

M.Sc. 4th Semester Examination, 2014

**AQUACULTURE MANAGEMENT
AND TECHNOLOGY**

(Food Safety and Quality Assurance)

PAPER – AMT-402

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

*Candidates are required to give their answers in their
own words as far as practicable*

Illustrate the answers wherever necessary

1. Answer any *four* of the following : 2 × 4

- (a) What is shelf life of fish in ice ?
- (b) What is quality assurance and quality control ?
- (c) Define super cooling.

(Turn Over)

(2)

- (d) What are homogeneous and heterogeneous nucleation ?
 - (e) Why does spoiled fish release unhealthy odour ?
 - (f) Write composition of fish muscle of silver pomfret.
 - (g) Affirm the characteristics of rigor-mortis stage.
 - (h) Briefly explain the impact of drip-loss in processing industries.
2. Answer any *four* of the following : 4 × 4
- (a) Briefly describe the functions of quality control programme.
 - (b) What are the problems created by *staphylococcus* sp. in freezing fish ?
 - (c) How would you maintain the environmental hygiene and personal hygiene to restore the quality standards in fish processing plant ?

(3)

- (d) Briefly explain the physical changes of fish tissue during cold storage.
- (e) Write in brief on packaging requirements for frozen fish.
- (f) Distinguish between spoiled fish and live fish.
- (g) State the merits and demerits of block ice and flake ice.
- (h) Enlist the physical and chemical hazards observed in processing plant.

3. Answer any *two* of the following : 8 × 2

- (a) Define thawing. Give an account on the different types of thawing methods employed in processing plant. 2 + 6
- (b) What are the spoilage indices ? Briefly elucidate the different spoilage indices used in the assessment of fish quality. 2 + 6
- (c) What is freezing ? Briefly explain the cryogenic freezing using liquid nitrogen. 2 + 6

(4)

(d) Write short notes (any two) : 4 × 2

(i) Slow freezing vs fast freezing

(ii) Quality inspection and quality verification

(iii) Onboard fish handlings

(iv) International standards on fishery products.
