2009

M.Sc.

1st Semester Examination

AQUACULTURE MANAGEMENT & TECHNOLOGY

PAPER—AMT-1104

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

(Physiology of fin fish & shell fish)

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

a) What is joint gill ?

b) Differentiate between sucker and parasitic fishes.

c) State the functions of statocyst.

d) Mention the location if ultimobranchial gland in freshwater fishes.

e) What is the basic differences between Spermatogenesis and Spermiogenesis ?

f) What are the rate limiting enzyme in glycolysis pathway ?

g) Distinguish between oxidative and non-oxidative de-amination.

h) Relate the phenomenon of 'fast block' to polyspermy and 'slow block' to polyspermy.

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

a) Briefly describe the role of CAMP in the regulation of glycolysis. 4

b) Describe Accessory Respiratory (AR) structure of *Anahas* sp. and *Clarias* sp. 2+2

c) What is guiding ridge ? Briefly illustrate the cardiac stomach of freshwater prawn. 1+3

d) Define haematopoiesis. Discuss the Lymphatic system of brown trout. 1+3

e) Narrate the traditional method of genetic screening done in zebra fish for identifying mutation. 4

f) State the sensory structure associated with lateral lime system of freshwater fishes. 4

g) Calculate the production of high-energy phosphate bonds during the glycolysis of one mole glucose. 4

h) Briefly describe the embryonic development of freshwater prawn with diagram. 4

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

a) What is the functional significance of acrosome in sperm ? State the functions of 'embryonic shield' in zebra fish development. Add a note on cortical granules. 2+3+3

b) Differentiate osmoregulator from ostoconfirmers. Elucidate the osmpregulation process of marine telecast. State the endocrine control of osmoregulation. 2+4+2

c) How pyruvate is converted into Acetyl-COH with the help of PDH complex ? State the significance of Proximal Centriole. 5+3

d) Describe the distinctive features of fish blood vessel. Add a note on cutaneous senses of fishes. 5+3