



WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 6th Semester Examination, 2021

IFFADSE04T-INDUSTRIAL FISH AND FISHERIES (DSE3/4)

FISH BYPRODUCTS AND WASTE UTILIZATION

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

1. Answer any **seven** questions from the following: 2×7 = 14
 - (a) What is the significance of antioxidant treatment before packing and storage of fishmeal?
 - (b) Why utilization of formic acid is beneficial over mineral acids for production of fish silage?
 - (c) What is the importance of hydrogenation in the final stage of fish body oil production?
 - (d) Specify the reason of using caustic soda during the preparation of fish glue from fish skin.
 - (e) Define “winterization”.
 - (f) Mention the uses of fish glue.
 - (g) What is fish maw?
 - (h) State the uses of fish silage.
 - (i) What is shagreen?
2. Write short notes on any **two**: 3×2 = 6
 - (a) Whole fishmeal
 - (b) Isinglass
 - (c) Fish gelatin
 - (d) Pearl essence.
3. Answer any **four** questions from the following: 5×4 = 20
 - (a) What are the advantages and disadvantages of dry rendering technique for fish meal production? Mention the uses of fishmeal. 3+2
 - (b) Describe the common deteriorative changes observed in fish body oil during storage. Classify fish liver on the basis of oil and vitamin content with examples. 3+2

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| (c) Specify the important uses of chitosan. Describe the method of acid fermentation in the production of fish silage. | 2+3 |
| (d) Describe the enzyme-alkali digestion technique used for extraction of fish liver oil. Comment on the uses of fish body oil. | 3+2 |
| (e) State the uses of shark fin-rays. Describe the Viobin process used for the production of fish protein concentrate. | 2+3 |
| (f) Describe the production method of partially hydrolyzed deodorized fish meat. What are the advantages of partially hydrolyzed deodorized fish products? | 3+2 |

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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