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SARDAR PATEL UNIVERSITY

M.Sc Examination, IIIrd Semester

Thursday

Date 29-11-2012

Session: Evening

Time: 2.30 PM To 5.30 PM

Subject/Course Code: PS03CZOO01 / Paper No. 1

Subject/ Course Title: ZOOLOGY- Aquaculture Technologies

Total Weightage/Marks: 70

Q1. Fill-in the blanks selecting correct answer.

8M

- (I) Gill- rakers are highly developed in
(a) Detritivores (b) Carnivores (c) Planktivorous (d) Benthic invertebrate feeders
- (II) One of the major inhibitory factors for the release of GTH II is
(a) GnRH (b) Neuropeptide Y (c) Serotonin (d) Dopamine
- (III) In hybridoma technology, myeloma cells are used
(a) For antibody production (b) For continued cell division (c) As feeder layer
(d) For none of the above reasons.
- (IV) In nursery pond, the insects can be controlled by
(a) Rotenone (b) BHC (c) DDT (d) Oil
- (V) The major rivers of Gujarat are known for the capturing of
(a) *Penaeus monodon* (b) *Parapenaeopsis styliifera* (c) *Metapenaeus dobsoni*
(d) *Macrobrachium rosenbergii*
- (VI) The permissible limit of nitrate for carp in pond water is
(a) < 80 mg/L (b) < 120 mg/L (c) Up to 200 mg/L (d) Up to 400 mg/L
- (VII) The phytoplankton is a main feed of
(a) *Tilapia mosambica* (b) *Cyprinus carpio* (c) *Ctenopharyngodon idella*
(d) *Hypophthalmichthys molitrix*
- (VIII) The argulosis is caused to the cultivable fishes by
(a) Copepods (b) Nematodes (c) Trematodes (d) None of these

Q2. Answer any Seven briefly

14M

- (I) Write square method for protein content formulation.
- (II) What is GFP? Write its source.
- (III) Write any two methods for the characterization of fish cell lines.
- (IV) Write the clinical sign and the use of chemotherapeutic agents for WSSV infection in shrimps.
- (V) Describe methods used for the control of water hyacinth in fish pond.
- (VI) Write the formation and harmful effects of pyrite in aquaculture.
- (VII) Write the nomenclature of PUFA, the requirement of PUFA for fresh water and marine fishes and the sources of PUFA in fish diet.
- (VIII) Write any four standard formulae used for the calculation of growth performance of fishes.
- (IX) Write the significance of use of probiotics in aquaculture.

Q3. (a) Describe the composite carpe culture practice in India.

6M

(b) Write the role of hypothalamic and pituitary hormones in gonadal development in fishes.

6M

OR

(b) Write a detailed note on fish processing.

6M

- Q4. (a) Describe the major features of shrimp culture practices. 6M
(b) Give an account of protozoan diseases of cultivable fishes and shrimps. 6M

OR

- (b) Write a descriptive account on induced breeding technique. 6M

- Q5. (a) Describe the gastrointestinal tract in fishes; and explain digestion and absorption of food. 6M
(b) Give an outline of the classification of modern Teleosts with special features for their groups. 6M

OR

- (b) Describe uniramous, biramous and foliaceous appendages of Penaeid shrimps. 6M

- Q6. (a) Discuss the influence of water quality parameters alkalinity, phosphorus and total solids on fish culture. 6M

- (b) Give the details of recent development in marine biotechnology. 6M

OR

- (b) Discuss major techniques used for the identification and characterization of disease in aquaculture. 6M
