SWAMI VIVEKANAND SUBHARTI UNIVERSITY
(Established under U.P. Govt. Act no. 29 of 2008 and approved under section 2(f) of UGC Act 1956)
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Ref.No.U-508/SVSU/2019/2632 (IV) Date:01.05.2019

NOTIFICATION

Sub: Amendment in the Ordinance of B.Tech. Course.

The following amendment in the ordinance are passed by the 23rd Academic Council vide its Resolution No.23 at its meeting held on 18th March 2019 and ratified by the 26th Executive Council vide its Resolution No.3 at its meeting held on 24th April 2019 for information of all concerned.

Enclosed please find the copy of amendment to **Ordinance No.V-02** relating to B.Tech. Course.

Registrar

Copy:

1. Hon'ble Vice-Chancellor
2. All Deans/HOIs/Principals/Directors/HODs
3. Controller of Examination
4. Additional Registrar-Academics
5. IT Deptt.

Registrar

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SWAMI VIVEKANAND SUBHARTI UNIVERSITY, MEERUT

SUBHARTI INSTITUTE OF TECHNOLOGY AND ENGINEERING

ORDINANCE No. V (2A) RELATING TO

BACHELOR OF TECHNOLOGY (B.Tech.) PROGRAMME

(Effective from the Session – 2018-19)

General

1. This ordinance may be called **"Ordinance Relating to Bachelor of Technology (B.Tech.)"** Programme**.**

2. It shall come enforced with immediate effect from session 2018-19.

3. This supersedes the previous Ordinance relating to Bachelor of Technology (B.Tech.) Programme ordinance no. [V (2A)].

4. The degree "Bachelor of Technology" acronym as B.Tech. shall be of four years (eight semesters) in the branches of Engineering prevalent in the institute at a point of time based on Choice Based Credit System (CBCS) as per AICTE guidelines.

CHAPTER – 1

1.1 Introduction

Chhatrapati Shahuji Subharti Institute of Technology and Engineering is a constituent Institute of Swami Vivekanand Subharti University, Meerut has been established in 2005 with the vision we make every decision to support the career and personal development of our learners. Our curriculum, teaching and services demonstrate that we value the diverse profiles of our learners. The University boasts of highly qualified, dedicated and competent faculty from all walks of life, world class infrastructure, fully equipped Laboratories with latest state-of-the-art equipment and a huge library with recent knowledge resources including e-resources. Swami Vivekanand Subharti University providing a safe and healthy working environment for teaching and non-teaching employees, students, and visitors etc.

1.2 Vision

To become a dynamic, demand driven, quality conscious, efficient and innovative institute capable of becoming active partner in the techno-economic growth of the Nation and to provide world class technological education and research inputs to the society.

1.3 Mission

Strive to create centre of excellence in specialized areas of technology and enable its academic beneficiaries to become competent professionals capable of providing sustainable solutions to challenging problems of the society and industry.

1.4 Programme Educational Objectives (PEOs):

The Programme Educational Objectives of B.Tech. programmes are:

PEO1. To prepare graduates who will be successful professionals in industry, government, academia, research, entrepreneurial pursuit and consulting firms

PEO2. To prepare graduates who will contribute to society as broadly educated, expressive, ethical and responsible citizens with proven expertise

PEO3. To prepare graduates who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, design and implementation skills

PEO4. To prepare graduates who will thrive to pursue life-long learning to fulfill their goals

1.5 Programme Outcomes (POs):

Engineering programmes are designed to prepare graduates to attain the following program outcomes:

PO1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineeringfundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. **Problem analysis**: Identify, formulate, review research literature, and analyze complexengineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. **Design/development of solutions**: Design solutions for complex engineeringproblems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems**: Use research-based knowledge andresearch methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, andmodern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society**: Apply reasoning informed by the contextual knowledge toassess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. **Environment and sustainability**: Understand the impact of the professionalengineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilitiesand norms of the engineering practice.

PO9. **Individual and team work**: Function effectively as an individual, and as a member orleader in diverse teams, and in multidisciplinary settings.

PO10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. **Project management and finance**: Demonstrate knowledge and understanding of the

Engineering and management principles and apply these to one‟s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability toengage in independent and life-long learning in the broadest context of technological change.

CHAPTER-2

Eligibility for Admission

2.1 (i) An applicant is eligible for admission in the 1 Year of the B.Tech. programme provided that, he/she should be at least 17 years on 31 December of the year of admission. The upper age limit for taking admission in Under Graduate programme will be 30 years. (as per SVSU Letter No. U-07/SVSU/2016/374 dated 16.08.2016)

An applicant should have passed intermediate examination or an equivalent examination from any recognized board/university with Physics, Mathematics as compulsory subjects, Chemistry/Bio-technology/Computer Science/Biology as one of the optional subjects.
The admission shall be considered purely on the basis of merit in the University entrance test and counseling conducted by the university. The applicant who have 45 % of marks (40 % for SC/ST) [as per AICTE norms*] or more in the above mentioned three subjects and not less than 45 % marks (40 % for SC/ST) in the optional subjects will be considered for direct admission against seats, which might not have been filled up through the examination and counseling.

The applicant who has obtained a two/three year Engineering Diploma with Minimum (45 %) aggregate marks from a recognized Institute/University will be considered eligible for direct admission in the second year of the B.Tech. programmes.

The applicant having a three year B.Sc. degree with Mathematics with a minimum of 40 % marks in aggregate from a recognized university will be considered eligible for direct admission in the second year of the B.Tech. programmes. Provided that the students belonging to B.Sc. Stream, shall clear the subjects Engineering Graphics/Engineering Drawing and Engineering Mechanics of the First Year Engineering Programme along with the Second year subjects.

Provided that the students belonging to B.Sc. Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma Stream.

06 Subject to moderation in accordance with the guidelines of AICTE.

2.2 The B.Tech. programme is available in the following discipline:

(i) Computer Science & Engineering.

(ii) Information Technology.

(iii) Electrical & Electronics Engineering.

(iv) Electronics & Communication Engineering.

(v) Mechanical Engineering.

(vi) Civil Engineering.

(vii) Computer Science & Engineering (AI & ML).

(viii) Food Technology.

2.3 Selected candidates shall be allocated a discipline from those listed in clause 2.2 on the basis of merit, choice and counseling.

2.4 Request for change in discipline may be considered on the basis of merit in the entrance examination provided that the seat remains vacant after the last date for admission in B.Tech. programme.

2.5 After 2nd Semester, a student can apply for change of branch which shall be considered on the following grounds:

1. Availabilities of seats in branch as per sanctioned intake by AICTE.

(ii) The students should have passed 1st and 2nd Semester examination without any carry over paper.

1. The branch from which the students will be shifted must not fall below 75 % of its sanctioned intake.

2.6 The change of discipline shall be allowed only once during the programme.

CHAPTER-3

Teaching Course

3.1 The programme will be of four years duration, divided in to eight semesters.

3.2 The duration of the B. Tech. programme for the candidates admitted in semester I will be four academic years (eight semesters).

3.3 The duration of the B. Tech. programme for the candidates admitted in semester III (lateral entry) will be three academic years (six semesters).

3.4 Annual academic calendar shall be published by the University.

3.5 There shall be normally 14 weeks of teaching in every semester.

3.6 Study & evaluation scheme is enclosed as an Annexure A1-A7.

CHAPTER-4

Curriculum/Structure

4.1 The programme shall be spread over four academic years, spread over eight semesterscomprising actual teaching for a minimum of 90 days in each semester.

4.2 The programme focuses on the following aspects:

- Competency
- Entrepreneurship
- Skill Enhancement
- Value Added Courses
- Extracurricular activities

4.3 Choice Based Credit System (CBCS) :

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising Professional/Program Core Courses (PCC), Professional/Program Elective Courses (PEC), Engineering Science Courses (ESC), Basic Sciences Courses (BSC), Humanities and Social Sciences including Management Courses (HSMC) Mandatory Courses (MC) and Open Elective Courses (OEC). The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student"s performance in examinations, the UGC has formulated the guidelines to be followed.

4.3.1 Structure of Undergraduate programs

The four year B. Tech. programme compromise of courses divided in seven distinct areas, namely: Professional/Program Core Courses (PCC), Professional/Program Elective Courses (PEC), Engineering Science Courses (ESC), Basic Sciences Courses (BSC), Humanities and

Social Sciences including Management Courses (HSMC) Mandatory Courses (MC) and OpenElective Courses (OEC). All the courses offered in first year B. Tech. programs are categorized as „Common Courses" for all the academic programs. Credits assigned and curricularcomponents of the B. Tech. curriculum are given in Annexure A1-A7.

Professional/Program Core Courses (PCC)

The departmental core consists of courses considered essential for a chosen Engineering/Science discipline including, Engineering design, Seminar, Industrial Training and Project (PROJ)

Professional/Program Elective Courses (PEC)

The students are required to complete a specific number of elective courses. Every department offers a wide variety of elective courses to students providing them opportunity to discover their academic interest and enhancing their engagement in learning process.

Open Elective Courses (OEC)

The Open Electives courses are offered by different academic departments to the students of all disciplines. A wide range of elective courses is available with each branch. When a student opts elective courses offered in his/her program it will be termed as OE.

Humanities and Social Sciences including Management Courses (HSMC)

The Humanities, Social Sciences and Management Courses consist of courses considered essential for a B.Tech. program to inculcate the essence of technical writing, communication skills, economics and analysis, management and professional ethics & human values.

Basic Sciences Courses (BSC)

The Applied Sciences and Mathematics Courses consist of courses considered essential for a B.Tech. program to build the foundation for learning of engineering core courses.

Engineering Science Courses (ESC)

The students are required to complete a minimum number of Allied engineering courses (majority of them taught as common courses) offered by engineering departments other than his/her parent department. These courses expose the student with wide spectrum knowledge of allied engineering domain connected to the main engineering stream of the course of study of the students of concerned departments.

Mandatory Courses (MC)

The mandatory courses considered essential for a B.Tech. programme to inculcate the essence of Environmental Sciences, Induction program, Indian Constitution, Essence of Indian Knowledge Tradition etc.

4.4 Induction Program

Three weeks duration Induction program for students to be offered right at the start of the first year. These activities are listed under following 7 heads:

1 Physical and Health
2 Culture
3 Literature and Media
4 Social Service
5 Self development
6 Nature and Environment
7 Innovation

4.5 The academic calendar shall be as follows:-

I , III , V, VII Semester (Odd)	Session - 1st Aug. to 30th Nov Exam - 1st Dec. to 20th Dec.
II, IV, VI, VIII Semester (Even)	Session - 1st Jan. to 10th May Exam - 1st May to 20th May

CHAPTER-5

Attendance

5.1 The students are expected to attend all the classes and should not have less than 75 % attendance in theory as well as in practical classes, wherever held, to become eligible to appear for the university examination. Short fall in attendance can, however be condoned in deserving cases to the extent of 10 % by the Principal. If the short fall is more than 10 % but not more than 15 %, the Principal may recommend deserving cases to the Vice Chancellor for condo-nation. The order of the Vice Chancellor in this regard shall be final.

CHAPTER-6

Examination

All Courses offered by SITE will have an evaluation system within two components as:

1. Continuous Comprehensive Assessment (CCA) accounting for 30% of the final grade that a student gets in a course, and

2. End-Semester Examination (ESE) accounting for the remaining 70% of the final grade that the student gets in a course.

A student will have to pass both the components i.e. CCA and ESE separately to become eligible to be declared successful in a course.

Continuous Comprehensive Assessment (CCA)

6.1 Award of Sessional Marks:

Sessional marks for theory subjects and practicals and shall be awarded as per the breakup of sessional marks given below:-

(i) Theory Subjects :

(a) Class test will comprise two mid-term test of equal weightage. - **20 Marks**

(b) Marks for regular class attendance - **10 Marks**

(ii) Practical :

(a) Two–mid-term viva-voce test of equal weightage. - **05 Marks**

(b) Teacher"s assessment (including 5 marks for regular attendance) based on lab record attendance - **10 Marks**

(iii) Make-up test may be held for those students who fail to appear in any one of the mid-term class test due to genuine unavoidable reasons, provided prior permission was consented from the Principal.

(iv) A maximum of 10 marks in each subject shall be awarded for attending classes (theory/practical) as per the following norms:

85 % or more attendance	2.	10 Marks
80 % or more but less than 85 % attendance	3.	09 Marks
75 % or more but less than 80 % attendance	4.	08 Marks
70 % or more but less than 75 % attendance	5.	07 Marks
65 % or more but less than 70 % attendance	6.	06 Marks
60 % or more but less than 65 % attendance	7.	05 Marks
51 % or more but less than 60 % attendance	8.	04 Marks
50 % attendance	9.	01 Marks
Less than 50 % attendance	10.	0 Marks

6.2 **Award of General Proficiency Marks:**

The marks in General Proficiency shall be awarded on the following basis:-

(i) Co-curricular & Extra-curricular activities (games, sports, cultural and literary activities etc.) **50%**

(ii) Discipline inside and outside the college campus (including 10 marks for regular attendance) **50%**

6.3 The marks for seminar, industrial training and educational tour shall be awarded on the following basis:

(i) Write-up/Report 50%

(ii) Presentation 50%

6.4 END SEMESTER EXAMINATION (ESE)

The remaining 70% of the final grade of the student in a course will be assessed on the basis of an end semester examination (ESE) that will be for three hours duration and will cover the entire syllabus of the course. The question papers for the ESE will be got set by the Controller of Examinations (COE) of the Swami Vivekanand Subharti University (SVSU) by a selected faculty panel.

6.5 The entire programme has to completed within a maximum of seven years from the date of original admission in the programme by those students who are admitted in the first year and within six years by those admitted directly in the Second Year, [Vide clause 2.1 (iv, v)]

CHAPTER-7

Paper Setting

7.1 The work of setting the end semester examination papers and evaluation of scripts and conduct of the end semester practical examination shall be assigned to the course teachers as well as to outsiders, ordinarily in the ratio of 50:50 for internal and external valuation respectively.

Results

7.2 The result shall be prepared at the end of each academic year of the programme by aggregating the marks obtained in the theory and practical examinations in all the semesters of the programme till date.

(a) The minimum passing marks in each theory subject (including sessional marks) shall be 40% and 50% in aggregate. The minimum pass marks in a project/ Practical subject (including sessional marks if any), Seminars, Industrial Training and Educational Tour, Viva-Voce etc. shall be 50%.

(b) If a student obtained 40% marks in at least 50% of the papers (ignoring fractions) including project report, he/she will be provisionally promoted to the next year with carryover papers and will have to appear & obtain pass marks in carryover papers along with the subsequent regular examinations for the relevant semester.

(c) If a candidate fails in only one head/subject and having passed in all other head/subject of the given examination of the year than his/her deficiency of maximum five (05) marks may be fulfilled by grace marks after fulfilling the conditions given below:

7.3 If a candidate fails in only one head/subject and having passed in all other heads/subjects of the given examination of a **semester*/year**, then his/her deficiency of marks may be fulfilled by grace marks under the following conditions:-

(i) Grace marks is not a matter of right of the student but is the discretion of the University.

(ii) Provided that the candidate has appeared in the main examination of the concerned programme and falls short of pass marks by not more than five (05) marks in theory paper only. Benefit of above mentioned shall not be given to the candidate who had appeared in supplementary/special examination/carry over examination.

(iii) Further, benefit of grace marks may be given only to the candidate who will pass the entire concerned examination of the **semester*/year** after awarding the grace marks and not for the purpose of promoting the student to next year with back papers or for improvement of division or percentage.

(iv) If in a head/subject of an examination passing in Theory, Practical or sessional exams separately is mandatory, then the benefit of grace marks shall be given only in Theory examination of the University examination.

(v) The award of grace marks permissible shall be on the basis of 1 grace mark for every 05 marks secured by an examinee over and above the minimum passing aggregate marks of all subjects of the year.

7.4 Awarding of Grace Marks shall be done as given below:-

Aggregate Marks Obtained over & above minimum passing marks	**Permissible Grace Marks**
1-5	1
6-10	2
11-15	3
16-20	4
21-25	5

Total number of Grace Marks given to the student will be marked with astrick (*) at the bottom of the mark sheet.

* Grace Mark in semester examination will be considered hereinafter.

A student not covered by clause 7.2 (a) to (c) above shall have the following options to complete his/her programme -

(i) He/ she may take admission on payment of full annual programme fee and repeat the entire year of study. He /She shall be treated as a regular student. Or

(ii) He /She may pay only University exam fee for the End Semester Examination and appear in the End Semester University exams directly. He /She shall not be allowed to attend classes and the Sessional marks obtained earlier shall be retained. Or

(iii) He /She may pay half of the annual programme fee and attend classes. The sessional marks obtained by him/her earlier shall be retained. There will not be any requirement of minimum attendance for appearing in the University examination

7.5 A student will not be promoted to the next academic year if the carryover papers are more than 50% at one point of time.

Evaluation under Grading Assessment

7.6 The minimum Grade/ Grade Point required to pass each paper in a semester examination under CBCS shall be Grade D/ Grade Point 4 in each theory paper/ Practical/Project (wherever applicable) in External Examination and Internal Assessment separately.

Calculation Criteria

7.7 To implement the following grading system, the colleges/campuses shall use the following UGC recommended 10 point grading system:

Marks (%)	**Letter Grades**	**Grade Points (G)**
85-100	A++ (Outstanding)	10
75 to < 85	A+ (Excellent)	9
70 to <75	A (Very Good)	8
65 to <70	B+ (Good)	7
60 to <65	B (Above Average)	6
50 to <60	C (Average)	5
40 to <50	D (Pass)	4
0 to <40	F (Fail)	0
	AB (Absent)	0

7.8 Computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

$$(Si) = \sum (Ci \times Gi) / \sum Ci,$$

where Ci is the number of credits of the i_{th} programme and Gi is the grade point scored by the student in the ith programme.

$$CGPA = \sum (Ci \times Si) / \sum Ci$$

where Si is the SGPA of the ith semester and Ci is the total number of credits in that semester.

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts

CHAPTER-8

Power to Modify

8.1 In the event of any emergent situation, if any deviation is considered necessary, the Vice-Chancellor is authorized to modify the ordinance. Subjected to subsequent ratification by the executive council.

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