

M.Sc. ZOOLOGY
Fourth Semester (Repeat)
FISH & FISHERY BIOLOGY
(MSZ – 402 C)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. What is composite fish culture? Outline some of the objectives in composite fish culture and highlight some important aspects of composite fish culture in India. (1+2+7=10)
2. Discuss briefly about the fishing crafts in NE India. (2+8=10)
3. What is Aquaculture? Underline the objectives of aquaculture and also highlight the scope of aquaculture in India. (1+2+7=10)
4. Discuss briefly about the pen culture experiments in India and add a note on the advantages and disadvantages. (10)
5. Discuss the paddy- cum fish culture practiced in India with suitable examples. (10)
6. What is preservation? Write a brief note on the significance and the principles of preservation of fish. (10)
7. Discuss some salient features of Cage culture practices in India. (10)
8. What is transgenic fish? Describe briefly the techniques of producing transgenic fish. Explain the benefits of transgenic fish in aquaculture. (10)

Or

‘Fish serves as healthfood for the affluent world’ -----Elucidate.

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

1. Which of the following statement is not true for gynogenesis in the hybridization of fish?
 - a) The irradiated spermatozoa enter the micropyle of the egg and activate development.
 - b) There is any paternal genetic contribution to the development of the embryo.
 - c) The embryo is haploid and contains only maternal chromosomes.
 - d) The ovum develops into zygote after activation by normal sperm but without contribution from maternal side.
2. The gene which can be used in the production of transgenic fishes having bioindicator and ornamental value is:
 - a) GFP gene
 - b) AFP gene
 - c) AFGP gene
 - d) GH gene
3. A Pen is defined as a fixed enclosure in which:
 - a) The bottom is the bed of the water body.
 - b) Enclosed on all sides.
 - c) The top is free and bottom is enclosed.
 - d) Does not have any contact with water body.
4. Injection of pituitary gland extracts to fish induces:
 - a) Gonadal development
 - b) Secretion of sex hormones
 - c) Sex
 - d) Ovulation
5. Cod liver oil is used to cure both "rickets" and 'xerophthalmia'. It is due to the presence of high content of:
 - a) Vitamin E and K
 - b) Vitamin A and D
 - c) Vitamin A and C
 - d) Vitamin D and B₁₂
6.contains maximum amount of water in its body composition.
7. In a fishery pond, a few fish show characteristics symptom of the presence of light bluish or grayish film of mucus over the body, loses appetite, weak and some die after some time. Which of the following would be the possible disease?
 - a) Ichthyophthiriasis
 - b) Dropsy
 - c) Costiasis
 - d) Saprolegniasis
8. The stiffness of muscles during 'Rigor mortis' is:
 - a) Due to complete loss of ATP.
 - b) Due to presence of ATP.
 - c) Due to presence of the creatine phosphate of the muscle.
 - d) Due to lack of supply of oxygen to the muscle.
9. Omega-3 fatty acids present in fish is good for:
 - a) Neural control
 - b) Low blood cholesterol
 - c) Healthy skin
 - d) Low blood pressure
10. Spoilage in marine fishes is due to:
 - a) Trimethylamine oxide content.
 - b) High urea content in body fluid.
 - c) Low Phosphocreatine.
 - d) High salt content.
11. 'Cavier' is the product obtained from:
 - a) Acipenser
 - b) Salmon
 - c) Scyliodon
 - d) Lepidosteus
12. For better management and easy operation recommended area for pens should be of:
 - a) Pens of 0.1 to 0.2 ha area is recommended.
 - b) Pens of 10 ha area is recommended.
 - c) Less than 20 ha is recommended.
 - d) Above 20 ha is recommended.
13. Cage culture, in recent years, has been considered as a highly specialized and sophisticated modern:
 - a) Aquaculture technique
 - b) Eri-fish culture
 - c) Ichthyological technique
 - d) Semi-cum fish aquaculture



University of Science and Technology, Meghalaya

Date Stamp: _____

14. Cage culture is the culture of fish or other organisms in a river, lake or bays by holding them:
 a) in cages.
 b) In Traditional pots supported by cages.
 c) Swing door cages.
 d) All of the above.
15. Apatani Plateau of Arunachal Pradesh is an example of:
 a) Rice culture in valleys.
 b) Mountain valley rice- fish culture.
 c) Fish culture in rice fields.
 d) All of the above.
16. In districts of Barpeta, Bongaigaon and Kokrajhar rice fields are often connected by canal systems locally called as:
 a) Dong
 b) Pong
 c) Bhong
 d) Rong
17. Intensive aquaculture relies on technology to raise fish in artificial tanks:
 a) At very high densities.
 b) At low densities.
 c) At high as well as low densities.
 d) All of the above.
18. *Anabus testudineus* is also known as:
 a) Perch eating parrot
 b) Perch
 c) Climbing perch
 d) Organic fish
19. *Channa striatus* is also known as:
 a) Snakehead fish
 b) Climbing fish
 c) Jumping fish
 d) Rowing fish
20. Banana raft is also known in Assam as:
 a) Bhel pao
 b) Kolor bhel
 c) Bagora
 d) None of the above

SESSION 2016-17			
COURSE _____ PAPER CODE: _____			
NAME OF THE PAPER: _____			
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Instructions to Candidates		For Objective Type Questions	
<ol style="list-style-type: none"> This answer booklet has 4 pages. Please check before writing whether it is complete or in good condition. Do not write your name anywhere in the answer booklet. Write legibly on both sides of the paper You may use some space for any rough notes or calculation on the answer booklet if you need. These rough notes, calculations must be scored out before submitting the answer booklet. Do not bring any book or loose paper in the examination hall. Do not tear any page from the answer booklet. Do not write anything on the question paper or blotting paper or any pieces of paper while you are in the examination hall. Any act of indiscipline or misbehavior in the examination hall will result in your expulsion. No examinee is allowed to leave the examination hall until 30 minutes lapse after the commencement of the examination. Additional answer sheet will be supplied after the main answer booklet is completed. 		Page No.	Marks
		Total	
		For Descriptive Type Questions	
		Question No.	Marks
		Total	
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