

D 13862

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Name.....

Reg. No.....

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

Fish Processing Technology

SDC 3AQ 10—THERMAL PROCESSING OF FISHERY PRODUCTS

Time : Three Hours

Maximum : 80 Marks

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

1. Bacterial endospores are extremely resistant to :
  - a) Heat.
  - b) Freezing.
  - c) Cold storage.
  - d) Chilling.
2. The bacteria most often involved in the spoilage of fish are :
  - a) Part of the natural flora of the external slime of fishes and their intestinal contents.
  - b) Part of the natural flora of the intestinal slime of fishes only.
  - c) Both (a) and (b).
  - d) None of the above.
3. Sterilization by steam at 100 degrees C or higher for at least 15 minutes :
  - a) Autoclaving
  - b) Blanching
  - c) Sulfuring.
  - d) Salting.
4. The temperature between 4-60 degrees C where bacteria grow and multiply rapidly :
  - a) Danger zone.
  - b) Perishable.
  - c) Autoclaving.
  - d) FAT TOM.
5. \_\_\_\_\_ must be removed to stop the spoilage action of microorganisms
  - a) Moisture.
  - b) Food.
  - c) Favourable temperatures.
  - d) All the above.
6. Pasteurization is the process of heating milk :
  - a) Above 121 degrees.
  - b) Above boiling point.
  - c) Below boiling point.
  - d) Above 150 degrees.

**Turn over**

7. Expand UHT.
8. Expand SSOP.
9. Expand MAP.
10. Expand CCP.

(10 × 1 = 10 marks)

### Section B

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

11. What are the characters of *Clostridium botulinum* ?
12. What is TPC ?
13. What is canning ?
14. What are the purpose of blanching ?
15. What is GMP ?
16. Conditions affecting the growth of microorganisms.
17. Sterilization process and equipment.
18. Death rate curve (D value).
19. The FO value.
20. Purpose of pasteurization.
21. Testing of the effectiveness of blanching ?
22. Classify foods based on acidic nature.

(8 × 2 = 16 marks)

### Section C

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

23. Explain the potential hurdles in fish preservation.
24. Explain the sources, units and dose levels of radiation used in Irradiation of fish.
25. Explain bacteriology of heat processed fishery products.
26. Define decimal reduction time, thermal death time, Z and F values and 12 D concept.

27. Explain the irradiation preservation in fishery products.
28. Explain the GMP practices in fish canning plants.
29. Conditions affecting the growth of micro-organisms.
30. Sterilization process and equipments.
31. What are the characters of *Clostridium botulinum* ? What are the symptoms of botulism ?

(6 × 4 = 24 marks)

### Section D

*Answer any two questions.*

*Each question carries 15 marks.*

32. What is hurdle technology ? What is the principle of hurdle technology ? Explain the potential hurdles in fish preservation.
33. What is thermal processing ? What are the common methods applied in seafood industry ? Explain.
34. Explain Irradiation as a method of fish preservation.
35. Explain the type of spoilage in canned fish.

(2 × 15 = 30 marks)