



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI - 600 034

B.C. DEGREE EXAMINATION - FOOD CHEMISTRY & FOOD PROCESSING

SECOND SEMESTER - APRIL 2013

FP 2809 - RESEARCH METHODOLOGY AND BIostatISTICS

Date : 04/05/2013
Time : 9:00 - 12:00

Dept. No.

Max. : 100 Marks

Part A

Answer all the questions.

(10 x 2 = 20 marks)

1. What is an extraneous variable?
2. Distinguish between qualitative and quantitative research
3. List the principles of experimental designs.
4. What is purpose of using diagram in research study?
5. List the different types of correlation.
6. Write the different parts of bibliographic citation.
7. Define probable error.
8. List few e-journals on food science.
9. What is a quartile?
10. Mention the any four scientific databases.

Part B

Answer any eight questions.

(8x5=40 marks)

11. Under what circumstances would you use non-probability sampling?
12. What are the problems encountered by researchers in India.
13. Design a checklist for testing the feasibility of a research problem.
14. Why is a literature review needed for any quality research endeavor?
15. Formulate a questionnaire to assess the knowledge and attitude of consumers towards convenience foods.
16. What are the different sources for collecting secondary data?
17. Define and explain the term 'hypothesis' and what is its usefulness in research.
18. Briefly describe the layout of a research report.
19. Calculate arithmetic mean and median for the following frequency distribution

Age	0-5	5-10	10-15	15-20	20-25	25-30
Risk of Food allergy	5	7	10	8	6	4

20. Blood serum cholesterol levels of 10 persons are given below. Calculate the standard deviation with the help of assumed mean.

240	260	290	245	255	288	272	263	277	251
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21. Calculate the third decile and 20th percentile of the following data

X	0-5	5-10	10-15	15-20	20-25
f	7	18	25	30	20

22. Write a brief note on the 'task of interpretation' in the context of research methodology.

Part C

Answer any four questions.

(4x10=40 marks)

23. Describe the techniques of defining a research problem.
 24. Explain any three formal research designs with illustration.
 25. Discuss the various tools and techniques of data collection used in food research.
 26. A researcher wished to determine if a child's age is related to the number of hours he or she exercises per week. The data obtained from a sample is given. State your opinion based on Karl Pearson's coefficient of correlation and probable error for the data

Age	10	6	9	10	12	13	11	9
Hours	9	4	6	9	11	13	8	4

27. Set up an analysis of variance table for the following processing methods for three varieties of organic oats, each processed on 4 different food processing methods and state if the variety differs significantly. (Given $F_{0.05} = 4.26$)

Processing methods	Oat Variety A	Oat Variety B	Oat Variety C
Dry rolled	6	5	5
Steam rolled	7	5	4
Coarse flaked	3	3	3
Steam flaked	8	7	4

28. A group of seven Chickens was fed with a high fat diet and their body weight was recorded as 12, 15, 11, 16, 14, 14, and 16. A group of five Chickens was fed with a low protein diet and their weight is 8, 10, 14, 10, and 13. Test whether additional protein diet has increased weight; calculate without the use of predefined formulae (Table value $t_{0.05} = 2.33$).