

PH 591.2

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**St Aloysius College (Autonomous)
Mangaluru**

Semester II - P.G. Examination - M.Sc. Food Science and Technology

July/August - 2022

FOOD PROCESS ENGINEERING AND INSTRUMENTATION

Time: 3 hours

Max Marks: 70

I. Answer any SIX of the following

(6×3=18)

1. Classify dimensions and unit systems.
2. List the various pumps used in food industries.
3. Write short note on properties of the fluid.
4. Write short note on SI Units.
5. Write the principle involved in operation of HPLC.
6. Explain briefly electrical properties of food.
7. Write a note on surface tension

II. Answer any FOUR of the following

(4×7 =28)

8. With a neat sketch explain the psychometric chart. Explain its significance.
9. Explain the working principles of electronic nose.
10. Briefly explain the factors affecting the heat and mass transfer
11. Explain the principle of Spectrophotometer and list its applications.
12. Discuss sensory evaluation methods

III. Answer any TWO of the following

(2×12 =24)

13. Discuss about freezing and thawing of food and list its pros and cons.
14. What is Shell and Tube heat exchanger? Discuss about different configuration in detail with its application in food industries.
15. Discuss in detail about thermal properties of foods. Give examples.

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Semester II - P.G. Examination - M.Sc. Food Science and Technology

July/August - 2022

PROCESSING TECHNOLOGY OF CEREALS, PULSES AND OIL SEEDS

Time: 3 Hours

Max. Marks: 70

I. Answer any six of the following.

(6x3=18)

- 1 Discuss on structure of wheat.
- 2 Comment on types of rice mills.
- 3 Write a short note on anti-nutritional factors in pulses.
- 4 Write a note on Structure and composition of Corn and Millets.
- 5 Mentions the use of oat mill products.
- 6 Discuss about milling and processing of pulses.
- 7 Write a note on extrusion cooking technology

II. Answer any FOUR of the following.

(4x7=28)

- 8 Discuss in detail about Criteria of wheat quality.
- 9 Describe the structure and chemical composition of rice.
- 10 Describe the Barley malting process.
- 11 Discuss about composition, processing of oats.
- 12 Elaborate on Utilization of oil mill by-products.

III. Answer any TWO of the following.

(2x12=24)

- 13 Write a note on Bread manufacturing, role of ingredients, bread faults, staling, and enzymes.
- 14 Describe the technology for rice par boiling.
- 15 Answer the following:

a) Discuss in detail about Utilization of pulses and legumes for value added products.

b) Describe in detail about physio-chemical properties of oils

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Semester II - P.G. Examination - M.Sc. Food Science and Technology

July/August - 2022

SPICES AND PLANTATION CROPS TECHNOLOGY

Time: 3 hours

Max.Marks: 70

I. Answer any SIX questions

(6x3=18)

1. What is hulling? Give their importance.
2. Classify the spices based upon the parts of the plants from which they are obtained.
3. Give a brief account on the chemical composition of coffee.
4. Write a note on uses of chicory in coffee.
5. What are the defects in cocoa bean? Give their methods of prevention
6. Write a note on changes during fermentation process of cocoa bean.
7. Give the composition of Cashew nut and Arecanut

II. Answer any FOUR questions

(4x7= 32)

8. How do quality evaluation and grading of tea done?
9. Comment on processing of oleo resin
10. Describe the production process of any two spice and mention its application
11. Discuss on the processing of decaffeinated coffee. What are their advantages
12. Describe the manufacture process of instant tea

III. Answer any TWO questions

(2x10=20)

13. Describe the technology in the manufacturing of different types of tea
14. Give a detailed account on process involved in coffee
15. Explain the methods of harvesting and processing of cocoa products.

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RESEARCH METHODOLOGY AND ETHICS

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following

(6X 3= 18)

1. Write on types of research.
2. What are Data and Standard Errors?
3. What is central limit theorem of sampling?
4. Write on IPR.
5. What is Co-efficient of variance?
6. Write on ethics of research
7. What are primary and secondary data?

II Answer any FOUR of the following

(4X 7= 28)

8. Explain constituents of literature review.
9. Discuss the importance of graphical and diagrammatical presentations.
10. Compute Mean, median and standard deviation of the following data

Group	120-130	130-140	140-150	150-160	160-170	170-180
Frequency	2	4	6	12	10	6

11. Discuss on types of Hypotheses and Type I and II errors.
12. Explain on probability of distribution.

III Answer any TWO of the following

(2X12= 24)

13. Two judges at a fete placed the ten entries for the 'best fruit cakes' competition in order as follows (1 denotes first, etc.)

Entry	A	B	C	D	E	F	G	H	I	J
Judge 1 (x)	2	9	1	3	10	4	6	8	5	7
Judge 2 (y)	6	9	2	1	8	4	3	10	7	5

Is there a linear relationship between the rankings produced by the two judges?

14. Discuss the importance of research design and models.
15. Explain in detail about the ethics in research