

## DEPARTMENT OF CHEMICAL ENGINEERING

# Action Taken Report on B. Tech Chemical Engineering Program R 16 Feedback Implemented in R19 introduced in the AY 2019 - 20

# Action taken based on the suggestions from Students:

| Q1 | Course Contents of B.Tech - Chemical Engineering Curriculum are in tune with the Program Outcomes   |
|----|---|
| Q2 | Course Contents designed to enable skills and knowledge required for process Design, optimization, modeling, quality control, analysis and hazardous chemicals handling for several chemical and allied industries. |
| Q3 | Courses placed in the B.Tech - Chemical Engineering curriculum serves the needs of both Advanced and Average learners.  |
| Q4 | Contact Hour Distribution among the various Course Components (LTP) is Satisfiable.   |
| Q5 | Electives have enabled the passion to learn new technologies in emerging areas  |
| Q6 | B.Tech - Chemical Engineering Curriculum providing opportunity towards<br>Self learning to realize the expectations   |
| Q7 | Composition of Basic Sciences, Engineering, Humanities and Management Courses is a right mix and appropriate in B.Tech - Chemical Engineering curriculum.   |
| Q8 | No. of Laboratory sessions sufficient to improve the technical skills   |
| Q9 | Sufficient courses available to improve technical competency and leadership skills among the students.  |

Analysis of Overall Feedback given by the Students on R 16

|            | Strongly<br>Agree | Agree | Moderate | Disagree | Strongly<br>Disagree | Avg.<br>Rating | Grade     |
|------------|-------------------|-------|----------|----------|----------------------|----------------|-----------|
| Q1         | 73.2              | 18.2  | 8.6      | 0        | 0                    | 4.646          | Excellent |
| Q2         | 65.8              | 28.1  | 6.1      | 0        | 0                    | 4.597          | Excellent |
| Q3         | 75.8              | 17.8  | 6.4      | 0        | 0                    | 4.694          | Excellent |
| Q4         | 76.8              | 18.2  | 4.9      | 0        | 0                    | 4.715          | Excellent |
| Q5         | 73.2              | 21.1  | 5.7      | 0        | 0                    | 4.675          | Excellent |
| Q6         | 66.2              | 23.2  | 10.7     | 0        | 0                    | 4.559          | Excellent |
| <b>Q</b> 7 | 71.1              | 14.8  | 13.7     | 0        | 0                    | 4.558          | Excellent |
| Q8         | 71.7              | 21.5  | 6.8      | 0        | 0                    | 4.649          | Excellent |
| Q9         | 72.7              | 25    | 2.3      | 0        | 0                    | 4.704          | Excellent |

Itemized responses given to the Suggestions of Students

Suggestion: Include more importance in problem solving skills in curriculum.

**Action Taken**: Introduction of core subject like Chemical engineering thermodynamics-I and Momentum transfer are in I year course.

Suggestion: Add more department elective subject related to upstream.

**Action Taken**: Inclusion of general pharmacy, pre-formulation studies, industrial pharmacy like some other pharmacy subjects in R19 Curriculum

Suggestion: Improvement in problem solving skills.

**Action Taken**: Several new elective courses like introduction to MATLab programming, MATlab programming and numerical computation, bioprocess engineering are included.

Suggestion: Provide more practical knowledge related to industry

Action Taken: Modular course and Employability skills-I & II are included in Curriculum.

Suggestion: Improve the project based learning in the curriculum.

**Action Taken**: No concept of Minor project in New curriculum as it is project based hence inter departmental, Intra and societal centric projects are added in curriculum

# Action taken based on the suggestions from Alumni:

| Q1 | B.Tech – Chemical Engineering Curriculum has paved a good foundation in understanding the basic engineering concepts                          |
|----|---|
| Q2 | Course Contents of Curriculum in tune with the Program Outcomes   |
| Q3 | B.Tech – Chemical Engineering Curriculum imparted all the required Job Oriented Skills for its core and allied industries                     |
| Q4 | Professional and Open Electives of B.Tech – Chemical Engineering Curriculum served the technical advancements needed to serve in the industry |
| Q5 | The activities, experiments planned during laboratory sessions are sufficient in the curriculum   |
| Q6 | Are you in a position to compete with your peers from other Universities  |
| Q7 | Current Regulation Curriculum is superior than your studied Curriculum  |

### Analysis of Overall Feedback given by the Alumni on R 16

|    | Strongly<br>Agree | Agree | Moderate | Disagree | Strongly<br>Disagree | Avg.<br>Rating | Grade     |
|----|-------------------|-------|----------|----------|----------------------|----------------|-----------|
| Q1 | 25                | 68.8  | 6.3      | 0        | 0                    | 4.191          | Excellent |
| Q2 | 18.8              | 56.3  | 25       | 0        | 0                    | 3.942          | Very Good |
| Q3 | 37.5              | 37.5  | 18.8     | 6.3      | 0                    | 4.065          | Excellent |
| Q4 | 18.8              | 75    | 6.3      | 0        | 0                    | 4.129          | Excellent |
| Q5 | 25                | 37.5  | 37.5     | 0        | 0                    | 3.875          | Very Good |
| Q6 | 18.8              | 56.3  | 25       | 0        | 0                    | 3.942          | Very Good |
| Q7 | 25                | 56.3  | 12.5     | 6.3      | 0                    | 4.003          | Excellent |

## Itemized responses given to the suggestions of Alumni

Suggestion: Add industry based courses from III year onwards.

**Action Taken:** Four courses are included, which improves the basic skills required for pharma industry.

Suggestion: Provide more field knowledge and industry oriented subject

Action Taken: Several upstream industry oriented subjects are included in elective pool.

Suggestion: Provide GATE coaching class

Action Taken: Conduction of GATE classes is introduced.

# Action taken based on the suggestions from Faculty:

| Q1         | Course Contents of B.Tech - Chemical Engineering Curriculum are in tune       |
|------------|---|
|            | with the Program Outcomes.  |
| Q2         | Course Contents of B. Tech - Chemical Engineering enhances the Problem        |
| Q2         |   |
|            | Solving Skills and Core competencies  |
| Q3         | Allocation of Credits to the Courses are appropriate.                         |
| Q4         | Contact Hour Distribution among the various Course Components (LTP) are       |
|            | appropriate.  |
| 05         |   |
| Q5         | Electives cover the frontier technologies in the field of Chemical and allied |
|            | industries  |
| Q6         | Curriculum providing opportunity towards Self learning to realize the         |
|            | expectations  |
| 0.5        |   |
| <b>Q</b> 7 | Composition of Basic Sciences, Engineering, Humanities and Management         |
|            | Courses are appropriate.  |
| Q8         | Laboratory sessions sufficient to improve the technical skills of students    |
|            |   |
| Q9         | Sufficient courses available to improve the technical competency and          |
|            | leadership skills among the students.   |
|            | Analysis of Overall Feedback given by the Faculty on R 16                     |
|            |   |

|            | Strongly<br>Agree | Agree | Moderate | Disagree | Strongly<br>Disagree | Avg.<br>Rating | Grade     |
|------------|-------------------|-------|----------|----------|----------------------|----------------|-----------|
| Q1         | 45.9              | 27    | 21.6     | 0        | 5.4                  | 4.077          | Excellent |
| Q2         | 43.2              | 24.3  | 27       | 0        | 5.4                  | 3.996          | Very Good |
| Q3         | 45.9              | 35.1  | 13.5     | 0        | 5.4                  | 4.158          | Excellent |
| Q4         | 32.4              | 18.9  | 32.4     | 10.8     | 5.4                  | 3.618          | Very Good |
| Q5         | 45.9              | 16.2  | 24.3     | 8.1      | 5.4                  | 3.888          | Very Good |
| Q6         | 43.2              | 18.9  | 32.4     | 0        | 5.4                  | 3.942          | Very Good |
| <b>Q</b> 7 | 32.4              | 24.3  | 29.7     | 8.1      | 5.4                  | 3.699          | Very Good |
| Q8         | 43.2              | 24.3  | 21.6     | 5.4      | 5.4                  | 3.942          | Very Good |
| Q9         | 37.8              | 37.8  | 13.5     | 5.4      | 5.4                  | 3.969          | Very Good |

## Itemized responses given to the suggestions of Faculty

Suggestion: Introduction of pharmacy related subject

**Action Taken:** Several new courses are introduced like general pharmacy, pre-formulation studies, industrial pharmacy, MATLab programming, bioprocess engineering in new curriculum

Suggestion: Arrange interaction with industry persons is more helpful to students

Action Taken: Introduction of modular courses, intradepartmental and interdepartmental projects are included in the new curriculum

Suggestion: providing some more industry oriented elective subject

Action Taken: Industry oriented upstream elective subjects are incorporated in new curriculum

Suggestion: Introduction of problem solving skill based subjects in curriculum

Action Taken: The new problem solving and software based subjects are included

# Action taken based on the suggestions from Employers:

| Q1 | Course Contents of B.Tech - Chemical Engineering Curriculum are in tune with the Program Outcomes.                        |
|----|---|
| Q2 | Course Contents designed to enable skills and knowledge required for Chemical and allied Industry Demands.                |
| Q3 | Professional Electives and Open Elective are in-line with the technological advancements.                                 |
| Q4 | Curriculum imparted all the required Skills for Chemical and relevant industry related Skills.                            |
| Q5 | Problem Solving and Soft Skills acquired by the students through the course contents will enable them to be placed in MNC |

### Analysis of Overall Feedback given by the Employers on R 16

|    | Strongly<br>Agree | Agree | Moderate | Disagree | Strongly<br>Disagree | Avg. Rating | Grade     |
|----|-------------------|-------|----------|----------|----------------------|-------------|-----------|
| Q1 | 34.4              | 43.8  | 21.9     | 0        | 0                    | 4.129       | Excellent |
| Q2 | 31.3              | 40.6  | 28.1     | 0        | 0                    | 4.032       | Excellent |
| Q3 | 56.3              | 12.5  | 31.3     | 0        | 0                    | 4.254       | Excellent |
| Q4 | 31.3              | 18.8  | 50       | 0        | 0                    | 3.817       | Very Good |
| Q5 | 50                | 25    | 25       | 0        | 0                    | 4.25        | Excellent |

### Itemized responses given to the suggestions of Employers

Suggestion: Find the solutions for real time applications

Action Taken: More emphasis given on software related and problem solving skill related subjects

Suggestion: Introduction of Pharmaceutical subject in curriculum

Action Taken: Several upstream industry oriented subjects are included in elective pool.

Suggestion: Need more practical skills

Action Taken: Courses are included, which improves the basic skills required for pharma industry

## Action taken based on the suggestions from Parents:

| Q1 | Course Contents of B.Tech - Chemical Engineering Curriculum are in tune with the Program Outcomes.                                |
|----|---|
| Q2 | B.Tech - Chemical Engineering Curriculum helped improving technical   |
| Q3 | knowledge acquired by your son / daughter in our University.  B.Tech - Chemical Engineering Curriculum helped improving Academic, |
|    | Emotional Progression of your son / daughter in our University  |
| Q4 | Proficiency of your son / daughters on par with the students from other Universities/Institutes                                   |
| Q5 | Course Contents designed to enable skills and knowledge required for chemical industries.   |

# Analysis of Overall Feedback given by the Parents on R 16

|    | Strongly<br>Agree | Agree | Moderate | Disagree | Strongly<br>Disagree | Avg. Rating | Grade     |
|----|-------------------|-------|----------|----------|----------------------|-------------|-----------|
| Q1 | 59.4              | 22.4  | 18.2     | 0        | 0                    | 4.412       | Excellent |
| Q2 | 59.4              | 28    | 12.6     | 0        | 0                    | 4.468       | Excellent |
| Q3 | 58.7              | 28.7  | 12.6     | 0        | 0                    | 4.461       | Excellent |
| Q4 | 59.4              | 22.4  | 18.2     | 0        | 0                    | 4.412       | Excellent |
| Q5 | 53.8              | 15.4  | 30.8     | 0        | 0                    | 4.23        | Excellent |

### Itemized responses given to the suggestions of Parents

Suggestion: Project based curriculum must be implement

**Action Taken:** It might not be possible to send the students for semester long internship from sixth semester because students should have potential knowledge in advance courses but student can opt for one month industry training during summer vacation (prior information required to the department to avail the summer internship in industry

Suggestion: The curriculum must improve the placements of the department

**Action Taken:** Industry internship and industrial training for students has been ensured the more placements in nearest industrial sector.

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