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Name..... Reg. No.....

# FIFTH SEMESTER B.Voc. PROGRAMME EXAMINATION, NOVEMBER 2021

Fish Processing Technology

# SDC5AQ19—STORAGE AND TRANSPORTATION OF FISHERY PRODUCTS

Time : Three Hours

Maximum : 80 Marks

#### **Section A**

Answer all questions. Each question carries 1 mark.

- 1. Which of the following is a factor that affects the storage stability of food ?
  - (a) Type of raw material used.
  - (b) Quality of raw material used.
  - (c) Method/effectiveness of packaging.
  - (d) All of the mentioned.
- 2. Dry storage means at a temperature about and humidity below :
  - (a)  $20^{\circ}$  C., 50 %. (b)  $100^{\circ}$  C., 50 %.
  - (c)  $20^{\circ}$  C., 50–100 %. (d)  $100^{\circ}$  C., 50–100 %.
- 3. Animal muscles have water as the majority of the content but the aim of humans is to extrat the protein out of it and consume it :
  - (a) True.
  - (b) False.
- 4. Why is salt used to preserve fish ?
  - (a) It makes the fish tastes good.
  - (b) It reduces moisture content to prevent growth of microbes.
  - (c) It promotes multiplication of beneficial microbes that prevent food spoilage.
  - (d) It increases moisture content and helps prevent growth.
- 5. Which preservation method exposes food to low levels of Gamma rays, electron beams of X-rays ?
  - (a) Freeze-drying. (b) Irradiation.
  - (c) Aseptic packaging. (d) Retort pouching.

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6. A food additive that prevents colour and flavour loss :

- (a) Fruit butter. (b) Ascorbic acid.
- (c) Yeast. (d) Enzyme.

7. Anti-darkening treatment used on some fruits before drying :

- (a) Autoclaving. (b) Blanching.
- (c) Sulphuring. (d) Salting.
- 8. Agar-agar is used as :
  - (a) Antibiotic. (b) Stabilizer and thickener.
  - (c) Colouring agent.
- 9. Tocopherol is an example of :
  - (a) Anticaking agent. (b) Flavouring agent.
  - (c) Antioxidant. (d) None of these.

10. Which of the following statements about freezing our food is incorrect?

- (a) Freezing is a better way to preserve food over the long term when compared to refrigeration.
- (b) Freezing is a more effective method of killing microbes in our food when compared to thoroughly cooking the food.
- (c) Freezing helps slow down the growth rate of microbes.
- (d) Freezing kills all the microbes in food due to the low temperatures.

 $(10 \times 1 = 10 \text{ marks})$ 

# Section B

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

- 11. What is weight compositon of a fish ?
- 12. What is glazing?
- 13. What are the measures for controlling flies in a processing plant?
- 14. What is cold chain in fish transportation ?
- 15. What are the measures for controlling pests in a processing plant?
- 16. What is enzyme denaturation ?
- 17. What is known as chute in a fish processing plant?
- 18. What are the extrinsic factors affecting quality of fish?
- 19. List the desirable characteristics for insulation materials for fish holds.
- 20. What is the shelf life of an ice stored fish ?

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(d) Nutrient supplement.

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- 21. What are the different types of live fish transport systems ?
- 22. What are the different types of ice used in fish processing ?

#### Section C

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

- 23. How the capacity of a cold store is expressed ?
- 24. Physical and chemical changes during chill storage of fish.
- 25. Major reasons for post-harvest fishery loss.
- 26. What are the extrinsic factors affecting quality of fish ?
- 27. Outline the sensory evaluation techniques to assess fish quality.
- 28. Outline the major phases of fish spoilage.
- 29. List the good handling practices during landing and preprocessing of fish.
- 30. Which are the common storage practices adopted for fish and fishery products.
- 31. Briefly explain the functions of a cold chain.

 $(6 \times 4 = 24 \text{ marks})$ 

#### **Section D**

# Answer any **two** questions. Each question carries 15 marks.

- 32. Changes in fish muscle during freezing and cold storage.
- 33. Various types of live fish transport systems.
- 34. Explain the following :
  - (a) Drip loss. (b) Freezer burn.
  - (c) Super chilling. (d) Hurdle technology.
  - (e) Water activity  $(a_w)$ .
- 35. Explain the general layout of a cold store and the major factors to be considered while constructing a cold store.

 $(2 \times 15 = 30 \text{ marks})$ 

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 $(8 \times 2 = 16 \text{ marks})$