



# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING

SECOND SEMESTER – APRIL 2017

## 16PPF2MC03- RES. METHODOLOGY AND BIostatISTICS

Date: 24-04-2017  
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

### Part A

Answer all the questions.

10 x 2 = 20 marks

1. What is a descriptive research?
2. Differentiate between control and treatment group.
3. Define validity.
4. List the various sources of secondary data.
5. What is a hypothesis?
6. Define pilot study.
7. What is a dependant variable?
8. Mention the uses of telephonic interview.
9. What are the uses of a bar diagram?
10. What are the properties of ANOVA?

### Part B

Answer any eight questions.

8 x 5 = 40 marks

11. Highlight the criteria of a good research.
12. Formulate the research problems and list the objectives for the following case:  
“Consumption of seeds and sprouts has become increasingly popular among people interested in improving and maintaining their health status by changing dietary habits. The seeds and sprouts are excellent examples of functional food defined as lowering the risk of various diseases and/or exerting health promoting effects in addition to its nutritive value. It is therefore imperative to compare the content of phenolics and flavonoids, antioxidant activity and antioxidant enzyme activity from seeds and sprouts of legume plants”.
13. Explain the various informal experimental designs with suitable illustration.
14. Highlight the use of various scales used in sensory evaluation of foods.
15. Design an interview schedule to elicit information on purchasing behavior of healthy foods among health professionals.
16. Write short notes on oral presentation.
17. Discuss the importance of bibliography in research.
18. Bring out the uses of computers in data analysis.
19. Write short notes on processing of data.
20. Discuss the various measures of central tendency.
21. Calculate the mean, median, and standard deviation for the following data.

X	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
f	12	5	9	15	13	12	23	11	10	15	9

22. Find the coefficient of correlation between the crude protein content (g/100g dry weight) and total polyphenol capacity (mg TE/g dry weight) in fortified baked bread.

Crude protein	5	6	4	3	4	2	5	5	3
Polyphenol	63	35	45	48	32	66	42	61	45

### Part C

Answer any four questions.

4 x 10 = 40 marks

23. Discuss in detail the procedural guideline of a research process with suitable illustration.
24. "Choices in sample design are influenced by the desired level of precision and detail of the information on appropriate sampling frames for stratification and sample selection"-Justify
25. Explain the layout of a research thesis in detail with suitable examples.
26. The following data relate to the sales in a time of trade depression of choco pizza in wide demand. Do the data suggest that sales of choco pizza are significantly affected by the depression? ( $\chi^2_{0.05}=3.84$ )

State where sales are	State not hit by depression	State hit by depression	Total
Satisfactory	250	80	330
Not Satisfactory	140	30	170
Total	390	110	500

27. The following table gives the retail prices of fruit juice in some shops selected in three big cities. Carry out the ANOVA to find out whether there is significant difference in the price changes in these cities. ( $F_{0.05} = 4.26$ )

Shops	City A	City B	City C
	Price per Unit in Rupees		
I	15	23	19
II	18	19	16
III	23	18	22
IV	24	24	31

28. Test the significance of the impact of nutrition knowledge before and after a nutrition education programme on 10 diabetic patients ( $t_{0.05} = 1.833$ ).

Before	44	52	58	54	55	56	57	54	67	68
After	59	68	75	73	69	71	69	68	75	75

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