 LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**M.Sc.** DEGREE EXAMINATION - **ZOOLOGY**

SECOND SEMESTER – APRIL 2011

# ZO 2956 - BIOSTATISTICS

Date : 11-04-2011 Dept. No. Max. : 100 Marks

Time : 9:00 - 12:00

**PART - A 2 x 10 = 20 Marks**

I Answer **ALL** the questions.

1. Differentiate hypothesis from null hypothesis.

2. What is regression equation?

3. What is co-efficient of range?

4. What is meant by degree of freedom?

5. What is scatter points?

6. What is the significance of histogram?

7. Define mean and median.

8. Explain poissons equation.

9. How is p+q = 1 proved?

10. What is standard deviation?

**PART – B 4 x 10 = 40 Marks**

II Answer any **FOUR** of the following

11. What are primary and secondary data? How is it documented?

12. Differentiate skewness from kurtosis?

13. Draw a pie diagram for the following data and write its significance.

|  |  |
| --- | --- |
| Centipede | 11 |
| Millipede | 19 |
| Calotes | 3 |
| Cockroaches | 20 |
| Worms | 17 |

14 Calculate chi square in the given data. Tvalue = 3.84. Comment on significance of treatment

|  |  |  |
| --- | --- | --- |
|  | Affected | NotAffected |
| Treated | 9 | 17 |
| UnTreated | 7 | 4 |

15 What are the components of a table?

16 Draw histogram and a cumulative frequency of the following data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Adult (size in mm) | 1-5 | 5-10 | 10-15 | 15-20 |
| Frequency (Number) | 11 | 17 | 3 | 14 |

**PART – C 2 x 20 = 40 Marks**

III Answer any **TWO** of the following

17. The following table shows the effectiveness of Anti–biotics X in killing virus Y. Find regression equation X on Y. When Y=11,13 and 17 respectively.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Antibiotics X | 7 | 9 | 16 | 4 | 28 |
| Virus Y | 5 | 7 | 6 | 7 | 23 |

18. What are the different graphs and diagrams in bio statistical representation of data.

19. Find standard deviation and standard error from the following data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Wt (gm) | 1.1-3.0 | 3.1-6.0 | 6.1-9.0 | 9.1-12.0 | 12.1-15 | 15.1-18 |
| Frequency | 11 | 9 | 23 | 7 | 19 | 3 |

20. By ANOVA find if there is an increase in millet production in different sub species in different plots. Tv=3.49

|  |  |  |  |
| --- | --- | --- | --- |
| A | B | C | D |
| 4 | 3 | 1 | 5 |
| 2 | 7 | 6 | 9 |
| 6 | 2 | 7 | 2 |
| 4 | 4 | 10 | 4 |

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