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B.E./ B.Tech. (Full Time) ARREAR EXAMINATIONS, APRIL/MAY 2013

AGRICULTURAL ENGINEERING BRANCH

FIFTH SEMESTER

AI 9304 – AQUACULTURE ENGINEERING

(REGULATIONS: 2008)

Time: 3 hours   Max Mark: 100

Answer ALL Questions

Part – A (10x 2 = 20 marks)

1. What is intensive aquaculture system?
2. Write any for shrimp species
3. What is FCR? If a Catfish of 6g requires a ration of 10% of its body weight, how much food should it be given per day?
4. Write about nursery pond
5. Which is the most durable construction material used for aquaculture farms? Why?
6. Calculate the actual quantity of poison required for the pond (if length = 200m, breath = 70m, width = 3 m, depth = 2.5m, dose = 3.5ppm)
7. What is brood stock and why is it maintained in shrimp farming?
8. What is total hardness? Why is it considered as an important parameter for fish farming?
9. List the treatment options available for treating groundwater to make it suitable for use in the hatcheries
10. Write any two viral diseases affecting fish species

Part – B (5 x 16 = 80 marks)

11. (a). Write detail notes on the key components of the site analysis for aqua farming

12. (a). What are feeding trays? List the problems occurring while using feeding trays and write the appropriate solutions

OR

(b). Explain the activities to be covered by the insured for risk management in aquaculture

13. (a). Write notes on integrated fish farming. Explain about economic benefit and ecological importance of integrated fish farming

OR

(b). Write detailed notes on fish pond management

14. (a). i) Describe in detail the different methods by which sea water is drawn for aquaculture (8)

ii) A 10cm sea water well is to be placed in a sand pit. The static level of the sea water in the ground is at the above Mean Sea Level (MSL) and there is no fresh water present. The sand layer is believed to extend at least 50m below MSL. A maximum drawdown of 5m, a radius of influence of 25m and a tested soil hydraulic conductivity of 10m/day are believed to be reasonable for this site. Calculate the maximum sustainable flow rate from this sea water well (8)

OR

(b). Explain the HAPA Method of fingerling production. Your target is to produce 20,000 fingerlings for a grow-out pond. How many HAPA and brood stock will you need?

15. (a). Explain how the dissolved oxygen level is maintained in fish ponds

OR

(b). Why nitrogen is to be removed from fish ponds? Explain the various methods by which nitrogen is removed from fish ponds