

D 13863

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Name.....

Reg. No.....

**THIRD SEMESTER B.VOC. DEGREE EXAMINATION, NOVEMBER 2021**

Fish Processing Technology

SDC 3AQ 11—OPERATION MANAGEMENT IN FISH PROCESSING PLANTS

Time : Three Hours

Maximum : 80 Marks

**Section A***Answer all questions.**Each question carries 1 mark.*

1. Only the best quality fish should be used for smoke curing. Why ?
  - a) The bad quality might interfere with the process.
  - b) Smoking will not conceal the bad quality.
  - c) It proves to be expensive.
  - d) All above.
2. Processing of fish by salting, drying, smoking and pickling is known as :
  - a) Caring.
  - b) Curing.
  - c) Cloning.
  - d) Cleaning.
3. MSG is :
  - a) Natural protein.
  - b) Flavouring agent.
  - c) Flavour enhancer, bringing out natural flavour of food.
  - d) An extender adding texture and bulk to the product.
4. The red or pink colour of the fish is generally caused from the growth of :
  - a) Sarcina.
  - b) Micrococcus or bacillus species.
  - c) Mould or yeasts.
  - d) All above.

**Turn over**

5. The pH of spoiled shell fish is :
- a) Acidic.
  - b) Neutral.
  - c) Alkaline.
  - d) According to kind of spoilage.
6. Stages of post harvest losses are :
- a) Harvesting.
  - b) Packaging.
  - c) Transportation or storage.
  - d) All of the above.
7. Bacterial growth is generally impossible when water activity reduces below :
- a) 0.80.
  - b) 0.70.
  - c) 0.60.
  - d) 0.50.
8. How can you tell if food has enough bacteria to cause food poisoning :
- a) It will smell.
  - b) You can't it will appear normal.
  - c) It will have different colour.
  - d) It will taste different.
9. \_\_\_\_\_ must be removed to stop the spoiling action of micro organisms.
- a) Moisture.
  - b) Food.
  - c) Favourable temperature.
  - d) All above.
10. Which preservation method exposes food to low levels of gamma rays, electron beams or X rays ?
- a) Freeze drying.
  - b) Irradiation.
  - c) Aseptic packaging.
  - d) Retort pouching.

(10 × 1 = 10 marks)

**Section B (Short Answer Questions)**

*Answer any **eight** questions.  
Each question carries 2 marks.*

11. Give design of a fish processing plant.
12. Lay out of a typical freezing plant.

13. Describe different types of fish dryers.
14. What is pH diagram ?
15. What is dissolved air floatation ?
16. Explain any *four* safety controls for canning plant.
17. What is Sedimentation ?
18. Describe the chemical treatments which can be applied for waste removal.
19. What is granular media filtration.
20. What is boiler mounting ?
21. What are passive sensors ?
22. Describe characteristics of sensors for measurement of relative humidity.

(8 × 2 = 16 marks)

### Section C (Short Essays)

*Answer any **six** questions.  
Each question carries 4 marks.*

23. Describe functions and construction of refrigeration system.
24. Describe the legislations and standards of effluent discharge.
25. Give an account on types of thermometers and their application in food processing industry.
26. Explain site selection for a fish processing unit.
27. Describe instruments for measurement of  $a_w$  value, temperature, pH, freshness, gel strength, salinity and brine concentration.
28. Explain the design characteristics of a processing plant ?
29. Explain the water pollution control measures in the food industry.
30. Describe the preventive maintenance of machinery and equipment of fish processing plants ?
31. What are chemical and biological treatments for waste water ?

(6 × 4 = 24 marks)

**Turn over**

**Section D (Essays)**

*Answer any two questions.*

*Each question carries 15 marks.*

32. Give a comparison on layout of different types of fish processing plants.
33. Explain the extension methods and their impact on capture fisheries and fishers livelihoods and give details of fisheries extension agencies in India.
34. Describe selection of boilers and explain boiler mounting process and accessories.
35. Explain the general characteristics of processing plant building, water supply, equipments and hygiene requirements inside the plant.

(2 × 15 = 30 marks)