LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – BIO TECHNOLOGY

THIRD SEMESTER – NOVEMBER 2009

BT 3820 - RESEARCH TECHNIQUES & SCIENTIFIC WRITING

Date & Time: 07/11/2009 / 9:00 - 12:00 Dept. No. Max. : 100 Marks

PART A **(10×2=20 marks)**

Answer the following in one or two sentences

1. What is a controlled experiment?
2. Arrange the following references as in a bibliography
   Jack A et al., (1999) Art of writing, Journal of Research, vol. 2, p 2
   Janet B et al., (2001) Research techniques, Journal of Biosciences, vol. 3, p 2-6
   Jack A et al., (2005) Scientific thinking, Journal of Life Science, vol. 4, p 5
3. Define likelihood ratio.
4. Arrange the following in their order of appearance in a thesis:
   Review of literature, Appendix, Abstract, Bibliography, Table of contents
5. Differentiate between incidence and prevalence.
6. What are the rules to be followed regarding quotation marks?
7. What is para-language?
8. What information should you have about the audience before a lecture?
9. Mention two disadvantages of a slide projector.
10. What is a stem?

PART B **(4×10=40marks)**

Answer any four of the following, each in about 250 words

11. Explain how a hypothesis can be developed.

12. Answer the following:
    (i) Define standard deviation. Calculate standard deviation for the following data set: 3, 5, 9, 10, 15, 20
    (ii) Differentiate between relative risk and attributed risk.

13. Describe the structure of a research report.

14. How can you make your lecture more effective?

15. What are the points to remember while writing an article for a journal?

16. Describe the following:
    (i) Pie chart
    (ii) Types of data analysis

PART C **(2×20=40marks)**

Answer any two of the following, each in about 1200 words

17 (A) Explain the principles and step-wise procedure of effective design of experiments.

OR

17 (B) Answer the following:

(i) The number of heart beats per minute of a chick embryo after administration of 20, 40, 60, 80, and 100 mg/ml of a drug was recorded as 55, 65, 78, 89, and 100. Tabulate these data and represent it in the form of a histogram. (10)

(ii) The height range of a group of 50 children is between 120 – 150 cms. Five children in this group have a height of 125 cms and another five children have a height of 140 cms. One child is selected at random from the 50 children. What is the probability of the height of that child being either 125 or 140 cms? (5)

(iii) Types of data and data collection methods. (5)

18 (A) Discuss in detail how to prepare for an interview.

OR

18 (B) Body language plays a significant role in oral communication. Discuss.

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