does it differ from mean ?

The following table gives the marks in zoology of a batch of 10 students :

Roll No.	1	2	3	4	5	6	7	8	9	10
Marks	33	36	28	40	42	25	37	32	35	43

Calculate the arithmetic mean of marks in zoology among the students. 1+1+3

3. (a) How would you identify a queen in a bee hive ? Explain the terms "bee pasturage" and "emergency queen". How is nectar changed into honey by honey bees ? 1+2+2

- (b) State the properties of coefficient of correlation.

A bag contains 07 male and 10 female cockroaches. What will be the probability of taking out one female cockroach from the bag ? 3+2

4. (a) Give an account of the different strains of Mulberry silk moth based upon its voltinism. Give a brief account of silk products and their uses. 3+2

(b) A test cross of monohybrid gray mouse to an albino strain results in 64 gray and 48 albino progeny. Test the goodness of fit of these data to a 1 : 1 ratio, using the Chi-square test (use 5% level of significance and assume that for 1 degree of freedom, $\chi^2_{0.05} = 3.84$). 5

[Turn Over]

5. (a) Give an account of the life-cycle of a jute pest studied by you. State its control measures. 3+2

(b) What do you mean by null hypothesis and alternative hypothesis ? What is two-tailed t-test ? 3+2

6. (a) What do you mean by dual cattle breed ? Write briefly the chief characteristics of Sahiwal and Jersey. 1+2+2

(b) Ten students got the following marks in Ecology and Genetics :

Roll No.	1	2	3	4	5	6	7	8	9	10
Marks in Ecology	78	36	98	25	75	82	90	62	65	39
Marks in Genetics	84	51	91	60	68	62	86	58	53	47

Calculate the correlation coefficient. 5

7. (a) Enumerate the differences between Natural, Cultured and Imitation pearl. Give an account of acute and chronic toxicity. 3+2

(b) An IQ test was performed in 5 persons before and after they are trained. The results are as follows : 5

Candidates	A	B	C	D	E
IQ before training	110	120	123	132	125
IQ after training	120	118	125	136	121

Test whether there is any change in IQ after the training programme (It is given that $t_{0.01} = 4.6$ for df 4).

8. Write notes on **any four** of the following : $2\frac{1}{2} \times 4$

- Artificial insemination in cattle
- Merits and Demerits of Tilapia Culture in India
- Establishment of Caste in a bee colony
- Utility of IPM
- Role of GnRH in induced breeding
- Homogeneity Chi-square
- Merits and Demerits of standard-deviation.