

D 94180

(Pages : 2)

Name.....

Reg. No.....

FIRST SEMESTER B.VOC. DEGREE EXAMINATION, NOVEMBER 2020

(CUCBCSS—UG)

Fish Processing Technology
SDC 1AQ 02—FISH NUTRITION

Time : Three Hours

Maximum : 80 Marks

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

1. An organic acid used for silage preparation.
2. State true or false. "Vitamin A is unstable when cooked and there is significant loss in fruit and vegetables".
3. Essential amino acids :
 - (a) Are vitamins that dissolve in fat.
 - (b) Are the nine amino acids the body cannot produce.
 - (c) Come from grains, legumes, nuts, and seeds.
 - (d) Are units of energy produced by protein.
4. Vitamin _____ is an example of a fat soluble vitamin.
 - (a) A.
 - (b) B.
 - (c) C.
 - (d) None of the above.
5. Expand NPU.

Match the following :

- | | |
|--------------|----------------------------|
| 6. Copper | (a) Scale. |
| 7. Iron | (b) Amino acid metabolism. |
| 8. Iodine | (c) Hematopoiesis. |
| 9. Manganese | (d) Thyroid gland. |
| 10. Calcium | (e) Haemoglobin. |

(10 × 1 = 10 marks)

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

11. Which is the precursor of bile acids ?
12. Explain the types of teeth present in fishes.

Turn over

13. Main functions of stomach in fishes.
14. What are the hormones active in digestive system of fish ?
15. From which nutrients do fish obtain energy ?
16. What is digestible energy ?
17. What is relative gut length ?
18. What are the adaptations of crustaceans in feeding ?
19. Name four nutritional deficiency disorders and their causative nutrient.
20. What are the chemical methods for evaluation of feeding strategy ?
21. Outline the step for hatching of artemia cyst.
22. What are essential fatty acids ?

(8 × 2 = 16 marks)

Section C

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

23. Briefly explain the preparation of fish meal.
24. Explain the various methods of feed formulation.
25. Explain mass culture of phytoplankton.
26. What are amino acids ? Explain types of amino acids.
27. Explain the sources, utilisation and negative aspects of lipids.
28. What are feed ingredients ? Explain.
29. Explain phytoplankton and their mass culture method.
30. Define carbohydrate, protein, fat, vitamins, minerals.
31. What is net energy ? What are its uses ?

(6 × 4 = 24 marks)

Section D

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

32. Describe the role and relevance of vitamins and minerals in fish nutrition.
33. Explain the nutritional requirements in finfish, molluscs and crustaceans.
34. Explain vitamins, their type, functions and deficiency disorders.
35. Explain different feed types and feeding methods.

(2 × 15 = 30 marks)