ACADEMIC CALENDAR

(2021-22 BATCH)

This document is prepared, edited, updated and reproduced from the UG Academic Regulations of TNFU in a simple manner for the benefit and convenience of the undergraduate students.

- A Students Handbook

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TNJFU

Compiled by

Dr. R. Jeya Shakila
Dean
Mr. R.Velmurugan
Student's Coordinator (2021-22 batch)
Dr. V.Ezhilarasi
Student's Counsellor (2021-22 batch)

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Affix passport size photo

I. Personal Data Sheet

Name of the Student

……..

I.D. No

……

Course of Study ……. Batch …….…… Year & Semester ……..……

Name of the College

TNJFU - Dr. MGR Fisheries College and Research Institute, Ponneri Campus

Date of Birth …… Blood Group ……... Hosteller/ Day Scholar ……..

Permanent Address

……

……

……..

Contact No. ……..… Email Address ……. Aadhar No. ……

Signature

Mr.R.Velmurugan
Students Coordinator

Dr. V.Ezhilarasi
Students Counsellor

Profile of College

II. Brief Profile of Dr. MGR FC&RI, Ponneri

Background

Tamil Nadu Fisheries University (TNFU) was established in 2012 in Nagapattinam district by the Government of Tamil Nadu based on TNFU Act, 2012. The then Chief Minister of Tamil Nadu Selvi J. Jayalalithaa declared open this institution as the Institute of Fisheries Technology, Ponneri on 20.02.2013.

The Government of Tamil Nadu permitted (G.O. No.151 dated 25.07.2014) the Institute of Fisheries Technology, Ponneri to start the B.F.Sc. (Bachelor of Fisheries Science) Degree course from the academic year 2014-15 with an initial student strength of 20. The Institute of Fisheries Technology, Ponneri was then renamed as Fisheries College and Research Institute, Ponneri based on G.O.Ms.No.89 dated 23.4.2015. The Government of Tamil Nadu then permitted to increase the strength from 20 to 40 numbers through its G.O.(Ms) No.166 dated 12.08.2015. The Board of Management, TNFU, Nagapattinam later increased the strength from 40 to 60 in the academic year 2016-17 at this Institution (U.S.O.No. 256/Estt/TNFU/2016; Rc.No. S1/CA-7/ TNFU/2016). Total sanctioned student strength is 210 (UG – 170, PG – 40)

Curriculum

- B.F.Sc degree is a four years degree programme in fisheries science with ICAR common syllabus
- Course comprises of 180 total credit. Of which, 140 credits earmarked to impart courses in 6 semester, 20 credits for Experiential Learning Program (ELP) in 7th semester, and 20 credits for In- Plant Training (IPT) and All India Study Tour in 8th semester

Scholarship

Government Scholarship, University Scholarship and other scholarships are available for the undergraduate students (*Please refer Chapter V Scholarships*)

Job Opportunities

There are number of career opportunities available in the government and the private sector for the fisheries graduates. Aspirants can go for entrepreneurship or self-employment on their own in fisheries and related business. Both State and Central government have fisheries departments in which fisheries graduates are appointed in various posts. In addition, jobs are also available in various Central government agencies like MPEDA, FSI, NABARD, EIA, NIFPHATT, NFDB and fisheries research institutes such as CMFRI, CIBA, CIFA, CIFRI, CIFNET, DCFR, CIFT, CIFE, NBFGR for the fisheries graduates. The Fisheries Department of the Government of Tamil Nadu offers various technical and administrative positions for the fisheries graduates. The graduates are also employed in banks, insurance companies and inspection agencies. Aquaculture, Hatchery, Fish Feed and Fish Processing industries are the major opening sectors for the employment of the fisheries graduates.

Departments

The College has seven departments offering courses for the students viz.

1. Department of Aquaculture (DAQ)
2. Department of Aquatic Animal Health Management (DAAHM)
3. Department of Aquatic Environment Management (DAEM)
4. Department of Fisheries Resource Management (DFRM)
5. Department of Fish Processing Technology (DFPT)
6. Department of Fishing Technology and Fisheries Engineering (DFTFE)
7. Department of Fisheries Extension, Economics and Statistics (DFEES)

All the departments are having UG and PG research laboratories. The college has the following on campus facilities:

1. Instructional Fish Farm Complex
2. Post-Harvest Research and Incubation centre
3. Museum.

The college has two off-campus facilities

1. Advanced Research Farm Facility (ARFF) at Madhavaram
2. Pulicat Research Farm Facility (PRFF) at Pazhaverkadu

III. Teaching Faculties

1	Dr. R. Jeya Shakila	Dean	9443453184
Department of Aquaculture			
1	Dr. Cheryl Antony	Professor & Head	8754057391
2	Dr. S. Selvaraj	Assistant Professor	7904917583
3	Dr. V. Ezhilarasi	Assistant Professor	8754678309
4	Dr. Mahadevi	Assistant Professor	6380695395
Department of Fish Pathology and Health Management			
5	Dr. A. Uma	Professor & Head	9840084314
6	Dr. S. Saravanan	Assistant Professor	9677303496
7	Dr. D. Kaviarasu	Assistant Professor	9944486725
Department of Fisheries Biology and Resource Management			
8	Mr. P. Pavinkumar	Assistant Professor & Head i/c	8012868472
9	Mr. K. Karuppasamy	Assistant Professor	8825634995
Department of Aquatic Environment Management			
10	Dr. D. Manikandavelu	Adjunct Professor	6385665951
11	Mrs. S. Aruna	Assistant Professor & Head i/c	9080225543
12	Ms.B.R.Sona	Assistant Professor	9600290112
Department of Fish Processing Technology			
13	Mrs.Nimish Mol Stephen	Assistant Professor & Head i/c	9591809515
14	Dr.N.Muralidharan	Assistant Professor	9952231805
15	Dr.K.Masilan	Assistant Professor	7373444482
Department of Fishing Technology and Fisheries Engineering			
16	Mr. R. Velmurugan	Assistant Professor & Head i/c	7667662409
17	Mr.D.Arun Jenish	Assistant Professor	9489965397
Department of Fisheries Extension, Economics and Statistics			
18	Mrs. S. Agnes Daney Angela	Assistant Professor & Head i/c	9003918677
19	Dr. C. Lloyd Chrispin	Assistant Professor	9892619986
20	Dr. L. Surulivel	Assistant Professor	9566362894
Advanced Research Farm Facility (ARFF)			
21	Dr. K.Ravaneswaran	Professor & Head, ARFF	944694845

IV. Important Contact Nos

Head of the Institution

Dr. R. Jeya Shakila	Dean	9443453184

Students Coordinators and Counsellor for II. B.F.Sc (2021-22 Batch)

Mr. R. Velmurugan	Students Coordinator	7667662409
Dr. V. Ezhilarasi	Students Counsellor	8754678309

Hostel Administration

Mr. R. Velmurugan	Warden	7667662409
Mr. D. Arun Jenish	Deputy warden – Boys Hostel	9489965397
Dr. V. Ezhilarasi	Deputy warden – Girls Hostel	8754678309

Students Association

Dr. Cheryl Antony	Vice– President	8754057391
Mr. K. Karuppasamy	N.S.S. Coordinator	8825634995

Library

Mr. M. Selvakumar	Library office	9500256450

Sports

Mr. D. Arun Jenish	Sports Secretary	9489965397
Mr. S. Soundarapandiyan	Physical Director	7010191078

Other Students Coordinators and Counsellors

Mrs.S.Agnes Daney Angela	IV. B. F. Sc Coordinator	9003918677
Dr. S. Selvaraj	IV. B. F. Sc Counsellor	7904917583
Dr. N. Muralidharan	III. B. F. Sc Coordinator	9952231805
Dr. S. Saravanan	III. B. F. Sc Counsellor	9677303496
Mrs. Nimish Mol Stephen	I. B. F. Sc Coordinator	9591809515
Dr. K. Masilan	I. B. F. Sc Counsellor	7373444482

V. Scholarships

Government scholarships

1. **BC/MBC/DNC Scholarship** of approx. ₹ 7,000/- per annum for period of four years. Students whose parents income is less than 2 lakhs per annum are eligible.
2. **BC/MBC/DNC (First graduate) Scholarship** of approx. ₹8,000/- per annum for a period of four years. Students whose parents' income is less than 2 lakhs per annum are eligible.
3. **SC/ST Scholarship** of ₹ 12,000/- per annum for a period of four years. Students whose parents' income is less than 2.5 lakhs per annum are eligible.
4. **SC/ST Higher Education Special Scholarship** ₹ 7,500/- per annum for a period of four years for hostellers only. Students whose parents' income is less than 2.5 lakhs per annum are eligble. Students who have availed SC/ST Scholarship are also eligible
5. **Central Sector Scheme** (CSS) of Scholarship of ₹ 10,000/- per annum for a period of three years and ₹ 20,000/- per annum for the fourth year. Students who have secured the cut off marks prescribed by the Government and whose parent's income is less than 6 lakhs per annum are eligible based on the merit. Students who have availed other scholarships are not eligible.
6. **C.M. Award** of ₹ 3,000/- as one-time payment for one girl SC/ST student and one boy SC/ST student, who have passed the Plus Two Board Examination with the cut off marks prescribed by the Government. Students who have got other scholarships are also eligible.
7. **Puthumai Penn Scheme** (Moovalur Ramamirtham Ammaiyar Higher Education Assurance Scheme) - a monthly monetary assistance of ₹ 1,000 to girl students, who are enrolling into higher education after completing Classes 6-12 in government schools

*Income limits as revised by the Government from time to time is applicable.

University scholarships

1. **Pattukottai Azhagiri Scholarship** of ₹ 4,000/- per annum for a period of four years. Two students who have secured the highest marks in the Plus Two Board examinations are eligible.
2. **TN- Agriculture Farmer Welfare Scheme Scholarship** of ₹ 4,850/- per annum for a period of four years. Students whose parents are farmers are only eligible. Farmer identity card obtained from Tahsildar and copy of the ration card are required.

Other scholarships

National Talent Scholarships of ₹ 2,000/- per month for a period of four years. Students who have secured NTS are eligible; however have to maintain an OPGA above 7.0 points in the B.F.Sc. course curriculum

Academic Regulations

VI. Academic Regulations

Duration of the Course

- The duration of the B.F.Sc. degree course is four academic years.
- Each academic year shall consist of two semesters
- An academic semester shall ordinally consist of 105 working days, excluding final theory examination days.

System of Education

- The pattern of instruction and evaluation is Semester system.
- Each course has specific course number, title and credit hours.
- Each course is a unit of instruction to be covered in a semester. Each credit hour represents one hour lecture or two hours laboratory or field practical demonstration each week in a semester.

Advisory System

- The students on their admission are assigned to teachers, who are designated as Co-ordinators and Counsellors by the concerned Dean of the College.
- Each student immediately after enrolment, fills up the registration card with the guidance of Students' Co-ordinator.
- The Co-ordinator will maintain a record containing particulars of the previous history of the student, courses registered, examinations appeared and grades obtained in each course.
- The Counsellor will establish and foster close personal relationship with the students during their entire stay in the College, by having periodical meetings at least once in a month either with the entire group of students or with each individual student to know their problems, review their study programme and take such remedial actions as may be necessary in consultation with the Teachers, Co-ordinator and the Dean.

Registration for the First Time

- The registration and orientation program held for a duration of 1–3 days.
- Students shall register for the first semester courses in person within 7 working days.
- Failure to register for the first semester courses before the prescribed date shall result in forfeiture of admission.

Registration of the course:

- Students shall register the course in the beginning of each semester within 7 working days.
- Registration shall be done without fine within the first 2 working days and with a fine of Rs. 100/- during the remaining 5 working days

Subsequent registration

At the beginning of each semester there will be registration for various courses listed under a semester. The student in each batch shall have to register for the set of courses offered in "toto" for the batch and fill in the registration cards. The coordinator in turn will countersign and send them to the Dean. From the current year e- registration is being adopted.

Duration and system of education

The duration of B.F.Sc. degree programme shall be normally four academic years including six semesters of course work. Seventh semester deals with Student READY (Rural Entrepreneurship Awareness Development Yojana) programme comprises of In-plant attachment, Rural Fisheries Work Experience programme and study tour. Eighth semester includes Student READY programme comprises of skill development programme, Experiential Learning programme, besides course work, project and seminar. The pattern of instruction and education in the University shall be "Semester course credit system".

i. **Academic year:** The academic year of the University shall ordinarily be from July to June (except in the case of year of admission) and shall consist of two semesters.

ii. **Semester:** A semester shall ordinarily consist of 105 working days. In addition, the final examination period shall not be reckoned as part of the semester.

iii. **Credit hours:** Each credit hour represents 50 minutes lecture or two hours of laboratory or field practical demonstrations each week in a semester.

iv. **Course:** A course is a unit of instruction or segment of subject matter (as specified in the course catalogue) to be covered in a semester. It has a specific number, title and credits.

v. **Grade point of a course:** It is a value obtained by dividing the percentage of marks earned in a course by 10. The grade point is expressed on a 10.00-point scale up to two decimals taking the third decimal alone into consideration.

vi. **Credit point of course:** The product of credit hours and grade point obtained by the student in a course.

vii. **Grade point Average:** It is the quotient of the total credit points obtained by a student in various courses at the end of each semester divided by the total credit hours taken by a student in the semester. The grading is done on a 10.00-point scale. The GPA is restricted up to the two decimals taking the third decimal alone into consideration.

viii. **Overall Grade Point Average (OGPA):** It is the quotient of cumulative credit hours obtained by the student in all the courses from the beginning of the first semester of the degree course divided by the total credit hours of all the courses the student had completed up to the end of a specified semester from the first semester. It determines the overall performance of a student in all courses taken during a period covering more than a semester.

Attendance requirements

- Every student shall ordinarily attend all classes in a course. Attendance in respect of the students for the first semester shall be reckoned from the first day of the commencement of semester. However, only for the students who are registering late due to late admission, attendance shall be reckoned from the date of their registration and this is only for the first semester of the first year UG programme.
- A minimum prescribed attendance in a course shall be 80%. The attendance shall be reckoned separately for theory and practical and a separate minimum under each category is required.
- A student who fails to put in, the minimum attendance in theory or practical shall not be permitted to appear for the final external theory examination and the registration for that course shall be treated as cancelled. The students shall have to re-register such courses and complete, when the course is offered in the subsequent semester.
- Dean may depute students on the recommendation of the Vice-President of Student Association/Sports Secretary, to represent the College/University at various functions such as NSS, Sports, Medical aid, etc. and the mandatory minimum requirement of attendance under these circumstances is 70%.
- A student who fails to put in a minimum requirement of 80% attendance because of sickness, the mandatory minimum may be reduced to 70% on the basis of medical certificate for hospitalization obtained from Government hospital or a private nursing home. Under extraordinary circumstances, the Dean shall be empowered to give exemption on medical reasons, only on the recommendations of the Students' Coordinator.
- Students absenting from classes by prior arrangements on official University business shall be given due consideration in completing attendance requirements and may be permitted by the Dean concerned to condone the deficiency.
- In ordinary circumstances, no student is officially deputed for university purposes, if the student fails to secure 70% attendance (exception on university business/ deputation, it is 60% attendance)

- Attendance register is maintained by the course teacher and the certificate to this effect is sent to the University by the Dean in the prescribed proforma at the end of the semester, to issue hall ticket for the final theory examination by the Controller of Examination.
- It is mandatory that students receiving scholarship shall up the attendance, as specified by the funding agencies but not below 80% attendance.
- Shortage of attendance particulars, if less than 70% shall be sent to the Controller of Examination prior to the issue of hall tickets.
- Students admitted in the first year, if fails to register the course of the first semester or failed to put in 80% attendance in all course, the admission stands cancelled, if prior permission is not obtained from the Faculty Dean
- Students, if leaves the course after the completion of the first semester for reasons beyond control, the student shall be eligible for re-admission within one year to the appropriate semester on payment of re-admission fee of Rs. 500/- under intimation to the university.
- If the period of break exceeds one year but does not exceed two years, student shall make representation to the university and the decision of the university is final.
- Student who leaves the college taking Transfer Certificate shall not be eligible for re-admission.

How to calculate attendance for a course:

The number of classes conducted shall be as calculated by the Course Teacher from the first working day to the last instructional day, excluding the final internal practical. For theory class, the number of theory classes conducted by the course teacher from the first working day as per the time table to the last theory class conducted by the Course Teacher shall be taken. For practical class, the number of practical classes conducted by the course teacher from the first working day as per the time table to the final practical examination day shall be taken for calculation.

Instructional Holidays:

- Instructional holidays shall be declared by the Dean of the campus for events in the students' activities and the semester working days shall be extended accordingly.

Examinations

Examinations are conducted for a total of 150 marks (Internal examination – 70 marks and External examination – 80 marks).

Internal Examinations:

The internal examination has internal theory and internal practical examinations. The evaluation shall be done by the Course Teacher.

Internal theory examination: The internal theory examination shall be conducted on completion of 70th working day by the Course Teacher. It shall be conducted only in theory for 80 marks and later shall be converted to 20 marks.

Internal practical examination: The internal practical examination shall be conducted by the Couse, Teacher on the final practical class of the respective course in a semester. It shall be conducted for 50 marks. Out of 50 marks, 10 marks shall be allotted for practical records, 35 marks for doing laboratory practical, and another 5 marks for viva-voice.

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Supplementary Examination:

Supplementary examination shall be conducted for internal theory examinations for students absenting themselves for a specified genuine reason with the recommendation of the Students' Coordinator. The Dean has the discretionary power either to permit or reject the application after critically assessing the genuineness of the reason(s) for absence. The students who satisfy the minimum requirement of attendance shall pay an additional examination fee of Rs. 500/- for each supplementary examination and shall be permitted to write the examination before the completion of the final internal practical examinations.

External Examination:

- Students shall have to submit duly fill-in the prescribed application along with the payment of the examination fees for the conduct of final external theory examination, and attach the fee receipt for the issue of hall ticket

- Students shall have to produce a "No due certificate" at the time of distribution of hall tickets. Hostellers have to produce "Mess dues clearance certificate" obtained from the hostel administration.

Final external theory examination: The final external theory examination for 80 marks is conducted by the University at the end of the semester for two hours duration. The evaluation is done by the External Examiner.

1. **Courses with Theory and Practical:**
   Out of 150 marks, the internal theory and internal practical shall be conducted for 20 marks and 50 marks, respectively. The final external theory examination shall be conducted for 80 marks. The marks obtained for 150 (Theory 100 + Practical 50) shall be converted to 100 marks for calculation of the grade point.
2. **Course with Theory alone:**
   Out of 100 marks, 20 marks shall be allotted for internal theory examination, and 80 marks for final external theory examination.
3. **Courses with Practical alone:**
   The internal practical examination shall be conducted for 50 marks and converted to 100 marks for the calculation of the grade point.

General Conditions

- A minimum of 50% in theory and practical separately with an aggregate of 50% shall be essential to get a pass in a subject.
- The students who miss the internal theory examination shall be permitted to take the final external theory examination, provided they are eligible otherwise, i.e. they lose 20 marks meant for internal theory examination.
- The marks obtained under the internal theory examination shall be the final for the second and subsequent attempts.

- There shall be no arrear examination for the internal theory examination.
- The students who miss the final external theory examination shall be awarded **"F" (FAIL).**
- There shall be no supplementary examination for the final external theory examination.
- The students who were awarded 'F' shall take the examination in the subsequent semesters.
- No University examination shall be conducted in between during semester weeks.

Arrear Examinations:

There shall be arrear examination for students who secured less than 50% marks separately for theory and practical in a course. The arrear examination shall be conducted for theory or practical in which the student has failed. For the theory arrear examination, the examination shall include only the final external theory for 80 marks and for the practical arrear examination it shall be for 40 marks (excluding record marks). The students shall have to pay the prescribed arrear examination fee of Rs. 500/- for each course.

Scrutiny of Grades:

1. A student may apply to the Controller of Examinations within one week after the announcement of the marks for a scrutiny of the totaling of marks of the final external theory examination. The fee for such scrutiny shall be Rs.500/- for each course.
2. A student shall submit request to the Controller of Examinations for revaluation of answer paper of final external theory examination in a prescribed format through the Dean concerned not later than ten working days after the declaration of results. The fee for re-evaluation shall be Rs.1,000/- for each course.
3. Re-registration: A maximum of three attempts shall be permitted for each course (theory/practical) and after three unsuccessful attempts, the students shall have to re-register and repeat the course.
4. Mass absence of students from a class: Absence of students 'en masse' from a

class shall not be condoned. They shall be marked as "absent" and attendance calculated accordingly.

5. Mass absence of students from a University examination: Absence of students 'en masse' from a University examination which includes internal theory, internal practical and final external theory examinations shall not be condoned. They shall be awarded "FAIL" leading to eligible for supplementary / arrear examination / re registration of course provided, they are eligible otherwise.
6. Unfair means during examination: The Dean of the College shall be responsible for dealing with all cases of "Use of unfair means" in the various examinations. The phrase, "Use of unfair means" includes possession of any information or material by the student, talking to other students, copying from other students or from printed or written material etc. The Invigilator concerned, on finding the "Use of unfair means" by any student may take the answer scripts of the students and the material evidence, if any, and seek the explanation from the student. The student may also be sent out of the examination hall immediately. The Invigilator concerned shall report each case of unfair means direct to the Dean immediately with full details of the incident, answer scripts, the available evidence and explanation of the concerned student, if any. The Dean, on receipt of the report, may give an opportunity to the concerned student to represent his case. Considering all the available evidence, the Dean shall take appropriate action immediately.
7. Punishment to be met out for unfair means during university examinations: The respective Deans of the College shall be empowered to deal with all cases of unfair means by the students in the University examinations. The penalty shall be as indicated below:
    - A student found using unfair means during an internal examination (Theory / Practical) shall be deemed to have failed in that course.
    - A student found using unfair means during the external theory examination shall be deemed to have failed in all the courses registered by the student in that semester. In such case, the student shall not be permitted to take the remaining examinations, if any, in that semester and shall be deemed to have attempted and failed in those examinations.
    - The Dean after passing orders shall report each case falling under (a) and (b) above immediately to the University.

- For using unfair means of a serious nature such as ignoring the repeated instructions of Invigilator or abusing or threatening or assaulting the Invigilator, warranting higher penalties that those indicated in clauses (a) and (b) above, the Dean, besides treating the students as failed in all the courses registered in that semester, may further debar the student for the succeeding semester and the act be informed to the University. If further or more severe punishment is felt necessary, the Dean shall immediately inform the University about the full details of each together with all the material evidence, if any, and recommendation, explanation or representation of the student, if any. The Vice-Chancellor after examining the case may debar the student for further period or permanently. The decision of the Vice-Chancellor shall be final.
- The parent or the guardian of the concerned student shall be informed of any punishment awarded to the student and the reason thereof.

Graduation requirements

The students shall satisfy minimum residential requirements as follows:

a) Eight semesters for B.F.Sc. including six semesters of course work, including Student READY programme.
b) An enrolled student to earn B.F.Sc. degree shall complete the course credits and shall earn an OGPA of 5.50 on 10.00 point scale system.

The successful candidates on completion of the graduation requirements shall be classified as under.

OGPA from 5.50 to 7.49	-	Pass in Second class
From 7.50 to 8.99	-	Pass in First class
From 9.00 and above	-	Pass with Distinction

The above requirement for "Distinction" is applicable to those candidates who complete the degree programme without recording "F" (Fail) in any course. Students recording "F" in one or more courses and who have secured an OGPA of 7.50 and above shall be awarded only "First class" provided, they complete the degree programme within the minimum prescribed period of study.

Semester fee structure for the B.F.Sc. students of 2021-22 batch

Sl. No.	Particulars	I Semester	II, IV, VI Semester	III,V,VII Semester	VIII Semester
1.	**Tuition Fees***	4000	4000	4000	4000
2.	**Examination Fees –** i. Internal / Practical	2000	2000	2000	2000
	ii. Final Examination	1000	1000	1000	-
3.	**Special Fees**				-
	i. College Magazine	200	200	200	-
	ii. University Calendar	100	-	100	-
	iii. Library Fees	250	250	250	-
	iv. Sports, Games charge	250	250	250	-
	v. Computer charge	250	250	250	-
	vi. Laboratory contingency fund	500	500	500	-
	vii. Registration, enrolment fees	100	-	-	-
	viii. Admission fees	100	-	-	-
	ix. Syllabus	100	-	-	-
	x. Identity Card	100	-	-	-
	xi. Career Counselling charges	100	100	100	200
	xii. Transport charges	250	250	100	250
	xiii. Day Scholar amenity	100	-	100	-
	xiv. Lab Fund	500	500	500	-
4.	**Other Charges**				
	i. Students Association	250	250	250	250
	ii. University Journal subscription	100	100	100	100
	iii. Alumni Association	100	-	100	-
	iv. Student accident medical relief fund	200	-	200	-
	v. Certificate Verification charges	100	-	-	-
	vi. Transcript Card / Degree Certificate charges	500	-	-	-
	vii. Co-operative Society fees: (Membership fee Rs. 10/-, Share Capital Rs. 15/- and Trade Deposit Rs.100/-**)	125	-	-	-
	viii. Library Caution Deposit**	300	-	-	-
	ix. Blazer Charges	3000	-	-	-
	x. University Alumni Network	500	500	500	500
5.	**Lodging Fees (for Hostellers)**	1000	1000	1000	1000
	Total	**16075**	**11150**	**11500**	**8300**

- *SC/ST/Differently- abled condition of Tamil Nadu are exempted from paying tuition fees as per G.O.(Ms.) No.27 of Animal Husbandry, Dairying and Fisheries (AH6) Department, dated 22-02-20210; For BC/MBC/DNC, fees exemption will be followed as prescribed by the Government of Tamil Nadu
- **Refundable

Other Charges/ Fees for the Students

Sl. No	Particulars	Rs
1.	Original and Duplicate conduct certificate and Transfer certificate	250
2.	Supplementary /Arrear examinations, Re-totalling & Re-registration	500
3.	Re-evaluation	1000
4.	Migration certificate	250
5.	Duplicate Transcript cards	500
6.	Provisional certificate Duplicate Provisional certificate	250 500
7.	Issue of bona-fide certificate	250
8.	Duplicate Report cards	250
9.	Duplicate Degree certificate Plus, a search fee per year from the year of passing till date	500 50
10.	Fees for condonation of shortage of attendance to write the University Examination for each subject/course	1000
11.	Attestation of certificates for admission in foreign countries	500
12.	Re-issue of duplicate hall ticket due to loss or misplacement of hall tickets	500
13.	Re-issue of library card	500

VII. Students Conduct, Control and Discipline Rules

Students are expected to know the requirements for the award of B.F.Sc. degree, the general academic requirements and assume full responsibility for meeting them. They should keep in constant touch with Coordinator or Counsellor and know their status / progress. In no case shall rules be waived or exception made simply because a student pleads ignorance of it.

Students' conduct

- Every student shall be of good behaviour and assist the authorities to maintain discipline in the University
- Every student shall help the University in preserving its properties and no student shall cause damage or loss to the property of the University
- No student shall except with the previous permission of the Dean of the College participate in the radio broadcast or contribute any article or write any letter either in his/her own name or other persons in a newspaper or in periodicals, produce any literature which is likely to bring disrepute to the University
- No student shall disrupt or cause disruption to the smooth functioning of the academic activities of the University

Dress regulations

The following dress regulations are compulsory and should be generally be observed.

For Boy Students

1. For lecture rooms, laboratories and within the premises of the College, shirts and pants and footwear to be own.
2. For tournaments and compulsory games, games shirts and shorts with or without stockings and shoes to be worn.
3. For ceremonial occasions and important functions, college blazer, pant, shirt, college tie and foot wear to be worn.

For Lady Students

1. For lecture rooms, any simple dress, preferably a churidhar / saree to be worm.
2. For laboratory work in biology and physical sciences, overcoat and putting of hair is essential.
3. For ceremonial occasions and important functions, churidhar / saree with college blazer to be worn.

Student Discipline

- Students should strictly avoid smoking, chewing of betal leaves, chewing gums, eating nuts, etc.
- Students should not use distracting cosmetics in class rooms and in field classes
- Students should not use lungis in class rooms, field classes, ceremonial occasions and important functions.
- Students should not bring mobile phones, ipods, blue tooth or tablets to classrooms and examination halls.

Rustication and Expulsion of students

- The Deans of concerned colleges shall have discretionary power to rusticate and expel both from the college from the hostel
- Cases of rustication shall be reported to the Registrar by the Dean concerned immediately after rustication or expulsion for registration and notification. The Dean may revise his decision within 15 days of the date of passing of orders of rustication and expulsion. The revised decision together with the reasons shall be communicated to the Registrar. The Registrar shall notify the constituent colleges and other institutions immediately after the expiry of 15 days period allowed to the Dean for revising the decision.
- When the student/students behave unruly either in the hostel or in the campus or outside and take action themselves which is turbulent in nature, the Dean using the discretionary powers may suspend the student/students immediately on the spot without conducting any enquiry or waiting for the detail report from the Warden/Police/Staff members but collect full information on the incident/case within a period of 10 days from the date of

suspension either to proceed further for meeting out the punishment or to reinstate the student.

Rustication:

- Rustication when imposed on a college student in the Semester will mean the loss of atleast one Semester (Not counting Semester in which the rustication is ordered). Rustication imposed during the current Semester with immediate effect and terminated by the end of the following semester.
- The students under rustication shall have the option of re-joining the Semester after the expiry of period of rustication
- The name of the rusticated student shall not be maintained on the rolls of college during the period of rustication.

Expulsion:

- A student expelled from a college may not be readmitted in to the same college or another college without sanction of the University and in no case shall be allowed to do so before expiry or two academic years or 4 semesters from the date of expulsion.
- The order of a Dean may be revised by the Vice-Chancellor on appeal by the student but the period lost in the meantime shall not count for residential requirement of the student
- The Vice-Chancellor is the competent authority to dismiss a student from the college on valid reasons.

Students Hostel Rules

VIII. Students Hostel Rules

GENERAL RULES

1. The Dean of the college will be overall charge of the student's hostel. The Warden of the hostel should assist the Dean in all the student welfare activities including boarding and lodging and extracurricular activities.
2. The Warden is assisted by the Deputy Wardens (Boys and Girls Hostels) in running the hostel administration. As per the instruction and guidance of the Warden, the Deputy Wardens shall function towards the efficient running of their respective hostels and messes.
3. Every student should apply in the prescribed form to the Warden of the concerned college hostel for admission in the hostel duly paying the required deposit and other hostel charges as prescribed from time to time. The caution deposit will be refunded when the hosteller finally leaves the hostel.
4. The rooms will be allotted according to alphabetical order of student's names. If any student is found changing to other rooms that student will be expelled from the hostel.
5. Other than hostel fees electrical and water charges will be charged based on usage from each student
6. Inmates should take utmost care of fittings, cot, table and chair provided to them and the same should be returned at the time of course completion. In case of any damage the actual cost with fine will be imposed on them
7. The students should have their own locks for their rooms and should lock their rooms whenever they go out.
8. In case of electrical failure in the rooms and common facilities the same may be noted down in the complaint register maintained in the hostel office
9. The students shall keep the rooms clean and tide.
10. Students are advised against keeping jewels or any other valuables in their rooms. The administration shall not take any responsibility for the safety.
11. With prior permission of the Warden, a member of the hostel may have a relative or a friend who is not an employee of the University to stay with him as a guest for not more than 7 days after paying the prescribed charges.

12. No student shall use any private fan or heater of any other such electrical appliances in his room. If any student is found guilty of using electric/electronic appliances, he / she is liable for severe punishment of fine upto Rs.1,000/-
13. Disciplinary action will be taken against any student found guilty of misconduct in the Hostel. Any student who misbehaves in the hostel is liable to be expelled immediately from the hostel by the Warden pending further enquiries. If such expulsion is disobeyed, he / she will be rusticated from the College.
14. Students are strictly prohibited from engaging any kinds of political, communal activity, etc. in the hostel.
15. The students are prohibited from taking any action by themselves in case of any disputes arising among the students. If any student is guilty of violating this rule, he / she will be expelled from the hostel for a period of four (4) semesters excluding the semester of expulsion.
16. Any student found harassing fellow inmates shall be expelled immediately from the hostel.
17. If any student is found smoking or consuming alcohol or using any intoxicating drinks or drugs in the hostel premises, he shall be expelled from the hostel permanently without any inquiry.
18. Mess timings fixed by the Warden should be strictly followed.

Break fast	:	7.30 a.m	to	9.00 a.m
Lunch	:	1.00 pm	to	2.00 p.m
Snacks	:	5.15 p.m	to	6.00 p.m
Dinner	:	7.30 p.m	to	9.00 p.m

19. Students should not take meals to their rooms without permission from the Deputy Warden / Warden and if anyone is found guilty, a fine of Rs.250 shall be levied.
20. Students found guilty of violating the hostel rules will be subjected to a fine as per the suggestions of the Warden and the enquiry committee. He or she can be expelled from the hostel for a period of 4 semesters
21. Ragging has been completely banned within the hostel premises. Disciplinary action will be taken against any student found guilty of ragging in the hostel. Those found guilty will be expelled or rusticated from the hostel, forthwith as per the provisions of the Government Order in force at that time.

22. Boys are expected to return to hostel premises before 7:30 pm. However, they are permitted extended time till 9:00 pm each Saturday. During emergencies and unavoidable situations he may be permitted with prior permission from the Warden.
23. Students are requested to submit a leave form signed from the respective Deputy Wardens prior to leaving home during holidays
24. During semester holidays, the students are not permitted to stay in the hostel excepting on permission from Hostel authorities.
25. Wanton misuse of furniture and other physical facilities in the hostel premises is an offence. A fine upto Rs.500/- would be collected from each student for such offence.
26. Inmates are requested to use internet facilities available in the respective hostels for academic purpose only. If anybody is found viewing / downloading unwanted and obscene literature / video / picture they will be expelled from the hostel.
27. Inmates are advised to keep minimum cash on hand. The excess amount may be deposited in their account and they are permitted to draw from the hostel office as when required.

ADDITIONAL RULES FOR GIRL'S HOSTEL

1. Students are expected to be back after the class hours in the afternoons top the hostel premises. Whenever they leave the hostel in the evening they are expected to be back to the hostel before 6.30pm. In such occasion, students have to sign in the movement register maintained with Hostel Security whenever they leave and enter the hostel.
2. Whenever the girl students leave the hostel in the evening they are expected to return back to the hostel premises before 6.30 p.m. Students desirous to go to the library may stay back till the closure of the library. For availing this provision, the evidence should be produced.
3. Late permission upto 8.30 p.m. is allowed twice a week which should be entered in the movement register, which will be scrutinized by the Warden/ Deputy Warden.

4. Visitors' time is restricted from 4.00 p.m. to 6.30 p.m. on all working days and on holidays from 8.00 a.m. to 6.30 p.m. Male visitors should be entertained only in the visitors' hall.
5. Male students are not allowed to visit the lady students in the ladies hostel campus.
6. Gate of ladies hostel would be locked at 8.30 p.m.
7. While going home on vacation or on other circumstances, students would inform the authority regarding the train or bus they travel, time and destination and the leave address. Students need to get parent /guardian's signature in prescribed format.
8. Lady Guest can stay in the ladies hostel not more than 3 days and they should pay the guest charges at the rate of Rs.50/day after getting permission from the Deputy Warden (Ladies Hostel) / Warden.
9. Students will be allowed to stay in their local guardian's house only twice in a month, based on the parents' letter to the Deputy Warden (Ladies Hostel) / Warden giving the name, phone number and address of the relatives.
10. The lady students should get prior written permission from the Hostel authorities to go out of Hostel before 6.00 a.m. and after 6.00 pm
11. Staying in other student's room after 9.30 pm and changing the rooms allotted to them are strictly prohibited.
12. While going on vacation or on other circumstances, inmates must inform the Warden/Deputy Warden with the details of their mode of travel, time, and destination and the leave address.
13. Outsiders are not permitted to enter the hostel.

Hostel Amenity Committee

- A hostel Amenity Committee with the Dean as Chairman shall go into the activities of hostel inclusive of running the messes. The following shall be the constitution of Hostel Amenity Committee.

a. Dean	Chairman
b. Warden	Member Secretary
c. Vice-President, Students Association	Member
d. Deputy Wardens	Members

e.	Staff Sports Secretary	Member
f.	A.A.O of Hostel	Member
g.	Students Co-ordinators	Members
h.	A.E. (Civil & Electricals)	Member
i.	Hostel Secretaries (Boys & Girls Hostels)	Members
j.	Mess Secretaries (Boys and Girls Messes)	Members
k.	One representative from PG (Boys & Girls Hostels)	Members
l.	General Secretary	Member

Student's Association Rules

IX. Student's Association Rules

There is a Students Association in each College of the University. All the students of the College are members of the Association. The subscription of the Association is prescribed time to time by the university. The objectives of the Students Association are

- To co-ordinate with the Programme Officer of N.S.S. of different colleges and organise literacy campaign, tree planting, blood donation, social and other fisheries developmental activities in the villages.
- To suggest measures for making the students employable on graduation.
- To suggest University Placement Cell to suitably arrange for the annual placement camp with potential employers
- To look into different students' welfare measures in the university to chart out programmes for their development, harmony, character building and personality development.

Management Committee of the Students Association

The management of the Students Association vests with a committee consisting of official and student members as follows:

Official Members:

i. Dean of the College shall be the Ex-Officio President of the Students Association.

ii. A Senior Professor nominated by the Dean shall be Vice-President of the Association.

iii. A Professor/Associate Professor nominated by the Dean as Staff-Editor.

iv. A Professor/Associate Professor nominated by the Dean shall be sports secretary.

v. Assistant Director of Physical Education.

Student Members:

i. General Secretary

ii. Secretary - Tamil Peravai

iii. Secretary - Sports (Sports activities of the students)

iv. Secretary for each club (Special activity by a group of students) like NSS, Science Club, Blood donation club, Music Club, etc.

v. Student Editor

vi. The UG Class representatives shall be one / two depending upon the student's strength. If the student strength is below 100, one representative and if the strength is above 100, two representatives shall be nominated / elected.

vii. One class representative from M.F.Sc.

viii. One class representative from Ph.D.

ix. One Lady Representative from B.F.Sc. of each year.

General Secretary:

The General Secretary shall be from among representatives of the Final Year / Pre-final Year. The General Secretary shall be nominated by the Dean/ elected by the class representatives. The Committee meeting will be held as and when required but at least once in three months. One half of the members shall form quorum. The Vice President and the Student General Secretary will arrange for the meeting.

Sports Secretary

The Assistant Director of Physical Education with the guidance of Sports Secretary will select captains of various teams like football, volley ball, hockey, cricket and other games for which facilities are available in the College. Inter Collegiate / Inter University sports tournaments shall be conducted in Co-ordination with the Chairman of the University Sports Committee under the guidance of Sports Secretary with intensive coaching by the Assistant Director of Physical Education.

The management of sports and games shall be the responsibility of Secretary Sports assisted by the captains of various games.

Other Secretaries/ Representatives

The Secretary, Tamil Peravai, Secretary - Sports, Secretaries of other Clubs and Student Editor will be nominated by the Dean on the advice of the Vice-President/ Staff Editors/ Sports secretary. The representatives of the classes shall be nominated by the Dean / elected by the students of the respective classes. The members of the Editorial Board of the College Annual Magazine shall be nominated by the President. The Vice-President, Sports Secretary, Student Secretaries, Class representatives and other Student representatives shall hold office for one academic year (normally July to June). The Committee of Students Association shall be formed during the beginning of each academic year.

NOTE: A student who has not secured the minimum overall Grade Point Average of 6.0 out of 10.0 under Semester system or has been punished earlier in either college or hostel shall not be eligible for election or nomination for holding of office in any of the student body/organisations.

General Body Meeting of the Students Association

The General body of the Students Association shall consist members of the Association and the meeting shall be presided by the President or in his absence by the Vice President. All matters relating to election/nomination of office bearers, passing of budget, changing of rules and acceptance of prizes, etc. donated by students or private bodies to the Student Association shall be subject to approval of General Body. Prizes and nature of rolling trophies shall be in the custody of the Dean. The rules governing rolling trophies shall be formed by the donor and acceptable to the General body. The decision of General body shall be subject to approval by the President.

Finance for the Students Association

The finance for the Students Association is derived from

a) The fees collected for Association including social service league and college magazine from students.

b) The sports fees collected from the students.
c) Donation from officers and others.
d) Annual University grant not less than one third of the total collection.
e) Sale of unserviceable sports materials.
f) Sale of old papers.
g) Receipts by way of donations.

The accounts of the Association shall be maintained in the office of the Dean under guidance of the Vice-President and Sports Secretary for expenditure with regard to Association fees including social service fees and fee for college magazines and sports fees. The accounts are subjected to audit by the local fund audit.

Events conducted by the Students Association

Annual college and sports day shall be conducted. Prizes and medal shall be awarded to winners in literary and cultural competitions conducted between Inter Classes and Inter Colleges. Colours (Special Badges) shall be awarded to the students who have secured a first place in athletic and sports and to members of cricket, hockey, football, tennis and minor games such as basketball, volley ball, badminton and table tennis who have played regularly and who have in the opinion of the official members of the committee attained a standard, which merits recognition

- Academic Calendar

(2023)

Third Semester

January 2023

Date	Day	Event	No. of Working Days
1	Sunday	New Year	
2	Monday		
3	Tuesday		
4	Wednesday		
5	Thursday		
6	Friday		
7	Saturday		
8	Sunday		
9	Monday		
10	Tuesday		
11	Wednesday		
12	Thursday		
13	Friday		
14	Saturday		
15	Sunday	Pongal	
16	Monday	Thiruvalluvar Day	
17	Tuesday	Uzhavar Thirunal	
18	Wednesday	Registration of semester III	01
19	Thursday		02
20	Friday		03
21	Saturday		04
22	Sunday		
23	Monday		05
24	Tuesday		06
25	Wednesday		07
26	Thursday	Republic Day	
27	Friday		08
28	Saturday		09
29	Sunday		
30	Monday		10
31	Tuesday		11

February 2022

Date	Day	Event	No. of working days
1	Wednesday		12
2	Thursday		13
3	Friday		14
4	Saturday		15
5	Sunday	Thaipoosam	
6	Monday		16
7	Tuesday		17
8	Wednesday		18
9	Thursday		19
10	Friday		20
11	Saturday		21
12	Sunday		
13	Monday		22
14	Tuesday		23
15	Wednesday		24
16	Thursday		25
17	Friday		26
18	Saturday		27
19	Sunday		
20	Monday		28
21	Tuesday		29
22	Wednesday		30
23	Thursday		31
24	Friday		32
25	Saturday		33
26	Sunday		
27	Monday		34
28	Tuesday	Science Day	35

March 2023

Date	Day	Event	No. of Working days
1	Wednesday		36
2	Thursday		37
3	Friday		38
4	Saturday		39
5	Sunday		
6	Monday		40
7	Tuesday		41
8	Wednesday	International Women's Day	42
9	Thursday		43
10	Friday		44
11	Saturday		45
12	Sunday		
13	Monday		46
14	Tuesday		47
15	Wednesday		48
16	Thursday		49
17	Friday		50
18	Saturday		51
19	Sunday		
20	Monday		52
21	Tuesday		53
22	Wednesday	Holiday- World Water Day/Telugu New Year	
23	Thursday		54
24	Friday		55
25	Saturday		56
26	Sunday		
27	Monday		57
28	Tuesday		58
29	Wednesday		59
30	Thursday		60
31	Friday		61

April 2023

Date	Day	Event	No. of working days
1.	Saturday		62
2.	Sunday		
3.	Monday		63
4.	Tuesday	Mahavir Jayanti	
5.	Wednesday		64
6.	Thursday		65
7.	Friday	Good Friday	
8.	Saturday		66
9.	Sunday		
10.	Monday		67
11.	Tuesday		68
12.	Wednesday		69
13.	Thursday	Commencement – Midterm Examination	70
14.	Friday	Tamil New Year	
15.	Saturday		71
16.	Sunday		
17.	Monday		72
18.	Tuesday		74
19.	Wednesday		75
20.	Thursday		76
21.	Friday		77
22.	Saturday	Ramzon	
23.	Sunday		
24.	Monday		78
25.	Tuesday	Closure of Mid term examination	79
26.	Wednesday		80
27.	Thursday		81
28.	Friday		82
29.	Saturday		83
30.	Sunday		

May 2023

Date	Day	Event	No. of working days
1.	Monday	May day	
2.	Tuesday		84
3.	Wednesday		85
4.	Thursday		86
5.	Friday		88
6.	Saturday		89
7.	Sunday		
8.	Monday		90
9.	Tuesday		91
10.	Wednesday		92
11.	Thursday		93
12.	Friday		94
13.	Saturday		95
14.	Sunday		
15.	Monday		96
16.	Tuesday	Commencement – Practical Examination	97
17.	Wednesday		98
18.	Thursday		99
19.	Friday		100
20.	Saturday		101
21.	Sunday		
22.	Monday		102
23.	Tuesday		103
24.	Wednesday		104
25.	Thursday	Closure - Practical Examination	105
26.	Friday		
27.	Saturday		
28.	Sunday		
29.	Monday		
30.	Tuesday		
31.	Wednesday		

June 2023

Date	Day	Event	No. of working days
1.	Thursday		
2.	Friday		
3.	Saturday		
4.	Sunday		
5.	Monday	World Environment Day	
6.	Tuesday		
7.	Wednesday	World Food Safety Day	
8.	Thursday		
9.	Friday		
10.	Saturday		
11.	Sunday		
12.	Monday		
13.	Tuesday		
14.	Wednesday		
15.	Thursday		
16.	Friday		
17.	Saturday		
18.	Sunday		
19.	Monday		
20.	Tuesday		
21.	Wednesday		
22.	Thursday		
23.	Friday		
24.	Saturday		
25.	Sunday		
26.	Monday		
27.	Tuesday		
28.	Wednesday		
29.	Thursday	Bakrid	
30.	Friday	Registration –Semester IV	01

July 2023

Date	Day	Event	No. of working days
1.	Saturday		02
2.	Sunday		
3.	Monday		03
4.	Tuesday		04
5.	Wednesday		05
6.	Thursday		06
7.	Friday		07
8.	Saturday		08
9.	Sunday		
10.	Monday	National Fish Farmers's Day	09
11.	Tuesday		10
12.	Wednesday		11
13.	Thursday		12
14.	Friday		13
15.	Saturday		14
16.	Sunday		
17.	Monday		15
18.	Tuesday		16
19.	Wednesday		17
20.	Thursday		18
21.	Friday		19
22.	Saturday		20
23.	Sunday		
24.	Monday		21
25.	Tuesday		22
26.	Wednesday		23
27.	Thursday		24
28.	Friday		25
29.	Saturday	Muharam	
30.	Sunday		
31.	Monday		26

August 2023

Date	Day	Event	No. of working days
1.	Tuesday		27
2.	Wednesday		28
3.	Thursday		29
4.	Friday		30
5.	Saturday		31
6.	Sunday		
7.	Monday		32
8.	Tuesday		33
9.	Wednesday		34
10.	Thursday		35
11.	Friday	International Youth Day	36
12.	Saturday		37
13.	Sunday		
14.	Monday		38
15.	Tuesday	Independence day	
16.	Wednesday		39
17.	Thursday		40
18.	Friday		41
19.	Saturday		42
20.	Sunday		
21.	Monday		43
22.	Tuesday		44
23.	Wednesday		45
24.	Thursday		46
25.	Friday		
26.	Saturday		47
27.	Sunday		
28.	Monday		48
29.	Tuesday	National Sports Day	49
30.	Wednesday		50
31.	Thursday		51

September 2023

Date	Day	Event	No. of working days
1.	Friday		52
2.	Saturday		53
3.	Sunday		
4.	Monday		54
5.	Tuesday	National Teachers Day	55
6.	Wednesday	Krishna Jayanthi	
7.	Thursday		56
8.	Friday		57
9.	Saturday		58
10.	Sunday		
11.	Monday		59
12.	Tuesday		60
13.	Wednesday		61
14.	Thursday		62
15.	Friday		63
16.	Saturday		64
17.	Sunday	Vinayagar Chaturthi	
18.	Monday		65
19.	Tuesday		66
20.	Wednesday		67
21.	Thursday		68
22.	Friday		69
23.	Saturday	Commencement – Mid term examination	70
24.	Sunday		
25.	Monday		71
26.	Tuesday		72
27.	Wednesday		73
28.	Thursday	Eid e Milad	
29.	Friday		74
30.	Saturday		75

October 2023

Date	Day	Event	No. of working days
1.	Sunday		
2.	Monday	Gandhi Jayanthi	
3.	Tuesday		76
4.	Wednesday		77
5.	Thursday	Closure of midterm examination	78
6.	Friday		79
7.	Saturday		80
8.	Sunday		
9.	Monday		81
10.	Tuesday		82
11.	Wednesday		83
12.	Thursday		84
13.	Friday		85
14.	Saturday		86
15.	Sunday		
16.	Monday	World Food Day	87
17.	Tuesday		88
18.	Wednesday		89
19.	Thursday		90
20.	Friday		91
21.	Saturday		92
22.	Sunday		
23.	Monday	Auydha pooja	
24.	Tuesday	Vijaya dashami	
25.	Wednesday		93
26.	Thursday		94
27.	Friday		95
28.	Saturday		96
29.	Sunday		
30.	Monday	Commencement of practical examination	97
31.	Tuesday		98

November 2023

Date	Day	Event	No. of Working days
1.	Wednesday		99
2.	Thursday		100
3.	Friday		101
4.	Saturday		102
5.	Sunday		
6.	Monday		103
7.	Tuesday		104
8.	Wednesday	Closure of practical examination	105
9.	Thursday		
10.	Friday		
11.	Saturday		
12.	Sunday	Deepavali	
13.	Monday		
14.	Tuesday		
15.	Wednesday		
16.	Thursday		
17.	Friday	World Students Day	
18.	Saturday		
19.	Sunday		
20.	Monday		
21.	Tuesday	World Fisheries Day	
22.	Wednesday		
23.	Thursday		
24.	Friday		
25.	Saturday		
26.	Sunday		
27.	Monday		
28.	Tuesday		
29.	Wednesday		
30.	Thursday		

December 2023

Date	Day	Event	No. of Working Days
1	Friday		
2	Saturday		
3	Sunday		
4	Monday		
5	Tuesday		
6	Wednesday	World Soil Day	
7	Thursday		
8	Friday		
9	Saturday		
10	Sunday		
11	Monday		
12	Tuesday		
13	Wednesday		
14	Thursday		
15	Friday		
16	Saturday		
17	Sunday		
18	Monday		
19	Tuesday		
20	Wednesday		
21	Thursday		
22	Friday		
23	Saturday		
24	Sunday		
25	Monday		
26	Tuesday		
27	Wednesday		
28	Thursday		
29	Friday		
30	Saturday		
31	Sunday		

- B.F.Sc. Courses

Department wise

Semester wise

Department wise courses for B. F. Sc. 2021-22 batch

DEPARTMENT OF AQUACULTURE			
1.	FS-101	Principles of Aquaculture	2(1+1)
2.	FS-110	Freshwater Aquaculture	3(2+1)
3.	FS-111	Aquaculture in Reservoirs	2(1+1)
4.	FS-201	Ornamental Fish Production and Management	2(1+1)
5.	FS-202	Fish Food Organisms	2(1+1)
6.	FS-210	Coastal Aquaculture and Mariculture	3(2+1)
7.	FS-211	Genetics and Breeding	2(1+1)
8.	FS-212	Fish Nutrition and Feed Technology	3(2+1)
9.	FS-301	Finfish Hatchery Management	3(2+1)
10.	FS-302	Introduction to Biotechnology and Bioinformatics	3(2+1)
11.	FS-310	Shellfish Hatchery Management	2(1+1)
		Total	16+11=27
DEPARTMENT Of AQUATIC ANIMAL HEALTH MANAGEMENT			
1.	FS-203	Fish Immunology	2 (1+1)
2.	FS-213	Fish and Shellfish Pathology	3 (2+1)
3.	FS-303	Pharmacology	3 (2+1)
4.	FS-304	Fish Toxicology	2 (1+1)
5.	FS-311	Microbial and Parasitic Diseases of Fish and Shellfish	3 (2+1)
6.	FS-312	Therapeutics in Aquaculture	2 (1+1)
		Total	15 (9+6)
DEPARTMENT OF FISHERIES BIOLOGY AND RESOURCE MANAGEMENT			
1.	FS-102	Taxonomy of Finfish	3 (1+2)
2.	FS-103	Anatomy and Biology of Finfish	3 (2+1)
3.	FS-112	Taxonomy of Shellfish	2 (1+1)
4.	FS-113	Anatomy and Biology of Shellfish	2 (1+1)
5.	FS-114	Inland Fisheries	3 (2+1)
6.	FS-204	Marine Fisheries	3 (2+1)
7.	FS-214	Physiology of Finfish and Shellfish	3 (2+1)
8.	FS-305	Fish Population Dynamics and Stock Assessment	3 (2+1)
		Total	22 (13+9)
DEPARTMENT OF AQUATIC ENVIRONMENT MANAGEMENT			
1.	FS-104	Meteorology, Climatology and Disaster	3 (2+1)

		Management	
2.	FS-105	Soil and Water Chemistry	3 (2+1)
3.	FS-115	Limnology	3 (2+1)
4.	FS-116	Marine Biology	3 (2+1)
5.	FS-205	Aquatic Ecology and Biodiversity	3 (2+1)
6.	FS-215	Fishery Oceanography	2 (1+1)
7.	FS-216	Aquatic Pollution and Coastal Zone Management	3 (2+1)
		Total	20 (13+7)
DEPARTMENT OF FISH PROCESSING TECHNOLOGY			
1.	FS-106	Fundamentals of Biochemistry	3(2+1)
2.	FS-107	Fundamentals of Microbiology	3(2+1)
3.	FS-117	Food Chemistry and Fish in Nutrition	3(2+1)
4.	FS-206	Freezing Technology	2(1+1)
5.	FS-217	Fish Canning Technology	2(1+1)
6.	FS-306	Fish By-Products and Waste Utilization	2(1+1)
7.	FS-307	Microbiology of Fish and Fishery Products	3(2+1)
8.	FS-313	Fish Products and Value Addition	3(2+1)
9.	FS-314	Fish Packaging Technology	2(1+1)
10.	FS-315	Quality assurance of Fish and Fishery Products	3(2+1)
		Total	26 (16+10)
DEPARTMENT OF FISHERIES ENGINEERING AND FISHING TECHNOLOGY			
1.	FS-207	Refrigeration and Equipment Engineering	3 (2+1)
2.	FS-218	Fishing Gear Technology	2 (1+1)
3.	FS-308	Aquaculture Engineering	3 (2+1)
4.	FS-309	Fishing Craft Technology	2 (1+1)
5.	FS-316	Fishing Technology	2 (1+1)
6.	FS-317	Navigation and Seamanship	2 (1+1)
		Total	14 (8+6)
DEPARTMENT OF FISHERIES ECONOMICS, EXTENCION AND INFORMATION TECHNOLOGY			
1.	FS-108	Statistical Methods	3 (2+1)
2.	FS-118	Information and Communication Technology	2 (1+1)
3.	FS-208	Fisheries Extension Education and Personality Development	3 (2+1)
4.	FS-209	Fisheries Economics	3 (2+1)
5.	FS-318	Fisheries Administration and Entrepreneurship Development	2 (2+0)
6.	FS-319	Fisheries Co-operatives, Marketing and Business Management	3 (2+1)
		Total	16 (11+5)

	FS - 401	Student READY Programme	
		a) In-plant attachment (for 8 weeks)	10 (0+10)
		b) Rural Fisheries Work Experience Prog. (for 8 weeks)	8 (0+8)
		c) Study Tour (in and outside State) (for 4 weeks)	2 (0+2)
		Total	20 (0+20)
7.	FS - 402	Student READY Programme	
		a) Skill Development (for one week)	5 (0+5)
		b) Experiential Learning Programme	12 (0+12)
		c) Project Work	2 (0+2)
		d) Seminar	1 (0+1)
		Total	20 (0+20)
Compulsory non-credit courses			
1.	FS-109*	Swimming	1(0+1)
2.	FS-119*	Physical Education, First Aid & Yoga Practices	1(0+1)
		Total	2 (0+2)

Semester wise distribution of courses for B.F.Sc. 2021-22 batch

Semester	Course No.	Course Title	Credit Hours
First Semester	FS-101	Principles of Aquaculture	2 (1+1)
	FS-102	Taxonomy of Finfish	3 (1+2)
	FS-103	Anatomy and Biology of Finfish	3 (2+1)
	FS-104	Meteorology, Climatology and Disaster Management	3 (2+1)
	FS-105	Soil and Water Chemistry	3 (2+1)
	FS-106	Fundamentals of Biochemistry	3 (2+1)
	FS-107	Fundamentals of Microbiology	3 (2+1)
	FS-108	Statistical Methods	3 (2+1)
	FS-109*	Swimming	1 (0+1)
		Total	23 (14+9)
Second Semester	FS-110	Freshwater Aquaculture	3 (2+1)
	FS-111	Aquaculture in Reservoirs	2 (1+1)
	FS-112	Taxonomy of Shellfish	2 (1+1)
	FS-113	Anatomy and Biology of Shellfish	2 (1+1)
	FS-114	Inland Fisheries	3 (2+1)
	FS-115	Limnology	3 (2+1)
	FS-116	Marine Biology	3 (2+1)
	FS-117	Food Chemistry and Fish in Nutrition	3 (2+1)
	FS-118	Information and Communication Technology	2 (1+1)
	FS-119*	Physical Education, First Aid & Yoga Practices	1 (0+1)
		Total	23 (14+9)
Third Semester	FS-201	Ornamental Fish Production and Management	2 (1+1)
	FS-202	Fish Food Organisms	2 (1+1)
	FS-203	Fish Immunology	2 (1+1)
	FS-204	Marine Fisheries	3 (2+1)
	FS-205	Aquatic Ecology and Biodiversity	3 (2+1)
	FS- 206	Freezing Technology	2 (1+1)
	FS-207	Refrigeration and Equipment Engineering	3 (2+1)
	FS-208	Fisheries Extension Education and Personality Development	3 (2+1)
	FS-209	Fisheries Economics	3 (2+1)
		Total	**23 (14+9)**
Fourth Semester	FS-210	Coastal Aquaculture and Mariculture	3 (2+1)
	FS-211	Genetics and Breeding	2 (1+1)
	FS-212	Fish Nutrition and Feed Technology	3 (2+1)
	FS-213	Fish and Shellfish Pathology	3 (2+1)
	FS-214	Physiology of Finfish and Shellfish	3 (2+1)
	FS-215	Fishery Oceanography	2 (1+1)
	FS-216	Aquatic Pollution and Coastal Zone Management	3 (2+1)

	FS-217	Fish Canning Technology	2 (1+1)
	FS-218	Fishing Gear Technology	2 (1+1)
		Total	**23 (14+9)**
Fifth Semester	FS-301	Finfish Hatchery Management	3 (2+1)
	FS-302	Introduction to Biotechnology and Bioinformatics	3 (2+1)
	FS-303	Pharmacology	3 (2+1)
	FS-304	Fish Toxicology	2 (1+1)
	FS-305	Fish Population Dynamics and Stock Assessment	3 (2+1)
	FS-306	Fish By-Products and Waste Utilization	2 (1+1)
	FS 307	Microbiology of Fish and Fishery Products	3 (2+1)
	FS-308	Aquaculture Engineering	3 (2+1)
	FS-309	Fishing Craft Technology	2 (1+1)
		Total	**24 (15+9)**
Sixth Semester	FS-310	Shellfish Hatchery Management	2 (1+1)
	FS-311	Microbial and Parasitic Diseases of Fish and Shellfish	3 (2+1)
	FS-312	Therapeutics in Aquaculture	2 (1+1)
	FS-313	Fish Products and Value Addition	3 (2+1)
	FS-314	Fish Packaging Technology	2 (1+1)
	FS-315	Quality assurance of Fish and Fishery Products	3 (2+1)
	FS-316	Fishing Technology	2 (1+1)
	FS-317	Navigation and Seamanship	2 (1+1)
	FS-318	Fisheries Administration and Entrepreneurship Development	2 (2+0)
	FS-319	Fisheries Co-operatives, Marketing and Business Management	3 (2+1)
		Total	**24 (15+9)**
Seventh Semester	FS – 401	Student READY Programme In-plant attachment (for 8-16 weeks)	10 (0+10)
		Rural Fisheries Work Experience Program (for 2- 8 weeks)	8 (0+8)
		Study Tour (in & outside State) (for 4 weeks)	2 (0+2)
		Total	**20 (0+20)**
Eighth Semester	FS - 402	Student READY Programme	
		Skill Development (for one week)	5 (0+5)
		Experiential Learning Programme	12 (0+12)
		Project Work	2 (0+2)
		Seminar	1 (0+1)
		Total	**20 (0+20)**

- B.F.Sc. Course Syllabus

III Semester Course Syllabus for 2021-22 Batch

1. FS 201 Ornamental Fish Production and Management 2 (1+1)

THEORY

Unit – I

World trade of ornamental fish and export potential. Different varieties of exotic and indigenous fishes. Principles of a balanced aquarium. Fabrication, setting up and maintenance of freshwater and marine aquarium.

Unit – II

Water quality management. Water filtration system-biological, mechanical and chemical. Types of filters.

Unit – III

Aquarium plants and their propagation methods. Lighting and aeration. Aquarium accessories and decorative. Aquarium fish feeds. Dry, wet and live feeds.

Unit – IV

Breeding and rearing of ornamental fishes. Broodstock management. Application of genetics and biotechnology for producing quality strains.

Unit – V

Management practices of ornamental fish farms. Common diseases and their control.Conditioning, packing, transport and quarantine methods. Trade regulations and wild life act in relation to ornamental fishes.

PRACTICALS

Identification of common ornamental fishes and plants. Fabrication of all-glass aquarium. Setting up and maintenance of Aquarium accessories and equipment. Conditioning and packing of ornamental fishes. Preparation of feed. Setting up of breeding tank for live bearers, barbs, goldfish, tetras, cichlids, gouramis, fighters and catfishes. Identification of ornamental fish diseases and prophylactic measures.

2. FS 202 Fish Food Organisms 2 (1+1)

Theory

Unit I

Candidate species of phytoplankton and zoo-plankton as live food organisms of freshwater and marine species. Tropic potentials - proximate composition of live feed.

Unit II
Biology, culture requirements and methodology of important live food organisms; Green algae, blue-green algae, *Spirulina*, diatoms.

Unit III
Biology, culture requirements and methodology of important live food infusoria, rotifers, cladocerons.

Unit IV
Biology, culture requirements and methodology of important live food tubifex, brine shrimp, chironomids.

Unit V
Culture of earthworms, bait fish and forage fish.

Practicals
Methods of collection and identification of different live food organisms.- Laboratory scale culture of selected live food organisms- (green algae, *Spirulina*, *Chaetoceros*, rotifer, *Moina*, copepod). - Evaluation of live food organisms.-Decapsulation and hatching method of brine shrimp cyst.

3. FS 203. Fish Immunology 2(1+1)

Theory

Unit I
Introduction -brief history of immunology. Types of immunity: Innate and adaptive immunity, cell mediated and humoral immunity, cells and organs of the immune system.

Unit II
Antigens – structure and types. epitopes, haptens. Antibody – fine structure, classes with structure and functions, antigenic determinants on immunoglobulins. Antigen-antibody interactions- principle, antigen recognition by B-cells and T cells.Antigen-antibody reaction - Precipitin reactions, agglutination reactions.MHC complex – types, structure, and functions.

Unit III
Microorganisms associated with fishes in health and disease. Defense mechanism in finfish and shellfish- specific and non-specific immune system.Pathogenicity and virulence.Sources of infection, transmission of disease producing organisms, portals of infection.Immunity to bacteria, fungi and parasites.

Unit IV
Role of stress and host defense mechanism in disease development. Vaccines - types of vaccines –whole cell vaccine, purified macromolecules, recombinant –vector, DNA vaccines and

multivalent subunit vaccines, modes of vaccine administration. Immunostimulants – types, mechanism of action, modes of administration.

Unit V
Serological methods in disease diagnosis. Immunoassays - immunodiffusion, ELISA, immunofluorescence, neutralization, radioimmunoassay, serotyping.

Practicals

Collection, separation and identification of fish leucocytes. Separation of blood plasma and serum. Differential counting - RBC and WBC by Haemocytometer. Study of different types of leukocytes and isolation of macrophages. Precipitin reactions - Agglutination test, immuno-gel diffusion, double immunodiffusion, radial immunodiffusion assay, ELISA. Methods of vaccine preparation and techniques of fish immunization.

4. FS 204 Marine Fisheries 3 (2+1)

Theory

Unit I
Classification and definition of fishery zones and fishery resources of world.Overview of marine fisheries resources of the world and India.Potential marine fishery resources of the India's EEZ.

Unit II
Major exploited marine fisheries of India, their developmental history and present status. Important pelagic resources of India.

Unit III
Important demersal resources of India.-Deep sea fisheries resources

Unit IV
Important shellfish and seaweed resources of India.

Unit V
Traditional, motorized and mechanized fisheries according to major gears. GIS and Remote sensing in marine capture fishery. Marine Fisheries Resource conservation

Practicals

Visit to fish landing centres, Observation and analysis of catches by major crafts and gears. Field collection of fishes, crustaceans, molluscs and seaweeds and record keeping of relevant data. Participation in fishing cruises. GIS and remote sensing in marine capture fishery.

5. FS 205 Aquatic Ecology and Biodiversity 3(2+1)

Theory

Unit I

Aquatic environment, Flora and fauna: Components of aquatic systems, Aquatic productivity, nutrient cycles, energy flow, food chain. Animal associations: Symbiosis, commensalisms, parasitism, prey-predator relationship, host parasite relationship

Unit II

Aquatic biodiversity-its importance, species diversity, genetic diversity, habitat diversity, diversity indices.Ecological and evolutionary processes. Ecological niches – lagoons, estuaries, mangroves, coral reefs, flood plains, coastal wet lands, bheels, ox-bowlakes. Threats to biodiversity- habitat destination, introduction of exotic species

Unit III

Conservation of habitats, marine parks and sanctuaries. Conservation programmes for endangered species, *ex situ* and *in situ* conservation, captive breeding and management of endangered species. Various national and international conventions and regulations concerning biodiversity, including use of selective gears and exclusion devices

Unit IV

Selected aquatic mammal, reptile, amphibian and birds species of India relevant to fisheries: taxonomic status, identification characters, distribution, abundance, habitat, exploitation, threats and conservation.

Unit V

Biology of aquatic animals: Cetaceans (whales. dolphins, porpoises and narwal), Sirenia (manatees and dugongs), Carnivora (seals, sea lions walruses, polar bear and otter), Sea turtles, tortoise, crocodiles, sea/freshwater snakes and amphibians. IUCN criteria – Red list, Wild Life (Protection) Act.

Practicals

Collection of species of fishes and other organisms and studying the assemblages of organisms of rocky, sandy and muddy shores, lentic and lotic habitats.Observation of adaptive characters and interrelationships like commensalisms, symbiosis, parasitism and predation. Field visits to mangroves, marine parks, sanctuaries, coral reefs, rivers, hills, streams, lakes and reservoirs. Working out biodiversity indices.

6. FS-206 Freezing Technology 2 (1+1)

Theory

Unit 1:

Introduction to freezing technology; characteristics of fish and shellfish; changes in fish after death, spoilage of fish, spoilage and pathogenic microorganism.Handling of fresh fish; sanitation in processing plants.

Unit 2:

Principles of low temperature preservations.Chilling of fish – methods and equipment for chilling; icing – quality of ice, ice making; refrigerated or chilled sea water, chilling rate; spoilage of fish during chilled storage; use of antibiotics and chemicals.

Unit 3:

Freezing of fish fundamental aspects; heat units; freezing point depression, eutectic point; freezing rate; methods of freezing, freeze drying, physico– chemical changes that occur during freezing, mechanism of ice crystal formation; preparation of fish for freezing.

Unit 4:

Changes that occur during frozen storage – microbiological, physical and chemical changes, protein denaturation, fat oxidation, dehydration, drip; protective treatments – polyphosphate, glazing, antioxidants, packaging;

Unit 5:

Thawing of frozen fish – methods of thawing.Transportation of frozen fish, cold chain, quality control, HACCP in freezing industry.

Practical

Sanitation and plant housekeeping; chilling and freezing equipment, instruments; packages and product styles; methods of icing fish; cooling rate; preservation by chilled sea water; freezing and thawing curves; freezing of different varieties of fish and shellfish; estimation of drip; determination of quality changes during frozen storage; inspection of frozen fishery products; visits to ice plants, cold storages and freezing plants.

7. FS-207 Refrigeration and Equipment Engineering 3 (2+1)

Theory

Unit I

Fundamentals: Force, work, power, energy, volume, pressure, temperature. Heat, specific heat, sensible heat, latent heat, comparison between heat and work-A path function. Thermodynamics: Laws of Thermodynamics, Laws of perfect gases, Thermodynamic processes, Application of First and Second law of Thermodynamics in refrigeration, Thermodynamics cycle, entropy, enthalpy. Refrigeration: History of refrigeration, Definition, principle, classification, Types of refrigeration systems i.e., Air refrigeration, vapour absorption refrigeration system. Vapour compression refrigeration system.

Unit II

Refrigeration plant: Layout of refrigeration plant, Construction. Insulating materials used for the cold storage construction, Frozen product storage capacity of cold storage, usage of Ante-room. Refrigeration systems: Vapour compression refrigeration system advantages and disadvantages as compared to other refrigeration systems, Types of Vapour compression refrigeration cycles i.e., Theoretical Vapour compression refrigeration cycle, Actual refrigeration cycle.

Unit III

Compressors: Definition, Types of compressor, construction, working principle advantages and disadvantages. Evaporator: Definition, Types of Evaporator, construction, working principle advantages and disadvantages. Condenser: Definition, Types of Condenser, Cooling Towers, construction, working principle, advantages and disadvantages. Expansion valve: Definition, Types of Expansion valve, construction, working principle advantages and disadvantages. Refrigerant: Primary refrigerant, secondary refrigerant, properties, ideal refrigerant, leakage detection.

Unit IV

Study of auxiliary equipment: Receiver, oil charging, refrigerant charging, gas purging, oil draining, types of defrosting. Ice-plant: Ice plant planning Brine tank construction, preparation of brine, Types of ice, Storing of ice, Equipments used in ice plants. Freezers: Definition, Design and construction of freezers i.e. Plate freezer, Blast freezer, Tunnel freezer, spray or immersion freezers, refrigerated fish rooms and fish hold. Alternative refrigeration technique arrangements used onboard the fishing vessel i.e., Refrigerated sea water (RSW), Chilled sea water (CSW). Refrigerated transport.

Unit V

Cooling load: Unit of refrigeration, coefficient of performance (C.O.P),Refrigeration effect, study and use of Psychometric chart. Cooling load estimation, introduction, components of cooling load, heat gain through walls, roofs, products, occupants, lighting equipments. Theory of machines: Transmission of power, friction wheels, shaft , gears, belt and Chain drive. Study of equipments used in fish processing with particular reference to canning, sausage, freeze drying and irradiation.-Maintenance: Definition, Types of maintenance, general maintenance of freezing plant, cold storage and ice plant.

Practicals

Drawing of Refrigeration and Fish processing machineries plant layout, Graphically represented symbols used in refrigeration, Handling and operation of compressors, condensers, evaporators expansion valves, low and high pressure switches. Study of auxiliary equipments: Receiver, oil charging, refrigerant charging, gas purging, oil draining, types of defrosting. Power transmission line diagram of different fish processing machineries. Visit to processing plant refrigeration plant, Visit to ice plant, Visit to fishing harbor to study the fish hold, refrigerated fish rooms. Calculation on refrigeration effect and cooling load.

8. FS 208 Fisheries Extension Education and Personality Development 3 (2+1)

Theory

Unit I

Introduction to extension education and fisheries extension – concepts, objectives and principles; extension education, formal and informal education; History and role of fisheries extension in fisheries development. Fisheries extension methods individual, group and mass contact methods and their effectiveness, factors influencing their selection and use;

Unit II

Characteristics of technology, transfer of technology process; important TOT programs in fisheries; role of NGOs and SHGs in fisheries; Fisheries co-management; Adoption and diffusion of innovations, adoption and diffusion process, adopter categories and barriers in diffusion of fisheries innovations;

Unit III

Extension program planning and evaluation – steps and importance; participatory planning process. Basic concepts in rural sociology and psychology and their relevance in fisheries extension; social change, social control, social problems and conflicts in fisheries; gender issues in fisheries;

Unit IV

Theories of learning, learning experience, learning situation. Structural and functional grammar; meaning and process of communication; verbal and non-verbal communication; listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures.

Unit V

Reading and comprehension of general and technical article, précis writing, summarizing, presentations, impromptu presentation, public speaking; Group discussion. Organizing seminars and conferences.

Practicals

Collection of socio-economic data from fishing villages; study of social issues/problems through participatory and rapid rural appraisal techniques, stake holders analysis and needs assessment; assessment of development needs of community and role of formal and non – governmental organizations through stakeholder analysis; case studies on social/gender issues and social conflicts in fisheries. Case studies on extension programs and Success stories. Practical exercises on conducting fish farmers meet.

9. FS 209 Fisheries Economics (2+1)

Theory

Unit I

Introduction to fisheries economics, basic economic terminologies – micro and macroeconomics, positive and normative economics, environmental economics, resource, scarcity, farm-firm relationships, production Contribution of fisheries sector to the economic development of the country.

Unit II

Micro-economics: theories of demand, supply; market – equilibrium price, consumption, utility, Consumer surplus. Elasticity – price, income, cross, application of elasticity in fisheries managerial decision. Farm production economics – production functions in capture and culture fisheries;

Unit III

Costs and returns –breakeven analysis of fish production system; concepts of externalities and social cost; factors of production, marginal cost and return, law of diminishing marginal return, returns to scale, economies of scale and scope, revenue, profit maximization, measurement of technological change, farm planning and budgeting. Significance or importance of marginal cost.

Unit IV

Macro-economics: Introduction to national income, accounting, measurement and determinants of national income, contribution of fisheries to GNP and employment; balance of payments, economic growth and sustainable development. Globalization: dimensions and driving Forces.

Unit V

Introduction to GATT and WTO. WTO Framework – Key Subjects - Agreement on Sanitary and Phytosanitary Measures (SPS), Seafood Export Regulations; Non-Tariff Barriers (NTBs) and Agreement on Anti-Dumping Procedures. Fisheries Subsidies and WTO.Fisheries Trade and Environment; protests against globalisation and WTO.Intellectual Property Rights (IPR) and different forms.Patents and patenting process, Agreement on TRIPS.Bio-piracy.GMOs in fisheries. Salient features of Indian Patent (Amendment) Act 2005. Overview of Patents in Indian fisheries sector.

Practicals

Demand and supply functions of fish market – determination of equilibrium price for fish and fisheries products, calculation of price, income and cross elasticities. Production function – production with one or two variable inputs.Shifting demand and surplus curve and its importance in fish price. Economic analysis on cost, return and breakeven of any two production units like fish farm / shrimp farm / seed production unit /fish processing plant / export unit.

IV Semester Course Syllabus for 2021-22 Batch

1. FS 210 Coastal Aquaculture and Mariculture 3 (2+1)

Theory

Unit – I

An overview of sea farming and shore-based aquaculture in different parts of the world. Resources for shore-based aquaculture and sea farming in India.

Unit – II

Traits of important cultivable fish and shellfish (seabass, mullet, milkfish, grouper, cobia, snappers, ayu, pearlspot, tiger shrimp, white shrimp, mud crab, mussel, clam, oysters (edible and pearl oyster), lobster, seaweeds, Seed resources.

Unit – III

Shore based aquaculture system: traditional (pokkali, bheries, gazanis, khazans), semi-intensive, intensive aquaculture practice of commercially important species of fish and shellfish.

Unit – IV

Methods of Shellfish Culture rafts, racks, cages, poles and ropes., Water and soil quality management.

Unit – V

Estimation of growth, survival and pond productivity. Seaweed culture, Pearl culture, Sea ranching.

Practicals

Identification of important cultivable species.Collection and identification of commercially important seed of fish and shellfishes.Types of fertilizers - Pond preparation.Seed selection, quality and acclimatization.Water quality parameters.Estimation of seed survival.Pond biomass estimation. Material, apparatus and machinery for shore-based aquaculture and sea farming. Estimation of feed intake.Growth and health monitoring.Fouling organisms in cages and pens.

2. FS 211. Genetics and Breeding 2 (1+1)

Theory

Unit I

Principles of genetics and breeding, Gene and chromosome as basis of inheritance, Mendel's law of inheritance – complete and incomplete dominance, monohybrid and dihybrid ratios.

Unit II

Gene interactions – dominant and recessive epistasis.Pleiotropism.Lethal genes. Sex - linked genes, sex influenced and sex limited traits. Linkage and crossing over, Sex determination.

Unit III

Introduction to population genetics. Hardy- Weinberg law and its significance.Quantitative genetics – quantitative traits, polygenic traits, heritability. Mutation, Chromosomal structure and aberrations

Unit IV

Chromosome manipulation techniques- androgenesis, gynogenesis and polyploidy and identification of ploidy. Cross breeding (hybridization) – types of cross breeding, heterosis and design of cross breeding programmes, hybridization in different fishes.

Unit V

History and present status of selective breeding programs in aquaculture.Selection methods and mating designs.Design for selective breeding.Inbreeding and its consequences.Domestication methods.Seed certification and quarantine procedures.Cryopreservation of gametes.

Practicals:

Problems on Mendelian inheritance (qualitative genetics) - monohybrid and dihybrid ratios and epistasis. Problems on quantitative traits, response to selection and heritability.Estimation of rate of inbreeding and heterosis.Mitotic and meiotic chromosome preparation.Demonstration of protocol of androgenesis, gynogenesis and polyploidy.Problems on gene and genotypic frequency. Gamete cryopreservation protocols and quality evaluation of fish milt.

3. FS 212 Fish Nutrition and Feed Technology 3 (2+1)

Theory

Unit I

Fundamentals of fish nutrition and growth in fish.Principal nutrients and nutritional requirements of cultivable fish and shellfish. Nutritional energetics: definition and forms of energy partitioning.

Unit II

Methods of feed formulation and manufacturing. Forms of feeds: wet feeds, moist feeds, dry feeds, mashes, pelleted feeds, floating and sinking pellets.

Unit III

Feed additives: binders, antioxidants, enzymes, pigments, growth promoters, feed stimulants. Feed storage: use of preservatives and antioxidants.

Unit IV

Feed evaluation: feed conversion ratio, feed efficiency ratio, protein efficiency ratio, net protein utilization and biological value. Feeding devices and methods.

Unit V
Non-conventional feed ingredients and anti-nutritional factors. Digestive enzymes, feed digestibility Factors affecting digestibility-Nutritional deficiency diseases

Practicals
Proximate composition analysis of feed ingredients and feeds. - Preparation of artificial feeds using locally available feed ingredients. - Determination of sinking rate and stability of feeds. - Effect of storage on feed quality.

4. FS 213. Fish and Shellfish Pathology 3(2+1)

Theory
Unit I
Host, Pathogen and Environment interaction. Role of physical (injuries, health, cold) chemical (pH, salinity, toxins, ammonia, nitrogenous waste, endogenous chemicals, metabolites, free radicals, oxidants), soil and water parameters in fish health.

Unit II
Stress in aquaculture and its role in disease development. Pathological processes: Cellular response to injury, inflammatory response to diseases.

Unit III
Significance of Finfish and Shellfish diseases in aquaculture.Pathogenicitymechanism of parasite, bacteria, virus and fungus.Disease development process.

Unit IV
Nutritional diseases.Non-infectious diseases.

Unit V
Case history and clinical sign in disease diagnosis.

Practicals

Live and post mortem examination of fish and shellfish. Pathology of organ systems. Histopathology of normal and diseased fish and shellfish, Diagnosis of abiotic fish diseases.

5. FS 214 Physiology of Finfish and Shellfish 3 (2+1)

Theory
Unit I
Water as a biological medium. Gas exchange; Muscle physiology; Circulation;

Unit II
Excretion; Osmoregulation; Sense organs

Unit III
Energy and nutrient status of food; Nitrogen balance; Standard and active metabolism; Energy utilization;

Unit IV
Reproductive physiology, Structure and functions of important endocrine glands.

Unit V
Effect of environmental factors on physiology of fin and shellfishes. Stress related physiological changes.

Practicals
Estimation of oxygen consumption, Osmoregulation, ammonia excretion and carbon-dioxide output. Influence of temperature and salinity on metabolism. Haematology of fin and shellfishes. Histological techniques.

6. FS 215 Fishery Oceanography 2(1+1)

Theory
Unit: I

Introduction to Oceanography: classification; expeditions national and international. Earth and the ocean basin, distribution of water and land; relief of sea floor; Major feature of topography and terminology; major divisions.Relief in Indian oceans. Ocean Waves: definition and terms; classification, Difference between surface and long waves; wave theories; surface wave generation; spreading growth; Beaufort Scale; spilling and breaking waves; long waves, Tsunamis, Seiches, internal waves.

Unit: II

Ocean Tides: Definition; Tidal phenomenon, elementary tidal definition; tidal inequalities; tide producing forces types of tides tidal bores, tide prediction. Ocean Currents: Definitions and features; measurements of currents; direct and indirect methods forces acting on sea waters; drift currents Ekman spirals, upwelling, sinking, gradient currents; thermohaline circulation; characteristics; course; and significance of some major ocean currents of the world. El-Nino.

Unit: III

Physical properties of sea water: Salinity and chlorinity; temperature; thermal properties of sea water; colligative and other properties of sea water; Residence time of constituents in seawater. Properties of sea ice; transmission of sound; absorption of radiation; eddy conductivity; diffusivity and viscosity.

Unit: IV

General distribution of temperature, salinity and density: Salinity and temperature of surface layer (SST), subsurface; distribution of temperature and salinity; The T-S diagram; water masses of Indian oceans. Chemistry of sea water:

Unit: V

Constancy of composition; elements present in sea water; artificial sea water; dissolves gases in sea water; CO_2 system and alkalinity; inorganic agencies affecting composition of sea water distribution of phosphorus, nitrogen compounds, silicates and manganese in the oceans, factor influencing their distribution.

Practicals:

Operation of oceanographic instruments- Nansen reversing water sampler, Bathythermograph, Grabs, Corers, current meters, tidal gauges, echo-sounder. Determination of DO, CO_2 Alkalinity, Nitrates, phosphates and silicates in sea water.

8. FS 216 Aquatic Pollution and Coastal Zone Management 3 (2+1)

Theory

Unit: I

Introduction to aquatic pollution, the sources of pollutants, toxic organic compounds and their impacts in the aquatic organisms and the abiotic environment, Classification of pollution- physical, chemical and biological classification of water pollution- description of terminologies. Sewage and domestic wastes- composition and pollution effects- sewage treatment and its reuse. Agricultural wastes- organic detritus, nutrients, Adverse effects of oxygen demanding wastes: importance of dissolved oxygen; Oxygen demand; BOD; COD; Oxygen budget; Biological effects of organic matter. Excessive plant nutrients: Eutrophication; Red tides and fish kills.

Unit: II

Pesticide types and categories; inorganic pesticides, Organo-chlorine compounds, Organo-phosphorous compounds; Polychlorinated biphenyls (PCBs); Bioaccumulation and impact on aquatic fauna and human health; toxicology.Heavy metals: Interaction of heavy metals with water and aquatic organisms. Bioremediation and Phytoremediation. Oil pollution; Crude oil and its fractions; Sources of oil pollution; Treatment of oil spills at sea; Beach Cleaning; Toxicity of Petroleum Hydrocarbons; Ecological Impact of Oil pollution- Case studies.

Unit:III

Microbial pollution: Types of aquatic microbes; autotrophs and heterotrophs; saprotrophs and necrotrophs; Sewage Fungus Complex; Transmission of Human Pathogenic Organisms; Zoonosis; Development of Antibiotic Resistance and its impact; Biofilms and Bio-corrosion; Radioactivity and background radiation of earth: Radionuclide polluting, special effects of

radioactive pollution. Thermal pollution and its effects, Physical and chemical nature of possible effluents from major industries in India. Monitoring and control of pollution: Biological indicators of pollution. Solid waste management.

Unit:IV

Estuaries, Wet lands and Lagoons, Living resources – Non living resources.Principles of remote sensing: orbits, electromagnetic radiation, diffraction, electro-optical, and microwave systems. Data Input, Data Management, Data Quality. Remote Sensing for Coastal Management. Geographical Information System (GIS): Definition, Concepts, Data Acquisition and Data Management. Applications of GIS in aquatic resource identification.

Unit:V

Coastal Regulation Zone (CRZ) Act, Coastal regulation zones for main land and islands – Environmental policies, planning, administrative and regulations. CRZ mapping. Integrated Coastal Zone Management (ICZM); concept, application and case studies. Communication, research, integration, institutional arrangements, regulations, stakeholder participation, the role of the private sector in ICZM. Impacts of human activities on coastal and ocean areas: Challenges related to climate change, expanding tourism, declining fisheries, intensive shipping and biodiversity protection. Problems related to sectors such as tourism and fisheries in the ICZM context; Analysis of multiple use management problems typical for the coastal areas with the maritime industry. Environmental Impact Assessment (EIA): Principles and process. EIA of coastal industries. Evaluation and Methodology; Social Impact Assessment and other developmental activities.

Practicals

Physical characteristics of polluted waters; Colour, Odour, Turbidity. Determination of pH, salinity, alkalinity, hardness, BOD, COD, Hydrogen sulphide, Phosphates, Ammonia, Nitrates, Heavy metals and Oil and grease in water. Determination of pH, conductivity, organic carbon, nitrogen, phosphorus, heavy metals in sediments. Study of pathogenic and coliform bacteria. Bacteriological quality of water; Coliform tests, IMVIC test, standard plate count, methods of enumerating bacterial biomass in waters and waste waters. Pollution flora and fauna: indicator species- algae, protozoa and insect larva. Methods of pesticide residue analysis in waters and fish tissue; bioassay and toxicity study. Field visit to different coastal environments to study erosion of beaches, Identification of ecologically sensitive areas and protection, Study of CRZ, ICZM along the coastal belt, Study on implementation and violation of CRZ, Study of application of remote sensing and GIS, Project preparation of EIA.

9. FS 217 Fish Canning Technology 2 (1+1)

Theory

Unit 1:

Introduction to canning and its historical developments. Advantages of canning in relation to other preservation methods. Raw materials and sub materials, their characteristics and

suitability for canning. Classification of foods based on pH. Types of packaging materials for canned foods, metal containers (Tin Plate, TFS, Aluminium cans) and retortable pouches.

Unit 2:
Principles of thermal processing.Heat resistance of micro organisms, heat penetration studies, mechanism of heat transfer. Cold spot and its importance, convection and conduction type of packs. commercial sterility, Absolute sterility, pasteurization and sterilization.

Unit 3:
Canning process, process flow steps involved HTST and aseptic canning. General steps in canning procedure and importance, preparation of raw material, packing, pre-cooking, exhausting, seaming, retorting, cooling labelling and storage. Canning of commercially important fin fishes, shell fishes and cephalopods.

Unit 4:
Process calculation by general/ graphical methods, estimation of Fo value of the process (D-value, Z-Value TDT, F-value, lethal rate). Commercial sterilization, 12-D concept.

Unit 5:
Spoilage of canned foods - types, causes and preventive measures.Quality standards, plant layout, hygiene and sanitation and waste disposal.

Practicals
Types of cans, canning equipment and layout of cannery. Canning of different varieties of fish and shellfish. Cut out test of canned products. Examination of cand ouble seam. Heat resistance of bacteria. Heat penetration in canned food, thermal process calculation by general method. Study of spoilage condition in canned products. Familiarization with various packaging materials and container for fish products.

10. FS-218 Fishing Gear Technology 2 (1+1)

Theory
Unit I
Development fishing gears and Fishing Technology: Evolution of Fishing gears; Mechanization of Fishing; Basic classification of fishing gears- Principle, Subsidiary and Auxiliary gears. Classification of fishing gears and methods: FAO classification of fishing gear and methods of the world; International Standard Statistical Classification of Fishing gear (ISSCFG). Fishing gear materials: Natural materials and Synthetic netting materials and their classification. Types and important synthetic materials used in fishing gears. Raw-materials for synthetic material; Preparation of nylon (PA 6.66) material; Different types of fibres- continuous fibre; monofilament, staple and split fibers and production of single yarns.

Unit II

Identification of synthetic fishing gear materials: Visual observation, water test, solubility test, burning test and melting point test. Construction of twisted netting materials: Yarn, single yarns, folded yarns, netting twine, cable netting twine and cable netting twine of higher order; Construction of ropes and their higher order; construction of braided netting twines.

Unit III

Yarn numbering system - direct system: Tex system Denier system and calculation of resultant tex value. Indirect system: British count, metric count, runnage system and their conversion. Methods of Preparation of knotted and knotless webbing;, advantage and disadvantages of knotted and knotless webbings. Shape of mesh: diamond; square hexagonal and their measurement.

Unit IV

Properties of netting material: physical properties- Density, twist and amount of twist, Breaking strength-tenacity, & tensile strength, breaking length, abrasion resistance, elasticity, extensibility, water absorption &, shrinkage, sinking **velocity**, weather resistance, melting point and visibility. Chemical and Biological properties. Floats – buoys – its materials, types their properties; Classification of floats: based on shape and materials; calculation of buoyancy. Sinkers – types, materials, properties- negative buoyancy.

Unit V

Factors to be considered while designing /selection of fishing gears; Biological, Environmental, oceanographical, Vessel characteristics and mesh size regulation. Choice of netting materials for trawl, gillnet and purse seine. Classification of trawl gears. 2 seem trawl; 4 seam trawl and wing trawl. Design and construction of wing trawl. Rigging of trawl gear: Arrangements of bridles, sweep lines and attachment of ground gears: tickler chain, bobbins and rock hoppers and attachment of otter board.

Practicals

Study of net making tools; Knots and hitches used in net making. Methods of net making: Hand braiding- Chain mesh method and loop methods of net making. Shaping of webbing: baiting, creasing and reducing mesh size step by step. Tailoring method : T and N direction of webbing; T-cuts, N-cuts, B-cuts and their combination. Joining of net pieces.Net mounting –hanging coefficient, hung depth and their calculation. Selvedging. Methods of net mounting: reeving, stapling and norselling. Mending and net shooter techniques.

-*Time Table*

TIME TABLE FOR THIRD SEMESTER

Date/Time	09:15-10:15	10:15-11:15	11:15-12:15	12:15-01:15	01:15-02:00	02:00-03:00	03:00-04:00	04:00-05:00
Monday	FS-203(T) Fish Immunology Dr. D. Kaviarasu	FS 208 (T) Fisheries Extension Education and Personality Development Mrs. S. Agnes Daney Angela	FS 205 (P) Aquatic Ecology and Biodiversity Mrs. B. R. Sona		**Lunch Break**	FS-204 (T) Marine Fisheries Mr. P.Pavin Kumar	FS 204 (P) Marine Fisheries Mr. P. Pavin Kumar	
Tuesday	FS 207 (T) Refrigeration and Equipment Engineering Mr. R. Velmurugan	FS 208 (T) Fisheries Extension Education and Personality Development Mrs. S. Agnes Daney Angela	FS 208 (P) Fisheries Extension Education and Personality Development Mrs. S. Agnes Daney Angela			FS-206 (T) Freezing Technology Mrs. Nimish Mol Stephen	FS-206 (P) Freezing Technology Mrs. Nimish Mol Stephen	
Wednesday	FS 205 (T) Aquatic Ecology and Biodiversity Mrs. B. R. Sona	FS-204 (T) Marine Fisheries Mr.P.Pavin Kumar	FS 207 (T) Refrigeration and Equipment Engineering Mr. R. Velmurugan	Library		FS 209 (T) Fisheries Economics Dr. L. Surulivel	FS 209 (P) Fisheries Economics Dr. L. Surulivel	
Thursday	FS 209 (T) Fisheries Economics Dr. L. Surulivel	FS 205 (T) Aquatic Ecology and Biodiversity Mrs. B. R. Sona	FS 207 (P) Refrigeration and Equipment Engineering Mr. R. Velmurugan			FS-203(P) Fish Immunology Dr. D. KaviarasuFS-203(P)		Counselling
Friday	FS 202 (T) Fish Food Organisms Dr.V.Ezhilarasi	FS-201 (T) Ornamental Fish Production and Management Dr. Cheryl Antony	FS-202 (P) Fish Food Organisms Dr.V.Ezhilarasi			FS 201 (P) Ornamental Fish Production and Management Dr. Cheryl Antony		Library
Saturday	Library/Personality Development							

TIME TABLE FOR FOURTH SEMESTER

Days	9.16 am 10.05 am	10.15 am 11.05 am	11.15 am 12.05 pm	12.15 pm 1.05 pm	1.06 pm 2.00 pm	2.00 pm 2.50 pm	3.00 pm 3.50 pm	4.00 pm 4.50 pm
Monday					Lunch break			
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								