MSC/AMT/4002/08

2008

AQUACULTURE MANAGEMENT AND TECHNOLOGY

PAPER—AMT - 4002

Full Marks : 40

Time : 2 hours

Answer **Q.No.1** and any **three** from the rest

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 whenever necessary

1. Answer any *five* of the following : 2 x 5

(*a*) What do you mean by Thawing of fish ?

(*b*) State the composition of fish in general.

(*c*) What is the Rigor Mortis stage of fish ?

(*d*) Define spoilage indices in fish.

(*e*) Write the importance of ice and it's relevance for short-term preservation of fish.

(*f*) What do you mean by flake-ice ?

(*g*) Mention any two bacteria which are actively involved during spoilage of fish.

(*h*) Techniques of quality assurance of fishery products.

(*i*) What do you mean by TMAO ?

2. (*a*) What is freezing rate ?

(*b*) What is the principle of Air-blast freezer with a rate on it's operation ?

(*c*) What is driploss and it's relevance to quality of frozen fish ? 2 + 5 + 3

3. (*a*) What do you mean by plate freezing ?

(*b*) What is I.Q.F. ? Name any freezing method, by which IQF can be achieved.

(*c*) Elucidate the freezing curve. 2 + 4 + 4

4. (*a*) What is Microwave Thawing?

(*b*) Briefly discuss the packaging requirements for frozen fish.

(*c*) Add a note on HACCP. 2 + 5 + 3

5. (*a*) What do you mean by microbial rancidification of fat?

(*b*) Enumerate the public health significance of following bacteria :

(*i*) *Vibrio* sp.

(*ii*) *Salmonella* sp.

(*iii*) *Clostridium* sp.

(*iv*) *Staphylococcus* sp. 2 + (2 x 4)

6. Write short notes on any *two*: 5 x 2

(*i*) Cryogenic freezing using liquid nitrogen

(*ii*) Gram staining Techniques

(*iii*) Use of Antibiotics during freezing

(*iv*) Post-mortem biochemical changes in fish muscle.
