

No. of Printed Pages : 2

BAQ-001

00612

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2011

BAQ-001 : BASICS OF AQUACULTURE

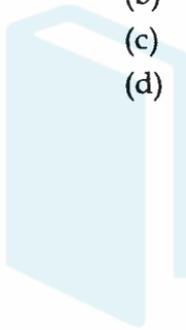
Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry equal marks. Support your answer with well labelled diagrams wherever necessary.

1. Describe aquaculture development in India during post - independence period. 20
2. Describe the role of nutrient cycle with a emphasis on phosphorous and nitrogen cycles in aquaculture . 20
3. Describe the commercial candidate species of brackish water prawn. 20
4. Explain how the aquaculture is practical in circulating water ? 20
5. What are chitin and chitosan ? Discuss how the shell fish processing wastes are utilised for commercial purposes. 5+15

6. Discuss the importance of aquaculture extension in dissemination of technologies. 20
7. (a) Describe the edible brackish water crabs of India. 10
(b) Discuss the management of pond bottoms after harvest in aquaculture. 10
8. Write short notes on the following : 20
(a) Aquaranching
(b) Recreational aquaculture
(c) Marise resources
(d) Soil profile

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No. of Printed Pages : 2

BAQ-001

00201

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2012

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry equal marks. Support your answer with well labelled diagrams wherever necessary.

1. Discuss the origin of aquaculture in India. 20
2. (a) List the important challenges in the development of aquaculture. Describe any one in detail. 10
(b) Discuss the future development of aquaculture. 10
3. Describe the different physical properties of water to take up aquaculture related activities. 20
4. Describe the morphology, biology and distribution of any ten candidate species for brackish water aquaculture in India. 2x10=20

5. Describe how aquaculture could be practised in combination with other farming systems. 20
6. What do you mean by fish preservation ? 5+15
Describe any three important commercial methods of fish preservation.
7. Discuss the structure and functions of fisheries co-operatives. 10+10
8. Write short notes on the following (*Any four*) : 20
 - (a) Aquaculture extension in India.
 - (b) Global Scenario of Aquaculture
 - (c) Use of artificial habitats in aquaculture
 - (d) Importance of seaweeds
 - (e) Constraining factors for aquaculture development.

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No. of Printed Pages : 2

BAQ-001

00420

**DIPLOMA IN AQUACULTURE
(DAQ)**

**Term-End Examination
December, 2012**

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry equal marks. Support your answer with well labelled diagrams wherever necessary.

1. Discuss the contribution of aquaculture to world's fishery production. 20
2. Describe the types of soils required for aquaculture ponds. 20
3. What is productivity ? Describe the various concepts of productivity. 5+15=20
4. Describe the various fresh water resources for aquaculture activities. 20
5. Describe the use of waste water for aquaculture. 20

6. Explain why an integrated approach by the culturist, harvester and the processor is essential to produce the best quality products. 20
7. Discuss the possible impacts of aquaculture on environment. 20
8. Write short notes on the following (*Any four*) : $4 \times 5 = 20$
- (a) Aquatic products as a food resource
 - (b) Marine resources
 - (c) Aquaculture in cages
 - (d) Nutritive value of fish
 - (e) Management of water quality of pond

No. of Printed Pages : 2

BAQ-001

00659

**DIPLOMA IN AQUACULTURE
(DAQ)**

**Term-End Examination
June, 2013**

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All the questions carry equal marks. Support the answer with the well labelled diagram wherever necessary.

1. Explain the various factors which govern the choice of species for aquaculture. Discuss the environmental impact of aquaculture. 20
2. (a) Define aquaranching. Describe the progressive development of aquaranching techniques. 10
(b) Describe the morphology, biology and distribution of any **two** candidate species for fresh water aquaculture in India. 10
3. Explain the various requirements to maintain the home aquaria. 20

4. Explain the various steps of planning and formulation of a project for aquaculture. 20
5. (a) What are the Fish byproducts ? Describe the various methods for the preparations of fish protein concentrate (pc) ? 10
- (b) What are the common combinations of Integrated aquaculture ? How these combinations prove mutually beneficial to each other ? 10
6. Describe important commercial methods of preservation of fish ? 20
7. (a) What is Plankton ? Explain the *two* types of photoplankton and zooplankton each in the aquatic system. 10
- (b) What are the important constraining factors for aquaculture development ? 10
-
8. Write *short notes* on the following : 5x4=20
- (a) Seaweeds
- (b) Extension services in aquaculture
- (c) Soil nutrients
- (d) HACCP.

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BAQ-001

**DIPLOMA IN AQUACULTURE
(DAQ)**

00503

**Term-End Examination
December, 2013**

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All the questions carry equal marks. Support the answers with well labelled diagrams wherever necessary.

1. Discuss the important challenges in the development of aquaculture. What strategies should be adopted in future to meet these challenges ? 20
2. Describe the salient features of Pond aquaculture. 20
3. Describe the physical properties of water and its influence on aquaculture. 20
4. Describe the morphology, biology and distribution of any four candidate species for brackish water aquaculture. 20
5. Discuss the possible impact of aquaculture on environment and measures to reduce this impact. 20

6. (a) Discuss the important aspects of preharvest quality control. **10**
- (b) Discuss the role of bacteria in productivity processes in aquatic ecosystem. **10**
7. (a) Describe the nutritive value of fish as a food. **10**
- (b) Discuss characteristic features and limiting factors of Industrial aquaculture. **10**
8. Write short notes on the following : **5x4=20**
- (a) Pond harvesting
- (b) System of fisheries education
- (c) Geenhouse aquaculture
- (d) Global Scenario of aquaculture

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No. of Printed Pages : 2

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DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

00834

June, 2014

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

*Note : Attempt any **five** questions. All questions carry equal marks. Support your answer with well labelled diagrams wherever necessary.*

-
-
1. (a) Define aquaculture and compare it with agriculture. 8
 - (b) Discuss the scope of aquaculture in India. 12
 2. Discuss the importance of dissolved gases in water for survival of aquatic animals. 20
 3. Give a detailed account of possible impacts of aquaculture on environment. 20
 4. Differentiate between the following :
 - (a) Extensive aquaculture and Intensive aquaculture 4
 - (b) Oligotrophic lake and Eutrophic lake 4

- (c) Primary fisheries co-operative and Regional fisheries co-operative 4
- (d) Drain harvesting and Cull harvesting 4
- (e) Lotic freshwater habitat and Lentic freshwater habitat 4
5. (a) What is primary productivity ? Discuss the factors influencing primary productivity. 10
- (b) Describe any two methods of measuring primary productivity. 10
6. What are the important soil nutrients ? What is their role in pond productivity ? 20
7. (a) Write an account of chilling as a short term method of preservation of fishes. 10
- (b) List the important commercial methods of long term preservation of fishes. Describe any one in detail. 10
8. Describe the morphology and commercial use of any ten candidate species for freshwater aquaculture in India. Also name the class and order to which they belong. 20
-

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DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

00012

December, 2014

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any *five* questions. All questions carry equal marks. Support your answers with well labelled diagrams wherever necessary.

-
-
1. (a) What are the criteria for selecting a species for aquaculture ? 10
- (b) Discuss the important constraining factors for aquaculture development. 10
2. (a) Give the diagrammatic presentation of zones in a lake and ocean (No description required). 10
- (b) Discuss the physico-chemical characteristics of an estuary and their impact on estuarine fauna. 10
3. (a) Define the following : 2×5=10
- (i) Plankton
- (ii) Gross primary productivity
- (iii) Thermocline
- (iv) Aqua-ranching
- (v) Food web

- (b) Write short notes on the following : $5 \times 2 = 10$
- (i) Integrated Aquaculture
 - (ii) Environment Impact Assessment
4. (a) Write an account of brackish water resources in India. 10
- (b) Name (scientific name) any five species used for brackish water aquaculture in India and classify them upto Order. 10
5. Comment upon the preparation and processing of products/byproducts of seaweeds and shellfishes for commercial use. 20
6. Write a detailed account of possible adverse impacts of aquaculture on environment. 20
7. Write about the general guidelines for construction and management of a pond for freshwater fish culture. 20
8. (a) Discuss the role of micro-organisms in fish spoilage. How can this be prevented? 10
- (b) Describe in detail any one method of long term preservation of fishes. 10
-

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DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2015

00058

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry equal marks. Support your answers with well-labelled diagrams wherever necessary.

1. (a) Discuss the different forms of aquaculture and their importance. Name two each of Indian major carps, catfishes, salmonids and lobsters as principal aquaculture species. 6+4
- (b) Compare the three types of main culture systems depending upon the intensity of operation. 10
2. (a) How is aquaculture helpful to mankind ? 10
- (b) Describe the various physical and chemical properties of water that are required for aquafarming. 10
3. (a) Describe the morphology of three finfishes and two crustaceans suitable for culturing in freshwater. 10
- (b) Describe the various brackish-water resources in India. 10

4. Distinguish between pen and cage aquaculture. Discuss their advantages and disadvantages. 20
5. What is waste-water aquaculture ? Discuss how different types of waste-water can be used for aquaculture. 15+5
6. What are the different commercial methods of fish preservation ? 20
7. (a) Describe the various steps involved in planning and preparing an aquaculture project. 10
(b) What measures should be adopted to reduce the impact of aquaculture on environment ? 10
8. Write short notes on any *four* of the following : 4×5
 - (a) Integrated Aquaculture
 - (b) Fish Glue
 - (c) Seaweeds
 - (d) Industrial Aquaculture
 - (e) Aquaculture By-products
 - (f) Fisheries Co-operatives

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DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2015

00364

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. All questions carry equal marks. Support your answers with well-labelled diagrams, wherever necessary.

-
1. Describe the various factors that govern aquaculture development. 20
 2. (a) What are the changes required for realising the full potential of aquaculture ? 10
(b) Describe the various culture practices adopted for aquafarming. 10
 3. (a) What are the properties of water that make it an ideal medium for aquaculture ? 5
(b) Distinguish between lotic and lentic environments and explain which environment is most suitable for aquaculture. 15
 4. (a) Describe three fin fishes and two seaweeds for marine aquaculture. 10
(b) Describe the major riverine systems of India. 10

5. Describe the various steps involved in preparing a pond for aquaculture. 20
6. What are the different fish byproducts ? 20
7. Discuss the possible impact of aquaculture on environment. How can it be assessed before executing an aqua-project ? 15+5
8. Write short notes on any *four* of the following : 4×5
- (a) Chilling and superchilling of fish
 - (b) Pen and cage aquaculture
 - (c) Benthic fauna
 - (d) Freshwater prawns
 - (e) Aquaranching
 - (f) Non-conventional methods of aquaculture

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DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2016

00446

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. Question no. 1 is compulsory. All questions carry equal marks.

1. Attempt **all** parts.

(a) Define the following terms : 3

- (i) Estuary
- (ii) Greenhouse aquaculture
- (iii) Surimi

(b) Differentiate between the given terms : $3 \times 3 = 9$

- (i) Agriculture and Aquaculture
- (ii) Gross and Net Primary Productivity
- (iii) Direct selling and Auction system

(c) Answer the following questions in one or two words : $2+1+1=4$

- (i) Names of two Indian carps as principal aquaculture species.
- (ii) Give the scientific name of one organism used for pearl culture.
- (iii) Give the scientific name of the largest Indian prawn.

- (d) Expand the following abbreviations : 4
- (i) HACCP
 - (ii) FPC
 - (iii) NBFGR
 - (iv) MPEDA

2. (a) Discuss the future strategies in aquaculture development. 10

(b) Name the various methods used to judge the quality of fish products. Describe any one of them in detail. Which method is regarded as the superior one and why? $2+6+2=10$

3. (a) What is industrial aquaculture? List its characteristics as well as limiting features. 10

(b) What is Pearl Essence? How is it prepared and what are its applications? $2+6+2=10$

4. (a) Describe the three main roles of bacteria in productivity processes in aquatic ecosystems. 10

(b) Describe the possible impact of aquaculture on the environment. 10

5. (a) Describe the salient details of pen culture. In spite of its potential, why is it not so widespread? 10

(b) List five species of Mollusca and seaweeds each which are used for mariculture. Describe one species of each in detail. 10

6. Write short notes on any *four* of the following : 4×5=20

- (a) Thermal Stratification
- (b) Wastewater Aquaculture
- (c) Mangroves
- (d) Scope of Aquaculture
- (e) Aquaculture Scenario in South Asia and South-East Asia
- (f) Fertilizer Application in Aquaculture



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BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2016

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt five questions in all. Question no. 1 is compulsory. All questions carry equal marks.

1. (a) Define the following terms : $3 \times 1 = 3$

- (i) Eutrophic Lakes
- (ii) Carrying Capacity
- (iii) Rigor Mortis

(b) Differentiate between the following terms : $3 \times 3 = 9$

- (i) Pen Culture and Cage Culture
- (ii) Lake and Reservoir
- (iii) Salting and Brining

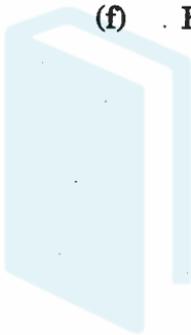
(c) Answer the following questions in one or two words : $2+1+1=4$

- (i) Names of two shrimps as principal aquaculture species.
- (ii) Scientific name of "milk fish".
- (iii) Location of the first scientifically designed fish farm in India.

- (d) Expand the following abbreviations : $4 \times 1 = 4$
- (i) ECS
 - (ii) FFDA
 - (iii) CICFRI
 - (iv) CRZ
2. List the various non-conventional methods of aquaculture. Describe any one of them in detail. 20
3. (a) Fish is a highly nutritious food. Justify the statement by describing its important constituents. 15
- (b) List any four candidate species suitable to be cultured in brackish water. Describe any one of them in detail with respect to their physical and biological characteristics. 5
-
4. (a) Explain the characteristics, structure and important activities of fisheries co-operatives in India. 10
- (b) Enumerate the methods used for the improvement of soil for aquaculture. 10
5. (a) Describe any two phytoplanktons. 5
- (b) Describe the inter-relationships between the biotic communities in an aquatic environment. 15

6. Write short notes on any **four** of the following : **4×5=20**

- (a) Nitrogen Cycle
- (b) Freezing Method of Fish Preservation
- (c) Factors Affecting Primary Productivity
- (d) Environmental Management for Sustainable Aquaculture
- (e) Scope of Aquaculture
- (f) Fermented Fishery Products



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BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

00172 June, 2017

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

*Note : Attempt any **five** questions. Draw well-labelled diagrams wherever required. All questions carry equal marks.*

1. Explain the various aquaculture culture practices. List any ten fishes used for commercial inland water cage and pen farming. 10+10
2. (a) Discuss the importance of dissolved oxygen in aquaculture. What are the various factors that affect it ?
(b) Explain the phosphorus cycle with the help of a diagram. 10+10
3. "Fish is an excellent food for low fat, low calorie diets." Discuss the statement critically. 20
4. (a) What are the characteristics of candidate species for brackish water aquaculture ? 4
(b) Describe any one finfish and crustacean candidate species most suitable for brackish water aquaculture. 16

5. Why is recreational aquaculture important ?
What are the various requirements of setting up
an aquarium at home ? 20
6. Discuss the important commercial methods of
preservation used for aquaculture products. 20
7. What are the various categories of extension
services in aquaculture ? Discuss any two of
them in detail. 4+8+8
8. Write short notes on any *four* of the
following : 4×5=20
- (a) Environmental Impact Assessment
 - (b) Constraints in Fishery Education
 - (c) Aquaranching
 - (d) Ecological Pyramid
 - (e) Thermal Stratification

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BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2017

00121

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions. Draw well-labelled diagrams wherever required. All questions carry equal marks.

1. What is productivity of an ecosystem ? What are the factors that influence primary productivity ? 20
2. (a) What are the factors required for choosing a suitable species for aquaculture ?
(b) Discuss the possible environmental impacts of aquaculture. 10+10
3. Describe the candidate crustacean and molluscan species for mariculture production. 20
4. (a) Describe the steps required for preparing a pond for aquaculture.

- (b) Discuss the various water quality problems occurring in pond aquaculture. 10+10
5. What are the various nutrients available in fish food ? Describe the various biochemical and physical changes that occur in fish after death. 20
6. Draw a chart to outline the various steps in planning of an aquaculture project. Discuss each step briefly. 10+10
7. Describe integrated aquaculture with a suitable example. What are its advantages ? 20
8. Write short notes on the following (any **four**) : $4 \times 5 = 20$
- (a) Seaweed Processing
 - (b) Preharvest Quality Control
 - (c) FPC Preparation Method
 - (d) Nitrogen Cycle
 - (e) Importance of Soil Nutrients
-

No. of Printed Pages : 2

BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2018

00275

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt *five* questions. Question no. 1 is **compulsory**. All questions carry equal marks.

1. (a) Define the following terms : 5×1=5
- (i) Biomass
 - (ii) Integrated Aquaculture
 - (iii) Eutrophic
 - (iv) Benthic
 - (v) Aquaranching
- (b) Differentiate between the following : 5×2=10
- (i) Pen culture and Cage culture
 - (ii) Oligotrophic and Dystrophic lake
 - (iii) Cycloid scale and Ctenoid scale
 - (iv) Chitin and Chitosan
 - (v) Rigor mortis and Autolysis
- (c) Expand the following : 5×1=5
- (i) BIS
 - (ii) IFTC
 - (iii) MPEDA
 - (iv) ISO
 - (v) FFDA

-
2. (a) Discuss the various factors that decide the choice of species for aquaculture. 10
- (b) What are the environmental impacts of aquaculture? 10
3. (a) With the help of a diagram, illustrate the carbon cycle. 10
- (b) Describe the Benthic fauna of freshwater ecosystem. 10
4. Give a detailed account of the various types of recreational aquaculture. 20
5. (a) Describe the morphology and habitat of major carps (any three) as candidate species for freshwater aquaculture. 15
- (b) What are the various aspects for selection of suitable sites for a pond? 5
-
6. (a) What are the various extension services in aquaculture? 10
- (b) Discuss freezing and canning as commercial methods of preservation of fish. 10
-

No. of Printed Pages : 2

BAQ-001

00322

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2018

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : (i) Attempt any five questions.

(ii) Question number 1 is compulsory.

(iii) All questions carry equal marks.

-
1. (a) Define the following : 5
- (i) Mari culture
 - (ii) Algal bloom
 - (iii) Aquifer
 - (iv) Thermocline
 - (v) Plankton
- (b) Differentiate between the following : 5x2
- (i) Primary productivity and Secondary productivity.
 - (ii) Epilimnion and Hypolimnion.
 - (iii) Air blast freezer and Contact blast freezer.
 - (iv) Drying and Smoking.
 - (v) Rhithron and Potamon.

- (c) Expand the following : 5
- (i) EIA
 - (ii) FFDA
 - (iii) ICAR
 - (iv) CCP
 - (v) FPC
2. Discuss the various types of aquaculture practices. 20
3. (a) Describe the Beuthic fauna of aquatic ecosystem. 10
- (b) Explain the term thermal stratification with the help of diagram. 10
4. (a) What is Brachish Water Aquaculture ? Describe any two candidate crustacean species for Brachish Water Aquaculture. 10
- (b) List the various unacceptable water quality parameters and their effect on fish. 10
-
5. (a) With the help of a flow diagram, show the steps for the formation of fish meal by wet method and extraction of oil. 10
- (b) Define HACCP (Hazard Analysis Critical Control Point). What are the principles of HACCP concepts ? 10
6. (a) What are the impacts of Aquaculture on environment ? 15
- (b) Write a note on Apex Co-operatives. 5

No. of Printed Pages : 3

BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2019

00611

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

Note : Attempt five questions in all. Question no. 1 is compulsory. All questions carry equal marks.

1. (a) Expand the following : 5×1=5

- (i) CRZ
- (ii) MPEDA
- (iii) ICAR
- (iv) EEZ
- (v) FCR

(b) Differentiate between the following : 5×2=10

- (i) Pelagic and Benthic zone
- (ii) Littoral zone and Limnetic zone
- (iii) Pen and Cage aquaculture
- (iv) Aquaculture and Aquaranching
- (v) Air blast freezer and Contact blast freezer

- (c) Give one word for the following : $5 \times 1 = 5$
- (i) The degradation of fish tissue by native enzymes
 - (ii) Naturally occurring polymer of N-acetyl D-glucosamine where monosaccharide units are linked by α 1 – 4 glycosidic linkage in shellfish
 - (iii) A shiny and lustrous substance extracted from scales of fin fish and used as a decorative coating
 - (iv) Processed eggs of sturgeon fish
 - (v) Traditional Japanese Surumi based products
2. Discuss the factors for choosing the fish species for aquaculture and the environmental impacts of aquaculture. 20
-
3. Describe different types of phyto and zoo-planktons in the aquatic environment. (Any five from each category) 20
4. (a) What are the characteristic features of candidate species for brackish water aquaculture? 5
- (b) Describe five important species of prawns that are used in brackish water aquaculture. 15

5. (a) What is integrated aquaculture ? Describe any one example of this system along with its benefits. 10
- (b) Outline the various steps required for preparing a project in aquaculture which can be submitted for a loan from a bank. 10
6. Write short notes on the following : 4×5=20
- (a) Constraints in Fishery Education
- (b) Carbon Cycle
- (c) Fermented Fishery Products
- (d) Challenges in Aquaculture

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No. of Printed Pages : 2

BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2019

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 hours

Maximum Marks : 100

- Note :** (i) Attempt five questions in all.
(ii) Question No. 1 is compulsory.
(iii) All questions carry equal marks.

1. (a) Fill in the blanks : 1x5=5
- (i) Culture practice where fish and prawn are grown in combination with animals or crops is called _____ aquaculture.
- (ii) The practice of pen culture has originated from _____.
- (iii) Mahaseer belongs to the order _____.
- (iv) Algal blooms are caused due to the presence of excess amounts of _____ in water.
- (v) _____ is the upper layer of thermally stratified water body.
- (b) Expand the following : 1x5=5
- (i) DO (ii) IFTC (iii) PFDA (iv) EEZ (v) PQLI
- (c) Write the common names of the following : 1x5=5
- (i) *Ulva* (ii) *Caulerpa*
- (iii) *Pinctada margaritifera* (iv) *Clarias batrachus*
- (v) *Salmo gairdnerii*
- (d) Draw the Carbon cycle or the Nitrogen cycle. 2½x2=5
2. (a) Classify the lakes on the basis of productivity. 10
- (b) Describe the method of Fish Protein Concentrate (FPC) preparation. 10
3. (a) What is waste water aquaculture ? How is waste water treated before use in aquaculture ? 2+8=10
- (b) Discuss the important water quality problems in pond aquaculture. 10
4. Describe the characteristic features of different carps and catfishes. (any five from each category). 20

5. List the different methods of preservation of fishes and discuss any two of them in detail. 7+13=20
6. Write short notes on the following : 4x5=20
- (a) HACCP concepts
 - (b) Scope of aquaculture
 - (c) Constraining Factors for Aquaculture Development
 - (d) Impacts of Aquaculture on Environment
-



No. of Printed Pages : 4

BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

June, 2020

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 Hours

Maximum Marks : 100

Note : (i) Attempt five questions in all. Question No. 1 is compulsory.

(ii) All questions carry equal marks.

(iii) Draw a well labelled diagram wherever required.

1. (a) Define the following terms : 1 each

(i) Rhithron river zone

(ii) True estuarine fauna forms

P. T. O.

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- (iii) Gross primary productivity
 - (iv) Carrying capacity
 - (v) Intensive level of aquaculture
- (b) Differentiate between the following : 2 each
- (i) Pelagic and benthic regions
 - (ii) Nitrification and denitrification
 - (iii) Pyramid of number and pyramid of biomass
 - (iv) Fermented paste and fermented fish
 - (v) Pearl and pearl essence
- (c) Expand the following : 1 each
- (i) DO
 - (ii) FPC
 - (iii) FDA
 - (iv) PPT
 - (v) NAC

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2. Describe the phosphorus cycle with the help of a suitable diagram. 20
3. (a) Give the process of treatment of sewage water before its use in aquaculture. 10
- (b) Write how the three phases of aquaculture evolved. 10
4. Write the salient features of major and minor carps. 20
5. (a) What are the common water quality problems in pond aquaculture ? 10
- (b) Discuss the major constraints in existing system of fishery education. 10
6. What are the different types of aquaculture by-products ? Describe any *two*. 20
7. Describe any *five* different candidate marine species suitable for sea farming. 20

P. T. O.

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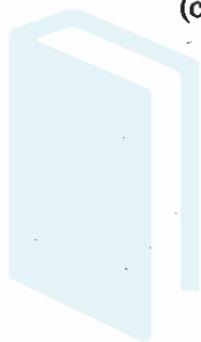
8. Write short notes on any *two* of the following :

10 each

(a) Fish preservation by salting and drying

(b) Sea weeds

(c) Methods of extension services in
aquaculture



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BAQ-001

DIPLOMA IN AQUACULTURE (DAQ)

Term-End Examination

December, 2020

BAQ-001 : BASICS OF AQUACULTURE

Time : 3 Hours

Maximum Marks : 100

Note : Attempt five questions in all. Question number 1 is compulsory. All questions carry equal marks. Draw a well labelled diagram wherever required.

1. (a) Define the following : 1×5=5

(i) Brackish Water

(ii) Potamon River zone

(iii) Phytoplankton

(iv) Net Primary productivity

(v) Semi-intensive level of aquaculture

(b) Differentiate between the following :

5×2=10

(i) Complete harvesting and Partial harvesting

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- (ii) Fish glue and fish gelatin
- (iii) Roe and Caviar
- (iv) Oligotrophic and eutrophic lakes
- (v) Littoral zone and limnetic zone

(c) Expand the following : 5×1=5

- (i) LIFDC
- (ii) EFA
- (iii) PPM
- (iv) NPNC
- (v) HACCP

2. Describe harvesting of aquaculture ponds and fresh fish handling. 20

3. (a) Draw a flow chart for preparation of chitin and chitosan. 10

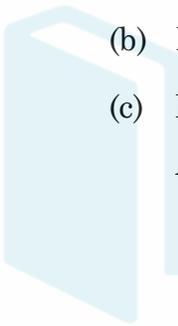
(b) What are the uses and applications of chitin and chitosan ? 10

4. Describe the salient features of any **four** cat fishes. 20

5. What is integrated aquaculture ? Discuss its benefits. 20

[3]

6. Discuss the possible impacts of aquaculture on environment. 20
7. Describe the texture, profile and nutrients of soil for aquaculture. 20
8. Write short notes on any *two* of the following : 10 each
 - (a) Phytoplanktons
 - (b) Pen and Cage culture
 - (c) Maintaining ornamental fishes in Home Aquaria



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