1.2.1. Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

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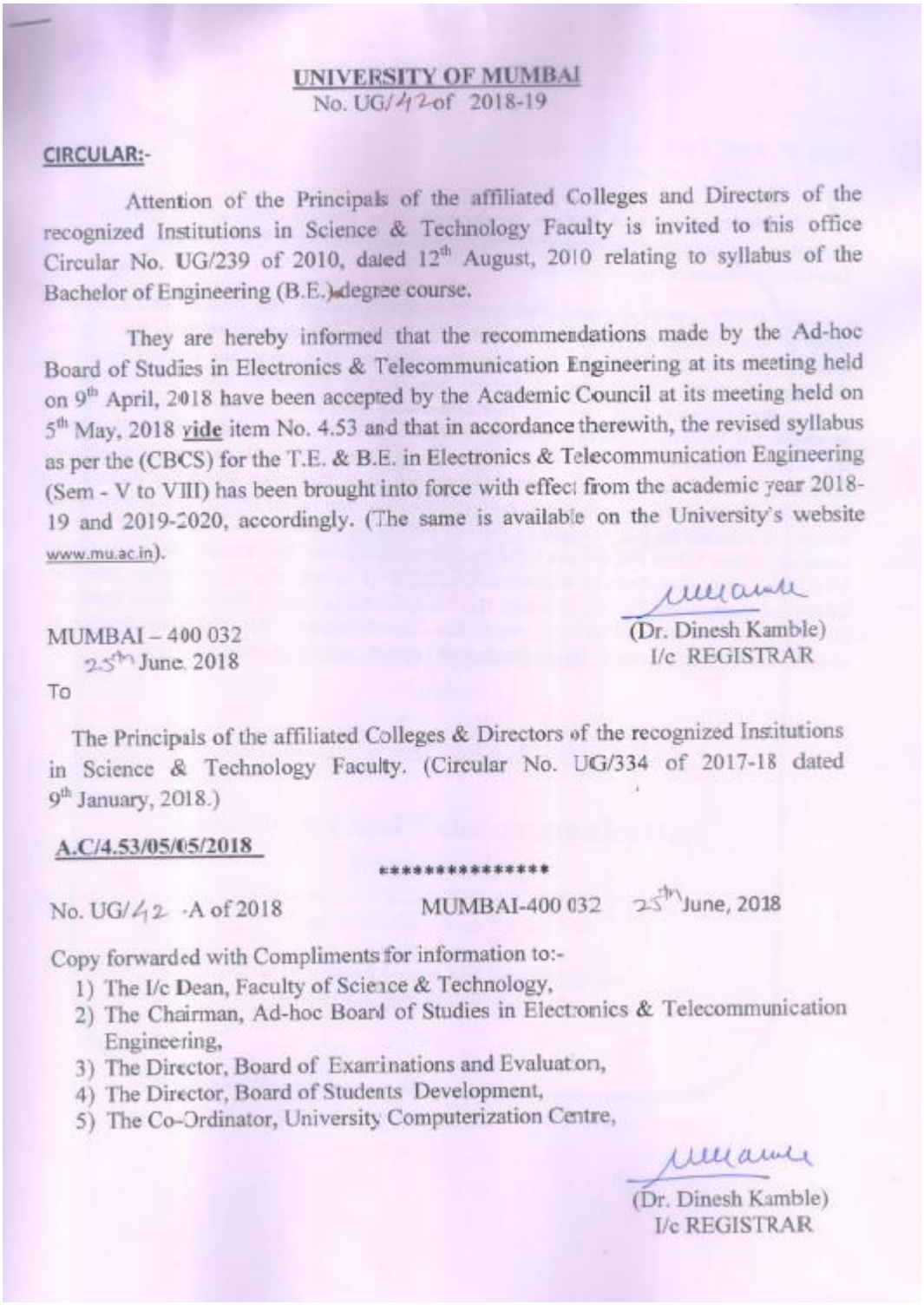
(Affiliating University letter stating implementation of CBCS: R-2016 UG)



**UNIVERSITY OF MUMBAI**
No. UG/42 of 2018-19

**CIRCULAR:-**

Attention of the Principals of the affiliated Colleges and Directors of the recognized Institutions in Science & Technology Faculty is invited to this office Circular No. UG/239 of 2010, dated 12th August, 2010 relating to syllabus of the Bachelor of Engineering (B.E.) degree course.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in Electronics & Telecommunication Engineering at its meeting held on 9th April, 2018 have been accepted by the Academic Council at its meeting held on 5th May, 2018 **vide** item No. 4.53 and that in accordance therewith, the revised syllabus as per the (CBCS) for the T.E. & B.E. in Electronics & Telecommunication Engineering (Sem - V to VIII) has been brought into force with effect from the academic year 2018-19 and 2019-2020, accordingly. (The same is available on the University's website www.mu.ac.in).

(Dr. Dinesh Kamble)
I/c REGISTRAR

MUMBAI – 400 032
25th June, 2018

To

The Principals of the affiliated Colleges & Directors of the recognized Institutions in Science & Technology Faculty. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

**A.C/4.53/05/05/2018**

***************

No. UG/42 -A of 2018 MUMBAI-400 032 25th June, 2018

Copy forwarded with Compliments for information to:-

1) The I/c Dean, Faculty of Science & Technology,
2) The Chairman, Ad-hoc Board of Studies in Electronics & Telecommunication Engineering,
3) The Director, Board of Examinations and Evaluation,
4) The Director, Board of Students Development,
5) The Co-Ordinator, University Computerization Centre,

(Dr. Dinesh Kamble)
I/c REGISTRAR

(Affiliating University letter stating implementation of CBCS: R-2016 UG)

AC- 5.05.2018
Item No. 4.53

# UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17
Under

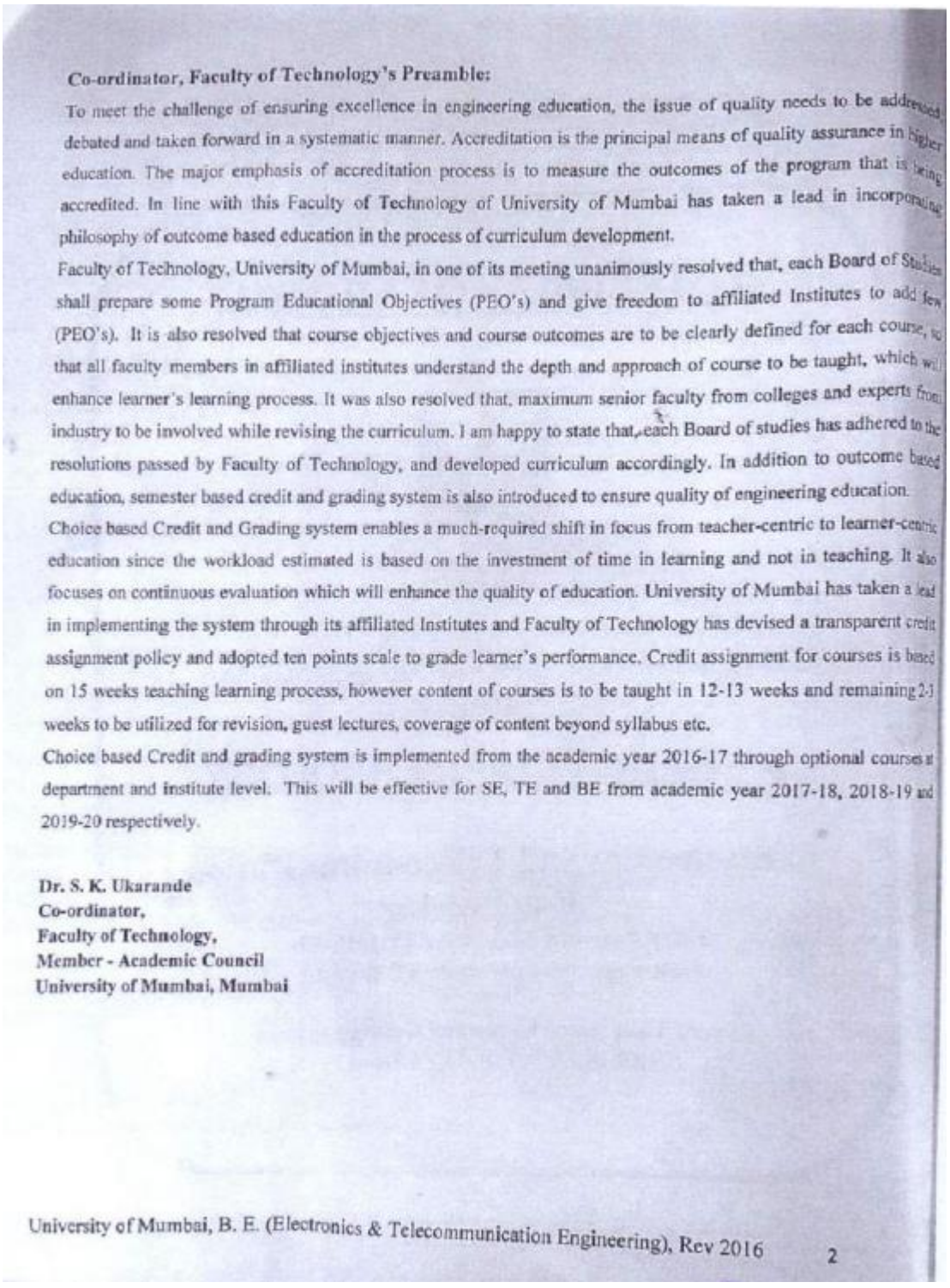
## FACULTY OF TECHNOLOGY

## Electronics and Telecommunication Engineering

**Third Year** with Effect from **AY 2018-19**
**Final Year** with Effect from **AY 2019-20**

As per **Choice Based Credit and Grading System**
with effect from the AY 2016–17

(Affiliating University letter stating implementation of CBCS: R-2016 UG)



**Co-ordinator, Faculty of Technology's Preamble:**

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) and give freedom to affiliated Institutes to add few (PEO's). It is also resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, and developed curriculum accordingly. In addition to outcome based education, semester based credit and grading system is also introduced to ensure quality of engineering education.

Choice based Credit and Grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Choice based Credit and grading system is implemented from the academic year 2016-17 through optional courses at department and institute level. This will be effective for SE, TE and BE from academic year 2017-18, 2018-19 and 2019-20 respectively.

**Dr. S. K. Ukarande**
**Co-ordinator,**
**Faculty of Technology,**
**Member - Academic Council**
**University of Mumbai, Mumbai**

(Affiliating University letter stating implementation of CBCS: R-2016 UG)

**Chairman's Preamble:**

The curriculum in higher education is a living entity. It evolves with time; it reflects the ever changing needs of the society and keeps pace with the growing talent of the students and the faculty. The engineering education in India is expanding in manifolds and the main challenge is the quality of education. All stakeholders are very much concerned about it. The curriculum of Electronics & Telecommunication in Mumbai University is no exception. In keeping with the demands of the changing times, it contains innovative features. The exposure to the latest technology and tools used all over the world is given by properly selecting the subjects. It is designed in such a way to incorporate the requirements of various industries. The major emphasis of this process is to measure the outcomes of the program. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of post-graduation. So the curriculum must be refined and updated to ensure that the defined objectives and outcomes are achieved.

I, as Chairman Ad-hoc Board of Studies in Electronics and Telecommunication Engineering, University of Mumbai, happy to state here that, the heads of the department and senior faculty from various institutes took timely and valuable initiative to frame the Program Educational objectives as listed below.

Objectives:

1. To produce Electronics & Telecommunication engineers, having strong theoretical foundation, good design experience and exposure to research and development.
2. To produce researcher who have clear thinking, articulation and interest to carry out theoretical and/or applied research resulting in significant advancement in the field of specialization.
3. To develop an ability to identify, formulate and solve electronics and telecommunication engineering problems in the latest technology.
4. To develop the ability among students to synthesize data and technical concepts from applications to product design.

These are the suggested and expected main objectives, individual affiliated institutes may add further in the list. I believe that the small step taken in the right direction will definitely help in providing quality education to the stake holders.

This book of curricula is the culmination of large number of faculty members and supporting staff. It also reflects the creative contribution of hundreds of teachers – both serving and retired. I sincerely hope that the faculty and students of Electronics and Telecommunication in Mumbai University will take full advantage of dynamic features of curriculum and make teaching-learning process a truly sublime experience for all.

At the end I must extend my gratitude to all experts and colleagues who contributed to make curriculum competent at par with latest technological development in the field of Electronics & Telecommunication Engineering.

**Dr. Uttam D. Kolekar**
**Chairman, Ad-hoc Board of Studies in Electronics and Telecommunication Engineering**



(Affiliating University letter stating implementation of CBCS: R-2016 UG)

**UNIVERSITY OF MUMBAI**
No. UG/42 of 2018-19

**CIRCULAR:-**

Attention of the Principals of the affiliated Colleges and Directors of the recognized Institutions in Science & Technology Faculty is invited to this office Circular No. UG/239 of 2010, dated 12th August, 2010 relating to syllabus of the Bachelor of Engineering (B.E.) degree course.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in Electronics & Telecommunication Engineering at its meeting held on 9th April, 2018 have been accepted by the Academic Council at its meeting held on 5th May, 2018 **vide** item No. 4.53 and that in accordance therewith, the revised syllabus as per the (CBCS) for the T.E. & B.E. in Electronics & Telecommunication Engineering (Sem - V to VIII) has been brought into force with effect from the academic year 2018-19 and 2019-2020, accordingly. (The same is available on the University's website www.mu.ac.in).

(Dr. Dinesh Kamble)
I/c REGISTRAR

MUMBAI – 400 032
25th June, 2018

To

The Principals of the affiliated Colleges & Directors of the recognized Institutions in Science & Technology Faculty. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

**A.C/4.53/05/05/2018**

***************

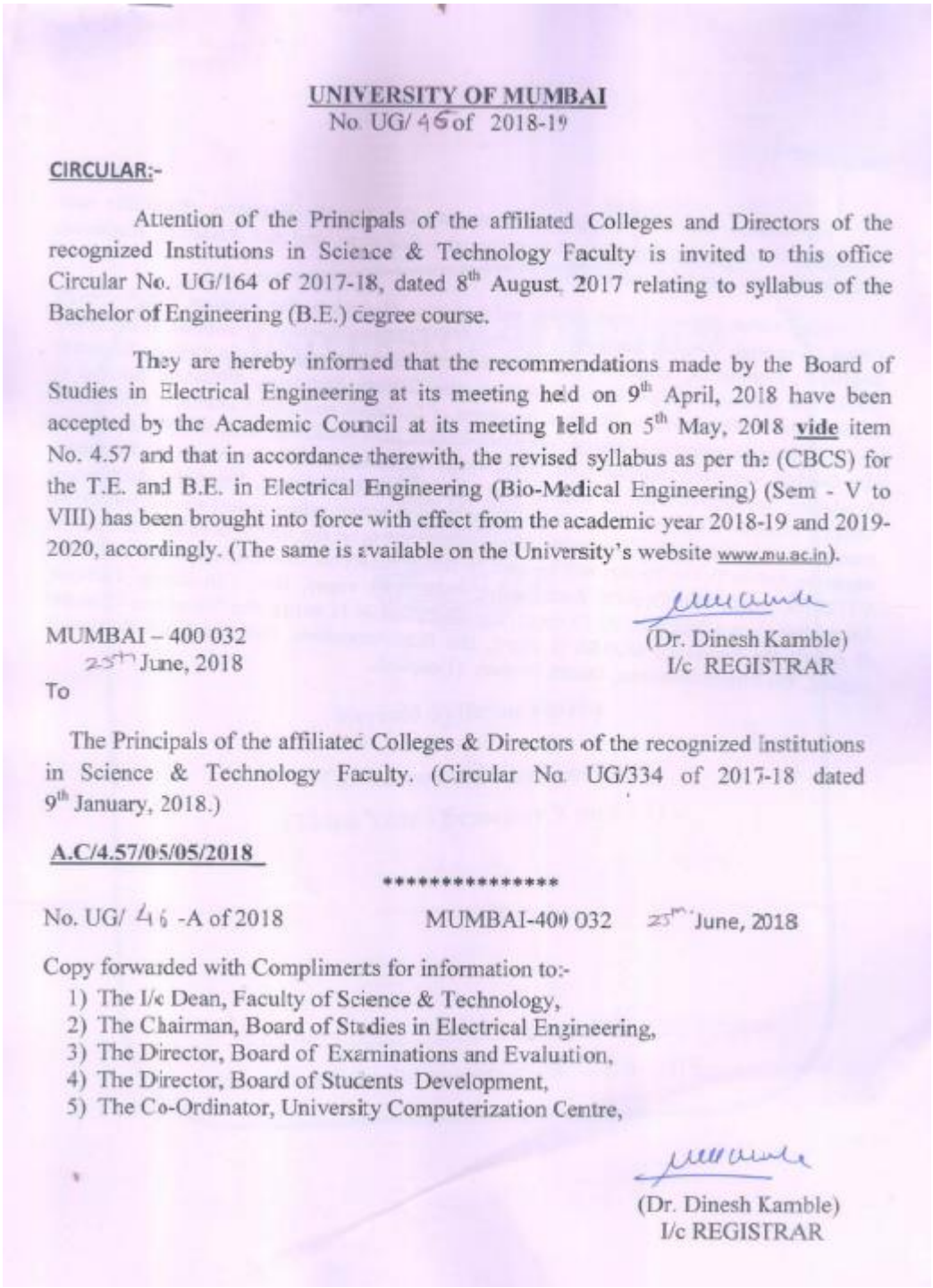
No. UG/42 -A of 2018 MUMBAI-400 032 25th June, 2018

Copy forwarded with Compliments for information to:-

1) The I/c Dean, Faculty of Science & Technology,
2) The Chairman, Ad-hoc Board of Studies in Electronics & Telecommunication Engineering,
3) The Director, Board of Examinations and Evaluation,
4) The Director, Board of Students Development,
5) The Co-Ordinator, University Computerization Centre,

(Dr. Dinesh Kamble)
I/c REGISTRAR

(Affiliating University letter stating implementation of CBCS: R-2016 UG)



**UNIVERSITY OF MUMBAI**
No. UG/ 46 of 2018-19

**CIRCULAR:-**

Attention of the Principals of the affiliated Colleges and Directors of the recognized Institutions in Science & Technology Faculty is invited to this office Circular No. UG/164 of 2017-18, dated 8th August 2017 relating to syllabus of the Bachelor of Engineering (B.E.) degree course.

They are hereby informed that the recommendations made by the Board of Studies in Electrical Engineering at its meeting held on 9th April, 2018 have been accepted by the Academic Council at its meeting held on 5th May, 2018 **vide** item No. 4.57 and that in accordance therewith, the revised syllabus as per the (CBCS) for the T.E. and B.E. in Electrical Engineering (Bio-Medical Engineering) (Sem - V to VIII) has been brought into force with effect from the academic year 2018-19 and 2019-2020, accordingly. (The same is available on the University's website www.mu.ac.in).

(Dr. Dinesh Kamble)
I/c REGISTRAR

MUMBAI – 400 032
25th June, 2018

To

The Principals of the affiliated Colleges & Directors of the recognized Institutions in Science & Technology Faculty. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

**A.C/4.57/05/05/2018**

**********

No. UG/ 46 -A of 2018 MUMBAI-400 032 25th June, 2018

Copy forwarded with Compliments for information to:-

1) The I/c Dean, Faculty of Science & Technology,
2) The Chairman, Board of Studies in Electrical Engineering,
3) The Director, Board of Examinations and Evaluation,
4) The Director, Board of Stucents Development,
5) The Co-Ordinator, University Computerization Centre,

(Dr. Dinesh Kamble)
I/c REGISTRAR

AC: 11-05-2017
Item No. 4.189

# UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17

## Chemical Engineering

**Second Year** with Effect from **AY 2017-18**
**Third Year** with Effect from **AY 2018-19**
**Final Year** with Effect from **AY 2019-20**
Under

## FACULTY OF TECHNOLOGY

As per **Choice Based Credit and Grading System**
With effect from the AY 2016–17

(Affiliating University letter stating implementation of CBCS: R-2016 UG)

## From Coordinator's Desk

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) give freedom to affiliated Institutes to add few (PEO's) course objectives course outcomes to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, developed curriculum accordingly. In addition to outcome based education, **Choice Based Credit and Grading System** is also introduced to ensure quality of engineering education.

Choice Based Credit and Grading System enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes Faculty of Technology has devised a transparent credit assignment policy adopted ten points scale to grade learner's performance. Credit grading based system was implemented for Second Year of B.E. in Chemical Engineering from the academic year 2017-2018. This system is carried forward for Third Year of B.E. in Chemical Engineering in the academic year 2018-2019 and will be implemented for Fourth Year B.E. in the year 2019-2020 respectively.

**Dr. S. K. Ukarande**
**Co-ordinator,**
**Faculty of Technology,**
**Member - Academic Council**
**University of Mumbai, Mumbai**



(Affiliating University letter stating implementation of CBCS: R-2016 UG)

**Preamble to the Revision of Syllabus in Chemical Engineering**

To match the increasing pace of development in all fields including Chemical Engineering and Biotechnology along with use of softwares for process plant and process engineering, there is demand on academician to upgrade the curriculum in Education. The availability of free software such as Scilab, DW SIM expand the boundaries of learning. Hence, the Undergraduate Curriculum in Chemical Engineering must provide the necessary foundation for a Chemical Engineer to be able to specialize in any area as and when the need and opportunity arise. The Curriculum must integrate knowledge of the basic and advanced sciences with problem solving abilities and inclusion of technological development. The Curriculum must be broad enough to cover all areas from design to operation of Process plants. It should be deep enough to enable the learners to carry out research and develop products to meet rapidly changing needs and demands. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program.

With these objectives, a meeting was organized at Thadomal Shahani Engineering College Bandra on 17th November 2016 which was attended by Industries experts, heads of the departments and subject faculty of affiliating Institutes. The program objectives and outcomes were thoroughly discussed in this meeting and the core structure of the syllabus was formulated keeping in mind choice based credit and grading system curriculum to be introduced in this revised syllabus for B.E. (Chemical Engineering) for all semesters. Views from experts and UG teachers were taken into consideration and final Academic and Exam scheme was prepared with the consent of all the members involved. Subject wise meetings were held to finalize the detail syllabus in Bharati Vidyapeeth College of Engineering on 13th Jan 2017, SS Jondhale College of Engineering on 27th Jan 2017, Datta Meghe College of Engineering Airoli on 20th February 2017 and 13th April 2017 and in D. J. Sanghavi College of Engineering on 17th April 2017.

The Program Educational Objectives finalized for the undergraduate program in Chemical Engineering are:

1. To prepare the student for mathematical, scientific and engineering fundamentals
2. To motivate the student to use modern tools for solving real life problems
3. To inculcate a professional and ethical attitude, good leadership qualities and commitment to social responsibilities.
4. To prepare the student in achieving excellence in their career in Indian and Global Market.

**Dr. Kalpana S. Deshmukh,**
**Chairman, Board of Studies in Chemical Engineering (Adhoc),**
**University of Mumbai**



(Affiliating University letter stating implementation of CBCS: R-2016 UG)

AC: 11-05-2017
Item No. 4.188

# UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17

## Biotechnology

**Second Year with Effect from AY 2017-18**
**Third Year with Effect from AY 2018-19**
**Final Year with Effect from AY 2019-20**

Under

## FACULTY OF TECHNOLOGY

**As per Choice Based Credit and Grading System**
With effect from the AY 2016–17

## From Coordinator's Desk

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) give freedom to affiliated Institutes to add few (PEO's) course objectives course outcomes to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, developed curriculum accordingly. In addition to outcome based education, **Choice Based Credit and Grading System** is also introduced to ensure quality of engineering education.

Choice Based Credit and Grading System enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes Faculty of Technology has devised a transparent credit assignment policy adopted ten points scale to grade learner's performance. Choice Based Credit and grading based system is implemented for Second Year of B.E. in Biotechnology Engineering from the academic year 2017-2018. This system will be carried forward for Third Year of B.E. in Biotechnology Engineering in the academic year 2018-2019 and for Fourth Year B.E. in the year 2019-2020 respectively.

**Dr. S. K. Ukarande**
**Co-ordinator,**
**Faculty of Technology,**
**Member - Academic Council**
**University of Mumbai, Mumbai**

(Affiliating University letter stating implementation of CBCS: R-2016 UG)

**Preamble to the Revision of Syllabus in Biotechnology Engineering**

The onset of nineties brought about some paradigm shifts. One was in the sphere of market economics. Suddenly the Indian manufacturing sector started jostling for a place with international competition in the arena. The presence of International products at competitive rates and quality forced some small and medium scale units to close their operations. The larger industry players realized the importance of R&D and accordingly set up separate cells to optimize production and improve quality. The second major impact was in the sphere of knowledge. With the advent of World Wide Web in the early nineties and its subsequent growth, the latest research trends have become accessible from drawing rooms across the globe. This acted as a positive feedback mechanism in increasing the pace of research in all fields including Bio-technology. This was the motivation for an in depth analysis of what is actually required for today's technology. It is also important to take advantage of the freely available software to enhance the quality and quantity of material that can be covered in the class room.

With this scenario as the backdrop, the first meeting was conducted by Board of Studies in Biotechnology at Thadomal Shahani College of Engineering Bandra on 3rd February 2017. It was attended by the various heads of departments of Biotechnology engineering as well as experts from industry. The academic scheme and exam scheme of the program was discussed along with the program objectives and outcomes. The core structure of the syllabus was formulated keeping in mind **choice based credit and grading system** curriculum to be introduced in this revised syllabus for B.E. (Biotechnology) for all semesters. A second meeting was held in Datta Meghe College of Engineering Airoli on 20th February 2017 and detailed syllabus of Semesters III and IV was finalised. Subsequently another meeting was held in Thadomal Shahani Engineering College Bandra on 11th April 2017 to finalise the detail syllabus of subjects pertaining to semester V, VI, VII and VIII.

Dr. Kalpana S. Deshmukh,
Chairman, Board of Studies in Chemical Engineering (Adhoc),
University of Mumbai, Mumbai.

(Affiliating University letter stating implementation of CBCS: R-2019 UG)

AC: 29/06/2021

Item No: 6.15

# UNIVERSITY OF MUMBAI

## Bachelor of Engineering

in

## Computer Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

## FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

(Affiliating University letter stating implementation of CBCS: R-2019 UG)

AC: 29/06/2021

Item No: 6.15

# UNIVERSITY OF MUMBAI

| Sr. No. | Heading | Particulars |
|---|---|---|
| 1 | Title of the Course | Third Year Engineering ( Computer Engineering) |
| 2 | Eligibility for Admission | After Passing Second Year Engineering as per the Ordinance 0.6243 |
| 3 | Passing Marks | 40% |
| 4 | Ordinances / Regulations ( if any) | Ordinance 0.6243 |
| 5 | No. of Years / Semesters | 8 semesters |
| 6 | Level | ~~P.G.~~ / U.G./ ~~Diploma / Certificate~~ (Strike out which is not applicable) |
| 7 | Pattern | ~~Yearly~~ / Semester (Strike out which is not applicable ) |
| 8 | Status | ~~New~~ / Revised (Strike out which is not applicable ) |
| 9 | To be implemented from Academic Year | With effect from Academic Year: 2021-2022 |

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

(Affiliating University letter stating implementation of CBCS: R-2019 UG)

## Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2021-22. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2022-23, 2023-24, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

(Affiliating University letter stating implementation of CBCS: R-2019 UG)

## ncorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

(Affiliating University letter stating implementation of CBCS: R-2016 UG)

## Preface by Board of Studies in Computer Engineering

Dear Students and Teachers, we, the members of Board of Studies Computer Engineering, are very happy to present Third Year Computer Engineering syllabus effective from the Academic Year 2021-22 (REV-2019'C' Scheme). We are sure you will find this syllabus interesting, challenging, fulfill certain needs and expectations.

Computer Engineering is one of the most sought-after courses amongst engineering students. The syllabus needs revision in terms of preparing the student for the professional scenario relevant and suitable to cater the needs of industry in present day context. The syllabus focuses on providing a sound theoretical background as well as good practical exposure to students in the relevant areas. It is intended to provide a modern, industry-oriented education in Computer Engineering. It aims at producing trained professionals who can successfully acquainted with the demands of the industry worldwide. They obtain skills and experience in up-to-date the knowledge to analysis, design, implementation, validation, and documentation of computer software and systems.

The revised syllabus is finalized through a brain storming session attended by Heads of Departments or senior faculty from the Department of Computer Engineering of the affiliated Institutes of the Mumbai University. The syllabus falls in line with the objectives of affiliating University, AICTE, UGC, and various accreditation agencies by keeping an eye on the technological developments, innovations, and industry requirements.

The salient features of the revised syllabus are:

1. Reduction in credits to 170 is implemented to ensure that students have more time for extracurricular activities, innovations, and research.
2. The department Optional Courses will provide the relevant specialization within the branch to a student.
3. Introduction of Skill Based Lab and Mini Project to showcase their talent by doing innovative projects that strengthen their profile and increases the chance of employability.
4. Students are encouraged to take up part of course through MOOCs platform SWAYAM

We would like to place on record our gratefulness to the faculty, students, industry experts and stakeholders for having helped us in the formulation of this syllabus.

### Board of Studies in Computer Engineering

| | |
|---|---|
| Prof. Sunil Bhirud | : Chairman |
| Prof. Sunita Patil | : Member |
| Prof. Leena Raga | : Member |
| Prof. Subhash Shinde | : Member |
| Prof. Meera Narvekar | : Member |
| Prof. Suprtim Biswas | : Member |
| Prof. Sudhir Sawarkar | : Member |
| Prof. Dayanand Ingle | : Member |
| Prof. Satish Ket | : Member |