

MEM. 17th AC along with structures of B.Tech, M.Tech (FPOM), MBA and PhD (FBM)

(1.2.2)



(CBCS)




File No. : NIFTEM/Society/36/10

Date: 03.01.2018

### Notification

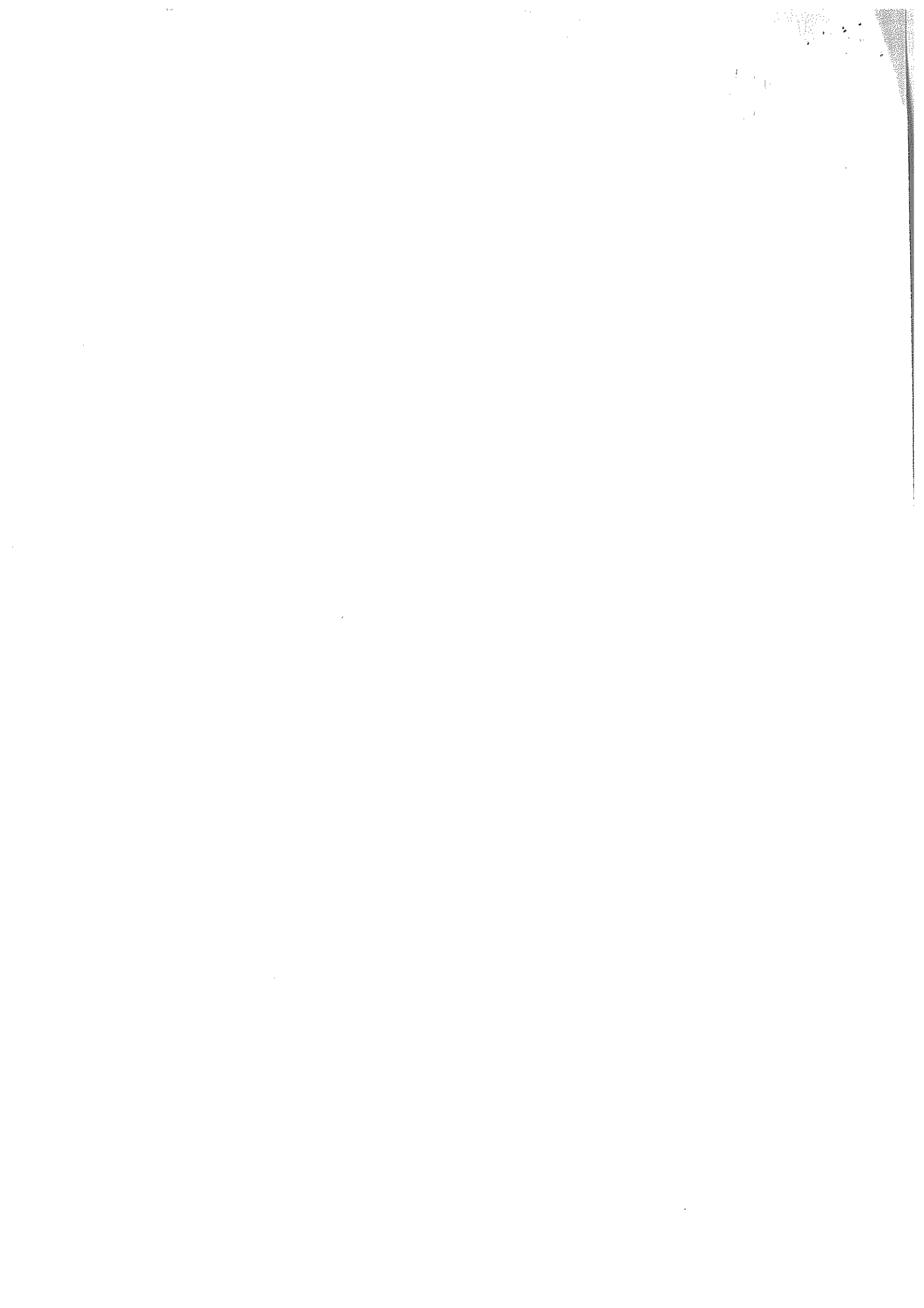
Subject: Minutes of 17<sup>th</sup> Academic Council meeting of NIFTEM.

The Minutes of 17<sup>th</sup> meeting of Academic Council of National Institute of Food Technology Entrepreneurship and Management (NIFTEM) held on 14.11.2018 at 11:00 A.M. are forwarded herewith for kind perusal and necessary action.

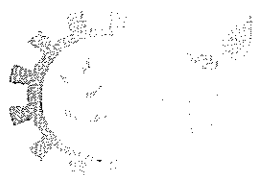
  
07/01/2019  
Registrar, NIFTEM

Copy by mail to:

- PS to Hon'ble Vice-Chancellor for kind information please
- Office of the Registrar for record please
- All the members of Academic Council
- All Department and Divisional Heads for necessary compliance, if any
- CoE



*Minutes*  
*Of the*  
*17<sup>th</sup> Meeting of*  
*Academic Council*  
*November 14, 2018*  
*at*  
*11:00 A.M.*  
*NIFTEM Campus, Kundli*



National Institute of Food Technology Entrepreneurship and Management  
Kundli, Sonapat

17<sup>th</sup> Academic Council meeting dated 14.11.2018 at 11:00 a.m.

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| 17.14      | Course Structure of Ph.D. Programme  |
| 17.15      | Reporting Items: <ul style="list-style-type: none"> <li>• Correction of typographical as subject code of FST 212 to BAS 213 approved in 8<sup>th</sup> meeting of Academic Council</li> <li>• Request of Mr. Tanmoy Bag and Mr. Atul chaudhary for late I-campus registration</li> </ul> |
| 17.16      | Any other items with the approval of the Chair.  |

*[Handwritten Signature]*

Minutes of the 17<sup>th</sup> meeting of Academic Council of National Institute of Food Technology Entrepreneurship and Management (NIFTEM) held on 14.11.2018 at 11:00 a.m. under the Chairmanship of Dr. Chindi Vasudevappa, Hon'ble Vice-Chancellor, in the Committee Room of NIFTEM Campus, Kundli, Sonapat Haryana.

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The following members were present:

- |   |            |
|---|------------|
| 1. Dr. R.K. Sharma, Former Director DFRL, Mysore                | -Member    |
| 2. Dr. R.K. Gupta, Director MGIRI Wardha (M.S.)                 | -Member    |
| 3. Dr. D.P. Biradar, Vice-Chancellor, UAS Dharwad               | -Member    |
| 4. Dr. Ravindra Kumar, Quality and Food Safety Lead- AP, DuPont | - Member   |
| 5. Prof. Manjeet Aggarwal, Professor & Dean (R) , NIFTEM        | - Member   |
| 6. Prof. M.P. Sahu, Professor & HoD (AES), NIFTEM               | - Member   |
| 7. Dr. Vijendra Mishra, DSW, NIFTEM                             | - Member   |
| 8. Dr. Neela Emanuel, HoD (FE), NIFTEM                          | - Member   |
| 9. Dr. Sanjay Bhayana, HoD (FBM), NIFTEM                        | -Member    |
| 10. Dr. Vikas Saxena, Associate Professor, NIFTEM               | - Member   |
| 11. Dr. Kalyan Das, Associate Professor, NIFTEM                 | - Member   |
| 12. Dr. Chakkarvarthy Sarvanan, Assistant Professor, NIFTEM     | - Member   |
| 13. Dr. Tripti Aggarwal, Assistant Professor, NIFTEM            | - Member   |
| 14. Dr. Bhaswati Bhattacharya, Assistant Professor              | - Member   |
| 15. Dr. T.N. Giri, Registrar, NIFTEM                            | -Secretary |

The following members could not attend the meeting, of absence was granted by the Chair:

- |  |          |
|--|----------|
| 1. D.N. Kulkarni, President, Jain Irrigation Systems Ltd.  | -Member  |
| 2. Dr. G. Venkateshwarlu, ADG, Education department, Delhi | -Member  |
| 3. Dr. Ashutosh Upadhyay, HoD FST and Dean (A), NIFTEM     | - Member |
| 4. Dr. P.K. Nema, Associate Professor, NIFTEM              | - Member |

At the outset Dr. T.N. Giri, Registrar NIFTEM and Secretary Academic Council welcomed Hon'ble Chairman and the Members of the Academic Council. He also welcomed newly joined member Dr. Ravindra Kumar. Itemized minutes of the meeting were taken up for deliberation after ensuring the quorum.



Agenda Item 17.1

**Subject: Confirmation of the Minutes of the last meeting.**

The Minutes of the 16<sup>th</sup> meeting of Academic Council of National Institute of Food Technology Entrepreneurship and Management (NIFTEM), held on 09.02.2018 under the Chairmanship of Vice-Chancellor, NIFTEM were considered by the Council. The Council confirmed and approved the minutes.

Agenda Item 17.2

**Subject: Action taken report on the decision of last meeting**

The Council considered the Action Taken Report on the decision of 16<sup>th</sup> Academic Council meeting held on 09.02.2018 and noted the same with satisfaction.

Agenda Item 17.3

**Subject: Recommendation of PG BoS of five Department of NIFTEM for consideration and approval.**

The Council considered the recommendations of all the five PG Boards of studies made in their meetings held on 05.07.2018 in r/o M.Tech, Ph.D and MBA programmes. The Council also noted that Vice-Chancellor, NIFTEM and Chairman Academic Council has already approved revised course structure of PG programmes w.e.f. Academic Year 2018-19 subject to ratification by Academic Council. Since the course structure & syllabus of the course was required to be implemented from the beginning of the Odd Semester 2018-19, the Council ratified the decision taken by Vice-Chancellor, NIFTEM for course structure and contents recommended by all the five PG Boards of Studies **annexure at 17.3.1.**

The details of course structure and syllabus of each PG programme as recommended by respective Board of Studies in their meetings held on 05.07.2018 and in r/o PG BoS (D/o FST) in its meeting held on 05.07.2018 and 12.11.2018 is enclosed at **Annexure 17.3.2**

Agenda Item 17.4

**Subject: Recommendation of UG BoS for consideration and approval.**

The Council considered the Agenda and noted that the UG Board of Studies in its meeting held on 05.07.2018 has revised the course structure of B.Tech (FTM) in line with Model Curriculum for Undergraduate Degree courses in Engineering & Technology circulated by AICTE in Jan, 2018 providing for:

- i. Maximum credits in B.Tech programme at 150-165.
- ii. Conduction of a 3 week induction programme before commencement of teaching classes.
- iii. Use of internal Labs/online MOOC courses as per requirement

The Council considered the common 1<sup>st</sup> year courses based on the AICTE model curriculum and UGC-CBCS guidelines, the course structure of B.Tech as revised by the UG BoS in its meetings held on 05.07.2018 and 12.11.2018 enclosed at **Annexure 17.4.** The Council approved the revised structure of B.Tech (FTM) recommended of UG Board of Studies.



### Agenda Item 17.5

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#### **Subject: Modification in NIFTEM Internship Policy & NIFTEM Placement**

The Council considered the agenda and noted that NIFTEM Internship and Placement Policies approved by the Academic Council in its 15<sup>th</sup> meeting held on 09.11.2017 were batch specific i.e. applicable to B.Tech 2014-18 batch and M.Tech 2016-18 batch. Since policy guidelines should be uniformly applicable to subsequent batches also after necessary amendments, the Institute has modified NIFTEM Internship and Placement policies to make them applicable to all future batches also uniformly with the approval of Vice-Chancellor, NIFTEM and Chairman Academic Council and notified these policies in the revised version subject to ratification of Academic Council.

The Council after due deliberation ratified the decision taken by Vice-Chancellor, NIFTEM & Chairman Academic Council.

### Agenda Item 17.6

#### **Subject: Promotion Policy for B.Tech Programme- Exclusion of deficiency course for eligibility of promotion.**

The Council considered the agenda and noted that as per promotion policy of B.Tech programme approved by the Council in its 15<sup>th</sup> meeting held on 09.11.2017 & 16<sup>th</sup> meeting held on 09.02.2018, all students (Old & New) could be promoted to next year of study provided they do not have more than 04 back papers of any semester/year. The Council further noted that a deficiency course, namely Introduction to Biosciences is also prescribed in 1<sup>st</sup> semester for students who have not studied biology in 10+2 level. All students are thus not enrolled in this course. The course also does not have any credits and its result is declared as 'Satisfactory' or 'Unsatisfactory' Apart from this, no pre-requisite is prescribed in the approved curriculum of the deficiency course. In view of this position, it has been decided to exclude the deficiency course from total no. of 04 back papers for considering provisional promotion to next year of study with the approval of Vice-Chancellor, NIFTEM & Chairman Academic Council subject to ratification by Academic Council. However, degree shall be conferred to such students only after the deficiency course is cleared by the student (s) concerned as 'Satisfactory'.

The Council after due deliberation ratified the decision taken by Vice-Chancellor, NIFTEM & Chairman, Academic Council to exclude the deficiency course from total no of 04 back papers for provisional promotion.



### Agenda Item 17.7

**Subject: Approval of Result of MBA 2016-18, M.Tech 2016-18, and B.Tech 2014-18 Batches and award of Degree-reg**

The Council considered the Agenda and noted that following no. of students of UG/PG courses have pass out in the Academic Year 2017-18 after completing their courses in accordance with NIFTEM's Academic and Exam Regulations and are now required to be conferred Degrees:

| S.No. | Course Name   | Batch   | Course duration | Department Name                                   | No. of Students passed     |
|-------|---|---------|-----------------|---|----------------------------|
| 1     | MBA   | 2016-18 | 2 years         | FBMED   | 15                         |
| 2     | M.Tech<br>• FPEM<br>• FSQM<br>• FTM<br>• FSCM<br>• FPOM | 2016-18 | 2 years         | Department of<br>FE<br>BAS<br>FST<br>AES<br>FBMED | 18<br>15<br>18<br>14<br>16 |
| 3     | B.Tech (FTM)  | 2014-18 | 4 years         | Undergraduate Studies                             | 132                        |
| 4     | B.Tech (FTM)  | 2013-17 | 4 years         | Undergraduate Studies                             | 06*                        |
| 5     | B.Tech (FTM)  | 2012-16 | 4 years         | Undergraduate Studies                             | 01*                        |

\*Through Supplementary Exams.

The Council discussed the result status of MBA 2016-18, M.Tech 2016-18, B.Tech 2014-18 and supplementary Exam result of B.Tech 2012-16 and 2013-17 and approved the same. The Academic Council authorized Vice-Chancellor, NIFTEM to issue the marks certificates under his digital signatures to students pass out in the Academic Year 2017-18 based on result declared by the Institute in accordance with its Academic & Exam Regulations.

### Agenda Item 17.8

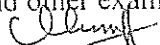
**Subject: Assignment of Invigilation duties during exam to faculty members**

The Council considered the agenda and noted that there are no guidelines/ procedure laid down for assignment of invigilation duties to faculty members during Mid-Term and End Semester Exams.

The Institute has however been deploying faculty members on invigilation duty with the approval of Vice-Chancellor, who is also Chairman of the Academic Council.

The Council deliberated the matter in detail and based on practice followed in other Institutions of Higher Studies, decided as under:

- i. Deans and HoDs may not be assigned invigilation duties in view of their other commitments. They may however be given surveillance duties during Exam and other coordinating activities related to Exam.
- ii. Associate Professor, other than HoDs & Assistant Professors may be assigned equal invigilation duties.
- iii. Lab Staff i.e. Lab Incharge may also be assigned invigilation duties along-with a faculty member at par with duties assigned to Assistant Professor. Lab Technicians may be engaged on other exam related work during Exam days by CoE.
- iv. No remuneration shall be paid for invigilation and other exam related duties.





**Agenda Item 17.9**

**Subject: Format of Mid-Term and End Semester Exam question papers.**

The Council considered the agenda and noted the views expressed by some faculty members on the format & structure of Mid-Term and End-Term Question Papers. The Council also noted the weightage of Mid-Term Exam/ Internal and End Semester Exams prescribed in the Exam Regulations of NIFTEM.

After due deliberation of the matter the Council has taken the following decisions

- 1) For B.Tech and M.Tech programmes the existing format & structure of Question Paper shall continue for Mid-Term and End Semester Exams.
- 2) For Ph.D. programme the existing format of Question Paper for compulsory courses shall continue to be the same. However for Major/Minor courses the subject faculty may prescribe any other format depending upon the requirement of the courses with the approval of HoD concerned.
- 3) For MBA programme the existing format of Question Paper in the Odd Semester 2018-19 may continue to be the same. However, from next semester and onwards the D/o FBMED may prescribe a suitable format and place the same before the Council for its consideration & approval well before commencement of Even Semester 2018-19.
- 4) The Council further suggested that in conduction of practical exams an external expert is required to be associated as per UGC regulations. This may be examined by Academic Department of the Institute and proper guidelines in this regard may be prepared & placed before the Council for consideration and approval, so that the same could be implemented from Even Semester 2018-19. For the current semester the existing system may continue.

**Agenda Item 17.10**

**Subject: Proposal to introduce Re-Evaluation of Answer Books of End Semester Exams (Theory) - reg.**

The Council considered the agenda and noted that the Academic & Exam Regulations of NIFTEM as approved by Academic Council from time to time provide for re-checking of answer Books for totaling errors and/ or non-evaluated answers. However, there is no provision for re-evaluation of answer Books in these regulations and are now proposed to be introduced.

The Council also noted that other Universities/ Institutions have provision for re-evaluation in their regulations. In order to provide an opportunity to students to get their Answer Books re-evaluated if and when they have any doubt in this regard, the Council after detailed deliberation of the draft re-evaluation policy placed before it has decided as under:

1. The existing provision for re-checking of Answer Books for totaling error(s) and/or un-evaluated answers shall continue. Totaling errors may be checked & rectified by CoE. Unevaluated Answers may be evaluated by concerned internal subject faculty & result revised accordingly.
2. The system of Re-evaluation of Answer Books of End-Semester Exam (Theory Papers) be introduced from Odd Semester 2018-19 on following terms and conditions.



- a. Re-evaluation shall be permissible only for End Semester Exam Theory paper.
- b. Upto 25% of theory subjects in which the students have appeared in Exam of the semester shall be considered for re-evaluation.
- c. A non-refundable fee of Rs. 2000/- per subject shall be charged from the concerned student
- d. Application for re-evaluation to be submitted to CoE with fee deposit receipt within 15days from the date of declaration of result in the prescribed proforma.
- e. The external Experts shall be nominated by HoD concerned for re-evaluation of Answer Books. CoE will send the Answer Book(s) and Question Paper to 1<sup>st</sup> Re- Evaluator for evaluation by post/courier.
- f. If Marks awarded by 1<sup>st</sup> Re-Evaluator varies from the original award upto and including -5% of the original marks, the original marks shall stand and no change will be made. However if the marks awarded by 1<sup>st</sup> Re-evaluator varies from the original Award upto and including +5% of the original marks the benefit may be given to the student(s) if it changes the result status.
- g. If the marks awarded by the 1<sup>st</sup> re-evaluator varies from the original marks upto and including  $\pm 10\%$  of the original marks (beyond  $\pm 5\%$ ), the average of marks of original evaluator & the 1<sup>st</sup> re-evaluator will be taken into account & reflected in the revised result status.
- h. If the award of Marks of the 1<sup>st</sup> re-evaluation varies from the original marks by more than  $\pm 10\%$  of the original marks, the Answer script shall be sent to 2<sup>nd</sup> re-evaluator and the average of two nearest awards out of the three awards thus available (including the original awards) shall be taken as final and result revised.
- i. The student applying for re-evaluation has to surrender his/her results of original performance & will accept change in result which may be as under:
  - There can be no change
  - There can be increase in marks
  - There can be decrease in marks.

The process of re-evaluation outlined in para 2 above shall be monitored by an Examination Re-evaluation Committee consisting of the following:

|       |           |   |                  |
|-------|-----------|---|------------------|
| (i)   | Dean (A)  | : | Chairman         |
| (ii)  | Dean (PG) | : | Member           |
| (iii) | Dean (SW) | : | Member           |
| (iv)  | CoE       | : | Member Secretary |

These rules shall be notified for information of all concerned in partial modification of UG/PG Academic & Exam Regulations.

#### Agenda Item 17.11

**Subject: Setting up of various Committees/ Cells/ Procedures etc. as per requirement of NAAC.**

The Council considered the agenda and noted that as per requirement of NAAC, the Institute has formulated 23 policy guidelines for setting up of various committees/cells/procedures and placed

*l. D. Smith*

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them before the Board of Management in its 27<sup>th</sup> meeting held on 12.06.2018 without placing them before Academic Council, since no meeting of Academic Council was convened & the matter was urgent. The Council also noted that 17 documents out of 23 approved by the Board have been notified & remaining seven documents are being reviewed to ensure that there is no infirmity or error. The Council also noted that one more policy document related to setting up of Women Cell and Internal Complaint Committee for prevention, prohibition and redressal of sexual harassment of Women Employees and students have been notified after obtaining approval of the Board. Meeting held on 27.09.2018.

The Council perused all the 18 notified documents placed with the Agenda and 7 documents yet to be notified and noted the contents thereof. The notifications of remaining 7 documents may also be expedited so that requirement of NAAC is fully complied with.

#### Agenda Item 17.12

##### **Subject: Policy to deal with Mass Bunk by Students**

The Council considered the agenda and approved the policy of Mass absence by students in the classes as under:

- I. If less than 10% students are present in a class and a majority of those absenting have not taken prior permission, this will be treated as a case of "Mass absence".
- II. The following steps shall be taken to check such mass absence. If students are absent with the permission of mentor(s) the absence may not be treated as Mass absence.
  - (a) The subject teacher shall teach the class, even if there is only one student and the portion covered on that day shall not be repeated.
  - (c) Out of five marks for attendance, one mark shall be deducted from the marks awarded to the students based on the % of attendance for each mass absence.
  - (d) A letter shall be sent to the parents of all the students of mass absence from the class by Dean (SW) on receiving the position from mentor(s)/ HoDs.
- III. Teachers shall try to identify and report students who have asked others to go on mass bunk. Disciplinary proceedings shall be initiated against such students.
- IV. Dean (SW) to include the above policy in their guidelines.

#### Agenda Item 17.13

##### **Subject: Change of credit of Biochemistry and Food Chemistry.**

The Academic Council considered the agenda and noted changes in the credit structure of Biochemistry & Food Chemistry as mentioned below:

- Biochemistry from 3-0-2=4 to 2-0-2=3
- Food Chemistry from 2-0-2=3 to 3-0-2=4

#### Agenda Item 17.14

##### **Subject: Course Structure of Ph.D. Programme**

The Council considered the Agenda and noted that the Ph.D. guidelines have been revised in accordance with UGC Regulations with the approval of the Board of Management. In



accordance with revised Ph.D. guidelines courses are to be designed to meet the requirement of course credits from 08 to 16. Accordingly the following course structure has been proposed:

|             |   |  |
|-------------|---|--|
| Semester I  | Course I: Research Methodology (Compulsory) | Offered as common course   |
|             | Course II: Major course                     | The Department concerned shall offer the course based on the requirement of scholars. IF required, a scholar can opt for major course of another Department which will be treated as minor course for him/her. |
|             | Course III: Seminar                         | Compulsory for all Scholars  |
| Semester II | Course I: Statistical methods (Compulsory)  | Offered as common course   |
|             | Course II: optional course                  | The scholar can select any course from his/her own department or from other department(s)  |
|             | Course III: Seminar                         | Compulsory for all scholars  |

Ph.D scholar shall make presentation at the end of each semester. A slot for Ph.D. presentation may be provided in Academic Calendar of each Semester.

The Council considered the agenda and after detailed deliberation approved the same. The above course structure may be notified in partial modification of Ph.D. guidelines 2018.

The Council further directed that Pert Chart should be prepared for evaluation. The New Evaluation formats being designed by Dean (PG) for monitoring progress of research by Ph.D. scholars may be placed before the Council in its next meeting for consideration and approval of the Council.

**Agenda Item 17.15**

**Subject: Reporting Items:**

- Correction of typographical error in subject code of FST 212 to BAS 213 approved in 8<sup>th</sup> meeting of Academic Council
- Request of Mr. Tanmoy Bag and Mr. Atul chaudhary for late I-campus registration

The Council considered the agenda and taken note of the same as indicated below:

1. Course name changed from FST- 212 to BAS -213 for Food Chemistry course.
2. Late registration of two students namely, Sh. Tanmoy Bag in MBA 2<sup>nd</sup> Semester and Sh. Atul Chaudhary in B.Tech 7<sup>th</sup> Semester in I-Campus on compassionate grounds keeping in view their career.

**Agenda Item 17.16**

**Subject: Any other items with the approval of the Chair.**

Nil

The meeting ended with a vote of Thanks to Chair



| Year      | Semester    | Category | Course Type | Course Code                 | Course Title                                    | L | T | P  | Credits | Remark |
|-----------|-------------|----------|-------------|-----------------------------|---|---|---|----|---------|--------|
| Year - I* | Semester-I  |          | CC          | ENG111                      | Basic Electrical Engg.                          | 2 | 0 | 2  | 3       |        |
|           |             |          | ESC         | ENG112                      | Engineering Graphics and Design                 | 0 | 0 | 4  | 2       |        |
|           |             |          | BSC         | BAS 111                     | Mathematics -I                                  | 3 | 0 | 0  | 3       |        |
|           |             |          | BSC         | BAS 112                     | Basic Chemistry                                 | 2 | 0 | 2  | 3       |        |
|           |             |          | BSC         | BAS 113                     | Physics   | 2 | 0 | 2  | 3       |        |
|           |             |          | NC          | BAS 114                     | Introduction to Bio Sciences                    | 3 | 0 | 0  | NC/Def  |        |
|           |             |          | NC          | AES 111                     | Environmental Studies                           | 3 | 1 | 0  | NC      |        |
|           |             |          |             |                             |   |   |   |    | 14      |        |
|           | Semester-II |          | CC          | FST 122                     | Principles of Food Preservations and Processing | 3 | 0 | 0  | 3       |        |
|           |             |          | HSC         | FBM121                      | Communication Skills                            | 2 | 1 | 0  | 3       |        |
|           |             |          | ESC         | ENG121                      | Engineering Workshop                            | 0 | 0 | 4  | 2       |        |
|           |             |          | ESC         | ENG122                      | Electronic Engineering                          | 2 | 0 | 2  | 3       |        |
|           |             |          | BSC         | BAS 121                     | Biochemistry                                    | 2 | 0 | 2  | 3       |        |
|           |             |          | BSC         | BAS 123                     | Mathematics-II                                  | 3 | 0 | 0  | 3       |        |
|           |             |          | BSC         | BAS 122                     | General Microbiology                            | 2 | 0 | 2  | 3       |        |
|           |             |          | BSC         | BAS 124                     | Computer Programming and IT applications        | 2 | 0 | 2  | 3       |        |
|           |             |          | CC          | FST 121                     | Human Nutrition                                 | 2 | 0 | 2  | 3       |        |
|           |             | BSC      | AES 121     | Introduction to Agriculture | 2   | 0 | 0 | 2  |         |        |
|           |             |          |             |                             |   |   |   | 25 |         |        |

|        |              |    |         |                  |  |   |   |     |     |  |
|--------|--------------|----|---------|------------------|--|---|---|-----|-----|--|
| Year-2 | Semester-III |    | MC      | FBM 211          | Basics of Management   | 3 | 0 | 0   | 3   |  |
|        |              |    | MC      | FBM 212          | Basics of Finance and Accounting                               | 3 | 0 | 0   | 3   |  |
|        |              |    | CC      | ENG 211          | Engineering Properties of Food Materials                       | 2 | 0 | 2   | 3   |  |
|        |              |    | CC      | ENG 212          | Food Engineering 1   | 3 | 0 | 2   | 4   |  |
|        |              |    | CC      | BAS 211          | Food Chemistry   | 3 | 0 | 2   | 4   |  |
|        |              |    | BSC     | BAS 124          | Computer Programming and IT applications                       | 2 | 0 | 2   | 3   |  |
|        |              |    | BSC     | BAS 212          | Food Microbiology and Safety                                   | 2 | 0 | 2   | 3   |  |
|        |              |    | ESC     | ENG 213          | Mechanical Engineering   | 3 | 0 | 2   | 4   |  |
|        |              |    | CC      | AES 211          | Elementary Postharvest Management of Fresh Produce             | 2 | 0 | 0   | 2   |  |
|        |              |    |         |                  |  |   |   |     | 29  |  |
|        | Semester-IV  |    | MC      | FBM 221          | Food Supply Chain Management                                   | 3 | 0 | 0   | 3   |  |
|        |              |    | MC      | FBM 222          | Financial Management   | 3 | 0 | 0   | 3   |  |
|        |              |    | ESC     | ENG 221          | Refrigeration and Freezing                                     | 2 | 0 | 2   | 3   |  |
|        |              |    | CC      | ENG 222          | Food Engineering 2   | 3 | 0 | 2   | 4   |  |
|        |              |    | CC      | FST 221          | Fruits, Vegetables & Plantation Products Processing Technology | 3 | 0 | 3   | 4.5 |  |
|        |              | CC | FST 222 | Dairy Technology | 3  | 0 | 3 | 4.5 |     |  |

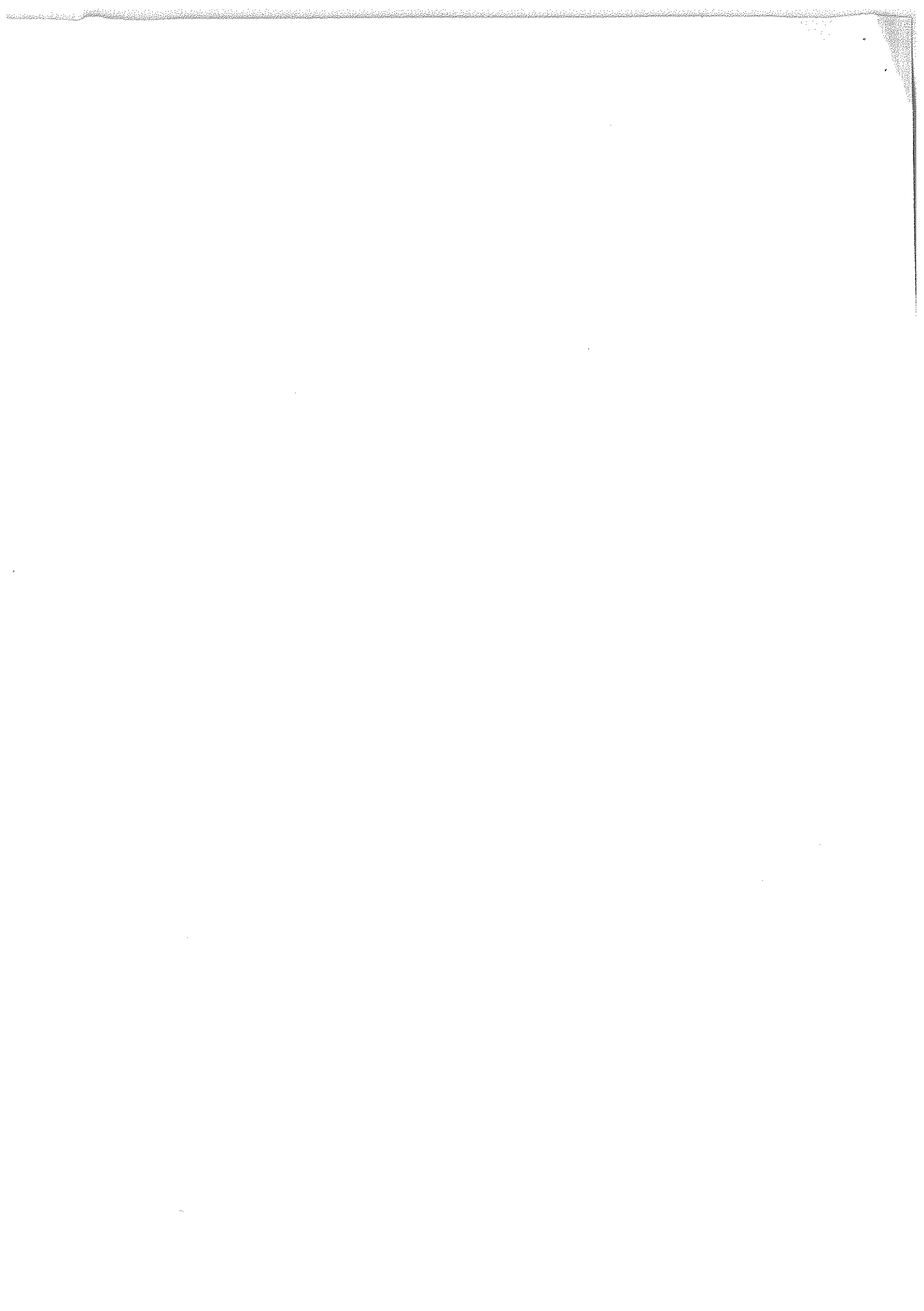
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|--|--|----|---------|---------------------------------------|---|---|---|------|--|
|  |  | CC | FST 223 | Cereals, Pulses & Oilseeds Technology | 3 | 0 | 3 | 4.5  |  |
|  |  |    | FBM 223 | Intellectual Property Rights          | 1 | 0 | 0 | 1    |  |
|  |  |    |         |                                       |   |   |   | 27.5 |  |

|  |             |  |     |         |   |   |   |      |              |  |  |
|--|-------------|--|-----|---------|---|---|---|------|--------------|--|--|
| Year-3   | Semester-V  |  | MC  | FBM311  | Marketing Management                                | 3 | 0 | 0    | 3            |  |  |
|  |             |  | HSC | FBM312  | Entrepreneurship Development                        | 3 | 0 | 0    | 3            |  |  |
|  |             |  | CC  | ENG311  | Food Engineering 3                                  | 3 | 0 | 2    | 4            |  |  |
|  |             |  | CC  | FST 311 | Bakery and Confectionery Technology                 | 2 | 0 | 3    | 3.5          |  |  |
|  |             |  | CC  | FST 312 | Meat, Fish and Poultry Product Technology           | 3 | 0 | 3    | 4.5          |  |  |
|  |             |  | BAS | BAS 311 | Statistical Methods                                 | 2 | 0 | 2    | 3            |  |  |
|  |             |  | PE  | PE-1    |   | 2 | 1 | 0    | 3 (Also 300) |  |  |
|  |             | PE 1- ENG-E1-Dairy Process Engineering/ FST-E1-Technology of Fats and Oils / FST-E2-Processing of Plantation Crops, Herbs and Spices/ FBM-E1-Business Law, AES-E 01- Commercial Postharvest Management of Fresh Produce  |     |         |   |   |   |      |              |  |  |
|  |             |  | PE  | PE-2    |   | 2 | 0 | 0    | 2            |  |  |
|  |             | PE-2 - ENG-E2 - Food Industry Waste and By-product Management /FST-E3- Diagnostics / FBM-E2-Business Environment / AES-E 02- Extension Methodologies For Transfer Of Agricultural Technology, BAS E-01( Computational and Multivariate Statistical Techniques -2 0 2), BAS E-02 (Transportation Phenomena in Food Processing -2 0 0) |     |         |   |   |   |      |              |  |  |
|  |             |  |     |         |   |   |   |      | 26           |  |  |
|  | Semester-VI |  | MC  | FBM321  | Modelling for Decision Support System               | 3 | 0 | 0    | 3            |  |  |
|  |             |  | HSC | FBM322  | Business Ethics                                     | 2 | 0 | 0    | 2            |  |  |
|  |             |  | CC  | ENG321  | Instrumentation and Process Control                 | 2 | 0 | 0    | 2            |  |  |
|  |             |  | CC  | ENG322  | Food Packaging Technology                           | 2 | 0 | 2    | 3            |  |  |
|  |             |  | CC  | FST 321 | Food Regulations & Safety Management System         | 3 | 0 | 0    | 3            |  |  |
|  |             |  | CC  | FST 322 | Food Additives, Ingredients and their Safety        | 3 | 0 | 0    | 3            |  |  |
|  |             |  | CC  | BAS 321 | Methods of Food Analysis                            | 2 | 0 | 3    | 3.5          |  |  |
|  |             |  | HSC | AES 321 | Introduction to Village Adoption, Rural Development | 1 | 0 | 0    | 1            |  |  |
|  |             |  | PE  | PE 3    |   | 2 | 1 | 0    | 3 (also 300) |  |  |
| ENG-E3- Food Equipment design and Process Modelling / FST-E4- Flavour Technology/ FST-E5- Food Beverages / AES- E03 - Novel Postharvest Treatments and Packaging Technology of Fresh and Fresh-Cut Products / FBM-E3- Production and Operations Management |             |  |     |         |   |   |   |      |              |  |  |
|  | PE          | PE 4   |     | 2       | 0   | 0 | 2 |      |              |  |  |
| ENG-E-4 - Food Rheology and Texture / FST-E6- Nutraceuticals and Functional Foods / FBM-E4- Managerial Economics. BAS E-03(Dairy Microbiology 2 0 2), BAS E-04 (Nanotechnology for Food Applications -2 0 0)   |             |  |     |         |   |   |   |      |              |  |  |
|  |             |  |     |         |   |   |   | 26.5 |              |  |  |

|        |               |    |          |         |  |   |   |    |    |  |
|--------|---------------|----|----------|---------|--|---|---|----|----|--|
| Year-4 | Semester-VII  |    | OL/OE/VL | OLE-1   | Select from below list of OL/OE /VL courses    | 2 | 0 | 0  | 2  |  |
|        |               |    | OL/OE/VL | OLE-2   | Select from below list of OL/OE courses        | 2 | 0 | 0  | 2  |  |
|        |               |    | PSI      | UGP     | Village Adoption Program                       | 0 | 0 | 10 | 5  |  |
|        |               |    | PSI      | UGI     | Professional Internship                        | 0 | 0 | 14 | 7  |  |
|        |               |    |          |         |  |   |   |    | 16 |  |
|        | Semester-VIII |    | CC       | FST-421 | New Product Development and Sensory Evaluation | 3 | 0 | 0  | 3  |  |
|        |               | PE | PE 5     |         | 3  | 0 | 0 | 3  |    |  |

Total =

| Semester | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup> | 6 <sup>th</sup> | 7 <sup>th</sup> | 8 <sup>th</sup> | TOTAL |
|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| Credits  | 14              | 25              | 29              | 27.5            | 26              | 26.5            | 16              | 16              | 180   |





Department of Food Business Management & Entrepreneurship  
Development (FBM & ED)  
CBCS based M.Tech. (FPOM) Course Curriculum

SEMESTER-I

| Course Type/Code | Subject   | L T P         | Credits   |
|------------------|---|---------------|-----------|
| DSE              | FBM 511 Business Strategy   | 3 0 0         | 3         |
| AECC             | FBM 512 Management Process and Organisational Behaviour   | 3 0 0         | 3         |
| CC               | FBM 515 Marketing Management  | 3 0 0         | 3         |
| CC               | FBM 516 Food Supply Chain Management  | 3 0 0         | 3         |
| GE               | Select from other department's GEs<br>(Suggested: FST 513 Food Regulations & Safety Management) | 3 0 0         | 3         |
| GE               | Select from other department's GEs<br>(Suggested: ENG 558 Advanced Food Packaging)              | 3 0 0         | 3         |
| AECC             | FBM 514 Research and Business Analytics   | 3 0 0         | 3         |
| AECC             | FBM 517 Status Paper and Seminar  | 0 0 2         | 1         |
| SEC              | FBM 513 Entrepreneurship Development  | 2 0 0         | 2         |
| CC               | FBM 519 Research Project  | 0 0 2         | 1         |
| <b>Total</b>     |   | <b>23/0/4</b> | <b>25</b> |

SEMESTER-II

| Course Type/Code | Subject   | L T P         | Credits   |
|------------------|---|---------------|-----------|
| CC               | FBM 521 Inventory Management  | 3 0 0         | 3         |
| DSE              | FBM 522 Food Plant Operations Management                                  | 3 0 0         | 3         |
| CC               | FBM 524 Total Quality Management  | 3 0 0         | 3         |
| GE               | Select from other department's GEs<br>(To be suggested by the Department) | 3 0 0         | 3         |
| GE               | Select from other department's GEs<br>(To be suggested by the Department) | 3 0 0         | 3         |
| AECC             | FBM 523 Project Finance   | 3 0 0         | 3         |
| AECC             | FBM 525 Communication and Negotiation Skills                              | 2 0 0         | 2         |
| AECC             | FBM 526 Status Paper and Seminar  | 0 0 2         | 1         |
| SEC              | FBM 527 Operation Research  | 2 0 0         | 2         |
| CC               | FBM 529 Research Project  | 0 0 2         | 1         |
| <b>Total</b>     |   | <b>22/0/4</b> | <b>24</b> |

## SEMESTER-III

| Course Type/Code | Subject                  | L T P         | Credits   |
|------------------|--------------------------|---------------|-----------|
| SEC              | MOOC*                    | 2 0 0         | 2         |
| AECC             | Industry Internship      | 0 0 30        | 15        |
| CC               | FBM 539 Research Project | 0 0 6         | 3         |
| NC               | Comprehensive Written    | -             | -         |
|                  | <b>Total</b>             | <b>2/0/36</b> | <b>20</b> |

## SEMESTER-IV

| Course Type/Code | Subject                  | L T P         | Credits   |
|------------------|--------------------------|---------------|-----------|
| MOOC             | MOOC*                    | 2 0 0         | 2         |
| CC               | FBM 549 Research Project | 0 0 30        | 15        |
|                  | <b>Total</b>             | <b>2/0/30</b> | <b>17</b> |

\*Student will select from provided list of MOOC courses by Deptt. of FBMED

## Legends

CBCS - Choice Based Credit System

GE- Generic Elective (unrelated discipline/subject)

AECC- Ability Enhancement Compulsory Courses

DSE-Discipline Specific Elective

SEC -Skill Enhancement Courses

OL/OE- Open Learning/Electives

PE- Professional Electives

Deptt. of FBMED Total Credits: 25+24+20+17 = 86

| OL/OE Online Management Courses available at IIM Bangalore website<br><a href="https://www.edx.org/school/iimbx">https://www.edx.org/school/iimbx</a> |                                     |
|---|-------------------------------------|
| FBM OE1   | Digital Marketing                   |
| FBM OE2   | Ecommerce                           |
| FBM OE3   | Project management                  |
| FBM OE4   | Business Leadership                 |
| FBM OE5   | People Management for Entrepreneurs |
| FBM OE6   | International Business Environment  |
| FBM OE7   | Strategic Management                |
| FBM OE8   | Customer Relationship Management    |

DSE: FBM 511 Business Strategy

**MBA**  
**Course Curriculum based on MBA-AICTE Model Curriculum**  
**& Choice Based Credit System (CBCS)**

| Semester - 1     |  |           |          |          |           |
|------------------|--|-----------|----------|----------|-----------|
| Course Type/Code | Title  | L         | T        | P        | Credits   |
| CC               | MBA101 Management Process and Practices                        | 3         | -        | -        | 3         |
| CC               | MBA102 Quantitative Techniques                                 | 4         | -        | -        | 4         |
| CC               | MBA103 Managerial Economics                                    | 3         | -        | -        | 3         |
| CC               | MBA104 Financial Accounting                                    | 3         | -        | -        | 3         |
| AECC             | MBA105 Business Communication & Negotiation Skills             | 4         | -        | -        | 4         |
| CC               | MBA106 Management Information System & Application of Software | 4         | -        | -        | 4         |
| CC               | MBA107 Organizational Behaviour                                | 3         | -        | -        | 3         |
| <b>Total</b>     | <b>Seven (7)</b>   | <b>24</b> | <b>0</b> | <b>0</b> | <b>24</b> |

| Semester - 2     |   |           |          |          |           |
|------------------|---|-----------|----------|----------|-----------|
| Course Type/Code | Title   | L         | T        | P        | Credits   |
| CC               | MBA201 Marketing Management                       | 3         | -        | -        | 3         |
| CC               | MBA202 Financial Management                       | 3         | -        | -        | 3         |
| CC               | MBA203 International Business Management          | 4         | -        | -        | 4         |
| CC               | MBA204 Operations Management                      | 4         | -        | -        | 4         |
| CC               | MBA205 Business Research Methods                  | 3         | -        | -        | 3         |
| CC               | MBA206 Operations Research                        | 4         | -        | -        | 4         |
| CC               | MBA207 Food and Agribusiness Environment & Policy | 4         | -        | -        | 4         |
| <b>Total</b>     | <b>Seven (7)</b>                                  | <b>25</b> | <b>0</b> | <b>0</b> | <b>25</b> |

| LEGENDS  |                                    |
|--|------------------------------------|
| CBCS – Choice Based Credit System                      | DSE – Discipline Specific Elective |
| GE – Generic Elective (unrelated discipline / subject) | SEC – Skill Enhancement Courses    |
| AECC – Ability Enhancement Compulsory Courses          | OL/OE – Open Learning / Electives  |
|  | PE – Professional Electives        |

| Semester – 3*    |   |           |          |           |           |
|------------------|---|-----------|----------|-----------|-----------|
| Course Type/Code | Title   | L         | T        | P         | Credits   |
| CC               | MBA 301 Innovation and Entrepreneurship Development         | 3         | -        | -         | 3         |
| CC               | MBA 302 Human Resource Management                           | 3         | -        | -         | 3         |
| CC               | MBA 303 Business Ethics & Human Values                      | 3         | -        | -         | 3         |
| DSE              | MBA 304 Summer Internship Project, Presentation & Viva Voce | -         | -        | 8         | 4         |
| PE               | Five Professional Electives (PE)                            | 5×3       | -        | -         | 15        |
| GE               | AES VAP Village Adoption                                    | -         | -        | 4         | 2         |
| <b>Total</b>     | <b>Ten (10)</b>   | <b>24</b> | <b>0</b> | <b>12</b> | <b>30</b> |

| Semester – 4*    |                                      |           |          |          |           |
|------------------|--------------------------------------|-----------|----------|----------|-----------|
| Course Type/Code | Title                                | L         | T        | P        | Credits   |
| CC               | MBA 401 Corporate Strategy           | 3         | -        | -        | 3         |
| CC               | MBA 402 Corporate Governance         | 3         | -        | -        | 3         |
| DSE              | MBA 403 Research Project & Viva Voce | -         | -        | 8        | 4         |
| PE               | Five Professional Electives (PE)     | 5×3       | -        | -        | 15        |
|                  | <b>Seven (7)</b>                     | <b>21</b> | <b>0</b> | <b>8</b> | <b>25</b> |

\*In addition, a student is required to choose a combination of total 5 professional electives (on the pattern of 2+3 or 3+2) from both dual specializations subjects in each 3<sup>rd</sup> & 4<sup>th</sup> semester. For example, if a student select 2 PE from the compulsory specialization FABM (Food & Agri-Business Management) and 3 PE from Marketing (if select Marketing as second specialization) in 3<sup>rd</sup> semester then in the next 4<sup>th</sup> semester he/she will have to choose 3 PE from FABM and 2 PE from Marketing.  
(Total Course Credits including both years approx= 104)

| LEGENDS  |                                    |
|--|------------------------------------|
| CBCS – Choice Bases Credit System                      | DSE – Discipline Specific Elective |
| GE – Generic Elective (unrelated discipline / subject) | SEC – Skill Enhancement Courses    |
| AECC – Ability Enhancement Compulsory Courses          | OL/OE – Open Learning / Electives  |
|  | PE – Professional Electives        |

## Industry Oriented Professional Electives (PE) Courses\* (Semester- 3 &amp; 4)

| Food & Agri-Business Management (Compulsory) |   |   |   |   |         |
|--|---|---|---|---|---------|
| Course Type/Code                             | Title   | L | T | P | Credits |
| FABM PE1                                     | Food Supply Chain Management                    | 3 | - | - | 3       |
| FABM PE2                                     | Food Technology and Processing Management       | 3 | - | - | 3       |
| FABM PE3                                     | Management of Agricultural Input Marketing      | 3 | - | - | 3       |
| FABM PE4                                     | Seed Production Technology and Management       | 3 | - | - | 3       |
| FABM PE5                                     | Management of Agro Chemical Industry            | 3 | - | - | 3       |
| FABM PE6                                     | International Trade in Agri-Food Products       | 3 | - | - | 3       |
| FABM PE7                                     | Entrepreneurship Development in Food Processing | 3 | - | - | 3       |
| FABM PE8                                     | Rural Marketing                                 | 3 | - | - | 3       |
| FABM PE9                                     | Agribusiness Finance                            | 3 | - | - | 3       |

| Marketing (Optional-I) |                                    |   |   |   |         |
|------------------------|------------------------------------|---|---|---|---------|
| Course Type/Code       | Title                              | L | T | P | Credits |
| MKT PE1                | Sales Management                   | 3 | - | - | 3       |
| MKT PE2                | Digital Marketing                  | 3 | - | - | 3       |
| MKT PE3                | Advertising Management             | 3 | - | - | 3       |
| MKT PE4                | Brand Management                   | 3 | - | - | 3       |
| MKT PE5                | Retailing Management               | 3 | - | - | 3       |
| MKT PE6                | Integrated Marketing Communication | 3 | - | - | 3       |
| MKT PE7                | Marketing Channel                  | 3 | - | - | 3       |
| MKT PE8                | Service Marketing                  | 3 | - | - | 3       |
| MKT PE9                | Consumer behaviour                 | 3 | - | - | 3       |

## Finance (Optional-II)

| Course Type/Code | Title                                       | L | T | P | Credits |
|------------------|---|---|---|---|---------|
| FIN PE1          | Security Analysis and Investment Management | 3 | - | - | 3       |
| FIN PE2          | Management of Financial Services            | 3 | - | - | 3       |
| FIN PE3          | Bank Management & Insurance                 | 3 | - | - | 3       |
| FIN PE4          | Carbon Finance                              | 3 | - | - | 3       |
| FIN PE5          | International Financial Management          | 3 | - | - | 3       |
| FIN PE6          | Corporate Taxation                          | 3 | - | - | 3       |
| FIN PE7          | Financial Derivatives                       | 3 | - | - | 3       |
| FIN PE8          | Risk Management and Insurance               | 3 | - | - | 3       |

| International Business (Optional-III) |   |   |   |   |         |
|---------------------------------------|---|---|---|---|---------|
| Course Type/Code                      | Title   | L | T | P | Credits |
| IB PE1                                | International Business Environment                        | 3 | - | - | 3       |
| IB PE2                                | International Trade and Policy Framework                  | 3 | - | - | 3       |
| IB PE3                                | International Financial System                            | 3 | - | - | 3       |
| IB PE4                                | International Trade Practices, Procedures & Documentation | 3 | - | - | 3       |
| IB PE5                                | International Supply Chain Management and Logistics       | 3 | - | - | 3       |
| IB PE6                                | International Advertising and Brand Management            | 3 | - | - | 3       |
| IB PE7                                | International Marketing Research and Consumer Behaviour   | 3 | - | - | 3       |

\*Minimum strength is required to opt

## Department of Food Business Management &amp; Entrepreneurship Development

PhD (FBM&ED) Course Curriculum

## SEMESTER-I

| S.No. | Course   | L T P | Credits  |
|-------|--|-------|----------|
| 1.    | BAS Research Methodology   | 3 0 0 | 3        |
| 2.    | <i>Department Major Course: Students have to select any one out of the following list of Major Courses</i> | 3 0 0 | 3        |
|       | FBM 711 Emerging issues in Entrepreneurship Research   |       |          |
|       | FBM 712 Emerging issues in Finance and Accounting Research   |       |          |
|       | FBM 713 Emerging issues in Marketing Management Research   |       |          |
|       | FBM 714 Emerging issues in Operations Management Research  |       |          |
|       | FBM 715 Emerging issues in Human Resource Management Research  |       |          |
|       | FBM 716 Emerging issues in Food and Agribusiness Research  |       |          |
| 3.    | FBM 717 Research Seminar - I   | 0 0 4 | 2        |
|       | <b>Total</b>   |       | <b>8</b> |

## SEMESTER-II

| S.No. | Subject   | L T P | Credits  |
|-------|---|-------|----------|
| 1.    | BAS Statistical Methods                                     | 3 0 0 | 3        |
| 2.    | Any course as per requirement of research (optional) / MOOC |       |          |
| 3.    | FBM 721 Research Seminar - II                               | 0 0 4 | 2        |
|       | <b>Total</b>  |       | <b>5</b> |

Deptt. of FBMED Total Credits: 8+5 = 13

