

REGULATIONS For B.Tech. (Food Technology) PROGRAMME

The following regulations are made applicable to all the B.Tech. programmes offered by the University under Faculty of Ocean Engineering with effect from the academic year 2019

I. B.Tech. (Food Technology) Programme

The duration of the B.Tech (Food Technology) course shall be eight semesters spanning over four academic years.

- (i) Degree Awarded : B Tech Food Technology
- (ii) Mode of selection

Basic qualification for the course is XII Std. Students who have passed in 10+2 pattern from Kerala State Board of Higher Secondary Education or an equivalent Examination with Physics, Chemistry and Mathematics scoring minimum 50% marks and who have been ranked in the Kerala Engineering Agriculture Medical (KEAM) degree examination for Engineering stream conducted by the Commissioner of Entrance Examination- Kerala shall be admitted based on their KEAM rank.

- (iii) Number of seats : 40 + 8 CoF + 2 NRI

1.1 Structure of the B.Tech. Programme

The semester wise distribution of courses will be as follows:

Semester-I		
1	English Language	2 (1+1)
2	General Microbiology	3 (2+1)
3	Engineering Mathematics-I	2 (2+0)
4	Engineering Drawing and Graphics	3 (1+2)
5	Electrical Engineering	3 (2+1)
6	Workshop Technology	3 (1+2)
7	Crop Production Technology	3 (2+1)
8	Environmental Sciences & Disaster Management	2 (1+1)
	Physical Education	1 (0+1)*
Total		21 (12+9)

* Non-Credit Course

Semester-II		
1	Food Chemistry of Macronutrients	3 (2+1)
2	Food Microbiology	3 (2+1)
3	Food Thermodynamics	3 (2+1)
4	Computer Programming and Data Structures	3 (1+2)
5	Fluid Mechanics	3 (2+1)
6	Electronics and Instrumentation	3 (2+1)
7	Engineering Mathematics-II	2 (2+0)
8	Post Harvest Engineering	3 (2+1)

	NCC/NSS	1 (0+1)*
Total		23 (15+8)
* Non-Credit Course		
Semester-III		
1	Fundamentals of Food Processing	3 (2+1)
2	Processing Technology of Liquid Milk	2 (1+1)
3	Processing Technology of Cereals	3 (2+1)
4	Industrial Microbiology	3 (2+1)
5	Food Chemistry of Micronutrients	3 (2+1)
6	Heat and Mass Transfer in Food Processing	3 (2+1)
7	Unit Operations in Food Processing-I	3 (2+1)
8	Statistical Methods and Numerical Analysis	2 (1+1)
Total		22 (14+8)
Semester-IV		
1	Processing Technology of Dairy Products	3 (2+1)
2	Processing Technology of Legumes and Oilseeds	3 (2+1)
3	Food Biochemistry and Nutrition	3 (2+1)
4	Unit Operations in Food Processing-II	3 (2+1)
5	Food Biotechnology	3 (2+1)
6	Food Refrigeration and Cold Chain	3 (2+1)
7	Processing of Spices and Plantation Crops	3 (2+1)
8	Business Management and Economics	2 (2+0)
Total		23 (16+7)
Semester-V		
1	Processing Technology of Fruits and Vegetables	3 (2+1)
2	Processing of Meat and Poultry Products	3 (2+1)
3	Instrumental Techniques in Food Analysis	3 (1+2)
4	ICT Applications in Food Industry	3 (1+2)
5	Food Process Equipment Design	3 (2+1)
6	Food Storage Engineering	3 (2+1)
7	Bakery, Confectionery and Snack Products	3 (2+1)
8	Marketing Management and International Trade	2 (2+0)
Total		23 (14+9)
Semester-VI		
1	Processing Technology of Beverages	3 (2+1)
2	Food Plant Sanitation	2 (1+1)
3	Food Packaging Technology and Equipment	3 (2+1)
4	Processing of Fish and Marine Products	3 (2+1)
5	Sensory Evaluation of Food Products	3 (1+2)
6	Food Additives and Preservatives	2 (1+1)
7	Food Quality, Safety Standards and Certification	2 (2+0)
8	Instrumentation and Process Control in Food Industry	3 (2+1)
9	Project Preparation and Management	2 (1+1)

	Total	23 (14+9)
Semester-VII		
1	Communication Skills and Personality Development	2 (1+1)
2	Entrepreneurship Development	3 (2+1)
3	Student READY - Experiential Learning Programme - I	7 (0+7)
4	Student READY - Experiential Learning Programme - II	7 (0+7)
5	Student READY - Research Project	3 (0+3)
6	Student READY - Seminar	1 (0+1)
	Total	23 (3+20)
Semester-VIII		
1	Student READY - Industrial Tour	2 (0+2)
2	Student READY - Internship/In-Plant Training	20 (0+20)
	Total	22 (0+22)

Grand Total of Credit Hours 180 (88+92)

1.2 Course Registration

It is mandatory for the students to register for the courses in each semester before the commencement of the classes.

Before registration, the students should

- a) Clear all dues including any fees to be paid and should not have any disciplinary issues pending.
- b) Meet the requirements regarding the minimum number of credits for promotion stipulated as per clause 1.1.

The dates for registration will be announced by the School in their academic calendar. Late registration will be allowed up to 7 working days from the commencement of the semester with late registration fee.

1.3 Mode of Evaluation

1.3.1. The performance of the students in theory courses will be evaluated based on continuous assessment and end semester examination. In the case of practical courses, the evaluation will be based on continuous assessment and end semester assessment, which will be carried out internally.

1.3.2. For theory courses, there will be 50% weightage for internal assessment and 50% weightage for end semester examination. For practical courses, continuous assessment and end semester assessment will carry 50% weightage each.

1.3.3 In theory courses, the assessment pattern will be as follows:

Continuous assessment: Total 50

1. I Periodical Test – Maximum Marks : 15
2. II Periodical Test – Maximum Marks : 15
3. Assignments/Seminars - Maximum Marks : 15
4. Attendance - Maximum Marks : 5

The End Semester Examination theory will be of 3 hours duration. Maximum marks: 50

1.3.4 For each practical course, the assessment pattern will be as follows:

A. Continuous Assessment : 25 Marks

For continuous assessment, the marks may be awarded on the basis of the performance of the student on the laboratory sessions. The break-up of marks for continuous assessment of laboratory courses shall be :

- a) Practical Records/Outputs : 5 Marks
- b) Regular Lab work : 15 Marks (distributed as per the attendance)
- c) Test : 5 Marks

B. End semester assessment of Practical : 25 Marks

The end semester assessment will consist of an examination and a viva voce.

1.3.5. At the end of the semester, semester examination will be conducted in all the theory courses offered in the semester and they will be of three hours duration unless otherwise specified. The Controller of Examinations will make necessary arrangements for setting the question papers and valuation of answer books by external examiner for the end semester examination of theory courses.

1.3.6. The end – semester assessment for the laboratory courses shall be conducted internally by the respective department/division with at least two faculty members as examiners. One of the examiners for conducting the end semester laboratory examination shall be at the level of Assistant Professor or above from outside the University.

1.3.7. In the case of project work, the project guide concerned shall make the continuous assessment. A committee consisting of the Project Co-ordinator (nominated by the Head of the Department/Division), project guide, and at least one faculty member from outside the University will carry out the final review.

The weightages for the reviews shall be as follows:

Continuous assessment including one seminar: 30 %

Project Report : 20%

Final Viva : 50%

1.3.8. The Comprehensive Viva-voce examination at the end of VIII Semester will be conducted by a panel of examiners consisting of the Head of the Department/Division or his/her nominee and one senior faculty of the Department/Division and one external expert.

1.3.9. A candidate shall be allowed to improve the continuous assessment marks in theory/laboratory courses. A candidate who has failed in internals has to attend all assignments along with junior batch. A candidate who wishes to improve internal/practical has to do so by attending all continuous assessment and test in the next available chance with prescribed fee fixed by the University. This facility will be available only once for a theory course in the entire B-Tech programme.

A candidate who desires to improve his/her marks in the end semester examination in theory courses shall be permitted to do so in the next available chance.

1.4 Course completion and earning of credits.

Students registered for a course have to attend the course regularly and meet the attendance rules of the university and appear for all the internal evaluation procedures for the completion of the course. However, earning of credits is only on completion of the semester examination and on getting a pass grade. Students, who have completed a course, but could not write the semester examination for valid reasons, are permitted to write the semester examination at the next opportunity and earn the credits without under going the course again. Such students should get the permission from the Controller of Examinations on recommendations from the HOD/Director as the case may be. The attendance details of such students will be transferred as such so that they can attend the exam in the next available chance.

1.5 Eligibility to appear for the End Semester Examination

1.5.1. A candidate who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester.

Ideally every student is expected to attend all classes and earn 100% attendance. However, in order to allow provision for certain unavoidable reasons such as medical/personal grounds, the student is expected to earn a minimum of 75% attendance. Therefore, he/she shall secure not less than 75% of overall attendance in that semester taking into account the total number of periods in all courses attended by the candidate as against the total number of periods in all courses offered during that particular semester.

1.5.2. The Hon'ble Vice Chancellor shall have the power to condone shortage of attendance up to 10% (between less than 75% and 65%) in a particular semester due to medical reasons (hospitalization/accident/specific illness) duly verified and recommended by the Head of the Division/Department and on production of medical certificate from a registered medical practitioner endorsed by the University Medical Officer and on payment of the required fee. However such condonation for shortage of attendance shall be given only once during the entire duration of the B.Tech. programme.

1.5.3. The students participating in co-curricular/sports activities representing Department/Division/School/University should produce the participation certificate countersigned by Director Youth Welfare/Assistant Director Physical Education within ten days of the event to the respective HOD. Under any circumstances, the certificate will not be considered if the overall attendance of the candidate is less than 65%.

1.6 Eligibility to write the Supplementary Examination

Supplementary examinations for a particular semester will be conducted along with the regular examination of the next semester.

Failed candidates and those who could not write the semester examination due to health reasons or other contingencies that are approved by the Head of the college/School can register for the supplementary examination. Those who wish to improve their performance in the end semester examinations can also register for the same, subject to the provisions of clause 1.3.9. Grades awarded in the supplementary examination will be taken as semester grades in these subjects and will be based on the semester examination grading pattern in that subject. In the case of candidates appearing for improvement of marks, the higher mark obtained will be considered for the purpose of grading.

Supplementary of 6th semester examination can be written during 7th semester as special supplementary examination as recooened by the School.

1.7 Revaluation

A candidate can apply for revaluation of his/her end semester examination answer paper in a theory course, within 2 weeks from the declaration of results, on payment of a prescribed fee along with prescribed application to the Controller of Examinations through the Head of Department/School/College. The Controller of Examination will arrange for the revaluation and the results will be intimated to the candidate concerned through the Head of the Department/School. Revaluation is not permitted for practical courses, seminar and for project work.

1.8 Pass Requirements

A candidate has to obtain a minimum of 40% marks for continuous assessment and end semester examination put together with a minimum of 50% marks in the end semester examination for a pass in theory and laboratory course.

1.9 Promotion to Higher Semester

Promotion from one semester to the next semester shall be subject to the following conditions:

PROMOTION TO	MINIMUM NUMBER OF CREDITS TO BE EARNED
III Semester	10 out of 22 credits of Semester I
IV Semester	20 out of 44 credits of Semesters I & II
V Semester	30 out of 66 credits of Semesters I, II & III
VI Semester	40 out of 88 credits of Semesters I to IV- Special supplementary
VII Semester	50 out of 110 credits of Semesters I to V
VIII Semester	Only after clearing all the papers upto 6 th semester

1.10 Grading

1.10.1. Grades shall be awarded to the students in each course based on the total marks obtained in continuous assessment and the end semester examination and as per the provisions of clause 1.3.1.

The grading pattern shall be as follows :

1.10.2. A student is considered to have credited a course or earned credits in respect of a course if he/she secures a grade other than F for that course.

1.10.3. Grade Point Average.

The academic performance of a student in a semester is indicated by the Grade Point Average (GPA).

$$\text{GPA} = \frac{G_1C_1 + G_2C_2 + G_3C_3 + \dots + G_nC_n}{C_1 + C_2 + C_3 + \dots + C_n}$$

Where ‘G’ refers to the grade point and ‘C’ refers to the credit value of corresponding course undergone by the student.

1.10.4 Grade Card

The Grade Card issued at the end of the semester to each student by the controller of Examinations, will contain the following :

- a) The code, title, number of credits of each course registered in the semester,
- b) The letter grade obtained,
- c) The total number of credits earned by the student upto the end of that semester and
- d) GPA & OGPA

1.11. Classification

The classification based on CGPA is as follows:

OGPA 8 and above	:	First Class with Distinction
OGPA 6.5 and above, but less than 8	:	First Class
OGPA 6 and above, but less than 6.5	:	Second Class

1.12 Faculty Advisor

To help the students in planning their courses of study and for general advice on the academic programme, the Head of the Department of the student will attach a certain number of students to a teacher of the Department who shall function as Faculty Advisor for those students throughout their period of study. Such Faculty Advisor shall advise the students and monitor the courses taken by the students, check the attendance and progress of the students attached to him/her and counsel them periodically. If necessary, the Faculty Advisor may also discuss with or inform the parents about the progress/performance of the students concerned.

1.13 Class Committee

A class committee consists of teachers of the class concerned, student representatives and a chairperson who does not handle any subject for the class(It is like the 'Quality Circle' more commonly used in industries), with the overall goal of improving the teaching –learning process. The functions of the class committee include :

- Solving problems experienced by students in the classroom and in the laboratories in consultation with Head of the Division/Principal/Director.
- Clarifying the Regulations of the degree programme and the details of rules therein
- Informing the student representatives the academic schedule including the dates of assessments and the syllabus coverage for each assessment.
- Informing the student representatives the details of Regulations regarding weightage used for each assessment.
- Discussing in the class committee meeting the breakup of marks for each experiment/exercise/module of work, in case of practical course (laboratory/drawing/project work/seminar etc) and informing the students.
- Analyzing the performance of the students of the class after each test and finding ways and means of improving the performance of the students.
- Identifying the students who are low achievers or weak in their subjects if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such students.

The class committee is normally constituted by the Head of the Division. However, if the students of different branches are mixed in each class the class committee is to be constituted by the Principal/Director. The class committee shall be constituted within a week from the date of commencement of a semester. At least 4 student-representatives from the respective class (usually 2 boys and 2 girls) shall be included in the class committee. The student representatives shall be nominated on the basis of their academic performance since the First Semester of the B.Tech. programme. In the case of First and Second semesters, the rank obtained in the Common Admission Test (CAT) shall be the criterion for nominating the student representatives. The Chairperson of the class committee may invite the Faculty Advisor(s) and the Head of the Division to the meeting of the class committee. The chairperson of the class committee is required to prepare the minutes of every meeting, submit the same to the Head of the Division within two days of the meeting and arrange to circulate the same among students concerned and teachers. If there are some points in the minutes requiring action by the University the same shall be brought to the attention of the Principal/Director and the Registrar.

The first meeting of the class committee shall be held within fifteen days from the date of commencement of the semester. The nature and weightage of internal assessments shall be decided in the first meeting, within the framework of the Regulations and the same shall be communicated to the students. Two or three subsequent meetings in a semester may be held at suitable intervals. During these meetings the student members representing the entire class, shall meaningfully, interact and express their opinions and suggestions of the class students to improve the effectiveness of the teaching-learning process.

1.14 Course Committee for common courses

Each common theory course offered to more than one discipline or group of disciplines, shall have a “Common Course Committee” comprising all the teachers teaching the common course with one of them nominated as common course Coordinator. The nomination of the Course Coordinator shall be made by the Principal/Director in consultation with Heads of Divisions from among the teachers teaching the common courses. The “Common Course Committee” shall meet as often as possible and ensure uniform evaluation of internal assessments after arriving at a common scheme of evaluation for the tests. Where ever feasible, the common course committee shall prepare a common question paper for the test(s).

- (i) **Students deputed for official purpose such as representing the University** for sports, cultural meets. NSS/NCC activities and involvement in the student’s activities, statutory bodies, with prior permission of the Head of the institution shall be given duty leave for such absence and it shall be reckoned as attendance subject to the following conditions.
- a) The period of duty leave shall not ordinarily exceed 10% of the total attendance for each course in a semester for a student. In no case the total days of leave taken should exceed more than 20 days.
 - b) Associate Patron of the students ‘Union/Officer i/c of Physical Education/Officer i/c of NCC and NSS alone are authorized to recommend to the Head of institution for duty leave. The concerned officers authorized to recommend duty leave may also furnish the list of students who are actually engaged as volunteers for university approved sports meets, cultural meets/ events, NSS activities, College Union/University Union activities etc., for granting duty leave.
 - c) Associate Patron can recommend the names of the students who actually represent the University for Cultural Activities in inter-University competitions for approval of the Head of the Institution.
 - d) Teacher i/c of Physical Education can recommend the names of students for duty leave who are participating in sports and games, representing the University.
 - e) NSS programme officer will recommend the names of students for duty leave who are participating in NSS programmes.
 - f) Number of duty leave eligible shall be limited to days of (i) to and fro journey (ii) actual days of the tournament as evidenced by the approved fixtures and in the case of cultural activities actual days of competition as evidenced by the approved programme.

- g) Officers, who are authorized to recommend the duty leave must submit the list of students with all details such as team/teams and its members, place of tournament/meet, days for to and fro journey, to the head of the Institution sufficiently in advance. At any rate duty leave will not be granted if the list is not submitted within 7 days of the termination of the event.
- h) Decision of the Head of the Institution shall be final in this matter.
- i) Student's activities like NSS camps etc. should be conducted during the semester break/holidays to the extent possible.
- j) The student representatives of the Governing Council and the Academic Council are eligible for 10% duty leave and students representing KUFOS in competitions are eligible for another 5% extra duty leave over and above the 25% of shortfall in attendance permitted.
- k) In any case the overall attendance –shortage shall not exceed 40% (25+10+5) inclusive of duty leave and other cases of absence.
- l) Students other than the office bearers of the Union shall also be entitled to have the additional 10% leave given to the Union office bearers, if they are deputed by the University for institutional purposes.

Attendance will be granted to those students who abstain from regular classes for the purpose of appearing in the re-examination/supplementary examination, after enduring that the students actually appeared for re-examination.

1.15 Discipline

Every student is required to observe discipline and decorous behavior both inside and outside the campus and refrain from any activity which may tarnish the image of the University. Any act of indiscipline, misbehavior including unfair practice in examinations will be referred to the authorities of the University that will make a detailed enquiry on the matter and decide on the course of action to be taken.

1.16 Amendment to Regulations

Notwithstanding all that has been stated above, the University has the right to modify any of the above regulations from time to time.