(AQT-1323)

# B.Sc (ATZC) DEGREE (CBCS) EXAMINATIONS

NOVEMBER - 2017

EXAMINATION AT THE END OF I SEMESTER

PART-II AQUACULTURE TECHNOLOGY - 1

**BASIC PRINCIPLES OF AQUACULTRE**

TIME : Two and half hours Maximum : 60 Marks

**Note: Draw labeled diagram of wherever necessary**

**SECTION-A** **(5x4=20)**

**Answer any FIVE of the following**

1. Fresh water Aquaculture.
2. Present status of Aquaculture versus Agriculture at AP.
3. Phosphorus cycle.
4. Food chain.
5. Rain & flood water ponds.
6. Quarantine pond.
7. Site selection & soil quality for ideal fish pond.
8. Construction of fish pond.
9. Advantages and disadvantages of weeds in pond.
10. Measures of increasing $O_2$ levels in culture ponds.

**SECTION-B** **(5x8=20)**

**Answer any FIVE of the following**

**11.** (a) Write an essay on scope of aquaculture at global level, India and AP.

Or

(b) Describe the different types of aquaculture systems.

**12.** (a) Explain the lotic and lentic systems.

Or

(b) Describe the importance of planktons and benthos in culture ponds.

**13.** (a) Explain the functional classification of ponds.

Or

(b) Describe the hatchery design.

**14.** (a) Explain the components of barrage pond.

Or

(b) Explain the Lay out and arrangements of fish ponds in fish forms.

**15.** (a) Write an essay on application of fertilizers in culture ponds.

Or

(b) Describe the physico - chemical properties of culture ponds.

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# (AQT 2323)
# B.Sc. (ATZC) (CBCS) Examinations
APRIL - 2018
EXAMINATION AT THE END OF II SEMESTER
PART - II AQUA CULTURE TECHNOLOGY - 2
## BIOLOGY OF FINFISH & SHELL FISH

TIME : Two and half hours Maximum : 60 I

SECTION-A

I. Answer any FIVE of the following 5X4=20
Draw labeled diagrams wherever necessary

1. General characters of Fish
2. Electric organs
3. Planktons
4. Abiotic and Biotic factors
5. Breeding ground and Courtship
6. Artificial ponds
7. Ovo-viviparity
8. Crab life cycle
9. Y-organ
10. Pituitary gland

II. Answer any FIVE of the following 5X8=40
Draw labeled diagrams wherever necessary

11. a. Explain about the specialized organs in fishes.
(or)
b. What is Buoyancy? Write an account on mechanism of swim bladder.

12. a. Write an essay on principles of age and growth determination in fishes.
(or)
b. Describe the structural modifications in fishes with examples.

13. a. What is Induced breeding? Explain about induced breeding technology in Indian Major Carps.
(or)
b. Write an essay on breeding in npearl oysters.

14. a. Write an essay on Parental care in fishes.
(or)
b. What is deference between fin fish and shell fish? Explain about their reproduction and development.

15. a. Definition of molting? Describe the metamorphosis in crustacean.
(or)
b. Write an essay on role of Endocrine hormones in fishes.

(AQT 3323)

(AQT 1323)

# B.Sc. (ATZC) (CBCS) Examinations

NOVEMBER - 2018

EXAMINATION AT THE END OF I SEMESTER

PART - II AQUA CULTURE TECHNOLOGY - 1

## BASIC PRINCIPLES OF AQUACULTURE

TIME : Two and half hours Maximum : 60 Marks

### SECTION -A

**I. Answer FIVE of the following questions 5 x 4 = 20 Marks**
**Draw labeled diagrams wherever necessary**

1. Monoculture
2. Brackish water culture
3. Phosphorous Cycle
4. Food chain
5. Rain water Ponds
6. Head pond
7. Soil pH
8. Topography
9. Role of Nutrients
10. Weed fish

### SECTION - B

**II. Answer any FIVE of the following questions 5 x 8 = 40 Marks**
**Draw labeled diagrams wherever necessary**

11. (a) Explain Semi-intensive aquaculture system (OR)
    (b) Describe different types of aquaculture systems.

12. (a) Explain carbon cycle (OR)
    (b) Explain nutrient cycle in culture pond

13. (a) Explain functional classification of Ponds (OR)
    (b) Describe Nursery pond

14. (a) Explain the components of Barrage Pond (OR)
    (b) Explain the important factors to be considered for the construction of an Ideal fish pond.

15. (a) Write an essay on application of Fertilizers in culture ponds (OR)
    (b) Explain various chemical factors the affect Aquaculture.

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# (AQT 3323)
# B.Sc. (ATZC) (CBCS) Examinations
## NOVEMBER - 2018
## EXAMINATION AT THE END OF III SEMESTER
## PART - II AQUA CULTURE TECHNOLOGY - 3
## FISH NUTRITION AND FEED TECHNOLOGY

TIME : Two and half hours | Maximum : 60 Marks

**Note: Draw labeled diagram wherever necessary**

### Section-A

**(Answer any FIVE of the following)** **5x4=20**

1. Essential amino acids.
2. Determination of feeding rate.
3. Frequency of feeding.
4. Pellet feeds and its advantages.
5. Feeds ingredients and their selection.
6. Farm made aqua feed.
7. Growth promoters.
8. Feed attractions and feed stimulants.
9. Nutritional pathology.
10. Balanced diet.

### Section-B

**(Answer any FIVE of the following)** **5x8=40**

11. (a) Describe the various energy requirements for different stages of cultivable fishes and prawns.

Or

(b) Explain the factors affecting energy partitioning and feeding.

12. (a) Explain the various type's feedings.

Or

(b) Write about feed conversion ratio and protein efficiency ratio.

13. (a) Describe the various feed formulations.

Or

(b) Explain the various methods for feed storages.

14. (a) Write an essay on role of probiotics.

Or

(b) Explain the anti-metabolites and afflotoxins.

15. (a) Describe the vitamins and mineral deficiency symptoms.

Or

(b) Explain the importance of natural and supplementary feed.

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# (AQT 4323)
# B.Sc (ATZC) Degree (CBCS) Examinations
MARCH - 2019
EXAMINATION AT THE END OF IV SEMESTER
PART-II
## FRESH WATER, BRAKISH WATER AQUA CULTURE

TIME : Two and half hours | Maximum : 60 Marks | 24

### SECTION – A

**I. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 4 = 20 Marks**

1. Poly culture
2. Mono sex culture
3. Exotic carps
4. *Clarius*
5. Air breathing fishes
6. Cage culture
7. Seed production
8. Grow out pond
9. Vannamei hatchery
10. Morphology of *Penaeus monodon*

### SECTION – B

**II. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 8 = 40 Marks**

11. a) Explain fresh water aquaculture system. ?
    (OR)
    b) Describe the prospects of fresh water aquaculture in Andhra Pradesh. ?
12. a) Describe *Tilapia* culture. ?
    (OR)
    b) Describe the composite culture of Indian carps. ?
13. a) Explain sewage fed fish culture. ?
    (OR)
    b) Explain recent culture trends in murrels. ?
14. a) Explain *Macrobrachium rosenbergii* culture ?
    (OR)
    b) Write an essay on commercial value of Indian fresh water prawn. ?
15. a) Explain in detail the disease management in *Penaeus monodon*. ?
    (OR)
    b) Explain mixed culture of fish. ?

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# (AQT 2323)

# B.Sc. (ATZC) (CBCS) Examinations

APRIL - 2019

EXAMINATION AT THE END OF II SEMESTER

PART - II AQUA CULTURE TECHNOLOGY - 2

## BIOLOGY OF FINFISH & SHELL FISH

E : Two and half hours Maximum : 60 Ma

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**SECTION – A**

**I. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 4 = 20 Marks**

1. Swim bladder
2. Toxins in fishes
3. Gut content analysis
4. Feeding intensity
5. Breeding places
6. Breeding in clams
7. Nest building
8. Oviparity
9. Androgenic gland
10. Neurosecretor cells

**SECTION – B**

**II. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 8 = 40 Marks**

11. a) Explain commercial importance of crustaceans and molluscs. (OR)
    b) Explain any two sense organs in fishes.
12. a) Describe age determining factors in fish. (OR)
    b) Describe length weight relationship in fishes.
13. a) Explain induced breeding in fish. (OR)
    b) Explain breeding in shrimps.
14. a) Explain parental care in fishes (OR)
    b) Explain commercial importance of crabs and molluscs.
15. a) Describe metamorphosis in shell fish. (OR)
    b) Describe in detail the role of endocrine hormones in fishes.

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(AQT - 5323-6)

# B.Sc(ATZC) Degree (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME : Two and half hours Maximum : 60 Marks

### SECTION-A

**I . Answer any FIVE of the following .**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Factors influence fish price
2. Law of diminishing marginal utility
3. Fishery market survey
4. Project appraisal
5. Role of NABARD in fisheries
6. Contribution of fisheries to the national economy
7. Rural development by fisheries extension
8. Barriers to diffusion of fisheries innovations
9. MPEDA
10. LLP

### SECTION-B

**II. Answer any FIVE of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the theory of production in relation to fisheries

OR

b. Describe about elasticity of demand

12. a. Describe price determination of fishes in market

OR

b. Describe about different fish Marketing Institutions

13. a. What are the various inputs used in Aquaculture

OR

b. Explain Cost and Earning of shrimp farming system

14. a. Explain Scope and Objectives of fisheries extension education

OR

b. Explain fisheries extension methods

15. a. Describe the salient features of FFDA

OR

b.Write your view about Training of Rural Youth for Self Employment (TRYSEM).

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# (AQT - 5323-5)

# B.Sc(ATZC) Degree (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

FISH HEALTH MANAGEMENT

TIME : Two and half hours | Maximum : 60 Marks

## SECTION: A

Answer any FIVE of the following. Draw diagrams where ever necessary.

5x4= 20 Marks

1. Cell death
2. Hypertrophy
3. Brachiomycosis
4. Fusarium in fin fish
5. Trypanosomiasis
6. MBV
7. Vitamin deficiency disease
8. Environmentally induced disease
9. Healthy seed
10. Zero water exchange.

## SECTION: B

Answer any FIVE of the following. Draw diagrams where ever necessary.

5x8 = 40 Marks

11. (a) Explain in detail different categories of fish diseases. (OR)
    (b) Write notes on: a) Necrosis b) Neoplasms
12. (a) Describe in detail any two fungal diseases seen in fin fish. (OR)
    (b) Write an essay on the infectious abdominal dropsy and Bacterial Kidney disease in Fin fish.
13. (a) Explain in detail any two viral diseases of the shrimp (OR)
    (b) Write in detail any two protozoan diseases of shrimp
14. (a) Write the detailed notes on. a) Aflatoxin b) Lipid liver degeneration (OR)
    (b) Write an essay on the genetically induced diseases in fin fish.
15. (a) Describe the role of probiotics in the health management of shell fish. (OR)
    (b) What are the evaluative criteria of the healthy seed.

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(AQT - 5323-6)

# B.Sc(ATZC) Degree (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME : Two and half hours Maximum : 60 Marks

### SECTION-A

**I . Answer any FIVE of the following .**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Factors influence fish price
2. Law of diminishing marginal utility
3. Fishery market survey
4. Project appraisal
5. Role of NABARD in fisheries
6. Contribution of fisheries to the national economy
7. Rural development by fisheries extension
8. Barriers to diffusion of fisheries innovations
9. MPEDA
10. LLP

### SECTION-B

**II. Answer any FIVE of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the theory of production in relation to fisheries

OR

b. Describe about elasticity of demand

12. a. Describe price determination of fishes in market

OR

b. Describe about different fish Marketing Institutions

13. a. What are the various inputs used in Aquaculture

OR

b. Explain Cost and Earning of shrimp farming system

14. a. Explain Scope and Objectives of fisheries extension education

OR

b. Explain fisheries extension methods

15. a. Describe the salient features of FFDA

OR

b.Write your view about Training of Rural Youth for Self Employment (TRYSEM).

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# (AQT - 5323-5)
# B.Sc(ATZC) Degree (CBCS) Examinations
## OCTOBER - 2019
## EXAMINATION AT THE END OF SEMESTER- V
## PART-II AQUACULTURE TECHNOLOGY
## FISH HEALTH MANAGEMENT

TIME : Two and half hours | Maximum : 60 Marks

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SECTION: A

I. Answer any FIVE of the following, Draw diagrams where ever necessary.

5x4= 20 Marks

1. Cell death
2. Hypertrophy
3. Brachiomycosis
4. Fusarium in fin fish
5. Trypanosomiasis
6. MBV
7. Vitamin deficiency disease
8. Environmentally induced disease
9. Healthy seed
10. Zero water exchange.

SECTION: B

II. Answer any FIVE of the following, Draw diagrams where ever necessary.

5x8 = 40 Marks

11. (a) Explain in detail different categories of fish diseases. (OR)
    (b) Write notes on: a) Necrosis b) Neoplasms
12. (a) Describe in detail any two fungal diseases seen in fin fish. (OR)
    (b) Write an essay on the infectious abdominal dropsy and Bacterial Kidney disease in Fin fish.
13. (a) Explain in detail any two viral diseases of the shrimp (OR)
    (b) Write in detail any two protozoan diseases of shrimp
14. (a) Write the detailed notes on. a) Aflatoxin b) Lipid liver degeneration (OR)
    (b) Write an essay on the genetically induced diseases in fin fish.
15. (a) Describe the role of probiotics in the health management of shell fish. (OR)
    (b) What are the evaluative criteria of the healthy seed.

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# (EAQT 2326)
# B.Sc. Degree (CBCS) Examinations
NOVEMBER - 2020
EXAMINATION AT THE END OF II SEMESTER
PART - II AQUA CULTURE TECHNOLOGY
## BIOLOGY OF FIN FISH & SHELL FISH

TIME :Two hours Maximum : 60 Marks

**SECTION – A**

**I. Answer any FOUR of the following. Draw labeled diagrams wherever necessary** 4X6=24 M

1. Swim bladder
2. Toxins in fishes
3. Gut content analysis
4. Feeding intensity
5. Breeding places
6. Artificial ponds
7. Ovo-viviparity
8. Crab life cycle
9. Y-organ
10. Pituitary gland

**SECTION – B**

**II. Answer any THREE of the following. Draw labeled diagrams wherever necessary** 3X12=36M

11. a) Explain commercial importance of crustaceans and molluscs. (08)
    b) Explain any two sense organs in fishes.
12. a) Describe age determining factors in fish. (08)
    b) Describe the structural modifications in fishes with examples.
13. a) What is Induced breeding? Explain about induced breeding technology in Indian Major Carps.
    (or)
    b) Write an essay on breeding in npearl oysters.
14. a) Write an essay on Parental care in fishes.
    (or)
    b) What is deference between fin fish and shell fish? Explain about their reproduction an development.
15. a) Definition of molting? Describe the metamorphosis in crustacean.
    (or)
    b) Write an essay on role of Endocrine hormones in fishes.

# (AQT 2323)
# B.Sc. Degree (CBCS) Examinations
NOVEMBER - 2020
EXAMINATION AT THE END OF II SEMESTER
PART - II AQUA CULTURE TECHNOLOGY
**BIOLOGY OF FINFISH & SHELL FISH**

IME :Two hours Maximum : 60 M

SECTION-A

I. Answer any FOUR of the following 4X6=24M
Draw labeled diagrams wherever necessary

1. General characters of Fish
2. Electric organs
3. Planktons
4. Abiotic and Biotic factors
5. Breeding ground and Courtship
6. Breeding in clams
7. Nest building
8. Oviparity
9. Androgenic gland
10. Neurosecretor cells

SECTION-B

II. Answer any THREE of the following 3X12=36M
Draw labeled diagrams wherever necessary

11. a. Explain about the specialized organs in fishes.
(or)
b. What is Buoyancy? Write an account on mechanism of swim bladder.

12. a. Write an essay on principles of age and growth determination in fishes.
(or)
b) Describe length weight relationship in fishes.

13. a) Explain induced breeding in fish. (08)
b) Explain breeding in shrimps.

14. a) Explain parental care in fishes (08)
b) Explain commercial importance of crabs and molluscs.

15. a) Describe metamorphosis in shell fish. (08)
b) Describe in detail the role of endocrine hormones in fishes.

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# (AQT 4323)

# B.Sc (ATZC) Degree (CBCS) Examinations

NOVEMBER - 2020

EXAMINATION AT THE END OF IV SEMESTER

PART-II AQUACULTURE TECHNOLOGY

## FRESH WATER, BRAKISH WATER AQUACULTURE

TIME : Two hours Maximum : 60 Marks

### SECTION – A

**I. Answer any FOUR of the following. Draw labeled diagrams wherever necessary** 4×6=24 **Marks**

1. Mono culture
2. Recirculation system
3. Minor carps
4. *Tilapia*
5. Cage culture
6. Cold water fishes
7. Seed production
8. Commercial value of Prawn
9. Morphology of *Litopenaeus vannamei*
10. Morphology of *Penaeus monodon*

### SECTION – B

**II. Answer any THREE of the following. Draw labeled diagrams wherever necessary** 3×12=36 **Marks**

11. a) Explain fresh water aquaculture system. (OR)
    b) Describe the status of fresh water aquaculture in India
12. a) Explain composite fish culture of exotic carps. (OR)
    b) Describe the composite culture of Indian carps.
13. a) Explain sewage fed fish culture. (OR)
    b) Explain cold water fish culture.
14. a) Explain *Macrobrachium malcomsonii* culture (OR)
    b) Write an essay on commercial value of Indian fresh water prawn.
15. a) Explain in detail the feed management in *Penaeus monodon*. (OR)
    b) Explain mixed culture of fish.

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# (ZOO 8322 B3)
# B.Sc Degree (CBCS) Examinations
## DECEMBER - 2020
## EXAMINATION AT THE END OF SEMESTER- VI
## PART-II ZOOLOGY
## POST HARVEST TECHNOLOGY

TIME : Two hours | Maximum : 60 Marks

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### SECTION-A

**I. Answer any FOUR of the following.**
**Draw labelled diagrams wherever necessary** 4 X6 = 24M

1. Handling of fresh fish – తాజా చేపల నిర్వహణ
2. Rigor mortis – రిగర్ మోర్టిస్
3. Smoking – పొగ పెట్టడం
4. Salt curing – ఉప్పు క్యూరింగ్
5. Fish oil – చేప నూన
6. Sea weeds uses –సముద్ర కలుపు మొక్కల వాడకం
7. Personal hygiene – వ్యక్తిగత పరిశుభ్రత
8. Control during processing – ప్రాసెసింగ్ సమయంలో నియంత్రణ
9. Good laboratory practices – మంచి ప్రయోగశాల పద్ధతులు
10. Codex elimentatrius – కోడెక్స్ ఎలిమెంటట్రియస్

### SECTION-B

**Answer any THREE of the following.** 3X12=36M
**Draw labelled diagrams wherever necessary**

11. (a) Write an essay on principles of preservation in fish
చేపలలో సంరక్షణ సూత్రాలపై ఒక వ్యాసం రాయండి

**OR**

(b) Write an essay on the spoilage in marine fish
సముద్ర చేపలు పాడైపోవడం పై ఒక వ్యాసం రాయండి

(PTO)

12. (a) What are the traditional methods used in fish preservation
చేపల సంరక్షణలో ఉపయోగించే సాంప్రదాయ పద్ధతులు ఏమిటి

**OR**

(b) Explain Advanced methods used in fish preservation
చేపల సంరక్షణలో ఉపయోగించే అధునాతన పద్ధతులను వివరించండి

13. (a) Write an essay on fish by-products
వివిధ రకాలైన చేపల ఉప ఉత్పత్తుల గురించి వ్యాసం వ్రాయండి

**OR**

(b) Write a note on sea weeds used in disease treatment for humans
మానవులకు వ్యాధి చికిత్సలో ఉపయోగించే సముద్రపు కలుపు మొక్కలపై ఒక రాయండి

14. (a) Write about the sanitation measures taken in processing plants
ప్రాసెసింగ్‌లో తీసుకున్న పారిశుధ్య చర్యల గురించి రాయండి

**OR**

(b) Explain about environmental hygiene in processing plants
ప్రాసెసింగ్‌లో పర్యావరణ పరిశుభ్రత గురించి వివరించండి

15. (a) Explain good manufacturing practices in processing plants
ప్రాసెసింగ్ ప్లాంట్లలో మంచి ఉత్పాదక పద్ధతులను వివరించండి

**OR**

(b) Describe about ISO-9000:2000 series of quality assurance system
ISO-9000:2000 తరహా నాణ్యత హామీ వ్యవస్థ గురించి వివరించండి

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# (ZOO 8322 B2)
## B.Sc Degree (CBCS) Examinations
DECEMBER - 2020
EXAMINATION AT THE END OF SEMESTER- VI
PART-II ZOOLOGY
## AQUACULTURE MANAGEMENT

TIME : Two hours | Maximum : 60 Marks

### SECTION-A

**I. Answer any FOUR of the following.**
**Draw labelled diagrams wherever necessary** 4X6 = 24M

1. Bundh breeding – బంధ్ బ్రీడింగ్
2. Hypophysation – హైపోఫైజేషన్
3. Water quality – నీటి నాణ్యత
4. Liming – లైమింగ్
5. Feed conversion ratio – 5. ఫీడ్ మార్పిడి నిష్పత్తి
6. Probiotics – ప్రోబయోటిక్స్
7. Fish immunization –చేపల ఇమ్యునైజేషన్
8. Disease management in fish culture – చేపల పెంపకంలో వ్యాధి నిర్వహణ
9. Gynogenesis – గైనోజెనెసిస్
10. Transgenic Fish – ట్రాన్స్‌జెనిక్ ఫిష్

### SECTION-B

**Answer any THREE of the following.**
**Draw labelled diagrams wherever necessary** 3X12 = 36M

11. (a) Describe the role of synthetic hormones in induced breeding
ప్రేరిత పెంపకంలో సింథటిక్ హార్మోన్ల పాత్రను వివరించండి

**OR**

(b) Explain the breeding and hatchery management of giant fresh water prawn
జెయింట్ మంచినీటి రొయ్యల పెంపకం మరియు హేచరీ నిర్వహణ గురించి వివరించండి

(PTO)

12. (a) Explain oxygen depletion problems and control measures in a culture pond
పెంపకపు చెరువులో ఆక్సిజన్ క్షీణత సమస్యలను మరియు నియంత్రణ చర్యలను వివరించండి

OR

(b) Describe the water quality and soil characters suitable for fish culture
చేపల పెంపకానికి అనువైన నీటి నాణ్యత మరియు నేల పాత్రలను వివరించండి

13. (a) Write about supplementary feed given to fish in culture pond
పెంపకపు చెరువులో చేపలకు ఇచ్చే అనుబంధ ఆహారం గురించి రాయండి

OR

(b) Explain the feed formulation and manufacturing
ఆహార సూత్రీకరణ మరియు తయారీని వివరించండి

14. (a) Explain symptoms prophylaxis therapy of any four common diseases in fishes
చేపలలో ఏదైనా నాలుగు సాధారణ వ్యాధుల యొక్క రోగనిరోధక చికిత్సను వివరించండి

OR

(b) Describe the factors responsible for a disease of fish
చేపల వ్యాధికి కారణమైన అంశాలను వివరించండి

15. (a) Describe various stages involved in fish marketing
చేపల మార్కెటింగ్‌లో వివిధ దశలను వివరించండి

OR

(b) Explain fisheries training and education in India
భారతదేశంలో మత్స్య శిక్షణ మరియు విద్యను వివరించండి

# (ZOO 8322 B1)
## B.Sc Degree (CBCS) Examinations
DECEMBER - 2020
EXAMINATION AT THE END OF SEMESTER- VI
PART-II ZOOLOGY
## PRINCIPLES OF AQUACULTURE

TIME : Two hours | Maximum : 60 Marks

SECTION –A

**I. Answer any FOUR of the following.** 4×6 = 24 M
**Draw labelled diagrams wherever necessary**

1. Indian major carps- భారతదేశంలో ప్రధాన కార్ప్స్
2. Exotic fishes - విదేశీ చేపలు
3. Monoculture - మోనోకల్చర్
4. Cage culture - కేజ్ పెంపకం
5. Natural seed resources - సహజ విత్తన వనరులు
6. Fish feed - చేపల ఆహారం
7. Algal blooms - ఆల్గల్ బ్లూమ్స్
8. Liming - లైమింగ్
9. Economic importance of seaweeds - సముద్రపు కలుపుమొక్క యొక్క ఆర్థిక ప్రాముఖ్యత
10. Artificial pearl culture - కృత్రిమ ముత్యాల పెంపకం

**II. Answer any THREE of the following and** 3×12 = 36 M
**Draw labelled diagrams wherever necessary**

11. a) Write an essay on Significance and history of Aquaculture
ఆక్వాకల్చర్ యొక్క ప్రాముఖ్యత మరియు చరిత్రపై ఒక వ్యాసం రాయండి

(Or)

b) Describe the Criteria for the selection of fish species for culture
చేపల పెంపకం కోసం జాతుల ఎంపికకు ప్రమాణాలను వివరించండి

(PTO)

12. a) Explain the pen culture and cage culture
పెన్ కల్చర్ మరియు కేజ్ కల్చర్ గురించి వివరించండి

(Or)

b) Write an essay on the composite fish culture
మిశ్రమ చేపల సంస్కృతిపై ఒక వ్యాసం రాయండి

13. a) Explain the natural food and artificial feeds and their importance
సహజ ఆహారం, కృత్రిమ ఆహారం మరియు వాటి ప్రాముఖ్యతను వివరించండి

(Or)

b) Write an essay on design and construction of fish farm
చేపల పెంపకం రూపకల్పన మరియు నిర్మాణంపై ఒక వ్యాసం రాయండి

14. a) Describe the stocking management of major carps
ప్రధాన కార్ప్ చేపల యొక్క నిల్వ నిర్వహణను వివరించండి

(Or)

b) Write an essay on liming of carp culture ponds to improve fertility
సంతానోత్పత్తిని మెరుగుపరచడానికి కార్ప్ కల్చర్ చెరువులను లైమింగ్ చేయడంపై ఒక వ్యాసం రాయండి

15. a) Explain the culture of seaweeds
సముద్ర కలుపు మొక్కల పెంపకం వివరించండి

(Or)

b) Write an essay on culture of Shrimp (P.monodon)
రొయ్యల పెంపకంపై ఒక వ్యాసం రాయండి (పి. మోనోడాన్)

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6-4-21

# (AQT 3323)
# B.Sc. (BTZC) (CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF SEMESTER- III
PART - II AQUACULTURE
## FISH NUTRITION AND FEED TECHNOLOGY

TIME :Three hours | Maximum : 60 Marks

### SECTION - A

**I. Answer any FIVE of the following.** **5X4=20**

**Draw labeled diagram wherever necessary**

1. Protein sparing effect
2. Micronutrients
3. Mashes
4. Feed conversion efficiency
5. Packing
6. Chemical spoilage of feed
7. Pigments
8. Binders
9. Importance of natural feed
10. Anti nutrients

### SECTION - B

**II. Answer any FIVE of the following.** **5X8=40**
**Draw labeled diagram wherever necessary**

11. Describe various carbohydrates & micronutrients for different stages
(Or)
Describe various factors affecting energy partitioning & feeding
12. Describe different feeding methods
(Or)
Explain feed conversion ratio & protein efficiency ratio
13. Describe feed storage methods
(Or)
Explain feed formulation process in fishes
14. Explain probiotics role in fishes
(Or)
Write an essay on Enzymes & growth promoters in fish
15. Describe natural & supplementary feed importance
(Or)
Explain protein & Vitamin deficiency symptoms in fish

*****

# (EAQT 3326)
# B.Sc.(CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF III SEMESTER
PART - II EMBEDDED AQUACULTURE TECHNOLOGY
## Fish Nutrition and Feed Technology

TIME :Three hours | Maximum : 60 Marks

SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1 Essential amino acids
2 Micronutrients
3 Demand feeders
4 Dry feed
5 Chemical spoilage of feed
6 Packing
7 Anti oxidants
8 Supplementary feed

SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

9 A . Explain Dietary sources of energy in cultivable fish

Or

B. Explain about the required amino acids and fatty acids in cultivable fishes

Or

10 A. Explain feed conversion ratio and protein efficiency ratio

Or

B. Describe various feeding methods in fish farm

11 A Describe different types of feed storage methods

Or

B. Explain feed formulations process in fishes

12 A Write an essay on feed Additives

Or

B. Write the Importance of natural and supplementary feeds.

13 A. Explain vitamin deficiency symptoms in fishs

Or

B. What is nutritional pathology? Explain the Protien deficiency symptoms in fish.

# (EAQT 3326)
# B.Sc.(CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF III SEMESTER
PART - II EMBEDDED AQUACULTURE TECHNOLOGY
## Fish Nutrition and Feed Technology

TIME :Three hours | Maximum : 60 Marks

SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1 Essential amino acids
2 Micronutrients
3 Demand feeders
4 Dry feed
5 Chemical spoilage of feed
6 Packing
7 Anti oxidants
8 Supplementary feed

SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

9 A . Explain Dietary sources of energy in cultivable fish

Or

B. Explain about the required amino acids and fatty acids in cultivable fishes

Or

10 A. Explain feed conversion ratio and protein efficiency ratio

Or

B. Describe various feeding methods in fish farm

11 A Describe different types of feed storage methods

Or

B. Explain feed formulations process in fishes

12 A Write an essay on feed Additives

Or

B. Write the Importance of natural and supplementary feeds.

13 A. Explain vitamin deficiency symptoms in fishs

Or

B. What is nutritional pathology? Explain the Protien deficiency symptoms in fish.

# (AQT - 5323-6)
# B.Sc(ATZC) Degree (CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF SEMESTER- V
PART-II AQUACULTURE TECHNOLOGY
## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME :Three hours | Maximum : 60 Marks

### SECTION - A

**I. Answer any FIVE of the following.** **5X4=20**

**Draw labeled diagram wherever necessary**

1. Wants and utility
2. Value price
3. Fishery market survey
4. Fisheries coorporations
5. Laws of variable proportions
6. Innovation
7. IRDP
8. Rural development by fisheries extension
9. Education of farmers through electronic media
10. MPEDA

### SECTION - B

**II. Answer any FIVE of the following.** **5X8=40**
**Draw labeled diagram wherever necessary**

11. Explain various factors influencing the fishery products price
(Or)
Describe about elasticity demand.
12. Describe price determination of fishes in market
(Or)
Explain basic marketing functions of fish
13. Explain cost and earning of shrimp farming systems
(Or)
Explain the role of Matsyafed in uplifting fisheries condition
14. Explain the principles & features of extension education
(Or)
Explain fisheries extension methods
15. Explain the role of DAATT centers and their role in tot programmes
(Or)
Describe the salient features of FFDA

*****

# (AQT - 5323-5)
# B.Sc(ATZC) Degree (CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF SEMESTER- V
PART-II AQUACULTURE TECHNOLOGY
**FISH HEALTH MANAGEMENT**

TIME : Three hours | Maximum : 60 Marks

SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1Types of degeneration
2 Epizootic ulcerative syndrome
3 Furnuculosis
4 Whirling diseases
5 Nutritional cataract
6 Vaccines
7 Significancee of quarantine
8 Inflammation
9 Aeromonas in fin fish
10 Aflatoxins

SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

11 A Difine Disease?Explaine different types of disease in aqua culture

OR

B Explaine the changes in cell metabolism,cell death and causes?

12 A Explaine any five bacterial diseases in fish

Or

B Explaine emerging viral diseases in fish

13 A Explaine any four viral diseases in shell fish

Or

B Explaine any four protozoan diseases in shell fish

14 A Discribe mineral deficiency diseases

Or

B Explaine environmentally Indused diseases and preventive measures.

15 A Discribe production of disease free seeds

Or

B Explaine evaluation criteria of healthy seeds

*****

# (AQT - 5323-5)

# B.Sc(ATZC) Degree (CBCS) Examinations

MARCH - 2021

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISH HEALTH MANAGEMENT

TIME : Three hours Maximum : 60 Mark

SECTION -A 5X4=20 M

I Answer any FIVE of the following

Draw labeled diagram wherever necessary

1Types of degeneration
2 Epizootic ulcerative syndrome
3 Furnuculosis
4 Whirling diseases
5 Nutritional cataract
6 Vaccines
7 Significancee of quarantine
8 Inflammation
9 Aeromonas in fin fish
10 Aflatoxins

SECTION –B 5X8=40 M

II Answer any FIVE of the following

Draw labeled diagram wherever necessary

11 A Difine Disease?Explaine different types of disease in aqua culture

OR

B Explaine the changes in cell metabolism,cell death and causes?

12 A Explaine any five bacterial diseases in fish

Or

B Explaine emerging viral diseases in fish

13 A Explaine any four viral diseases in shell fish

Or

B Explaine any four protozoan diseases in shell fish

14 A Discribe mineral deficiency diseases

Or

B Explaine environmentally Indused diseases and preventive measures.

15 A Discribe production of disease free seeds

Or

B Explaine evaluation criteria of healthy seeds

# (AQT - 5323-6)
# B.Sc(ATZC) Degree (CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF SEMESTER- V
PART-II AQUACULTURE TECHNOLOGY
## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME :Three hours | Maximum : 60 Marks

### SECTION - A

**I. Answer any FIVE of the following.** **5X4=20**

**Draw labeled diagram wherever necessary**

1. Wants and utility
2. Value price
3. Fishery market survey
4. Fisheries coorporations
5. Laws of variable proportions
6. Innovation
7. IRDP
8. Rural development by fisheries extension
9. Education of farmers through electronic media
10. MPEDA

### SECTION - B

**II. Answer any FIVE of the following.** **5X8=40**
**Draw labeled diagram wherever necessary**

11. Explain various factors influencing the fishery products price
(Or)
Describe about elasticity demand.
12. Describe price determination of fishes in market
(Or)
Explain basic marketing functions of fish
13. Explain cost and earning of shrimp farming systems
(Or)
Explain the role of Matsyafed in uplifting fisheries condition
14. Explain the principles & features of extension education
(Or)
Explain fisheries extension methods
15. Explain the role of DAATT centers and their role in tot programmes
(Or)
Describe the salient features of FFDA

# (AQT 3323)
# B.Sc. (BTZC) (CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF SEMESTER- III
PART - II AQUACULTURE
## FISH NUTRITION AND FEED TECHNOLOGY

TIME :Three hours | Maximum : 60 Marks

### SECTION - A

**I. Answer any FIVE of the following.** **5X4=20**

**Draw labeled diagram wherever necessary**

1. Protein sparing effect
2. Micronutrients
3. Mashes
4. Feed conversion efficiency
5. Packing
6. Chemical spoilage of feed
7. Pigments
8. Binders
9. Importance of natural feed
10. Anti nutrients

### SECTION - B

**II. Answer any FIVE of the following.** **5X8=40**
**Draw labeled diagram wherever necessary**

11. Describe various carbohydrates & micronutrients for different stages
(Or)
Describe various factors affecting energy partitioning & feeding
12. Describe different feeding methods
(Or)
Explain feed conversion ratio & protein efficiency ratio
13. Describe feed storage methods
(Or)
Explain feed formulation process in fishes
14. Explain probiotics role in fishes
(Or)
Write an essay on Enzymes & growth promoters in fish
15. Describe natural & supplementary feed importance
(Or)
Explain protein & Vitamin deficiency symptoms in fish

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# (EAQT 3326)
# B.Sc.(CBCS) Examinations
MARCH - 2021
EXAMINATION AT THE END OF III SEMESTER
PART - II EMBEDDED AQUACULTURE TECHNOLOGY
## Fish Nutrition and Feed Technology

TIME :Three hours Maximum : 60 Ma

SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1 Essential amino acids
2 Micronutrients
3 Demand feeders
4 Dry feed
5 Chemical spoilage of feed
6 Packing
7 Anti oxidants
8 Supplementary feed

SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

9 A . Explain Dietary sources of energy in cultivable fish

Or

B. Explain about the required amino acids and fatty acids in cultivable fishes

Or

10 A. Explain feed conversion ratio and protein efficiency ratio

Or

B. Describe various feeding methods in fish farm

11 A Describe different types of feed storage methods

Or

B. Explain feed formulations process in fishes

12 A Write an essay on feed Additives

Or

B. Write the Importance of natural and supplementary feeds.

13 A. Explain vitamin deficiency symptoms in fishs

Or

B. What is nutritional pathology? Explain the Protien deficiency symptoms in fish.

# (AQT V-1304)

## B.Voc (AQUACULTURE TECHNOLOGY) Degree (CBCS) Examinations

AUGUST-2021

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## BASIC PRINCIPLES OF AQUACULTURE

TIME : Three hours | Maximum : 60 Mark

I. Answer any FIVE of the following. 5x4=20

Draw labeled diagram wherever necessary

1. Brackish water aquaculture
2. Intensive culture
3. Food chain
4. Algal blooms
5. Quarantine ponds
6. Hatchery
7. Topography
8. Construction of fish pond
9. B.O.D
10. Weed fishes

II. Answer ~~All~~ FIVE of the following. 5x8=40

Draw labeled diagram wherever necessary

11. (a) Describe the different types of aquaculture systems.

(Or)

(b) Explain fresh water aquaculture.

12. (a) Explain the Lotic and Lentic systems.

(Or)

(b) Explain the nutrient cycle in culture ponds

13. (a) Describe how to design hatchery.

(Or)

(b) Explain different types of ponds in aquaculture.

14. (a) Explain the layout and arrangement of fish ponds.

(Or)

(b)Which important factors are involved to construct an ideal fish pond.

15. (a) Write an essay on applications of fertilizers in culture ponds

(Or)

(b) Write about weed control in aquaculture.

# (AQT V-1305)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

AUGUST-2021

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## FRESH WATER & BRACKISH WATER AQUA CULTURE

TIME : Three hours

Maximum : 60 Marks

I. Answer any FIVE of the following. 5x4=20

Draw labeled diagram wherever necessary

1. Status of fresh water aquaculture in A.P.
2. Monosex culture system
3. Major carps
4. Exotic carps
5. Seawage fed fish culture
6. Air breathing fishes
7. Morphophytes
8. Grow-out ponds
9. Culture practices in P.monodon
10. Disease management in shrimps.

II. Answer any FIVE of the following. 5x8=40

Draw labeled diagram wherever necessary

11. (a) Explain briefly about cage culture and pen culture.

(Or)

(b) Explain fresh water aquaculture in India.

12. (a) Write a brief note about the culture of Tilapia

(Or)

(b) Give an explanation on exotic fish species introduced to India

13. (a) Write about the culture of Murrel fishers in India

(Or)

(b) Explain briefly about feeding and pond management in Air breathing fishes

14. (a) Explain the culture of M.rosenbergii

(Or)

(b) Write about fresh water prawns of India and their commercial value

15. (a) Explain about the culture of P.monodon

(Or)

(b) Describe briefly about the Hatchery technology of L.vannamei

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# (AQT V 1303)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

AUGUST-2021

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## BIOLOGY OF FIN FISH & SHELL FISH

TIME :Three hours Maximum : 60 Marks

**I. Answer any FIVE of the following.** 5x4=20

**Draw labeled diagram wherever necessary**

1. General characters of Crustaceans
2. Swim bladder
3. Feeding intensity
4. Length frequency method
5. Breeding places of fishes
6. Courtship in fishes.
7. Oviparity
8. Brooding
9. Molting stages
10. Y- Organ.

**II. Answer any FIVE of the following.** 5x8=40

**Draw labeled diagram wherever necessary**

11. (a) Explain the general characters and classification of fishes upto classes level.

(Or)

(b) Define osmotic regulation and explain ion regulation mechanism in fishes.

12. (a) Explain natural fish food and feeding habits in fishes.

(Or)

(b) Describe length-weight relationship in fishes

13. (a) Explain induced breeding in fishes.

(Or)

(b) Explain reproduction cycle in fishes.

14. (a) Explain the parental care in fishes.

(Or)

(b)Explain the embryonic and larval development in shrimp.

15. (a) Explain the role of endocrine hormones in fishes

(Or)

(b) Describe the molting and explain molting stages in shell fish

# (EAQT 2326)
# B.Sc. Degree (CBCS) Examinations
AUGUST-2021
EXAMINATION AT THE END OF II SEMESTER
PART - II AQUA CULTURE TECHNOLOGY
**BIOLOGY OF FIN FISH & SHELL FISH**

: Three hours Maximum : 60 Marks

**SECTION – A**

**I. Answer any FIVE of the following. Draw labeled diagrams wherever necessary**
**5 x 4 = 20 Marks**

1. Swim bladder
2. Toxins in fishes
3. Gut content analysis
4. Feeding intensity
5. Breeding places
6. Breeding in clams
7. Nest building
8. Oviparity
9. Androgenic gland
10. Neurosecretor cells

II. Answer any FIVE of the following
Draw labeled diagrams wherever necessary 5X8=40

11. a. Explain about the specialized organs in fishes.
(or)
b. What is Buoyancy? Write an account on mechanism of swim bladder.

12. a. Write an essay on principles of age and growth determination in fishes.
(or)
b. Describe the structural modifications in fishes with examples.

13. a. What is Induced breeding? Explain about induced breeding technology in Indian Major Carps.
(or)
b. Write an essay on breeding in npearl oysters.

14. a. Write an essay on Parental care in fishes.
(or)
b. What is deference between fin fish and shell fish? Explain about their reproduction and development.

15. a. Definition of molting? Describe the metamorphosis in crustacean.
(or)
b. Write an essay on role of Endocrine hormones in fishes.

# (EAQT 1326)
# B.Sc. (ATZC) (CBCS) Examinations
AUGUST - 2021 (Backlog)
EXAMINATION AT THE END OF SEMESTER - I
PART - II EMBADDED AQUA CULTURE TECHNOLOGY - 1
## BASIC PRINCIPLES OF AQUACULTURE

TIME : Three hours | Maximum : 60 Marks

**Note: Draw labeled diagram of wherever necessary**

### SECTION-A

**Answer any FIVE of the following** (5x4=20)

1. Intensive culture
2. Monosex culture
3. Lotic system
4. Benthos
5. Rain water ponds
6. Nursery pond
7. Construction of fish pond
8. Topography
9. Turbidity
10. Aquatic weeds

### SECTION-B

**Answer any FIVE of the following** (5x8=20)

**11.** **(a)** Write an essay on scope of aquaculture at global level, India and AP.

Or

**(b)** Describe the different types of aquaculture systems.

**12.** **(a)** Explain the lotic and lentic systems.

Or

**(b)** Describe the importance of planktons and benthos in culture ponds.

**13.** **(a)** Explain the functional classification of ponds.

Or

**(b)** Describe the hatchery design.

**14.** **(a)** Explain the components of barrage pond.

Or

**(b)** Explain the Lay out and arrangements of fish ponds in fish forms.

**15.** **(a)** Write an essay on application of fertilizers in culture ponds.

Or

**(b)** Describe the physico - chemical properties of culture ponds.

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# (AQT 7323 A)

## B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## ORNAMENTAL FISHERY

TIME:Three hours Maximum : 60 Marl

### SECTION –A

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Present status of aquarium in India
2. Nitrogen cycle
3. Gold fish
4. Larval fish
5. Use of anaesthetics
6. Lobsters
7. Floating methods
8. White spot disease
9. Bat fish
10. Tetras

### SECTION –B

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Explain various accessories used in aquarium

(OR)

b. Explain any four water quality parameters used in fresh water aquarium

(PTO)

12. a. Describe brood stock development in ornamental fish

(OR)

b. Explain any four live bearers of ornamental fish

13. a. Describe collection and transportation of live fish

(OR)

b. Explain major marine ornament fish resources of India

14. a. explain any four bacterial diseases in aquarium fish

(OR)

b. Describe any three other aquarium animals

15. a. Explain Commercial production of gold fish

(OR)

b. Describe any four aquarium plants

# (ZOO 8322 B3)
# B.Sc Degree (CBCS) Examinations
## AUGUST - 2021
## EXAMINATION AT THE END OF SEMESTER- VI
## PART-II ZOOLOGY
## POST HARVEST TECHNOLOGY

TIME : Three hours Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**

**Draw labelleddiagram wherever necessary** **5x4=20**

1. Handling of fresh fish—**తాజా చేపలను పట్టుకొను విధానం**

2. Rigor mortis—రిగర్ మోర్టిస్

3. Salt curing—సాల్ట్ క్యూరింగ్

4. Smoking—పొగ బారించుట

5. Fish oil —ఫిష్ ఆయిల్

6. Fish manure—చేపల ఎరువు

7. Personal hygiene in processing plants— ప్రాసెసింగ్ ప్లాంట్లలో వ్యక్తిగత పరిశుభ్రత

8. Control during processing— ప్రాసెసింగ్ సమయంలో నియంత్రణ

9. Good Laboratory Practices (GLPs)— మంచి ప్రయోగశాల పద్ధతులు

10. Codex Aliment Arius— కోడెక్స్ ఎలిమెంటెరియస్

### SECTION –B

**I. Answer any five of the following**

**Draw labelleddiagram wherever necessary** **5x8=40**

11. a. Describe the spoilage in marine fish

సముద్ర చేపలు చెడిపోవు విధానంను గూర్చి వివరించండి

(PT

(OR)

b. What are the different Principles used in preservation of fish

చేపల సంరక్షణలో ఉపయోగించే వివిధ సూత్రాలను గూర్చి తెలుపుము

12. a. Write in detail about Traditional methods used in fish preservation

సాంప్రదాయ పద్ధతులో చేపలు నిల్వ చేయు పద్ధతులను గురించి వివరంగా రాయండి

(OR)

b. Write any six methods of fish preservation

చేపల సంరక్షణకు ఏవైనా ఆరు పద్ధతులు రాయండి

13. a. Write about any six different types of fish by products

ఏవైనా ఆరు రకాల చేపల ఉత్పత్తులను గూర్చి రాయండి

(OR)

b. Write about the seaweeds used in disease treatment for humans

సముద్రపు కలుపు మొక్కలు మానవులకు వ్యాధి చికిత్సలో ఉపయోగించే విధానంను గూర్చివ్రాయండి

14. a. Explain about Environmental hygiene in processing plants

ప్రాసెసింగ్ ప్లాంట్లలో పర్యావరణ పరిశుభ్రత గురించి వివరించండి

(OR)

b. Write about the Quality control for fish and fish products

చేపలు మరియు చేపల ఉత్పత్తుల నాణ్యతానియంత్రణను గూర్చి వ్యాసం వ్రాయండి

15. a. Explain Good Manufacturing Practices (GMPs) in processing plants

ప్రాసెసింగ్ ప్లాంట్లలో మంచి తయారీ పద్ధతులను (GMP లు) గూర్చి వివరించండి

(OR)

b. Write about ISO 9000: 2000 Series of Quality Assurance System

ISO 9000: 2000 సీరీస్ ఆఫ్ క్వాలిటీ అస్యూరెన్స్ సిస్టమ్ గురించి రాయండి

XXXXX

# (AQT 8323 A2 )

## B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## FISHERY MICROBIOLOGY & FISHERY BYPRODUCTS

TIME: Three hours Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x4=20**

1. Endospore
2. Capsule
3. Anaerobic media
4. Plate pour method
5. Luminescent bacteria
6. Moisture content
7. Fish liver oil
8. Chitin
9. Advantages of value addition products
10. Fish curry

### SECTION –B

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the structure and function of plasma membrane

(OR)

b. Explain general characteristics of fungi and protozoans

12. a. Explain different types of media for isolation of bacteria

(OR)

b. Write about culture techniques of bacteria

(PTO)

13. a. Describe extrinsic factors affecting effecting fish spoilage

(OR)

b. Explain micro flora present in the surface, gill and digestive track of the fish

14. a. Explain seaweed products like agar and alginic acid

(OR)

b. Write any four fish by- products

15. a. Discuss different types of batter and breaded fish products

(OR)

b. Explain any four types of value added products of fish

XXXXX

# (ZOO 8322 B2)
## B.Sc Degree (CBCS) Examinations
AUGUST - 2021
EXAMINATION AT THE END OF SEMESTER- VI
PART-II ZOOLOGY
## AQUACULTURE MANAGEMENT

TIME : Three hours | Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x4=20**

1. Bundh breeding --- బండ్ బ్రీడింగ్
2. Jar hatchery ------ జార్ హేచరీ
3. Soil characteristics --- నీటి లక్షణాలు
4. Water quality ---- నీటి నాణ్యత
5. Types of feed --- మెతలలో రకాలు
6. Probiotics --- ప్రోబైయటిక్స్
7. Fish Immunization --- ఫిష్ ఇమ్మ్యూనైజేషన్
8. Acidosis and alkalosis --- యాసిడోసిస్ మరియు ఆల్కలసిస్
9. Cost-benefit analysis --- ఖర్చు ప్రయోజన విశ్లేషణ
10. Gynogenesis --- గైనోజెనెసిస్

### SECTION –B

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x8=40**

**11.a.** What is induced breeding? Explain the technique of induced breeding in fishes
ప్రేరేపిత పెంపకం అంటే ఏమిటి? చేపలలో ప్రేరేపిత పెంపకం యొక్క సాంకేతికతను వివరించండి

(OR)

**b.** Describe hatchery management of Indian
భారత దేశంలో హేచరీ నిర్వహణను వివరించండి

1P

12. a. Explain the role of physical factors in culture ponds
ఎంపకపు చెరువులలో భౌతిక కారకాల పాత్రను వివరించండి

(OR)

b. Explain principles of aeration and emergency of aeration
ఏరియేసన్ సూత్రాలు మరియు అత్యవసర ఏరియేసన్ గురించి వివరించండి

13. a. Write about supplementary feed given to fish in culture pond
ఎంపకపు చెరువులో చేపలకు ఇచ్చే సప్లిమెంటరీ ఫీడ్ గురించి రాయండి

(OR)

b. Explain the feed formulation and manufacturing
ఫీడ్ సూత్రీకరణ మరియు తయారీని గూర్చి వివరించండి

14. a. Write an essay on factors responsible for a disease
వ్యాధికి కారణమైన కారకాలను గూర్చి ఒక వ్యాసంవ్రాయండి

(OR)

b. Explain disease symptoms and control measures in culture pond
ఎంపకపు చెరువులో వ్యాధి లక్షణాలు మరియు నియంత్రణ చర్యలను గూర్చి వివరించండి

15. a. Describe various stages involved in fish marketing
చేపల మార్కెటింగ్ లో వివిధ దశలను గూర్చి వివరించండి

(OR)

b. Explain organizations involved in fisheries training and education in India
భారతదేశంలో మత్స్య శిక్షణ మరియు విద్యలో పాల్గొన్న సంస్థలను వివరించండి

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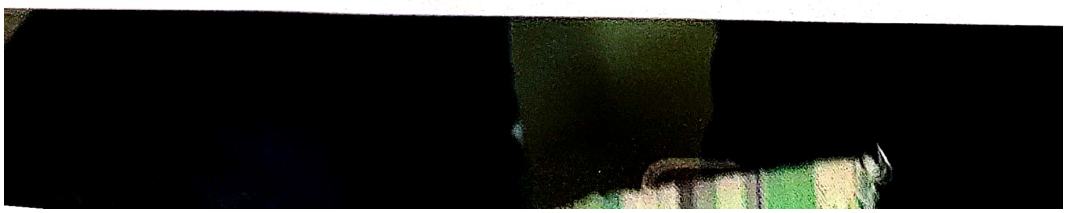

(EAQT 4326)

# B.Sc (ATZC) Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF IV SEMESTER

PART-II AQUACULTURE TECHNOLOGY

## FRESH WATER, BRACKISH WATER AQUACULTURE

TIME : Three hours Maximum : 60 Ma

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### SECTION-A

**I.** **Answer any FIVE of the following** **5 x 4 = 20**
**Draw labeled diagram wherever necessary**

1. Pen culture
2. Mono culture
3. Minor carps
4. Clarias species
5. Cold water fishes
6. Anabas
7. Morphophytes
8. Management of nursery ponds
9. Disease management in shrimps
10. Hatchery technology in Litopenaeus vennamei

**II.** **Answer any FIVE of the following** **5 x 8 = 40**
**Draw labeled diagram wherever necessary**

11. a. Explain cage culture
    (or)
    b. Explain present status of fresh water aquaculture in India
12. a. Explain the culture of Indian major carps
    (or)
    b. Tilapia culture
13. a. Re-circulatory water system in aquaculture
    (or)
    b. Murrel fish culture in India
14. a. Macrobrachium rosenbergii culture
    (or)
    b. Commercial importance of fresh water prawns
15. a. Penaeus monodon culture
    (or)
    b. Disease management in Litopenaeus vennamei

XXXXX

# (AQT 8323 A1)
# B.Sc Degree (CBCS) Examinations
## AUGUST - 2021
## EXAMINATION AT THE END OF SEMESTER- VI
## PART-II AQUACULTURE TECHNOLOGY
## FISH PROCESSING TECHNOLOGY

ME :Three hours Maximum : 60 Marks

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**SECTION –A**

**I. Answer any five of the following**
**Draw labelleddiagram wherever necessary** **5x4=20**

1. Types of ice
2. Sanitation in fish
3. Canning
4. Types of Container
5. Smoking
6. Traditional drying
7. Insulated vehicles
8. Types of Packing
9. Marine insurance
10. Export incentives

**SECTION –B**

**I. Answer any five of the following**

**Draw labelleddiagram wherever necessary** **5x8=40**

11. a. Write an essay on principles of fish preservation

(OR)

b. Describe the different types of ice used in the Sea food industry

12. a. Write an essay on freezing methods

(OR)

b. Describe the Principles involved in chilling and freezing of products

(P70)

13. a.Write about the Principles of Smoking, drying and salting

(OR)

b.Explain modern methods of preservation

14. a.Explain packing requirements for frozen and cured products

(OR)

b.Write an essay on different types of Cold storages

15. a.Explain tariff and non - tariff barriers in exporting aqua products

(OR)

b. Write an essay on Export documents and procedure of and prawn from India

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# (ZOO 8322 B1)
## B.Sc Degree (CBCS) Examinations
AUGUST - 2021
EXAMINATION AT THE END OF SEMESTER- VI
PART-II ZOOLOGY
## PRINCIPLES OF AQUACULTURE

TIME : Three hours | Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x4=20**

1. Significance of aquaculture---ఆక్వాకల్చర్ యొక్క ప్రాముఖ్యత
2. Indian major carps---భారతదేశ ప్రధాన కార్ప్స్
3. Monoculture---మోనోకల్చర్
4. Brackish water fishes---ఉప్పునీటి చేపలు
5. Natural seed resources of fish---చేపల సహజ విత్తన వనరులు
6. Artificial feed ---కృత్రిమ ఆహారం
7. Algal blooms--- ఆల్గాల్ బ్లూమ్స్
8. Liming--- సున్నం చల్లడం
9. Economic importance of seaweeds--- సముద్ర చేపల ఆర్థిక ప్రాముఖ్యత
10. Artificial pearl culture--- కృత్రిమ ముత్యపు చిప్పల పెంపకం

### SECTION –B

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Define aquaculture, explain the significance and history of aquaculture
ఆక్వాకల్చర్‌ను నిర్వచించి , ఆక్వాకల్చర్ యొక్క ప్రాముఖ్యత మరియు చరిత్రను వివరించండి

(OR)

b. Explain major cultivable species of freshwater fishes

మంచినీటి చేపల చెరువుల్లో పెంచే వివిధ రకాల ప్రధాన జాతులను వివరించండి

(P70)

12. a. Write an essay on integrated fish culture
సమగ్ర చేపల పెంపకం పై వ్యాసం రాయండి

(OR)

b. Write the Extensive, semi-intensive and intensive methods of fish culture

చేపల పెంపకంలో విస్తృతమైన,సెమీ ఇంటెన్సివ్ మరియు ఇంటెన్సివ్ పద్ధతులను వ్రాయండి

13. a. Explain the criteria for the selection of site for freshwater pond farms
మంచినీటి చెరువు స్థల ఎంపిక కోసంచేయు ప్రమాణాలను వివరించండి

(OR)

b. Explain the natural food and artificial feeds and their importance in fish culture
చేపల పెంపకంలో అందించబడే సహజ మరియు కృత్రిమ ఆహారం మరియు వాటి ప్రాముఖ్యతను వివరించండి

14. a. Write an essay on culture of Macro brachium Rosenberg
మాక్రో బ్రాచియం రోసెన్‌బర్గ్ పెంపకం పై వ్యాసం రాయండి

(OR)

b. Write briefly about Fertization and liming of carp culture ponds
కార్ప్ చేపల పెంపకపు చెరువులలో ఫలదీకరణం మరియు లైమింగ్ గూర్చి క్లుప్తం గా వ్రాయుము

15. a. Explain the culture of seaweeds

సముద్రపు కలుపు మొక్కల యొక్క పెంపకం ను వివరించండి

(OR)

b. Write an essay on culture of Shrimp (Penacus monodon)

రొయ్యల పేమకంపై ఒక వ్యాసంవ్రాయండి (పీనియస్ మోనోడాస్)

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# (AQT V 2309)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

OCTOBER - 2021

EXAMINATION AT THE END OF II SEMESTER

PART - II

## CAPTURE FISHERY

TIME : Three hours

Maximum : 60 Marks

### SECTION –A

**Answer any FIVE of the following**

**Draw a Labelled diagram wherever necessary** **5x4=20 Marks**

1. The Ganga river system
2. River pollution
3. Govinda sagar reservoir
4. Minor reservoir
5. Esturies in india
6. Write short notes on Krishna Estury
7. Oil sardine fishes
8. Ribbon fishes
9. General Description of Bombay duck
10. Over fishing

(P.T.O)

**Answer any FIVE of the following**

**Draw a Labelled diagram wherever necessary** **5x8=40 Marks**

11. (a)Describe Different rivirine system and their fishery

OR

(b)Describe the east coast river system

12. (a)Explain about Major reservoir

OR

(b) Explain the Govind sagar and Rihand reservoir

13. (a) Define estuarine and describe briefly about different estuaries in India

OR

(b) Give a detailed account on Pulicot and Chilka lake

14. (a) Describe about Indian oil sardine and Mackerels and their taxonomy

OR

(b) Describe the Ribbon fish and seer fish and their taxonomy

15. (a) Describe food and feeding habits of pomfrets

OR

(b)Explain the overfishing and their remedies

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# (AQT V 2310)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

OCTOBER - 2021

EXAMINATION AT THE END OF II SEMESTER

PART - II

## FISH NUTRITION & FEED TECHNOLOGY

TIME : Three hours | Maximum : 60 Mark

### SECTION –A

**Answer any FIVE of the following**

**Draw a Labelled diagram wherever necessary** **5x4=20 Marks**

1. Check Tray
2. Lipids
3. Mashes
4. Bag feeding
5. Mixing and Drying
6. Microbial damage of feed
7. Anti-Oxidants
8. Binders
9. Balanced diet
10. Supplementary feed

(P. T. O)

**Answer any FIVE of the following**

**Draw a Labelled diagram wherever necessary** **5x8=40 Marks**

11. (a) Explain essential amino acids required for cultivable fish

OR

(b)Explain Dietary sources of energy in cultivable fish

12. (a)Write an essay on various feeds

OR

(b) Explain feed conservation ratio & protein efficiency ratio

13. (a) Describe the feed storage methods

OR

(b) Explain chemical spoilage and feed storage methods

14. (a) Explain probiotics role in fishes

OR

(b) Write an essay on feed attractants & feed stimulants

15. (a) Explain vitamine diffeciency symptoms in fish

OR

(b)Describe Natural and supplementary feed importance

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(AQT - 5323-6)

# B.Sc Degree (CBCS) Examinations

FEBRUARY - 2022

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME : Three hours Maximum : 60 Marks

### SECTION- A

Answer any FIVE of the following. 5x4=20M

Draw labelled diagram wherever necessary.

1. Demand
2. Value and price
3. Basic marketing function
4. Fishery market survey
5. Mastyafed
6. KVK
7. Fisheries extension
8. Aquaculture economics
9. Law of diminishing marginal utility
10. Project appraisal

### SECTION- B

Answer the following. 5x8=40M

Draw labelled diagram wherever necessary.

11. A) Give an account on various factors influencing the fishery product price.

(or)

B) Write an essay on Utility and demand –types.

12. A) Give an account on price and price determination of fishes.

(or)

B) Write an essay on Basic fish marketing functions.

13. A) Explain the roles of Mastyfed and NABARD in uplifting fisher mans condition.

(or)

B) Give an account on Aquaculture economics-its applications and principles.

14. A) Write a detailed account on Fisheries extension education .

(or)

B) Write any three ICAR programmes.

15. A) Write a detailed account on Fisheries extension methods and rural development.

(or)

B) Explain the role of DAATT centres and their role.

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# (AQT V-3317)

## B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

FEBRUARY- 2022

EXAMINATION AT THE END OF SEMESTER - III

PART-II

## HATCHERY TECHNOLOGY IN AQUATIC ORGANISMS

TIME : Three hours | Maximum : 60 Marks

### SECTION – A

**I. Answer any FIVE of the following.** **5x4=20M**

**Draw neat labeled diagrams where ever necesary.**

1. Ovulating agents
2. Brood stock
3. Closed carp seed transportation
4. Transport of breeders
5. *M.rosenbergii*
6. Post larvae
7. Quarantine management
8. Site selection
9. Mechanical filters
10. Management of Larval section

### SECTION - B

**II. Answer any FIVE of the following.** **5x8=40M**

**Draw neat labeled diagrams where ever necesary.**

11. A). Define Hypophysation and write about hypophysation in Indian major carps.

(Or)

B). Explain briefly about Hatchery management and seed production of Carps.

12. A). Write briefly about the carp production system and seed production

(Or)

B). Define Bundh breeding? Write about the types of bundh breeding techniques.

[P.T.O]

13. A). Write about the Hatchery operations of Pearl Oysters.

(Or)

B). Describe about the seed production and nursery rearing of *P.indicus*

14. A). Explain about the live feed culture system.

(Or)

B). Write about the Hatchery management and design of Shrimp hatcheries

15. A). Write about the management of larval section

(Or)

B). Describe about the mechanical and biological filter.

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(AQT V-3318)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

FEBRUARY- 2022

EXAMINATION AT THE END OF SEMESTER - III

PART-II

## FISHING METHODS

TIME : Three hours | Maximum : 60 Marks

### SECTION – A

I. Answer any FIVE of the following. 5x4=20M

Draw neat labeled diagrams where ever necesary.

1. Fishing gears in India
2. Aluminium
3. Long lines and hooks
4. Fishing accessories
5. Fish traps
6. Active gears
7. Light fishing
8. Use of dynamics
9. Remote fishing
10. Sonar

### SECTION - B

II. Answer the following 5x8=40M

Draw neat labeled diagrams where ever necesary.

11. A). Discuss the merits and demerits of wood as a boat building material.

(Or)

B).Write an essay on boar building materials.

12. A). Explain the various crafts of the East coast.

(Or)

B). What is netting material? Write an essay on different netting materials.

(P.T.O)

13. A). Explain the various Active fishing gears.

(Or)

B). Wrtie an essay on seine nets.

14. A). Write an essay on destructive and prohibited fishing practices.

(Or)

B). Discuss the consequences of use of dynamics for fishing.

15. A). Write an essay on applications of GIS in aquaculture.

(Or)

B). Discuss the various fish finding devices.

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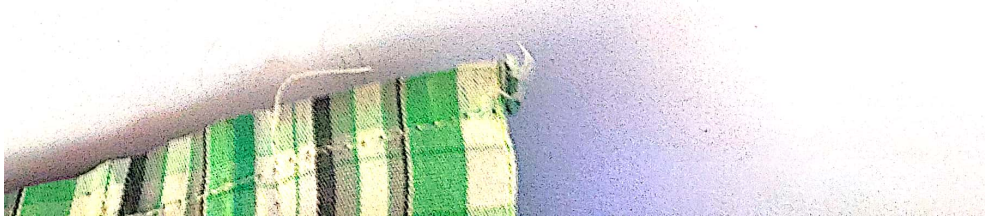

# (AQT V-3319)

## B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

FEBRUARY- 2022

EXAMINATION AT THE END OF SEMESTER - III

PART-II

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME : Three hours Maximum : 60 Marks

### SECTION- A

I Answer any FIVE of the following. 5x4=20M

Draw labelled diagram wherever necessary.

1. Consumer behaviour and Demand
2. Value and price
3. Fisheries co operations
4. Fishery market survey
5. Law of diminishing marginal utility
6. Wants and utility
7. Fisheries extension
8. Aquaculture economics
9. Mastyfed
10. Project appraisal

### SECTION- B

II Answer any FIVE of the following questions 5x8=40M

Draw labelled diagram wherever necessary.

1. A) Explain about demand and supply in terms of economics.

(or)

B) Give an account on various factors influencing the fishery product price



[P.T.O]

12. A) Write an essay on Basic fish marketing functions.

(or)

B) Give an account on price and price determination of fishes.

13. A) Explain the roles of NABARD in uplifting fisher mans condition.

(or)

B) Give an account on Aquaculture economics-its applications and principles.

14. A) Write a detailed account on Fisheries extension education .

(or)

B) Write an essay Fisheries extention ,scope and objectives.

15. A) Write a detailed account on Fisheries extension methods and rural development.

(or)

B) Write any three ICAR programmes

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# (EAQT 3326)
# B.Sc. Degree (CBCS) Examinations
FEBRUARY- 2022
EXAMINATION AT THE END OF SEMESTER- III
PART - II
## FISH NUTRITION AND FEED TECHNOLOGY

TIME :Three hours | Maximum : 60 Marks

SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1 Essential amino acids
2 Micronutrients
3 Demand feeders
4 Dry feed
5 Chemical spoilage of feed
6 Packing
7 Anti oxidants
8 Supplementary feed
9. Nutritional pathology.
10. Balanced diet.

SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

11. A . Explain Dietary sources of energy in cultivable fish

Or

B. Explain about the required amino acids and fatty acids in cultivable fishes

12. A. Explain feed conversion ratio and protein efficiency ratio

Or

B. Describe various feeding methods in fish farm

13. A Describe different types of feed storage methods

Or

B. Explain feed formulations process in fishes

14. A Write an essay on feed Additives

Or

B. Write the Importance of natural and supplementary feeds.

15. A. Explain vitamin deficiency symptoms in fishs

Or

B. What is nutritional pathology? Explain the Protien deficiency symptoms in fish.

* * * * *

# (EAQT - 5326-5)

# B.Sc Degree (CBCS) Examinations

FEBRUARY - 2022

EXAMINATION AT THE END OF SEMESTER- V

PART-II

## FISH HEALTH MANAGEMENT

E : Three hours | Maximum : 60 Marks

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SECTION - A

**I. Answer any FIVE of the following. 5x4=20 M**

**Draw labeled diagram wherever necessary**

1. Necrosis
2. Types of degeneration
3. Epizootic ulcerative syndrome
4. Fusarium in fin fish
5. Costiasis in shell fish
6. Filamentous bacterial disease
7. Aflotoxins
8. Antibiotics in aquaculture
9. Zero water exchange
10. Significance of quarantine'

SECTION - B

**II. Answer any FIVE of the following. 5x8=40 M**

**Draw labeled diagram wherever necessary**

11. a) Describe cell death and causes in fish.

(Or)

b) Define disease? Explain different types of diseases

12. a) Explain any five bacterial diseases in fish.

(Or)

b) Describe spring viremia of carps and infectious pancreatic necrosis in salmonoids.

13. a) Explain preventive and therapeutic measures of protozoan diseases in shell fish.

(Or)

b) Explain any three bacterial diseases in shell fish

14. a) Describe mineral deficiency diseases.

(Or)

b) Explain genetically induced diseases in fin fish

15. a) Write an account on probiotics in health management of shell fish.

(Or)

b) Describe the production of disease free seeds.

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# (EAQT - 5326-6)

# B.Sc Degree (CBCS) Examinations

FEBRUARY - 2022

EXAMINATION AT THE END OF SEMESTER- V

PART-II

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME :Three hours Maximum : 60 Marks

SECTION- A

5x4=20M

Answer any FIVE of the following.

Draw labelled diagram wherever necessary.

1. Demand
2. Value and price
3. Basic marketing function
4. Fishery market survey
5. Mastyafed
6. KVK
7. Fisheries extension
8. Aquaculture economics
9. Law of diminishing marginal utility
10. Project appraisal

SECTION- B

Answer all the following questions. 5x8=40M

Draw labelled diagram wherever necessary.

11. A) Give an account on various factors influencing the fishery product price.

(or)

B) Write an essay on Utility and demand –types.

12. A) Give an account on price and price determination of fishes.

(or)

B) Write an essay on Basic fish marketing functions.

13. A) Explain the roles of Mastyfed and NABARD in uplifting fisher mans condition.

(or)

B) Give an account on Aquaculture economics-its applications and principles.

14. A) Write a detailed account on Fisheries extension education .

(or)

B) Write any three ICAR programmes.

15. A) Write a detailed account on Fisheries extension methods and rural development.

(or)

B) Explain the role of DAATT centres and their role.

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(AQT V-1305)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

APRIL - 2022

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## FRESH WATER & BRACKISH WATER AQUA CULTURE

TIME :Three hours  Maximum : 60 Marks

### SECTION - A

**Answer any FIVE of the following** 5x4=20 M
**Draw neat labeled diagram wherever necessary**

1. Aquaculture status in India
2. Monoculture
3. Exotic carps
4. Clarious batracus
5. Air breathing fishes
6. Sewage fed fish culture
7. Seed Production
8. Machrobrachium rosenbergii
9. Pond preparation
10. Mixed culture of fish and prawn

### SECTION – B

**Answer THE following questions.** 5x8=40 M
**Draw neat labeled diagram wherever necessary**

11.(a)Explain the fresh water Aquaculture syatems

OR

(b) Write an essay on Cage culture

12. (a) Explain the culture of Indian minor carps

OR

(b) Describe the composite fish culture systems of Indian and Exotic carps

13. (a) Write an essay on recirculatory water systems in Aquaculture

OR

(b) Explain recent culture trends in Murrels

14 (a) Explain an essay on commercial value of Indian fresh water prawn

OR

(b) Explain Machrobrachium rosenbergii culture

OR

15 (a) Explain feed and disease management in Penious monodon culture

OR

(b) Write an essay on hatchery technology and culture practice in Littopenious vennamei

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# (AQT V-1304)

## B.Voc (AQUACULTURE TECHNOLOGY) Degree (CBCS) Examinations

APRIL - 2022

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## BASIC PRINCIPLES OF AQUACULTURE

TIME : Three hours | Maximum : 60 Marks

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**I. Answer any FIVE of the following. 5x4=20 M**

**Draw labeled diagram wherever necessary**

1. Monoculture
2. Brackish water aquaculture
3. Phosphorus cycle
4. Algal blooms
5. Quarantine ponds
6. Nursery ponds
7. Construction of fish ponds
8. Soil quality for ideal fish pond
9. Turbidity
10. Toxins used for weed control.

**II.** Answer ALL the following questions **5x8=40 M**

**Draw labeled diagram wherever necessary**

11. a) Write an essay on scope of aquaculture at global level, India and A.P.

(Or)

b) Explain intensive & semi – intensive aquaculture.

12. a) Explain the lotic & lentic systems.

(Or)

b) Explain the nutrient cycles in culture ponds.

13. a) Explain the functional classification of ponds.

(Or)

b) Describe nursery ponds.

14. a) Explain the components of barrage pond.

(Or)

b) Which important factors are involved to construct an ideal fish pond.

5. a) Write about weed control in aquaculture.

(Or)

b) Explain the role of nutrients & manures used in aquaculture.

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# (AQT V-1303)

# B.Voc (Aquaculture Technology) Degree (CBCS) Examinations

APRIL - 2022

EXAMINATION AT THE END OF SEMESTER - I

PART - II

## BIOLOGY OF FIN FISH & SHELL FISH

TIME : Three hours | Maximum : 60 Marks

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**I. Answer any FIVE of the following.** **5x4=20 M**

**Draw labeled diagram wherever necessary**

1. General characters of mollusks.
2. Scales in fishes
3. Feeding intensity
4. Length frequency method
5. Breeding places in fishes
6. Breeding in natural environment
7. Viviparity
8. Nest building
9. Chromatophores
10. Pericardial glands

**II. Answer any FIVE of the following.** **5x8=40 M**

**Draw labeled diagram wherever necessary**

11. a. Describe alimentary canal and associated structures in teleost fish.

(Or)

b. Describe osmotic regulation and explain ion regulation mechanism in fishes.

12. a. Describe the age determining factors in fish.

(Or)

b. Describe length-weight relationship in fishes.

13. a. Explain induced breeding in fish.

(Or)

b. Explain breeding in shrimps

14. a. Explain parental care in fishes.

(Or)

b. Explain embryonic and larval development of fishes.

15. a. Describe molting and explain molting stages in shell fishes.

(Or)

b. Role of endocrine hormones in fishes.

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# (AQT 1323)
# B.Sc. (ATZC) (CBCS) Examinations
NOVEMBER - 2018
EXAMINATION AT THE END OF I SEMESTER
PART - II AQUA CULTURE TECHNOLOGY - 1
## BASIC PRINCIPLES OF AQUACULTURE

TIME : Two and half hours | Maximum : 60 Marks

## SECTION -A

**I. Answer FIVE of the following questions** **5 x 4 = 20 Marks**
**Draw labeled diagrams wherever necessary**

1. Monoculture
2. Brackish water culture
3. Phosphorous Cycle
4. Food chain
5. Rain water Ponds
6. Head pond
7. Soil pH
8. Topography
9. Role of Nutrients
10. Weed fish

## SECTION - B

**II. Answer any FIVE of the following questions** **5 x 8 = 40 Marks**
**Draw labeled diagrams wherever necessary**

11. (a) Explain Semi-intensive aquaculture system (OR)
    (b) Describe different types of aquaculture systems.

12. (a) Explain carbon cycle (OR)
    (b) Explain nutrient cycle in culture pond

13. (a) Explain functional classification of Ponds (OR)
    (b) Describe Nursery pond

14. (a) Explain the components of Barrage Pond (OR)
    (b) Explain the important factors to be considered for the construction of an Ideal fish pond.

15. (a) Write an essay on application of Fertilizers in culture ponds (OR)
    (b) Explain various chemical factors the affect Aquaculture.

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# (AQT 1323)
# B.Sc. (ATZC) (CBCS) Examinations
## NOVEMBER / DECEMBER - 2019
## EXAMINATION AT THE END OF SEMESTER - I
## PART - II AQUA CULTURE TECHNOLOGY - 1
## BASIC PRINCIPLES OF AQUACULTURE

TIME : Two and half hours | Maximum : 60 Marks

### Section – A

**III. Answer any FIVE of the following** **5×4=20M**
**Draw labelled diagram wherever necessary**

1. Cage culture
2. Polyculture
3. Phosphorus cycle
4. Algal blooms
5. Quarantine ponds
6. Hatchery
7. Soil quality for ideal fish pond
8. Topography
9. Turbidity
10. Aquatic weeds

### Section – B

**Answer any FIVE of the following** **5×8=40M**
**Draw labelled diagram wherever necessary**

11 a. Explain freshwater aquaculture
(or)
b. Explain mariculture and brackish water aquaculture

12 a. Explain lentic and lotic systems
(or)
b. Explain nutrient cycle in culture ponds

13 a. Explain different types of ponds in aquaculture
(or)
b. Describe nursery pond

14 a. Explain the components of barrage pond
(or)
b. Explain the layout and arrangements fish ponds in fish

15 a. Describe the physico-chemical properties of culture ponds
(or)
b. Explain the role of nutrients and manures used in aquaculture

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# (AQT - 5323-5)

# B.Sc(ATZC) Degree (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISH HEALTH MANAGEMENT

TIME : Two and half hours | Maximum : 60 Marks

SECTION: A

I. Answer any FIVE of the following. Draw diagrams where ever necessary.

5x4= 20 Marks

1. Cell death
2. Hypertrophy
3. Brachiomycosis
4. Fusarium in fin fish
5. Trypanosomiasis
6. MBV
7. Vitamin deficiency disease
8. Environmentally induced disease
9. Healthy seed
10. Zero water exchange.

SECTION: B

II. Answer any FIVE of the following. Draw diagrams where ever necessary.

5x8 = 40 Marks

11. (a) Explain in detail different categories of fish diseases. (OR)
    (b) Write notes on: a) Necrosis b) Neoplasms
12. (a) Describe in detail any two fungal diseases seen in fin fish. (OR)
    (b) Write an essay on the infectious abdominal dropsy and Bacterial Kidney disease in Fin fish.
13. (a) Explain in detail any two viral diseases of the shrimp (OR)
    (b) Write in detail any two protozoan diseases of shrimp
14. (a) Write the detailed notes on. a) Aflatoxin b) Lipid liver degeneration (OR)
    (b) Write an essay on the genetically induced diseases in fin fish.
15. (a) Describe the role of probiotics in the health management of shell fish. (OR)
    (b) What are the evaluative criteria of the healthy seed.

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# (AQT - 5323-5)

# B.Sc(ATZC) Degree (CBCS) Examinations

MARCH - 2021

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

FISH HEALTH MANAGEMENT

TIME : Three hours | Maximum : 60 Marks

## SECTION -A

I Answer any FIVE of the following 5X4=20 M

Draw labeled diagram wherever necessary

1Types of degeneration
2 Epizootic ulcerative syndrome
3 Furnuculosis
4 Whirling diseases
5 Nutritional cataract
6 Vaccines
7 Significancee of quarantine
8 Inflammation
9 Aeromonas in fin fish
10 Aflatoxins

## SECTION –B

II Answer any FIVE of the following 5X8=40 M

Draw labeled diagram wherever necessary

11 A Difine Disease?Explaine different types of disease in aqua culture

OR

B Explaine the changes in cell metabolism,cell death and causes?

12 A Explaine any five bacterial diseases in fish

Or

B Explaine emerging viral diseases in fish

13 A Explaine any four viral diseases in shell fish

Or

B Explaine any four protozoan diseases in shell fish

14 A Discribe mineral deficiency diseases

Or

B Explaine environmentally Indused diseases and preventive measures.

15 A Discribe production of disease free seeds

Or

B Explaine evaluation criteria of healthy seeds

*****

# (AQT 3323)

# B.Sc. (BTZC) (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- III

PART - II AQUACULTURE

## FISH NUTRITION AND FEED TECHNOLOGY

TIME : Two and half hours | Maximum : 60 Marks

### SECTION-A

**I. Answer any FIVE of the following** 5x4=20

**Draw labeled diagram wherever necessary**

1. Essential amino acids
2. Energy partitioning
3. Dry feeds
4. Floating
5. Farm made aqua feed
6. Packing
7. Hormones
8. Pigments
9. Mineral deficiency symptoms
10. Supplementary feed

### SECTION-B

**II. Answer any FIVE of the following** 5x4=20

**Draw labeled diagram wherever necessary**

11. a) Describe various factors affecting partitioning and feeding.

    OR

    b) Explain the essential amino acids required for cultivable fish.
12. a) Explain feed conversion ration and protein efficiency ratio

    OR

    b) Describe different feeding methods
13. a) Describe microbial, insect and rodent damage of feed

    OR

    b) Explain feed formulation process in fishes
14. a) Describe enzymes and growth promoters in fish

    OR

    b) Write an essay on feed attractants and feed stimulants
15. a) Explain vitamin deficiency symptoms in fishes

    OR

    b) Describe natural and supplementary feed importance.

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# (AQT 3323)
# B.Sc. (ATZC) (CBCS) Examinations
## NOVEMBER - 2018
## EXAMINATION AT THE END OF III SEMESTER
## PART - II AQUA CULTURE TECHNOLOGY - 3
## FISH NUTRITION AND FEED TECHNOLOGY

TIME : Two and half hours | Maximum : 60 Marks

**Note: Draw labeled diagram wherever necessary**

### Section-A

**(Answer any FIVE of the following)** **5x4=20**

1. Essential amino acids.
2. Determination of feeding rate.
3. Frequency of feeding.
4. Pellet feeds and its advantages.
5. Feeds ingredients and their selection.
6. Farm made aqua feed.
7. Growth promoters.
8. Feed attractions and feed stimulants.
9. Nutritional pathology.
10. Balanced diet.

### Section-B

**(Answer any FIVE of the following)** **5x8=40**

11. (a) Describe the various energy requirements for different stages of cultivable fishes and prawns.

Or

(b) Explain the factors affecting energy partitioning and feeding.

12. (a) Explain the various type's feedings.

Or

(b) Write about feed conversion ratio and protein efficiency ratio.

13. (a) Describe the various feed formulations.

Or

(b) Explain the various methods for feed storages.

14. (a) Write an essay on role of probiotics.

Or

(b) Explain the anti-metabolites and afflotoxins.

15. (a) Describe the vitamins and mineral deficiency symptoms.

Or

(b) Explain the importance of natural and supplementary feed.

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# (AQT 3323)

# B.Sc. (BTZC) (CBCS) Examinations

MARCH - 2021

EXAMINATION AT THE END OF SEMESTER- III

PART - II AQUACULTURE

## FISH NUTRITION AND FEED TECHNOLOGY

TIME :Three hours | Maximum : 60 Marks

### SECTION - A

**I. Answer any FIVE of the following.** **5X4=20**

**Draw labeled diagram wherever necessary**

1. Protein sparing effect
2. Micronutrients
3. Mashes
4. Feed conversion efficiency
5. Packing
6. Chemical spoilage of feed
7. Pigments
8. Binders
9. Importance of natural feed
10. Anti nutrients

### SECTION - B

**II. Answer any FIVE of the following.** **5X8=40**

**Draw labeled diagram wherever necessary**

11. Describe various carbohydrates & micronutrients for different stages

(Or)

Describe various factors affecting energy partitioning & feeding

12. Describe different feeding methods

(Or)

Explain feed conversion ratio & protein efficiency ratio

13. Describe feed storage methods

(Or)

Explain feed formulation process in fishes

14. Explain probiotics role in fishes

(Or)

Write an essay on Enzymes & growth promoters in fish

15. Describe natural & supplementary feed importance

(Or)

Explain protein & Vitamin deficiency symptoms in fish

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(AQT 7323 A)

# B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## ORNAMENTAL FISHERY

TIME: Three hours Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Present status of aquarium in India
2. Nitrogen cycle
3. Gold fish
4. Larval fish
5. Use of anaesthetics
6. Lobsters
7. Floating methods
8. White spot disease
9. Bat fish
10. Tetras

### SECTION –B

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Explain various accessories used in aquarium

(OR)

b. Explain any four water quality parameters used in fresh water aquarium

(PTO)

12. a. Describe brood stock development in ornamental fish

(OR)

b. Explain any four live bearers of ornamental fish

13. a. Describe collection and transportation of live fish

(OR)

b. Explain major marine ornament fish resources of India

14. a. explain any four bacterial diseases in aquarium fish

(OR)

b. Describe any three other aquarium animals

15. a. Explain Commercial production of gold fish

(OR)

b. Describe any four aquarium plants

(AQT 7323 A)

**B.Sc (ATZC) Degree (CBCS)Examinations**

SEPTEMBER - 2020

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURAL.

**ORNAMENTAL FISHERY**

TIME : Two hours Maximum : 60 Marks

**SECTION-A**

**Answer any FOUR of the following questions** **4x6 = 24 Marks**

**Draw a neat labelled diagram wherever necessary**

1. Heaters
2. Nitrogen cycle
3. Rearing ponds
4. Gold fish
5. Lobsters
6. Use of anaesthetics
7. White spot disease
8. Floating method
9. Bat fish
10. Molly

(PTO)

## SECTION-B

**Answer any THREE of the following questions** **3x12 = 36 Marks**

**Draw a neat labelled diagram wherever necessary**

11. a. Describe different feeds used for Aquarium fishes

OR

b. Explain various accessories used in Aquarium

12. a. Describe in detail about any four egg layer fishes

OR

b. Explain brood stock development in Ornamental fish

13. a. Explain major marine Ornamental fish resource in India

OR

b. Describe breeding of marine fish

14. a. Explain any four Bacterial diseases in Aquarium fish

OR

b. Explain various steps used to set an marine Aquarium

15. a. Explain retail marketing of Ornamental fish

OR

b. Explain Commercial production of Gold fish

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(AQT 2323)

# (AQT 4323)

# B.Sc (ATZC) Degree (CBCS) Examinations

MARCH - 2019

EXAMINATION AT THE END OF IV SEMESTER

PART-II

## FRESH WATER, BRAKISH WATER AQUA CULTURE

TIME : Two and half hours | Maximum : 60 Marks

### SECTION – A

**I. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 4 = 20 Marks**

1. Poly culture
2. Mono sex culture
3. Exotic carps
4. *Clarius*
5. Air breathing fishes
6. Cage culture
7. Seed production
8. Grow out pond
9. Vannamei hatchery
10. Morphology of *Penaeus monodon*

### SECTION – B

**II. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 8 = 40 Marks**

11. a) Explain fresh water aquaculture system. ?
    b) Describe the prospects of fresh water aquaculture in Andhra Pradesh. ? (OR)
12. a) Describe *Tilapia* culture. ?
    b) Describe the composite culture of Indian carps. ? (OR)
13. a) Explain sewage fed fish culture. ?
    b) Explain recent culture trends in murrels. ? (OR)
14. a) Explain *Macrobrachium rosenbergii* culture ?
    b) Write an essay on commercial value of Indian fresh water prawn. ? (OR)
15. a) Explain in detail the disease management in *Penaeus monodon.* ?
    b) Explain mixed culture of fish. ? (OR)

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(AQT 2323)

B.Sc. (ATZC) (CBCS) Examinations

(AQT 4323)

# B.Sc (ATZC) Degree (CBCS) Examinations

NOVEMBER 2020

EXAMINATION AT THE END OF IV SEMESTER

PART-II AQUACULTURE TECHNOLOGY

FRESH WATER, BRAKISH WATER AQUACULTURE

TIME : Two hours Maximum : 60 Marks

## SECTION – A

**I. Answer any FOUR of the following. Draw labeled diagrams wherever necessary** 4*6=24 Marks

1. Mono culture
2. Recirculation system
3. Minor carps
4. *Tilapia*
5. Cage culture
6. Cold water fishes
7. Seed production
8. Commercial value of Prawn
9. Morphology of *Litopenaeus vannamei*
10. Morphology of *Penaeus monodon*

## SECTION – B

**II. Answer any THREE of the following. Draw labeled diagrams wherever necessary** 3*12=36 Marks

11. a) Explain fresh water aquaculture system. (OR)
    b) Describe the status of fresh water aquaculture in India.
12. a) Explain composite fish culture of exotic carps. (OR)
    b) Describe the composite culture of Indian carps.
13. a) Explain sewage fed fish culture. (OR)
    b) Explain cold water fish culture.
14. a) Explain *Macrobrachium malcomsonii* culture (OR)
    b) Write an essay on commercial value of Indian fresh water prawn.
15. a) Explain in detail the feed management in *Penaeus monodon*. (OR)
    b) Explain mixed culture of fish.

# (AQT 2323)

# B.Sc. (ATZC) (CBCS) Examinations

APRIL - 2019

EXAMINATION AT THE END OF II SEMESTER

PART - II AQUA CULTURE TECHNOLOGY - 2

## BIOLOGY OF FINFISH & SHELL FISH

TIME : Two and half hours | Maximum : 60 Marks

### SECTION – A

**I. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 4 = 20 Marks**

1. Swim bladder
2. Toxins in fishes
3. Gut content analysis
4. Feeding intensity
5. Breeding places
6. Breeding in clams
7. Nest building
8. Oviparity
9. Androgenic gland
10. Neurosecretor cells

### SECTION – B

**II. Answer any FIVE of the following. Draw labeled diagrams wherever necessary** **5 x 8 = 40 Marks**

11. a) Explain commercial importance of crustaceans and molluscs. (OR)
    b) Explain any two sense organs in fishes.
12. a) Describe age determining factors in fish. (OR)
    b) Describe length weight relationship in fishes.
13. a) Explain induced breeding in fish. (OR)
    b) Explain breeding in shrimps.
14. a) Explain parental care in fishes (OR)
    b) Explain commercial importance of crabs and molluscs.
15. a) Describe metamorphosis in shell fish. (OR)
    b) Describe in detail the role of endocrine hormones in fishes.

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# (AQT 2323)
# B.Sc. Degree (CBCS) Examinations
## NOVEMBER - 2020
## EXAMINATION AT THE END OF II SEMESTER
## PART - II AQUA CULTURE TECHNOLOGY
## BIOLOGY OF FINFISH & SHELL FISH

TIME :Two hours | Maximum : 60 Marks

### SECTION-A

I. Answer any FOUR of the following 4X6=24M
Draw labeled diagrams wherever necessary

1. General characters of Fish
2. Electric organs
3. Planktons
4. Abiotic and Biotic factors
5. Breeding ground and Courtship
6. Breeding in clams
7. Nest building
8. Oviparity
9. Androgenic gland
10. Neurosecretor cells

### SECTION-B

II. Answer any THREE of the following 3X12=36M
Draw labeled diagrams wherever necessary

11. a. Explain about the specialized organs in fishes.
(or)
b. What is Buoyancy? Write an account on mechanism of swim bladder.

12. a. Write an essay on principles of age and growth determination in fishes.
(or)
b) Describe length weight relationship in fishes.

13. a) Explain induced breeding in fish.
(or)
b) Explain breeding in shrimps.

14. a) Explain parental care in fishes
(or)
b) Explain commercial importance of crabs and molluscs.

15. a) Describe metamorphosis in shell fish.
(or)
b) Describe in detail the role of endocrine hormones in fishes.

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(AQT - 5323-6)

# B.Sc(ATZC) Degree (CBCS) Examinations

OCTOBER - 2019

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME : Two and half hours Maximum : 60 Marks

### SECTION-A

**I . Answer any FIVE of the following .**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Factors influence fish price
2. Law of diminishing marginal utility
3. Fishery market survey
4. Project appraisal
5. Role of NABARD in fisheries
6. Contribution of fisheries to the national economy
7. Rural development by fisheries extension
8. Barriers to diffusion of fisheries innovations
9. MPEDA
10. LLP

### SECTION-B

**II. Answer any FIVE of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the theory of production in relation to fisheries

OR

b. Describe about elasticity of demand

12. a. Describe price determination of fishes in market

OR

b. Describe about different fish Marketing Institutions

13. a. What are the various inputs used in Aquaculture

OR

b. Explain Cost and Earning of shrimp farming system

14. a. Explain Scope and Objectives of fisheries extension education

OR

b. Explain fisheries extension methods

15. a. Describe the salient features of FFDA

OR

b.Write your view about Training of Rural Youth for Self Employment (TRYSEM).

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31-03-21

# (AQT - 5323-6)

# B.Sc(ATZC) Degree (CBCS) Examinations

MARCH - 2021

EXAMINATION AT THE END OF SEMESTER- V

PART-II AQUACULTURE TECHNOLOGY

## FISHERIES EXTENSION, ECONOMICS & MARKETING

TIME :Three hours Maximum : 60 Marks

### SECTION - A

I. **Answer any FIVE of the following.** 5X4=20

**Draw labeled diagram wherever necessary**

1. Wants and utility
2. Value price
3. Fishery market survey
4. Fisheries coorporations
5. Laws of variable proportions
6. Innovation
7. IRDP
8. Rural development by fisheries extension
9. Education of farmers through electronic media
10. MPEDA

### SECTION - B

II. **Answer any FIVE of the following.** 5X8=40

**Draw labeled diagram wherever necessary**

11. Explain various factors influencing the fishery products price

(Or)

Describe about elasticity demand.

12. Describe price determination of fishes in market

(Or)

Explain basic marketing functions of fish

13. Explain cost and earning of shrimp farming systems

(Or)

Explain the role of Matsyafed in uplifting fisheries condition

14. Explain the principles & features of extension education

(Or)

Explain fisheries extension methods

15. Explain the role of DAATT centers and their role in tot programmes

(Or)

Describe the salient features of FFDA

(AQT 8323 A1)

# B.Sc Degree (CBCS) Examinations

SEPTEMBER - 2020

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## FISH PROCESSING TECHNOLOGY

TIME : Two hours | Maximum : 60 Marks

### SECTION-A

**Answer any FOUR of the following questions** **4x6 = 24 Marks**

**Draw a neat labelled diagram wherever necessary**

1. Fish handling
2. Importance of hygiene and sanitation
3. Canning
4. Chilling
5. Smoking
6. Traditional drying
7. Insulated vehicles
8. Types of packing
9. Export incentives
10. Indian major fishery exports

(PTO)

## SECTION-B

**3x12 = 36 Marks**

**Answer any THREE of the following questions**
**Draw a neat labelled diagram wherever necessary**

11. a. Describe principles of fish preservation

OR

b. Explain importance of hygiene and sanitation in fish handling

12. a. Explain principles involved in canning of fish

OR

b. Explain various freezing methods

13. a. Explain salting and drying methods in fish preservation

OR

b. write an essay on modern methods of fish preservation

14. a. Describe different types of cold storages

OR

b. Explain packing used in fresh water fish processing

15. a. Discuss briefly about marine insurance and export incentives

OR

b. discuss export documents and procedures of fish and prawn

xxxxx

(AQT 8323 A1)

# B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## FISH PROCESSING TECHNOLOGY

TIME :Three hours

Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**
**Draw labelleddiagram wherever necessary** **5x4=20**

1. Types of ice
2. Sanitation in fish
3. Canning
4. Types of Container
5. Smoking
6. Traditional drying
7. Insulated vehicles
8. Types of Packing
9. Marine insurance
10. Export incentives

### SECTION –B

**I. Answer any five of the following**

**Draw labelleddiagram wherever necessary** **5x8=40**

11. a. Write an essay on principles of fish preservation

(OR)

b. Describe the different types of ice used in the Sea food industry

12. a. Write an essay on freezing methods

(OR)

b. Describe the Principles involved in chilling and freezing of products

(P70)

13. a. Write about the Principles of Smoking, drying and salting

(OR)

b. Explain modern methods of preservation

14. a. Explain packing requirements for frozen and cured products

(OR)

b. Write an essay on different types of Cold storages

15. a. Explain tariff and non - tariff barriers in exporting aqua products

(OR)

b. Write an essay on Export documents and procedure of and prawn from India

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(AQT 8323 A2)

# B.Sc Degree (CBCS) Examinations

SEPTEMBER - 2020

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## FISHERY MICROBIOLOGY & FISHERY BYPRODUCTS

TIME : Two hours Maximum : 60 Marks

### SECTION-A

**Answer any FOUR of the following questions** **4X6 = 25 Marks**

**Draw a neat labelled diagram wherever necessary**

1. Structure of prokaryotic cell
2. Capsule
3. Types of media
4. Oxidase test
5. Luminescent bacteria
6. Moisture content
7. Fish liver oil
8. Chitin
9. Fish mince
10. Fish wafers

### SECTION-B

**Answer any THREE of the following questions** **3x12 = 36 Marks**

**Draw a neat labelled diagram wherever necessary**

11. a. Explain life cycle of Bacteriophage with Lytic and Lysogenic cycles

OR

b. Describe structure and functions of Plasma membrane

12. a. Explain different Culture techniques of Bacteria

OR

b. Explain any four tests for identification of Bacteria

13. a. Describe Intrinsic factors affecting fish spoilage

OR

b. Explain spoilage Microflora of shell fish

14. a. Explain any four fish by products

OR

b. Explain Sea weed products like Agar and Alginic acid

15. a. Explain any four types of value added products of fish

OR

b. Describe the status of value addition and advantages of Indian sea food sector

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(AQT 8323 A2 )

# B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

## FISHERY MICROBIOLOGY & FISHERY BYPRODUCTS

TIME : Three hours Maximum : 60 Marks

### SECTION –A

**I. Answer any five of the following**
**Draw labelled diagram wherever necessary** **5x4=20**

1. Endospore
2. Capsule
3. Anaerobic media
4. Plate pour method
5. Luminescent bacteria
6. Moisture content
7. Fish liver oil
8. Chitin
9. Advantages of value addition products
10. Fish curry

### SECTION –B

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the structure and function of plasma membrane

(OR)

b. Explain general characteristics of fungi and protozoans

12. a. Explain different types of media for isolation of bacteria

(OR)

b. Write about culture techniques of bacteria

(PTO)

13. a. Describe extrinsic factors affecting effecting fish spoilage

(OR)

b. Explain micro flora present in the surface, gill and digestive track of the fish

14. a. Explain seaweed products like agar and alginic acid

(OR)

b. Write any four fish by- products

15. a. Discuss different types of batter and breaded fish products

(OR)

b. Explain any four types of value added products of fish

XXXXX

(AQT 8323 A3)

B.Sc Degree (CBCS) Examinations

AUGUST - 2021

EXAMINATION AT THE END OF SEMESTER- VI

PART-II AQUACULTURE TECHNOLOGY

QUALITY CONTROL IN PROCESSING PLANTS

TIME : Three hours Maximum : 60 Marks

## SECTION –A

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x4=20**

1. Objectives of quality control
2. Organoleptic quality assessment of fish
3. Chlorination
4. Ozonisation
5. GMPs
6. ISO 9000 series
7. Regulations for fishing vessels
8. SSOP
9. Biogenic amines as hazards in sea foods
10. Heavy metals

## SECTION –B

**I. Answer any five of the following**

**Draw labelled diagram wherever necessary** **5x8=40**

11. a. Describe the chemical and microbial methods in quality assessment of fish

(OR)

b. Write in brief the quality control measures in processing plants

(PTO)

12. a. Explain the different steps for water quality analysis

(OR)

b. Write about the Quality control and pre – shipment inspection of fish and fishery products

13. a. Explain about different sensory evolution methods of fish & fish products

(OR)

b. What is meant by HACCP? Explain the principles in HACCP

14. a. Describe the role IDP& SAT formations in certification of export fish processing units

(OR)

b. Write essay on fish factory sanitation & hygiene

15. a. Write briefly about different sea food toxins

(OR)

b. Write about any six bacteria which are of public health significance in fish and fishery product

XXXXX

# (AQT 8323 A3)
# B.Sc Degree (CBCS) Examinations
## SEPTEMBER - 2020
## EXAMINATION AT THE END OF SEMESTER- VI
## PART-II AQUACULTURE TECHNOLOGY
## QUALITY CONTROL IN PROCESSING PLANTS

TIME : Two hours | Maximum : 60 Marks

### SECTION-A

**Answer any FOUR of the following questions** **4x6 = 24 Marks**

**Draw a neat labelled diagram wherever necessary**

1. Management of quality — నాణ్యత నిర్వహణ
2. Objectives of quality control — నాణ్యత నియంత్రణ లక్ష్యాలు
3. Chlorination — క్లోరినేషన్
4. BOD and COD — BOD మరియు COD
5. GMPs — GMPs
6. ISO 9000 series — ISO 9000
7. SSOP — SSOP
8. EU regulations — EUనియంతరణ
9. Heavy metals in sea food — సముద్రపు ఆహారంలో బారి లోహాలు
10. Immunity — రోగ నిరోధక శక్తి

### SECTION-B

**Answer any THREE of the following questions** **3x12 = 36 Marks**

**Draw a neat labelled diagram wherever necessary**

11. a. Write an essay on quality assurance of sea food products

సముద్ర ఆహార ఉత్పత్తుల నాణ్యత హామీ పై ఒక వ్యాసం వ్రాయుము

OR

b. Write in briefly the Quality control measures in Processing plants

ప్రాసెసింగ్ ప్లాంట్స్ లో తీసుకోవలసిన నాణ్యత నియంత్రణ చర్యలు వివరింపుము

(PTO)

12. a. Explain various Techniques to remove Heavy Metals

భార లోహాలను తొలగించు వివిధ పద్ధతులను వివరింపుము

OR

b. Explain the different steps for water quality analysis

నీటి నాణ్యత విశ్లేషణ లోని వివిధ దశలను వివరింపుము

13. a. What is meant by HACCP ? Explain the principles in HACCP

HACCP అనగానేమి ? HACCP సూత్రాలను వివరింపుము

OR

b. Write about the International standards followed in Processing plants

ప్రాసెసింగ్ ప్లాంట్స్ లో పాటించే అంతర్జాతీయ ప్రమాణాలను వివరింపుము

14. a. Write an essay on fish factory Sanitation and Hygiene

చేపల పరిశ్రమలో పారిశుద్యం మరియు పరిశుభ్రత పై ఒక వ్యాసం వ్రాయుము

OR

b. What are the Sanitation standard operational procedures followed Nationally

జాతీయంగా ఎటువంటి పరిశుద్య ప్రమాణాలు పాటించాలో వివరించండి

15. a. Write about different Sea food toxins

సముద్రపు ఆహారంలోని వివిధ టాక్సిన్లను వివరింపుము

OR

b. Describe the Laboratory techniques for Detection and Identification of food poisoning Bacteria

ఆహారమును విషముగా మార్చే బాక్టీరియా లను గుర్తించే ప్రయోగశాల పద్ధతులు వివరింపుము

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