

## CHILDREN'S EDUCATION SOCIETY (Regd.) THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi.

Approved by A.J.C.T.E. New Delhi.

Recognised by UGC Under Section 2(f)

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## 1.2.1 Following are the list of programs in which Choice Based Credit System (CBCS)/Elective course system have been implemented from the academic year 2015-16

Programme name code		Year of Introduction	Status of implementation of CBCS / elective course system (Yes/No)	Year of implementation of CBCS / elective course system	
BE-CSE	E-CSE COMPUTER SCIENCE AND ENGINEERING		YES		
BE-BT	BIOTECHNOLOGY	2003	YES	2015	
BE-ISE	INFORMATION SCIENCE AND ENGINEERING	2000	YES	2015	
BE-CIVIL	CIVIL ENGINEERING	2008	YES	2015	
BE-EEE	ELECTRICAL AND ELECTRONICS ENGINEERING	2001	YES	2015	
BE-AIML	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	2021	YES	2021	
BE-ECE	ELECTRONICS AND COMMUNICATION ENGINEERING	2000	YES	2015	
BE-MECH	MECHANICAL ENGINEERING	2002	YES	2015	
BE-MT	MECHATRONICS ENGINEERING	2008	YES	2015	
BE-S&H	SCIENCE AND HUMANITIES	2022	YES	2022	
M.Tech (SAM)	MTECH IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	2021	YES	2021	
M.Tech (CSE)	MTECH IN CIVIL ENGINEERING	2012	YES	2015	
M.Tech (ECS)	MTECH IN DIGITAL ELECTRONICS AND COMMUNICATION	2009	YES	2015	
M.Tech (EVE)	MTECH IN VLSI DESIGN AND EMBEDDED SYSTEMS	2012	YES	2015	
• MCA	MASTER OF COMPUTER APPLICATION	2001	YES	2015	
MBA	MASTER OF BUSINESS ADMINISTRATION	2001	YES	2015	

PRINCIPAL
The Oxford College of Engineering
Bommanahalli, Hosur Road
Bengaluru-560 068

# Visvesvaraya Technological University "Jnana Sangama", Belagavi - 590 018

REGISTRAR

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Ref. No. VTU/Aca/A6/2014-15//379

CIRCULAR

Date: 2 5 MAY 2015

This is to bring to the notice of the Principals of affiliated Engineering colleges that,

"As per the directions of University Grants Commission, New Delhi, the Choice Based Credit System (CBCS) will be introduced for B.E./B.Tech. Programs from the academic year 2015-16. In light of this it is decided to retain 2010 syllabus to the students admitted to B.E./B.Tech. during the academic year 2014-15".

Hence, the students who are admitted to:

- FIRST Semester B.E./B.Tech. during the academic year 2014-15 will study the 2010 scheme and syllabus from III to VIII Semesters without any modification,
- THIRD Semester B.E./B.Tech. (Lateral Entry) during the academic year 2015-16 will study the 2010 scheme and syllabus from III to VIII Semesters without any modification, and
- 3. The Question Paper Pattern (answering 5 out of 8 questions) will remain the same as that of the 2010 scheme.

The Principals of affiliated Engineering Colleges are requested to bring the contents of this circular to the notice of all the concerned.

Sd/-REGISTRAR

(Dr. K. E. Prakash)

To, The Principals of affiliated Engineering colleges.

Copy FWCs to:

1. The Registrar (Evaluation), VTU Belgaum, for information and needful.

2. The Special Officers of VTU Regional Offices, for information.

3. The Special Officer, Academic Section, VTU, for information.

4. The Secretary to VC, VTU Belgaum, for information.

REGISTRAR (Dr.K.E.Prakash)

PRINCIPAL
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## CHOICE BASED CREDIT SYSTEM (CBCS) REGULATIONS GOVERNING

## THE DEGREE OF BACHELOR OF ENGINEERING / TECHNOLOGY (B.E./B.Tech.)

#### **DEFINITIONS OF KEY WORDS:**

- 1. University: Visvesvaraya Technological University, Belagavi.
- 2. Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.
- **3. Semester:** Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from August to January and even semester from February to July.
- 4. Choice Based Credit System (CBCS): The CBCS provides choice for students to select from the prescribed courses (core, elective and Foundation Courses).
- 5. Credit Based Semester System (CBSS): Under the CBSS, the requirement for awarding a degree or certificate is prescribed in terms of number of credits to be earned by the students.
- **6. Programme:** An educational programme leading to award of a Degree or certificate.
- 7. Course: Usually referred to, as 'papers' is a component of a programme. All courses need not carry the same weightage. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/tutorials/laboratory work/ field work/ outreach activities/project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.
- 8. Branch: Specialization or discipline of B.E./B.Tech. Degree Programme, like Civil Engineering, Textile Engineering, etc.
- **9.** Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by letters S, A, B, C, D, E and F.
- 10. Grade Point: It is a numerical weightage allotted to each letter grade on a 10-point scale.
- 11. Credit: A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.
- 12. Credit Point: It is the product of grade point and number of credits for a course.
- 13. Semester Grade Point Average (SGPA): It is a measure of academic performance of student/s in a semester. It is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits

taken during that semester. It shall be expressed up to two decimal places.

- 14. Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points earned by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
- 15. First Attempt: If a student has completed all formalities and become eligible to attend the examinations and has attended at least one head of passing, such attempt (first sitting) shall be considered as first attempt.
- 16. Transcript or Grade Card or Certificate: Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

Choice Based Credit System (CBCS): The CBCS provides choice for students to select from the prescribed courses.

Sequencing Plan for the B.E. / B.Tech. Degree Curriculum

Semesters	Course Coverage			
I –II	HSS, BS and ES; Common for all Branches;			
	Mandatory Courses			
III-IV	BS Common for all Branches and ES;			
	PS - Core/Elective			
V-VII	PS- Core & Electives; Other Electives;			
	Branch-wise Orientation			
VIII	PS-Electives/Elective; Other Electives,			
	Internship, Project work			

#### Abbreviations:

HSS - Humanities and Social Sciences

BS - Basic Sciences

ES - Engineering Sciences

PS - Professional Subjects

#### **Credit Structure for Course Work**

	_			
Lectures (hrs/wk /Sem)	Tutorial (hrs/wk/ Sem)	Lab. Work (hrs/wk/Sem)	Credits (Lec:instruction:Lab)	Credits (Total)
4	0	0	4:0:0	4
3	0	0	3:0:0	3
0	1	2	0:1:2	2

# CHOICE DASED CREDIT SYSTEM (CBCS) REGULATIONS GOVERNING THE DEGREE OF BACHELOR OF ENGINEERING / TECHNOLOGY (R E /R Tech )

,	(B.E./B.Tech.)
150B 1	TITLE AND DURATION OF THE PROGRAMME OF STUDY
150B 1.1	The program of study shall be called the degree Program of study in Bachelor of Engineering / Technology, abbreviated as B.E. / B.Tech.
150B 1.2	The program shall be of four academic years duration divided into eight semesters, each semester having duration of 16 weeks. For evening courses the contact hours are to be satisfied by working extra on afternoons of Saturdays and Sundays.
150B 1.3	The calendar of events in respect of the program of study shall be fixed by the University from time to time.
150B 1.4	The examination in all programs of study shall be conducted at the end of each semester for all eight semesters.
150B 2	<b>ELIGIBILITY FOR ADMISSION</b> (The Government orders issued from time to time in this regard shall prevail).
150B 2.1	Admission to I year / I semester Bachelor Degree in Engineering / Technology shall be open to the students who have passed the second year Pre-University or XII standard or equivalent examination recognized by the University.  For the prerequisite qualification earned from foreign countries, Equivalence certificate from the Association of Indian Universities is Mandatory.  The decision of the Equivalence committee shall be final in establishing the eligibility of student.
150B 2.2	In addition to 15OB 2.1, the student shall have secured not less than forty five percent (45%) marks in the aggregate with Physics and Mathematics as compulsory subjects, along with any one of the following subjects, namely, Chemistry, Bio-Technology, Computer Science, Biology and Electronics or as decided by the Government of Karnataka.  Provided that, the minimum marks for the purpose of eligibility shall be forty percent (40%) in optional subjects in case of students belonging to SC/ST and OBC students from Karnataka or as decided by the Government of Karnataka.  Provided further that, the student shall have studied and passed English as one of the subjects.
150B 2.3	Admission to II year/ III semester Bachelor Degree in Engineering/ Technology (Lateral Entry) shall be open to the students  Diploma Holders  Must have passed diploma or equivalent qualification as recognized by University and secured not less than forty five percentage (45%) marks in the final year examination (fifth and

- sixth semesters) in the appropriate branch of engineering. In case of SC/ST and OBC students from Karnataka the minimum marks for eligibility shall be forty percent (40%).
- Who have completed their Diploma from other than Karnataka state shall provide the Equivalence, Eligibility Certificate from the Director of Technical Education, Karnataka.
- Who are seeking admission under lateral entry shall also clear prescribed Bridge courses (Advanced Mathematics – III and IV) and Mandatory subjects (CPH and CIV) as specified by the University.

#### **B.Sc.** Graduates

- Must have passed B.Sc. degree from a recognized University as defined by the UGC or equivalent qualification as recognized by University and secured not less than forty five percentage (45%) marks in aggregate (including all six semesters). In case of SC/ST and OBC students from Karnataka the minimum marks for eligibility shall be forty percent (40%). Should have studied Mathematics as subject of study at XII Standard.
- Further, all the B.Sc. students seeking admission to lateral entry shall also clear the following subjects before entering into V Semester
  - I. Computer Aided Engineering Drawing (CAED) and
  - II. Programming in C and Data Structures
  - III. CPH and CIV (if not studied at B.Sc. Level).

#### 150B 2.4

Admission to Evening Programme of study shall be open to a student Who on the first day of the term notified by the University for the year of admission has at least one-year professional experience in the branch of engineering / technology, in which the student holds a diploma.

Explanation: Professional experience means employment on regular basis

- a. in Government, Government undertaking, Public Sector undertaking, Corporations or
- b. in a private company registered under the Directorate of Industries and Commerce or the Directorate of Small Scale Industries or
- c. In Government, Government recognized institutions as technical staff.

Provided that the period of apprenticeship undergone shall also be treated as professional experience, if sponsored by the Board of Apprenticeship Training, Southern Region Chennai or by any Government, Government undertaking or Public Sector undertaking. Provided further that employment shall be in an establishment situated within the urban agglomeration of city in which the professional institution is situated.

150B 2.5

Those students, who have passed a qualifying examination other than

	the PUC II examination of the Pre-University Education Board of Karnataka, have to obtain eligibility certificate for seeking admission to B.E./B.Tech. Degree Programme from Visvesvaraya Technological University, Belagavi or from the Principal of concerned Engineering College of Karnataka State.
150B 3	ATTENDANCE REQUIREMENT
150B 3.1	Each semester is considered as a unit and the student has to put in a minimum attendance of 85% in each Course with a provision of condonation of 10% of the attendance by the Vice-Chancellor on the specific recommendation of the Principal of the college where the student is studying, showing reasonable cause such as medical grounds, participation in University level sports, cultural activities, seminars, workshops, paper presentation, etc.
150B 3.2	The basis for the calculation of the attendance shall be the number of hours prescribed by the University by its calendar of events. For the first semester students, the same shall be reckoned from the date of admission to the course as per CET allotment.
150B 3.3	The students shall be informed about their attendance status periodically by the colleges so that the students shall be cautioned to make up the shortage. The Principals of the affiliated Colleges shall submit the list of students who have been detained for shortage of attendance by the end of the semester to the Registrar (Evaluation) with a copy to the Registrar.  Provided that mere omission by the college to inform the student about the shortage of attendance shall not entitle him to appear for examination.
150B 3.4	A student having shortage of attendance in one or more subjects shall have to repeat the whole semester and such students shall not be permitted to take admission to next higher semester. Such students shall take readmission to the same semester in the subsequent academic year.
150B 3.5	TEMPORARY DISCONTINUATION OF THE PROGRAM: A student, who wishes to temporarily discontinue the program and continue the same subsequently, has to obtain prior permission from the University by applying through the Principal. Such students have to take readmission to the same semester/year in the subsequent academic year. However, the student shall complete the course as per 150B 6.2.
150B 4	INTERNAL ASSESSMENT MARKS
150B 4.1	There shall be a maximum of 20 Internal Assessment Marks in each theory or practical paper. For seminars, the Internal Assessment marks shall be 50.

150B 4.2	The Internal Assessment marks in a theory paper shall be based on two tests generally conducted at the end of 6th and 12th week of each semester. An additional test may be conducted for the desirous students before the end of the semester to give an opportunity to such students to improve their Internal Assessment Marks, subject to the provisions of 150B 4.13. The test shall be answered in Blue Books with pages serially numbered. These blue books shall be kept in the custody of the Principal of the College until after one month from the date of announcement of the result by the University. These shall be made available to University authorities for verification as per the directions of the Registrar (Evaluation)/ Registrar.
150B 4.3	Average of the better marks obtained from any two tests shall be the Internal Assessment Marks for the relevant subject.
150B 4.4	If a student remains absent for all the Internal Assessment tests conducted, the Internal Assessment Marks shall be marked as AB for the subject against the University Seat Number (USN) of the student in the marks sheet submitted to the University by the Principal of the College.
150B 4.5	In the case of a Practical, the IA marks shall be based on the laboratory journals/reports and one practical test.
150B 4.6	<ul> <li>The IA marks for I year Computer Aided Engineering / Drawing:</li> <li>a) 12 marks for class work (sketching and Computer Aided engineering drawing).</li> <li>b) 08 marks for test in the same pattern as that of the main examination (better of the two tests)</li> <li>ii) The IA marks for other Drawings and Design Drawings offered by various branches shall be based on the evaluation of the sheets and one test in the ratio 60:40.</li> </ul>
150B 4.7	The IA marks in the case of projects and seminars in the final year shall be based on the evaluation at the end of 8th semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project / seminar guide.
150B 4.8	The final list, incorporating corrections (if any) of IA marks awarded to the students in the Theory/Practical/Internship/Project work/ Seminar, shall be displayed on the notice board of the college at least seven days before the closure of the semester and a certified copy of the same shall be sent by the Principals to the University Examination Section within the stipulated date. Every page of the IA marks sheet shall bear the signatures of the concerned Teacher/Teachers, Head of the Department and Principal.
150B 4.9	Any corrections or over writing of IA marks shall bear the signature(s) of concerned Teacher(s) and in such cases the Head of the Department shall on every sheet indicate the number of corrections and attest it with his signature.

(a) Practical/I	failing to secure a minimum of 50% of the IA marks in Internship/Project work shall not be eligible for the Practical ip/Project of the University examination.
	* / * * * * * * * * * * * * * * * * * *
	ars, the minimum requirement of IA marks shall be 40% of
(b) the maxim	ium.
work/Inte	ents as mentioned in 150B 4.10 shall repeat the laboratory rnship/project work during the subsequent semester(s) and least the minimum marks prescribed.
	subjects, there shall not be any minimum requirements of
	ent of IA marks shall not be allowed
	ry subjects and
	oratory/Workshop/Seminar/ Internship / Project where the t has already secured the minimum required marks.
150B 4.14 IA marks	of those students to whom 150B 4.11 is applicable, shall be
	rately to the Registrar (Evaluation).
	shall reach the University before the commencement of
	on as per the notification from the office of the Registrar
(Evaluatio	n) from time to time. After the submission of Internal
	nt marks to the University, any request for change of IA
	all not be considered under any circumstances.
	TY FOR PASSING
A student	who obtained Grades O to E shall be considered as passed
and if a s	tudent secured "F" grade in any of the head of passing he
	to reappear for the examination.
	ss in a theory subject/drawing, the student shall secure
	of 35% of the maximum marks prescribed in the University
	on and 40% of marks in the aggregate inclusive of the IA
marks. i.e	. Minimum Passing Grade is "E".
150B 5.1 For a pass	s in a Practical/Internship/Project/Viva-voce examination, a
-	hall secure a minimum of 40% of the maximum marks
_	•
	Internship/Project/Viva-voce. i.e. Minimum Passing Grade
in a cours	e is "E".
150B 5.1 For a pass	s in Seminar, a student shall secure a minimum of 40% of
_	num marks prescribed. i.e. Minimum Passing Grade is "E".
	ents who do not satisfy the condition 150B 5.1 and the
	ho remains absent shall be deemed to have failed in that
	nd may reappear for the University examination in the
subsequer	nt examinations. However, the IA marks awarded to the
	it examinations. However, the in marks awarded to the
_	at first attempt in the concerned theory subject will be
student/s	at first attempt in the concerned theory subject will be
student/s carried fo	at first attempt in the concerned theory subject will be orward. In case of Practical/Internship/Projects/Seminar
student/s carried for revised ma	at first attempt in the concerned theory subject will be brward. In case of Practical/Internship/Projects/Seminar arks will be taken as per regulations 150B 4.10 (a & b) and
student/s carried for revised ma 150B 4.11	at first attempt in the concerned theory subject will be brward. In case of Practical/Internship/Projects/Seminar arks will be taken as per regulations 150B 4.10 (a & b) and

	not be allowed to appear for the same again, unless he/she opts for
OB 5.4	rejection of results as per 150B 5.4, 5.5, 5.6, 5.7 & 5.8.  A student may, at his/her desire, reject his/her total performance of a semester (including IA marks) or he/she may reject the result of his/her performance in University examination of a semester only.  The rejection is permitted only once during the entire course of study.
150B 5.5	The student who desires to reject the performance as per 150B 5.4 shall reject performance in all the courses of the semester, irrespective of whether the student has passed or failed in any subject. However, the rejection of performance of 8th semester project result shall not be permitted.
150B 5.6	A student, who desires to reject the total performance of the semester including Internal Assessment, has to take readmission for the relevant semester. Application for such readmission shall be sent to the Registrar through the Principal of College within 30 days from the date of the announcement of the results. Late submission of application shall not be accepted for any reasons. Readmission to First semester in such cases shall not be considered as fresh admission i.e., the student will continue to have the same University Seat Number, which was allotted earlier. The course duration permitted (as per 150B 6) will be counted as per old USN.
OB 5.7	The student, who desires to reject only the results of University examination of a semester and does not desire readmission, shall be permitted to re-appear for examinations of all the subjects of the semester in the subsequent examinations. However, the IA marks obtained by the student in the rejected semester shall be retained. Applications for such rejection shall be sent to the Registrar (Evaluation) through the Principal of the College within 30 days from the date of announcement of the results. Late submission of applications shall not be accepted for any reasons. If the rejection of the University examination results of the semester happens to be of the odd semester, the student shall be allowed to take admission to the immediate next even semester. However, if the rejection of the University result is of the even semester, the student shall not be allowed to take admission to the next odd semester (as per 150B 7.2).
15OB 5.8	Such students who opt for rejection at final year are eligible for the award of class and distinction at the B.E./ B.Tech. degree level, but are not eligible for the award of ranks.
150B 5.9	A student shall be declared to have completed the program of B.E. / B.Tech., degree, provided the student has undergone the stipulated course work as per the regulations and has earned at least 200 Credits.
150B 6	MAXIMUM DURATION FOR COURSE COMPLETION
150B 6.1	A student who has not obtained the eligibility for third semester after a

150B 6.2	period of three academic years from the date of first admission shall discontinue the course. However, the student is eligible for readmission for first year B.E./B.Tech. in respective College of the University and he/ she shall be allotted a University Seat Number (USN) without any change in the year of admission in the USN but the serial number of the student shall start with six hundred (6XX) series in the same branch.  The student admitted to 1st year B.E/ B.Tech. shall complete the course within a period of eight academic years from the date of first admission, failing which he/she has to discontinue the course.  The students admitted under lateral entry scheme (2nd Year B.E./B.Tech.) shall complete the course within a period of six academic years from the date of first admission, failing which he/she has to discontinue the course.
150B 7	PROMOTION AND ELIGIBILITY FOR THE EXAMINATIONS
150B 7.1	There shall not be any restriction for promotion from an odd semester to the next even semester, provided the student has fulfilled the attendance requirement.
150B 7.2	A student shall be eligible for promotion from an even semester to the next odd semester (i.e. of the next academic year) if the student has not failed in more than four heads of passing of the immediately preceding two semesters and has passed in all the subjects of all the lower semester examinations. A theory or practical shall be treated as a head of passing.  Illustrations  a. A student seeking eligibility to 3 <sup>rd</sup> semester should not have failed in more than 4 heads of passing of first and second semesters taken together.  b. A student seeking eligibility to 5 <sup>th</sup> semester should have passed in all the subjects of 1 <sup>st</sup> and 2 <sup>nd</sup> semesters and should not have failed in more than 4 heads of passing of third and fourth semesters taken together.  c. A student seeking eligibility to 7 <sup>th</sup> semester should have passed in all the subjects up to 4 <sup>th</sup> semester and should not have failed in more than 4 heads of passing of 5 <sup>th</sup> and 6 <sup>th</sup> semesters taken together.
	The Subjects:  1. Constitution of India, Professional Ethics and Human Rights, and 2. Environmental Studies are Mandatory Non-Credit Courses; these subjects shall not be considered for the Eligibility for promotion, award of Class, calculation of SGPA and CGPA. However, a pass in the above subjects is mandatory before the completion of Degree.
150B 8	COURSES

15OB 8.1	(i) Core Courses: This is the course which is to be compulsorily studied by a student as a core requirement to complete the requirements of a program in a said discipline of study. These courses will have 4 credits per course.  (ii)Foundation Courses: The Foundation Courses are of two kinds: Compulsory Foundation and Elective foundation.  "Compulsory Foundation": These courses are the courses based upon the content that leads to Knowledge enhancement. They are mandatory for all disciplines. These courses will have 4 credits per course.  "Foundation Electives": These are value based courses aimed at man making education. These courses will have 3 credits per course.  (iii)Elective Courses: This is course, which can be chosen from the pool of papers. It may be supportive to the discipline/ providing extended scope/enabling an exposure to some other discipline / domain / nurturing student proficiency skills. These courses will have 3 credits per course.  (iv)Mandatory Non-Credit Courses: These courses are mandatory for students joining B.E./B.Tech. Program and students have to successfully complete these courses before the completion of degree.					
15OB 8.2	The minimum number of students to be registered for an Elective to be offered shall be not less than ten.					
150B 8.3	A student shall exercise his option in respect of the electives and register for the same at the beginning of the concerned semester. The student may be permitted to opt for change of elective subject within 15 days from the date of commencement of the semester as per the calendar of the University.					
150B 9	INTERNSHIP					
150B 9.1	<b>Internship:</b> The student shall undergo an Internship for 8 weeks i.e. starting from the end of 7 <sup>th</sup> semester Examination after availing one week vacation and completing during the initial period of 8 <sup>th</sup> semester.					
	<ol> <li>The college shall nominate a faculty for a group of students to prepare the students for internship.</li> <li>The students shall report the progress of the internship to the guide in regular intervals and may seek his/her advise.</li> </ol>					
	3. The Internship shall be completed between 7th and 8th semesters.					
	4. After completion of 7th semester Theory and Practical examinations, the students shall have one week vacation.					
	<ol> <li>Immediately after availing one week vacation, the students shall undergo internship (without waiting for the results) which may be a period of 4/5 weeks.</li> </ol>					

- 6. The remaining period of internship; i.e. 4/3 weeks shall be completed during the initial period of the 8th semester.
- 7. After completion of Internship, students shall submit a report to the college with the approval of both internal and external guides.
- 8. There will be 50 IA and 50 External marks for Internship.
- 9. The guide shall be the internal examiner and IA marks out of 50 are to be awarded by the internal guide after evaluating the Internship Report submitted by the student.
- 10. Viva-Voce on internship shall be conducted at the college and the date of Viva-Voce shall be fixed in consultation with the external Guide.
- 11. Viva-Voce on internship shall be conducted by both internal and external guides and jointly evaluate the internship report for 50 marks. The expenses of external guide are to be borne by the student/college.
- 12. In case of the non availability of external guide for the conduct of viva-voce, the Principal shall appoint a senior faculty of the department to conduct viva-voce along with the internal guide, and they jointly evaluate the internship report for 50 marks.
- 13. The students are permitted to carry out the internship outside India with the following conditions:
  - a. The entire expenses are to be borne by the student or college and the University will not give any financial assistance.
  - b. The Internal Guide has to visit at least once during the student's internship; the expenses of the visit are to borne by the student/college.
  - c. The external guide from the industry has to be an examiner for the viva voce on Internship, and the expenses are to be borne by the student/ college.
  - d. The University will not provide any kind of Financial Assistance to any student for internship and for the conduct of Viva-Voce on internship.

150B9.2	<b>Report on Internship</b> : The College shall facilitate and monitor the student internship program. The internship report of each student shall be submitted to the Head of the Department of the college with the approval of the Guide.										
15 <b>0B9</b> .3	mand	<b>ig to t</b> atory; if a gible for t	any stud	ent fails	to co						
15OB9.4	I .	<b>completi</b> he intern		nternsh	<b>ip</b> : In	such	cases,	the stu	ıdent	has	to
150B 10	SEMI	NAR ANI	PROJE	ECT							
150B 10.1	Semironly.	nar topic	shall b	e selec	ted fro	om th	e emerg	ging tec	chnica	ıl are	as
150B 10.2	consi	et work a sting of n	ninimum	of two	studer	its an	d maxim	um fou	r stud	dents	
150B 10.3	Viva-ı	oce exan	nination	in proje	ct wor	k shal	ll be con	ducted	batch	ı-wise	5.
150B 11	COM	PUTATIO	on of so	3PA AN	D CGF	PA					
	ii.	with semester grade point average (SGPA) and Cumulativ Grade Point Average (CGPA). The CGPA will be calculated ever semester, except the first semester.  ii. The grading system is with the following letter grades as given below:  Grades and Grade Points						ery			
		Level	Out- standing	Excellent	Very Good	Good	Above Average	Average	Poor	Fail	,
	Letter O S A B C D E F							F			
		Grade Points	10	9	8	7	6	5	4	00	
	iii. A student obtaining Grade "F" shall be considered failed a be required to reappear in the examination.  Such students after passing the failed subject in subsexamination/s will be awarded with "E" grade irrespectments he/she scores in the subsequent examination/s. Number of attempts taken to clear a subject/s shall be shall be transcripts.					seque ective	ent of				

Grade	Points	Scale

Level	Out- standing	Excellent	Very Good	Good	Above Average	Average	Poor	Fail
Letter Grade	O	s	A	В	С	D	E	F
Grade Points	10	9	8	7	6	5	4	00
Score (Marks) Range (%)	≥ 90	<90	< 80 ≥70	< 70 ≥60	< 60 ≥50	< 50 ≥45	<45 ≥40	< 40

#### Computation of SGPA and CGPA

The following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

1. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

**SGPA** (Si) = 
$$\sum$$
(Ci x Gi) /  $\sum$ Ci

where Ci is the number of credits of the i<sup>th</sup> course and Gi is the grade point scored by the student in the i<sup>th</sup> course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

**CGPA** = 
$$\sum$$
(Ci x Si) /  $\sum$  Ci

where Si is the SGPA of the i<sup>th</sup> semester and Ci is the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal places and reported in the transcripts.

### Illustration for Computation of SGPA and CGPA

Computation of SGPA Illustration No.1

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	4	A	8	4x8 = 32
Course 2	4	С	6	4x6 = 24
Course 3	4	В	7	4x7 = 28
Course 4	3	0	10	3x10=30
Course 5	3	D	4	3x4 = 12
Course 6	3	C	6	3x6 = 18
Course 7	2	S	9	2x9 = 18
Course 8	2	С	6	2x6 = 12
	25			174

Thus, SGPA= 174/25=6.96

#### Illustration No.2

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	4	Α	8	4x8 = 32
Course 2	4	С	6	4x6 = 24
Course 3	4	В	7	4x7 = 28
Course 4	3	0	10	3x10= 30
Course 5	3	F	0	3x0 = 00
Course 6	3	С	6	3x6 = 18
Course 7	2	S	9	2x9 = 18
Course 8	2	С	6	2x6 = 12
	25			162

Thus, SGPA= 162/25=6.48

Hlustration No.2(a)

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 5	3	E	E 4	3x4 = 12
	25			Ci (First Attempt)162 + Ci (subsequent attempt) 12= 174

Thus, SGPA= 174/25=6.96

#### Illustration No.3

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	4	Α	8	4x8 = 32
Course 2	4	С	6	4x6 =24

	Course	3	4	В	7	4x7	=28	
	Course	4	3	0	10	3x10	=30	
	Course	5	3	S	9	3x9	=27	
	Course	6	3	С	6	3x6	=18	
	Course	7	2	S	9	2x9	=18	
	Course	8	2	С	6	2x6	=12	
			25				189	
	Thus, <b>SG</b>		•	.56				
		C	$GPA = \frac{25x6}{}$	$\frac{96 + 25x7.56}{50}$	= 7.26			
	CG		ter Final	50 Semeste	190			
			- 2 Sem 3			Sem 6	Sem 7	Sem 8
	Credit: 24	Credit:	24. Credit : 2	7 Credit : 27	Credit :24	Credit: 24	Credit: 24	Credit: 26
	SGPA:7	SGPA:8	.5   SGPA:9.2	SGPA:6.86	SGPA:8.18	SGPA:7.73	SGPA:8.68	SGPA:9.4
	Thus, CG	<b>TDA</b> — 2	4x7 + 24x8.5 +	27x9.2 + 27x6	.86+24x8.18	$\pm 24x7.73 \pm 2$	4x8 68 + 26x9	04-00
	mus, cu	FA		2111111	200	1 2 130,110 1 2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-0.2
	Transcrip	t (Fo	rmat): Ba	ased on th	he above	recomme	endations	on Letter
	grades, g	grade	points,	SGPA ar	nd CCPA	, the t	ranscript	for each
	semester	and a	a consolid	lated tran	script in	dicating	the perfo	rmance in
	all semest		~					
150B 12	CONVER							
			mula for					ge is
	[CGPA Ea	rned	- 0.75] x 1	10= Perce	ntage of <b>r</b>	marks sc	ored.	
1500 10	Illustratio					= 74.5%		
150B 13	AWARD C							
150B 13.1	I.						•	ted by the
		-		_		provisio	ons of the	e statutes
150D 100	framed by						1	
150B 13.2								its should
								number of
							-	opeared in
	8th semester or 10 students, whichever is less in that branch.  Illustration:						•	
	1. If 1028 students appeared for the 8th semester in Electronics						Nectronics	
	and Communication Engineering Branch, the number of ranks to be awarded for Electronics and Communication Engineering							
	will 10.							
	2. If 90 students appeared for the 8th semester in Biomedical							
	Engineering Branch, the number of ranks to be awarded for							
			al Engine					
150B	For award	of ra	ank in a b	ranch of	Engineer	ing / Tec	chnology,	the CGPA
13.3	secured by	_						- /
					student	s admitte	ed to B.F	E./B.Tech.
	Pro	gram	from 1st y	ear, and				

150B 13.4	<ul> <li>b) 3<sup>rd</sup> to 8<sup>th</sup> semester for the students admitted to B.E./B.Tech. Program from 2<sup>nd</sup> year (Lateral Entry) shall be considered.</li> <li>A student shall be eligible for a rank at the time of award of degree in each branch of Engineering / Technology, provided the student</li> <li>a. Has passed 1<sup>st</sup> to 8<sup>th</sup> (students joining from 1<sup>st</sup> semester) or 3<sup>rd</sup> to 8<sup>th</sup> (in case of lateral entry) semester in all the subjects in first attempt only</li> <li>b. Has not repeated/rejected any of the lower semesters.</li> <li>If two students get the same CGPA, the tie should be resolved by considering the number of times a student has obtained higher SGPA; but, if it is not resolved even at this stage, the number of times a</li> </ul>
	student has obtained higher grades like O, S, A, B etc shall be taken into account in rank ordering of the students in a program.
150B 14	TRANSFER OF STUDENTS
150B14.1	Transfer of students from one college to another college within Karnataka state shall be permitted only at the beginning of third, fifth, and seventh semesters, subject to availability of seats within the permitted intake in respective Colleges and subject to the prior approval of the University and the provisions of 150B 7.2. In the case of students from Universities other than VTU the students should have passed in all the courses of 1st & 2nd semesters for admission to 3rd semester and all the courses of 1st to 4th semesters for admission to 5th semester and all the courses of 1st to 6th semesters for admission to 7th semester.  The students seeking admission from Universities other than VTU shall have to  a. apply for establishment of equivalence with prescribed fees as notified by the VTU and  b. Obtain No Objection for admission from the university before commencement of term as notified by VTU.
150B14.2	Transfer of students within the College from one branch to another branch at 3 <sup>rd</sup> semester shall be permitted with the prior approval of the VTU and subject to the provisions made by the Government of Karnataka and AICTE in this behalf.
150B14.3	The University may prescribe fee for administrative purpose (for updating of the records), which shall be notified from time to time, for transfer from one college to another (Change of College) or one branch to another branch (change of branch within the college).

\*\*\*\*\*

NOTE: These regulations governing the Degree of Bachelor of Engineering/Technology of Visvesvaraya Technological University shall be binding on all and may be modified from time to time.





### Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

Dr. H. N. Jagannatha Reddy, BE,ME., Ph.4. REGISTRAR

Phone: (0831) 2405468 Fax : (0831) 2405467

Ref No. VTU/Aca/A12/2017-18/ 3615

Date: 5 AUG 2017

#### **CIRCULAR**

#### Sub: Introduction of Open Elective- reg

It is hereby informed, that university has introduced Open Electives concept for B.E CBCS Scheme in 5th and 6th semester, you are informed to note the following guidelines in offering of Open Electives (guidelines enclosed) and bring the same to the notice of students and faculty. The Course coordinator for offering open elective has to be identified in each department for proper implementation of the concept.

Sd/-

REGISTRAR

To,

The Principals of Affiliated Engineering Colleges.

Copy FWCs to:

- 1. The Hon'ble Vice Chancellor, through the Secretary to VC, VTU Belagavi, for information
- 2. The Registrar, VTU Belagavi, for information.
- 3. The Registrar (Evaluation), VTU Belagavi, for information & necessary action.
- 4. The In-Charge Regional Director of VTU Regional Offices, for information.
- 5. The Office Superintendent, for information.

6. CNC to upload on the website.

REGISTRAR

PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU-560 083.

# Guidelines for offering Open Elective for the B.E 5<sup>th</sup> & 6<sup>th</sup> Semester (CBCS) scheme

#### **Note to Students:**

- 1) All B.E (CBCS) students (except B.Arch, B.Tech) should study one Open elective each in the 5<sup>th</sup> and 6<sup>th</sup> Semester as a part of their Programme.
- 2) Students should register for the Open elective in the beginning of the 5<sup>th</sup>/6<sup>th</sup> semester in the department, where the elective is offered. An Open elective is not offered in a department if the registered student's strength is less than 10.
- 3) All Open electives are offered to students of all B.E Programmes (branches) of engineering in general (except B.Arch, B.Tech). However, if a student of a particular Programme has already studied/going to study, in higher semester a similar Core course with majority of topics same as that of a particular Open elective, then that Open elective is not offered to that student. In which case, the student has to select an alternative Open elective.
- 4) Having studied/selected a particular Open Elective, a student is not eligible to take a Professional elective of his/her Programme in the Higher semesters/same semester which will have majority of topics same as that of the Open elective studied/selected. In which case, the student has to select an alternative Professional elective.
- 5) Students are advised to select an Open elective of their interest and if they have a prerequisite knowledge to study that particular Open elective.

#### Note to Departments:

- Above conditions are to be monitored by an Open elective coordinator of the department to which the student belongs to and the Course coordinator of the department where the student registers for the Open elective in the beginning of the 5<sup>th</sup>/6<sup>th</sup> semester.
- 2) The Teaching department(s) for Open Elective is not restricted to only those departments(s) indicated in the list. Any other department faculty who has the requisite expertise to teach a particular Open elective can also teach it.

 Offering department indicated in the list of Open electives is the department/board which is responsible to set the Syllabus and Question paper for the particular Open elective.

REGISTRAR
Visvesvavaya Technological University,
BELAGAVI - 590 018.

PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU - 560 083.

#### **B.E (CBCS) Open Electives Lists**

## Updated on 06-02-2018 (As per approval of Vice Chancellor's, dated:01.02.18)

#### **Note to Students:**

- 1) All B.E (CBCS) students (except B.Arch, B.Tech)should study one Open elective each in the 5<sup>th</sup> and 6<sup>th</sup> Semester as a part of their Programme.
- 2) Students should registers for the Open elective in the beginning of the 5<sup>th</sup>/6<sup>th</sup> semester in the department, where the elective is offered. An Open elective is not offered in a department if the registered student's strength is less than 10.
- 3) All Open electives are offered to students of all B.EProgrammes (branches) of engineering in general (except B.Arch). However, if a student of a particular Programme has already studied/going to study, in higher semester a similar Core course with majority of topics same as that of a particular Open elective, then that Open elective is not offered to that student. In which case, the student has to select an alternative Open elective.
- 4) Having studied/selected a particular Open Elective, a student is not eligible to take a Professional elective of his/her Programme in the Higher semesters/same semester which will have majority of topics same as that of the Open elective studied/selected. In which case, the student has to select an alternative Professional elective.
- 5) Students are advised to select an Open elective of their interest and if they have a prerequisite knowledge to study that particular Open elective.

#### Note to Departments:

- 1) Above conditions are to be monitored by an Open elective coordinator of the department to which the student belongs to and the Course coordinator of the department where the student registers for the Open elective in the beginning of the 5<sup>th</sup>/6<sup>th</sup> semester.
- 2) The Teaching department(s) for Open Elective is not restricted to only those departments(s) indicated in the list. Any other department faculty who has requisite expertise to teach a particular Open elective can teach it.
- 3) Offering department indicated in the list of Open electives is the department/board which is responsible to set the Syllabus and Question paper for the particular Open elective.

## Updated on 06-02-2018 (As per approval of Vice Chancellor's, dated:01.02.18)

### B.E (CBCS) 5<sup>th</sup> Semester Open Electives List:

SL No	Course Code	Course Title	Teaching Department(s)	Offering Department(s)
1	15NC561	Essentials of NCC	This can be offered	Dept. offering the
			only in the Colleges	course
			having the NCC unit	
2	15PHY561	Laser Physics and Non-linear Optics	Physics	Basic Science (Physics)
3	15CV561	Traffic Engineering	CV	CV
4	15CV562	Sustainability Concepts In Engineering	CV	CV
5	15CV563	Remote Sensing and GIS	CV	CV
6	15CV564	Occupational Health and Safety	CV	CV
7	15ME561	Optimization Techniques	Any Branch	ME
8	15ME562	Energy and Environment	ME/Auto	ME
9	15ME563	Automation & Robotics	ME/EC/Auto	ME
10	15ME564	Project Management	ME/Auto	ME
11	15IM/IP561	Professional Communication &Report Writing	Any Branch	IP/IEM
12	15IM/IP562	Concurrent Engineering	Any Branch	IP/IEM
13	15IM/IP563	Technology Management	Any Branch	IP/IEM
14	15IM/IP564	Human Resource Management	Any Branch	IP/IEM
15	15MA561	Mechatronics	Manufacturing Sc. &Engg	Manufacturing Sc. &Engg
16	15MA562	Theory of Elasticity	Manufacturing Sc. &Engg	Manufacturing Sc. &Engg
17	15MA563	Knowledge Management	Manufacturing Sc. &Engg	Manufacturing Sc. &Engg
18	15EC561	Automotive Electronics	EC/TC/Mech	EC/TC
19	15EC562	Object Oriented Programming using C++	CS/IS/EC/TC/EE	EC/TC
20	15EC563	8051 Microcontrollers	EC/TC	EC/TC
21	15EE561	Electronic Communication Systems	EE/EC/TC	EE
22	15EE562	Programmable Logic Controllers	EE	EE
23	15EE563	Renewable Energy Sources	EE/ME	EE

		<u>4</u>		
24	15EE564	Business Communication	EE	EE
25	15CS561	Programming in JAVA	CS/IS	CS
26	15CS562	Artificiał Intelligence	CS/IS/EC	CS
27	15CS563	<b>Embedded Computing Systems</b>	CS/IS/EE/EC	CS
28	15CS564	Dot Net Frame work for	CS/IS	CS
		Application Development		
29	15CS565	Cloud Computing	Cloud Computing	CS
30	15EI/BM/ML561	Computer Organization	EI/BM/ML/CS/IS	EI/BM/ML
31	15El562	Material Science	El	El
32	15BM/ML562	Virtual Bio-Instrumentation	BM/ML/EI	BM/ML/EI
33	15EI/BM563	Operating Systems	EI/BM/CS/IS/EC	EI/BM
34	15ML563	Medical Electronics Design	ML/BM	ML/BM
35	4551554	Fundamentals of	Ei	El
	15EI564	Nanotechnology		
36	15BM564	Medical Physics	BM/ML	BM/ML
37	15ML564	Pharmacology and Drug Delivery	ML/BM	ML/BM
38	15BT561	Biology for Engineers	Bio-Tech	Bio-Tech
39	15BT562	Biomaterials	Bio-Tech	Bio-Tech
40	15BT563	BT for Sustainable Environment	Bio-Tech	Bio-Tech
41	15AE561	History of Flight & Technology Forecast	Aeronautical Engg.	Aeronautical Engg.
42	15AE562	Elements of Aeronautics	Aeronautical Engg.	Aeronautical Engg.
43	15AE563	Aircraft Transportation Systems	Aeronautical Engg.	Aeronautical Engg.
44	15AE564	Basics of Rockets & Design	Aeronautical Engg.	Aeronautical Engg.
45	15NT561	Introduction to Nano Science & Technology	Nanotechnology/ME	Nanotechnology
46	15NT562	Nanomaterials& their Applications	Nanotechnology/ME	Nanotechnology
47	15NT563	Nano Devices & Applications	Nanotechnology	Nanotechnology
48	15NT564	Nano Materials Synthesis & Characterization Techniques	Nanotechnology/ Chemistry/ME	Nanotechnology
49	15CH561	Industrial Waste Water Management	Chemical	Chemical
50	15CH562	Design of Air Pollution control Equipment	Chemical	Chemical
51	15CH563	Solid Waste Management	Chemical	Chemical
52	15CH564	Industrial Safety & Disaster Management	Chemical	Chemical
53	15PC561	Composite Materials	Petro-Chem	Petro-Chem
54	15PC562	Organic Chemistry	Petro-Chem	Petro-Chem

55	15PC563	Reservoir Rocks & Fluid Properties	Petro-Chem	Petro-Chem
56	15PC564	Natural Gas Processing	Petro-Chem	Petro-Chem
57	15AU561	Automobile Engineering	Automobile Engineering	Automobile Engineering
58	15AU562	Alternative Energy Sources for Automobiles	Automobile Engineering	Automobile Engineering
59	15AU563	Non Traditional Machining	Automobile Engineering	Automobile Engineering
60	15MN561	Industrial Safety Management	Mining Engineering	Mining Engineering
61	15MN562	Industrial Management and Entrepreneurship	Mining Engineering	Mining Engineering

## B.E (CBCS) 6<sup>th</sup> Semester Open Electives List:

SL No	Course Code	Course Title	Teaching Department(s)	Offering Department(s)
1	15PHY661	Advanced Physics for Engineers	Physics	Basic Science (Physics)
2	15CV661	Water Resources Management		
3	15CV662	Environmental protection and management	CV	CV
4	15CV663	Numerical Methods and Applications	Any Branch/Maths	CV
5	15CV664	Finite element Method	cv	CV
6	15ME661	Energy Auditing	ME/Auto	ME
7	15ME662	Total Quality Management	ME/Auto/IEM	ME
8	15ME663	Maintenance Engineering	ME/Auto	ME
9	15ME664	Industrial Safety	ME/Auto	ME
10	15IM/IP661	Management Information Systems	IP/IEM	IP/IEM
11	15IM/IP662	Advance Machining Process	IP/IFM	IP/IEM
12	15IM/IP663	Value Engineering	IP/IEM	IP/IEM
13	15IM664	Development of Enterprises	IEM	IEM
14	15MA661	Microprocessor &	Manufacturing	Manufacturing
		Microcontrollers	Science &Engg	Science & Engg
15	15MA662	Theory of Plasticity	Manufacturing Science & Engg	Manufacturing Science & Engg
16	15MA663	Sensors	Manufacturing Science & Engg	Manufacturing Science & Engg
17	15MA664	Data Mining	Manufacturing	Manufacturing

			Science &Engg	Science & Engg
18	15EC661	Data Structure: Using C++	CS/IS/EC/TC	EC/TC
19	15EC662	Power Electronics	EC/TC/EE	EC/TC
20	15EC663	Digital System Design using Verilog	EC/TC	EC/TC
21	15CS661	Mobile Application Development	Any Branch	CS
23	15CS662	Big Data Analytics	CS/IS	CS
24	15CS663	Wireless Networks and Mobile Computing	CS/IS	<b>CS</b>
25	15CS664	Python Application Programming	CS/IS	CS
26	15CS665	Service Oriented Architecture	CS/IS	CS
27	15CS666	Multi-Core Architecture and Programming	15	CS/IS
28	15EE661	Artificial Neural Networks and Fuzzy Logic	EE/EC	EE
29	15EE662	Sensors and Transducers	EE/EC	EE
30	15EE663	Batteries and Fuel Cells for Commercial, Military and Space Applications	EE	EE
31	15EE664	Industrial Servo Control Systems	EE	EE
32	15EI/BM/ML 661	Mobile Communication	EI/BM/ML/EC/TC	EI/BM/ML
33	15EI662	MEMS and NEMS	EI/BM	EI/BM
34	15BM662	Software Engineering	BM/CS/IS	BM
35	15ML662	Embedded Real Time Systems	ML/BM	ML/BM
36	15EI/BM/ML 663	Embedded System Design and Programming	EI/BM/ML	EI/BM/ML
37	15EI/BM664	Statistics and Numerical Methods	EI/BM/Maths	EI/BM
38	15ML664	Biomaterials and Artificial Organs	ML/BM	ML/BM
39	15MAT661	Linear Algebra	Maths/EC	Basic Science (Maths)
40	15BT661	Biological Data Management	Bio-Tech	Bio-Tech
41	15BT662	Nano BT	Bio-Tech	Bio-Tech
42	15BT663	Good Manufacturing Process	Bio-Tech	Bio-Tech
43	15CH661	Food technology	Chemical	Chemical
44	15CH662	Sugar Technology	Chemical	Chemical
45	15CH663	Petro Chemical Engineering	Chemical	Chemical
46	15CH664	Polymer & Plastic Engineering	Chemical	Chemical
47	15PC661	Modern Separation Technology	Petro-Chem	Petro-Chem
48	15PC662	Process Modelling& Simulation	Petro-Chem	Petro-Chem
49	15PC663	Material Science for Petro- Chemical Engineering	Petro-Chem	Petro-Chem
50	15PC664	Catalysis Science & Technology	Petro-Chem	Petro-Chem

51	15AE661	Unmanned Aerial Vehicles Basics	Aeronautical Engg.	Aeronautical
52	15AE662	& Applications Fundamentals of Aerodynamic	Aeronautical Engg.	Engg. Aeronautical
		Theory		Engg.
53	15AE663	Elements of Jet Propulsion Systems	Aeronautical Engg.	Aeronautical Engg.
54	15AE664	Maintenance, Overhaul & Repair of Air Craft Systems	Aeronautical Engg.	Aeronautical Engg.
55	15NT661	Nanotechnology in Electrical & electronics Engineering	Nanotechnology/EE/ EC	Nanotechnology
56	15NT662	Nanotechnology in Civil & Environmental Engineering	Nanotechnology /CV/EV	Nanotechnology
57	15NT663	Nanotechnology in Mechanical & Aerospace Engineering	Nanotechnology/ME /AE	Nanotechnology
58	15NT664	Nanotechnology in Bio-Medical Engineering	Nanotechnology/BM /BT	Nanotechnology
59	15AU661	Engineering Economics and Cost Estimation	Adtomobile Engineering	Automobile Engineering
60	15AU662	Hybrid and Electric Vehicle	Automobile Engineering	Automobile Engineering
61	15AU663	Non- destructive Testing	Automobile Engineering	Automobile Engineering
62	15MN661	Tunneling Engineering	Mining Engineering	Mining Engineering
63	15MN662	Underground Space Technology	Mining Engineering	Mining Engineering



## Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

Dr. H. N. Jagannatha Reddy, BE,ME, Phd. REGISTRAR

Phone: (0831) 2405468 Fax : (0831) 2405467

Ref No. VTU/Aca/A12/2017-18/ 55 06

Date: 25 SEP 2017

#### Circular

Sub: B.E. /B.Tech Regulations and scheme for 2017-18 and onwards- reg...

Ref: 1. This office Notification VTU/Aca/A12/2017-18/4880 dt: 14-09-2017 2. Hon'ble Vice-Chancellor's order dated: 25.09.2017

With reference to the above subject, this is to inform that the office Notification issued under ref (1) (copy enclosed), is applicable to the students seeking admission to I semester / I year B.E./B.Tech Courses during the year 2017-18.

However, w.r.t. the students seeking admission to III semester/ II year Lateral entry during the year 2017-18, the CBCS Regulations notified w.r.t. 2015-16 is applicable.

The Principals are requested to note the same and bring the contents of this notification to the all concerned.

Sd/-REGISTRAR

To,
The Principals of All Engineering Colleges (Affiliated / Constituent) under VTU, Belagavi
Copy to:

- 1. Hon'ble Vice-Chancellor through the Secretary to VC, VTU, Belagavi for kind information
- 2. The Registrar (Eval.), VTU, Belagavi for kind information & necessary action.
- 3. The Incharge-Regional Directors of all the Regional Offices of VTU
- 4. The Special Officers of Academic Section, VTU, Belagavi
- 5. The Concerned Case-workers of Academic Section VTU, Belagavi
- 6. The Secretary to Registrar, VTU, Belagavi
- 7. The Circular file at Dispatch section
- 8. The Computer Network Centre, VTU, Belagavi to upload on VTU website

REGISTRAR

PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU-560 083.



### Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

Dr. H. N. Jaganuatha Reddy, BE,ME, Ph.A. REGISTRAR

Phone: (0831) 2405468 Fax : (0831) 2405467

Ref No. VTU/Aca/A12/2017-18/4 880

Date: 1 4 SEP 2017

#### NOTIFICATION

Sub:

Regulations B.E/B.Tech & Scheme for 2017-18 admitted students and onwards

Ref:

1. Resolution No 2 of 133rd Extraordinary Executive Council Meeting, dated: 11th

September 2017

2. Vice-Chanceflor's order, dated 14.09.2017

With reference to the above subject, the Scheme & Regulations governing B.E/B.Tech programme from the academic year 2017-18 has been updated on the website.

#### In this regard following is brought to the notice:

- The Course Evaluation shall be carried in the ratio 60 and 40 for SEE (Semester End Examination) and CIE (Continuous Internal Evaluation) respectively.
  - The SEE will be conducted for 100 marks and proportionally reduced to 60 marks.
  - The CIE is prescribed for maximum of 40 marks. Marks prescribed for test shall be 30 and that for assignment is 10. The CIE marks for test in a theory Course shall be based on three tests generally conducted at the end of fifth, tenth and fourteenth week of each semester. Each test shall be conducted for a maximum of 30 marks and the final marks shall be the average of three tests. The remaining 10 marks shall be awarded based on the evaluation of Assignments/Unit tests/written Quizzes that support to cover some of the Course/program outcomes. Pinal CIE marks awarded shall be the sum of these two out of maximum of 40 marks.
  - In the case of Practical, the CIE marks shall be based on the laboratory journals/ records (30 Marks for continuous evaluation based on conduct of experiment, vivaand report writing) and one practical test (10 Marks) to be conducted at the end of the semester.
- 2. The Scheme of teaching from the academic year 2017-18 admitted batch and onwards has been changed by retaining the contents of the syllabus of 2015-16 scheme as it is.

Principals of Constituent and Affillated Engineering Colleges are required to conduct an orientation program for the students, clearly mentioning the guidelines of Regulations & Scheme

Contents of this notification may kindly be brought to the notice of all the concerned.

By order, Sd/-REGISTRAR

To.

The Principals of Constituent & Affiliated Engineering Colleges.

Copy FWCs to:

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REGISTRAR /4 09/1)

PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU - 560 083.



# REGULATIONS GOVERNING THE DEGREE OF BACHELOR OF ENGINEERING/ TECHNOLOGY (B.E/B.Tech) UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

Effective from the academic year 2017 - 18

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Effective from the academic year 2017 - 18

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#### REGULATIONS GOVERNING

## THE DEGREE OF BACHELOR OF ENGINEERING/ TECHNOLOGY (B.E/B.Tech) UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

Effective from the academic year 2017 - 18

#### **Definitions of Keywords**

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of B.E/B.Tech. Programmes:

- 1) Programme: Is an educational programme in a particular stream/ branch of Engineering/branch of specialization leading to award of Degree. It involves events/activities, comprising of lectures/ tutorials/ laboratory work/ field work, outreach activities/ project work/ vocational training/ viva/ seminars/ Internship/ assignments/ presentations/ self-study etc., or a combination of some of these.
- 2) Branch: Means Specialization or discipline of B.E/B.Tech. Degree Programme, like Civil Engineering, Mechanical Engineering, Textile Engineering, etc.
- 3) Semester: Refers to one of the two sessions of an academic year (vide: serial number 4), each session being of sixteen weeks duration (with working days greater than or equal to ninety). The odd semester may be scheduled from August and even semester from February of the year.
- 4) Academic Year: Refers to the sessions of two consecutive semesters (odd followed by an even) including periods of vacation.
- 5) Course: Refers to usually referred to as 'papers' and is a component of a programme. All Courses need not carry the same weight. The Courses should define learning objectives and learning outcomes. A Course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ outreach activities/project work/ vocational training/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc., or a combination of some of these.
- 6) Credit: Referstoa unit by which the Course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical Courses/ tutorials/ fieldwork per week etc.
- 7) Audit Courses: Means Knowledge/ Skill enhancing Courses without the benefit of a grade or credit for a Course.
- 8) Choice Based Credit System (CBCS): Refers to customizing the Course work, through Core, Elective and soft skill Courses to provide necessary support for the students to achieve their goals.
- 9) Course Registration: Refers to formal registration for the Courses of a semester (Credits) by every student under the supervision of a Faculty Advisor (also called Mentor, Counselor etc.,) in each Semester for the Institution to maintain proper record.
- 10) Course Evaluation: Means Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluations prescribed for each Course. SEE and CIE to carry 60% and 40% respectively, to enable each Course to be evaluated for 100 marks, irrespective of its Credits.
- 11) Continuous Internal Evaluation (CIE): Refers to evaluation of students' achievement in the learning process. CIE shall be by the Course Instructor and includes tests, homework, problem solving, group discussion, quiz, mini-project and seminar throughout the Semester, with weightage for the different components being fixed at the University level.

# Visvesvaraya Technological University, Belagavi Regulations Governing the Degree of Bachelor of Engineering/ Technology (B.E/B.Tech) Under Choice Based Credit System (CBCS) (Effective from the academic year 2017 – 18)

- 12) Semester end examinations (SEE): Refers to examination conducted at the University level covering the entire Course Syllabus. For this purpose, Syllabi to be modularized and SEE questions to be set from each module, with a choice confined to the concerned module only. SEE is also termed as university examination.
- 13) First Attempt: Refers to a student who has completed all formalities and has become eligible to attend the SEE and has attended at least one head of passing, such attempt shall be considered as first attempt.
- 14) Credit Based System (CBS): Refers to quantification of Course work, after a student completes teaching learning process, followed by passing in both CIE and SEE. Under CBS, the requirement for awarding degree is prescribed in terms of total number of credits to be earned by the students.
- 15) Credit Representation: Refers to Credit Values for different academic activities considered, as per the Table.1. Credits for seminar, project phases, project viva—voce and internship shall be as specified in the Scheme of Teaching and Examination (Annexure -1).

Table 1: Credit Values					
Theory/Lectures (L) (hours/week/Semester)	Tutorials (T) (hours/week/Semester)	Laboratory/Practical (P) (hours/week/Semester)	Credits (L:T:P)	Total Credits	
4	0	0	4:0:0	4	
3	0	0	3:0:0	3	
2	2	0	2:1:0	3	
2	0	2	2:0:1	3	
2	2	2	2:1:1	4	
0	0	6	0:0:3	3	

**NOTE:** Activities like, practical training, study tour and participation in Guest lectures not to carry Credits.

- 16) Letter Grade: It is an index of the performance of students in a said Course. Grades are denoted by letters S, A, B, C, D, E and F.
- 17) Grading: Grade refers to qualitative measure of achievement of a student in each Course, based on the percentage of marks secured in (CIE plus SEE). Grading is done by Absolute Grading [Refer: 170B6.0]. The rubric attached to letter grades are as follows:
  S Outstanding, A Excellent, B Very Good, C Good, D Above Average, E Average
  - and F Fail.

18)	<b>Grade Point (GP):</b> Refers to a numerical	weightage allotted to	o each letter	grade on a 10-point
	scale as under.			

Letter Gra	de and o	orrespon	ding Grad	e Points or	a typical	10 - Point	scale
Letter Grade	S	A	В	C.	D	E	F
Grade Point	10	09	08	07	06	04	00

- 19) Passing Standards: Refers to passing a Course only when getting GP greater than or equal to 04 (as per serial number 18).
- 20) Credit Point: Is the product of grade point (GP) and number of credits for a Course i.e., Credit Point (CrP) = GP × Credits for the Course

- 21) Semester Grade Point Average (SGPA): Refers to a measure of academic performance of student/s in a semester. It is the ratio of total credit points secured by a student in various Courses of a semester and the total Course credits taken during that semester. [Refer:170B6.0]
- 22) Cumulative Grade Point Average (CGPA): Is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points earned by a student in various Courses in all semesters and the sum of the total credits of all Courses in all the semesters. It is expressed up to two decimal places. [Refer: 17OB6.0]
- 23) Transcript or Grade Card or Certificate: Refers to a certificate showing the grades earned by a student. A grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the programme details (Course code, title, number of credits, grades secured) along with SGPA of that semester and CGPA earned till that semester.
- 24) University: Visvesvaraya Technological University (VTU), Belagavi.



# Visvesvaraya Technological University, Belagavi Regulations Governing the Degree of Bachelor of Engineering/ Technology (B.E/B.Tech.) Under Choice Based Credit System (CBCS)

(With effective from the academic year 2017 - 18)

17OB 1.0	Title, Duration and Credits of the Programme of Study				
17OB 1.1	The programme of study shall be called the degree of Bachelor of Engineering (Subject of Specialization) /Bachelor of Technology (Subject of Specialization), abbreviated as B.E. / B.Tech. (Subject of Specialization).				
17 OB1.2	The program to which students are admitted to I semester of the programme shall be of four academic year duration divided into eight semesters and each semester is of 16 weeks duration.  The programme to which students are admitted to III semester of the programme under lateral entry shall be of three academic year duration divided into six—semesters and each semester is of 16 weeks duration.  The programme (conducted during evening) to which students are admitted to III semester of the programme under lateral entry shall be of three academic year duration divided into six—semesters and each semester is of 16 weeks duration. The deficit contact hours of the programme, conducted during evening on all working days, shall be compensated on all Sundays (except on general holidays).				
17 OB 1.3	The calendar of events in respect of the program of study shall be notified by the University in advance.				
17 OB 1.4	The University examination in all programs of study shall be conducted at the end of each semester for all the eight semesters.				
17 OB 1.5	<ul> <li>i. Students admitted to I year B.E/ B.Tech shall complete the programme within a period of eight academic years from the date of first admission, failing which they have to discontinue the Course.</li> <li>ii. Students admitted II Year B.E./B.Tech. under lateral entry scheme shall complete the Programme within a period of six academic years from the date of first admission, failing which he/she has to discontinue the Course.</li> <li>b)</li> </ul>				
	<ul> <li>i. A student who has not obtained the eligibility for III semester even after three academic years from the date of admission to I semester shall discontinue the Programme or get readmitted to I semester of first year B.E./B.Tech. with a new University Seat Number but retaining the same year of admission.</li> <li>ii. A student (under lateral entry scheme) who has not obtained the eligibility for V semester even after three academic years from the date of admission to III semester shall discontinue the Programme or get readmitted to III semester of II year B.E./B.Tech. with a new University Seat Number but retaining the same year of admission.</li> </ul>				
17 OB 1.6	Prescribed Number of Credits for the Programme:  (a) The number of credits to be completed by students admitted I semester of B.E./B.Tech. programme shall be 200  (b) The number of credits to be completed by students admitted to III semester of B.E./B.Tech. programme under lateral entry scheme shall be 152				

17 OB2.0	Eligibility for Admission/As per the Government orders issued from time to time)
17 OB2.1	Admission to I year/ I semester Bachelor Degree in Engineering/ shall be open to the students who have passed the II PUC/ XII Standard/ Equivalent Examination with English as one of the Languages and obtained a Minimum of 45% of Marks in aggregate in Physics and Mathematics along with Chemistry / Bio-Technology / Biology / Electronics / Computer.
	In case of SC/ST, Category -1 and OBC (2A, 2B, 3A and 3B) category students from Karnataka (Karnataka candidates) the minimum marks for eligibility shall be 40 %. With regard to the qualification earned from foreign countries, Equivalence—certificate from the Association of Indian Universities is Mandatory for admission to B.E./B.Tech. programme. In case of any dispute about the equivalence in qualification earned from foreign countries, the decision of the Equivalence committee shall be the final in establishing the eligibility of the student.  Admission to II year/ III semester Bachelor Degree in Engineering/ Technology (Lateral Entry) shall be open to the Diploma holders and B.Sc. graduates.
17 OB2.2	(i) Diploma Holders
	<ul> <li>(a) Must have passed diploma or equivalent examination as recognized by University and secured not less than forty five percentage (45%) marks in the final year examination (fifth and sixth semesters) in the appropriate branch of engineering. In case of SC/ST and OBC students from Karnataka the minimum marks for eligibility shall be forty percent (40%).</li> <li>(b) Those candidates who have completed Diploma from other than Karnataka state shall provide the Equivalence/ Eligibility Certificate from the Director of Technical Education, Karnataka.</li> </ul>
	(ii) B.Sc. Graduates  Must have passed B.Sc. degree from a recognized University under the UGC or equivalent qualification as recognized by University and secured not less than forty five percentage (45%) marks in aggregate (considering the marks of all six semesters). In case of SC/ST and OBC students from Karnataka (Karnataka candidates) the minimum marks for eligibility shall be forty percent (40%). Candidates must have studied Mathematics as subject of study at XII Standard.
	(i) Diploma Holders for the programme conducted during evening  A candidate who has passed diploma examination or equivalent examination and obtained an aggregate minimum of 45 % marks taken together in all the subjects of the final year (fifth and sixth semesters) diploma examination is eligible to B.E Courses, and 40 % of marks in case of SC/ST and backward classes of Karnataka candidates.  In addition to this a candidate after passing the diploma, must have minimum of two years full time professional experience as on first September of the year of admission, in a registered firm/company/industry/ educational / Government / Autonomous organizations in the branch of Engineering/ Technology, in which the candidates hold a diploma, and in which admission is sought by him/her.

#### 17 OB2.2 Further that employment shall be in an establishment situated within the 15 km (continued) from the place of the institution to which the candidate is seeking admission. Professional experience refers to the experience earned as an employee on regular basis in. (a) Government, Government Undertaking, Public Sector Undertaking, Corporation or, (b) In a private company registered under the Directorate of Industries and Commerce or the Directorate of Small Scale Industries or, (c) Government, Government recognized Institutions as technical staff. Provided that the period of apprenticeship undergone shall also be treated as professional experience, if sponsored by the Board of Apprenticeship Training, Southern Region, Chennai or by Government, Government undertakings and Public Sector undertakings. Further, those candidates who have completed Diploma from other than Karnataka state shall provide the Equivalence/ Eligibility Certificate from the Director of Technical Education, Karnataka. Those students, who have passed a qualifying examination other than the PUC II 17 OB2.3 examination of the Pre-University Education Board of Karnataka, have to obtain eligibility certificate for seeking admission to B.E./B.Tech. Degree Programme from Visvesvaraya Technological University, Belagavi. 17 OB3.0 Courses 17 OB3.1 There shall be the following types of Courses: a) Humanities and Social Sciences (HSS) including Management. These are mandatory for all disciplines. b) Basic Sciences (BS): Physics, Chemistry and Mathematics. These are mandatory for all disciplines. c) Engineering Sciences (ES): Materials, Workshop, Drawing, and Basics of Electrical/ Electronics/ Instrumentation/ Civil/ Mechanical/ Computer Engineering. These are mandatory for all disciplines. d) Professional Subjects (PS) - Core: Are the professional Core (PC) Courses, relevant to the chosen specialization/ branch. The core Courses are to be compulsorily studied by a student and are mandatory to complete them to fulfill the requirements of a programme. e) Professional Subjects (PS) - Elective: Are the professional Electives (PE), relevant to the chosen specialization/ branch and can be chosen from the pool of papers. It shall be supportive to the discipline providing extended scope/enabling an exposure to some other discipline /domain and nurturing student proficiency skills. f) Open Subjects - Electives (OE): Are from other technical areas and/ or from emerging fields. g) Mini project and Main Project: Carried out at the Institution or at an Industry. h) Seminar: Deliverable at the Institution under the supervision of a Faculty. i) Internship: Preferably at an industry/R and D organization/IT company/ Government organization of significant repute for a specified period mentioned in the Scheme of Teaching and Examination. Mandatory Courses (MC): These Courses are mandatory, without the benefit of a grade or credit, for students admitted to B.E./B.Tech. program. A pass in each mandatory Course is required to qualify for Degree award from the University.

	k) Audit Courses (AC): Knowledge/ skill enhancement Courses without the benefit						
17 OB3.1	of a grade or credit for a Course.						
(continued)	i) The Audit Course/s (other than the Course/s considered for completing the						
	prescribed program credits) can be any Course offered by the program to						
	which the student is admitted to other programs offered in the institution,						
	where the student is studying.						
	ii) The students who are interested in audit Courses can register for one audit						
	Course at a time during III to VIII semesters. Students, who have opted for						
	audit Courses and considered on par with students registered for credit						
	Courses, have to satisfy the attendance and CIE requirements. However, they						
	need not have to appear for SEE.						
	The number of registrations to an audit Course is restricted to 10 % of the						
	AICTE intake.						
	iii) Registration for any audit Course, in writing, shall be completed at the						
	beginning of semesters. The Institution should intimate the Registrar						
	(Evaluation) about the registration at the beginning of the semester and						
	obtain a formal approval for inclusion of the audit Course/s in the Grade						
	cards/ Transcripts issued to the students.						
17 OB3.2	The minimum number of students registered to any Elective offered by the Departments						
45 ODA 2	shall be not less than ten.						
17 OB3.3	A student shall exercise his option in respect of Elective Courses and register for the						
	same at the beginning of the concerned semester.						
	The student may be permitted to opt for a change of Elective Course within 15 days						
17 OB3.4	from the date of commencement of the semester as per the calendar of the University.						
17 005.4	Course Registration: Every student shall register for the Courses of a semester (Credits) under the supervision of a Faculty Advisor (also called Mentor,						
150710	Counselor etc.,) in each Semester for the Institution to maintain proper record.						
17OB4.0	Internship/Professional Practice						
17OB4.1	Internship / Professional Practice:  1) The Internship shall be completed during the period specified in the Scheme of						
	Teaching and Examination.						
	Todoming and Laurimation,						
	2) The internship can be carried out in any industry/R and D Organization/Research						
	Institute/ Educational institute of repute.						
	Institute/ Educational institute of repute.  3) (a) The Department/college shall nominate staff member/s to facilitate, guide and						
	<ul><li>Institute/ Educational institute of repute.</li><li>3) (a) The Department/college shall nominate staff member/s to facilitate, guide and supervise students under internship.</li></ul>						
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	8) The extern	al guide from	m the inc	ustry shall	be an exa	aminer for	the viva	voce on
	Internship. Viva-Voce	Viva-Voce of shall be find award the V	on internsl ixed in co	nip shall be nsultation	conducted	at the coll	lege and th	e date of
	9) In case the Superintene conduct vi- writing to t	external Gudent of the inva-voce alor he concerned	nide expre nstitution ng with the d Chairper	esses his in shall appoine internal rson, Board	nt a senior guide. The of Examin	faculty of e same sh ers (BOE)	the Departure the the the the the the the the the th	rtment to ormed in
	carrying ou	rsity will no it the Interns	t provide hip.	any kind o	f financial	assistance	to any stu	adent for
17OB4.2	Failing to unde			ship is one	of the hea	d of pass	ing. Comp	letion of
	internship is m	-	-					
	shall be consid							
	in that Course	. However,	student sh	all appear	for SEE a	fter satisfy	ring the co	onditions
	prescribed for	Internship. T	he reappe	arance shal	l be consid	ered as an	attempt.	
17OB5.0	Seminar and l	Project						
17OB5.1	Seminar: Sem							
	i) Each can	didate shall	deliver	seminar a	s per the	Scheme	of Teach	ing and
	Examinati	on on the top	oics chose	n from the	relevant fie	lds for abo	out 30 min	utes.
	Examination on the topics chosen from the relevant fields for about 30 minutes.  ii) The Head of the Department shall make arrangements for conducting seminars							
	through concerned faculty members of the Department. The committee constituted							
		rpose by the						
	seminar.	The committe	ee shall co	onsist of the	ree faculty	from the l	Departmen	t and the
	senior mo	st acting as	the Chair	rman/Chair	person. [Te	o be read	along with	6 17 OR
	0.73							u t/ Ob
	8.6].							17 OB
17OB5.2	Project Work	_			sing.			
17OB5.2	Project Work Project work s	hall preferab	ly be bate		sing.			
	Project Work Project work s maximum of fo	hall preferat our students.	oly be bate	h wise, the	sing.	f each bat	ch shall no	
17OB5.3	Project Work Project work s maximum of for Viva-voce exa	hall preferab our students. mination in p	oroject wo	h wise, the	sing.	f each bat	ch shall no	
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	(iii) A student obtaining Grade 'F' in a Course shall be considered failed and is required to reappear in subsequent SEE. Whatever the letter grade secured by the student during his / her reappearance shall be retained. However the number of attempts taken to clear a Course shall be indicated in the grade cards/ transcripts.
17OB 6.2	Computation of SGPA and CGPA (as per UGC Guidelines)
	The following procedures shall be used to compute the Semester Grade Point Average
	(SGPA) and Cumulative Grade Point Average (CGPA) respectively:
	i) The SGPA is the ratio of sum of the product of the number of credits with the
	grade points secured by a student in all the Courses taken by him/her and the
	sum of the number of credits of all the Courses undergone by a student, i.e.,
	$SGPA = \frac{\sum (C_i \times G_i)}{\sum C_i}$
	Where C <sub>i</sub> is the number of credits of the i <sup>th</sup> Course and G <sub>i</sub> is the grade point scored by the student in the i <sup>th</sup> Course.
	ii) The CGPA is also calculated in the same manner taking into account all the
	Courses undergone by a student over all the semesters of a programme, i.e.,
	$CGPA = \frac{\sum (C_i \times S_i)}{\sum C_i}$
	Where $S_i$ is the SGPA of the $i^{th}$ semester and $C_i$ is the total number of credits in that semester.
	The SGPA and CGPA shall be rounded off to 2 decimal places and reported in the transcripts.

### 17OB 6.2 (continued)

### Illustration for Computation of SGPA and CGPA. Computation of SGPA

Course	Credit	Grade letter	Grade point	Credit Point = (Credit × Grade)
Course 1	4	В	08	4 × 08 = 32
Course 2	4	D	06	4 × 06 = 24
Course 3	4	C	07	4 × 07 = 28
Course 4	3	S	10	3 ×10 = 30
Course 5	3	Е	04	$3 \times 04 = 12$
Course 6	3	D	06	3 ×06 = 18
Course 7	2	A	09	2 x 09 = 18
Course 8	2	D	06	$2 \times 06 = 12$
Total	25			174

Illustration No.2							
Course	Credit	Grade letter	Grade point	Credit Point = (Credit × Grade)			
Course 1	4	В	08	4 × 08 = 32			
Course 2	4	D	06	$4 \times 06 = 24$			
Course 3	4	C	07	$4 \times 07 = 28$			
Course 4	3	S	10	$3 \times 10 = 30$			
Course 5	3	F	00	$3 \times 00 = 00$			
Course 6	3	D	06	3 × 06 = 18			
Course 7	2	A	09	$2 \times 09 = 18$			
Course 8	2	D	06	2 ×06 = 12			
Total	25			162			

If a Student secures letter grade C during reappearance then the SGPA is Calculated as shown below.

Illustration No. 2(a)						
Course	Credit	Grade letter	Grade point	Credit Point = (Credit × Grade)		
Course 5	3	С	07	$7 \times 03 = 21$		

Total Credit Points = Credit Points of first Attempt) + Credit Points of subsequent attempt = 162 + 21 = 183

Total credits of the semester = 25

Thus, SGPA= 183/25=7.32

Illustratio	n No.3			
Course	Credit	Grade letter	Grade point	Credit Point = (Credit x Grade)
Course 1	4	В	08	4 x 08 = 32
Course 2	4	D	06	$4 \times 06 = 24$
Course 3	4	С	07	$4 \times 07 = 28$
Course 4	3	S	10	$3 \times 10 = 30$
Course 5	3	A	09	$3 \times 04 = 18$
Course 6	3	D	06	$3 \times 06 = 18$
Course 7	2	A	09	$2 \times 09 = 18$
Course 8	2	D	06	$2 \times 06 = 12$
Total	25		_	189

Thus, SGPA= 189/25=7.56

**CGPA** (from illustrations 2 and 3) = 
$$\frac{25 \times 7.32 + 25 \times 7.56}{59} = 7.44$$

(aamtinuad)	Semester	ł	II	III	IV	V	VI	VII	VIII						
(continued)	Credits of the semester	24	24	27	27	24	24	24	26						
	SGPA 7.00 8.50 9.20 6.86 8.18 7.73 8.68 9.40														
	Thus CGPA = (24 × 7.30 + 24 × 8.50 +	27×9.29	+ 27 × 6.8	6+ 24 × 8. 200	18-24×1	7.73+24>	< 8.68 + 26	× 9.40)	= 8.20						
17OB 6.3	Transcript Format: Based on the secured letter grades, grade points, SGPA and CGPA the transcript for each semester and a consolidated transcript indicating the performance in all semesters shall be issued.														
17OB 7.0	Conversions of Grad		Percenta	ge and I	Declarati	ion of Cl	ass								
17OB 7.1	Conversion Formula F							ven Belo	w						
	Percentage Of Marks S														
	Illustration For A CGP		_			•									
	P = [CGPA Earned 8.2			4.5%											
17OB 7.2	Class Declaration:														
	After the conversion of	of final	CGPA ir	to perce	ntage of	marks (	(P), a gra	duating	student i						
	declared to have passed in														
	(i) First Class with Distinction (FCD) if P ≥ 70%														
	(ii) First Class (FC) if			'0% and											
	(iii) Second Class (SC	) if P <	60%.												
17OB8.0	Continuous Internal	Evalua	tion												
17OB8.1	For each theory and practical paper, the CIE marks shall be 40.														
17OB8.1	T .	For Technical seminar, the CIE marks shall be 100.													
17088.1	For Technical seminar					For Internship/ Professional Practice, the CIE marks shall be 50. For Project Phase -I and Project seminar and Project Phase -II, the CIE shall be 10									
17088.1	For Technical seminar For Internship/ Profess	sional P	ractice, tl	ne CIE m	arks sha		II dha	CIE ala	11 <b>b</b> s 10						
17088.1	For Technical seminar For Internship/ Profess For Project Phase –I	sional P	ractice, tl	ne CIE m	arks sha		–II, the	CIE sha	ll be 10						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.	sional Pr and Pr	ractice, the oject sen	ne CIE m ninar an	narks sha d Projec	t Phase									
17OB8.1 17OB8.2	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each to	sional Pr and Pr	ractice, the oject sen	ne CIE m ninar an	narks sha d Projec	t Phase									
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each tassignment.	and Protheory (	ractice, the oject sensor source s	ne CIE m ninar an hall be	narks sha d Projec the sum	t Phase of mark	ks presci								
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each to	sional Prand Pricheory (	ractice, the oject sensor source sour	ne CIE m ninar an hall be	narks sha d Projec the sum or assignt	of mark	ks presci	ribed for	test an						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each t assignment.  Marks prescribed for t	sional Prand Prand Protection (	ractice, the contract of the course of the c	ne CIE minar an hall be ad that fourse shall	the sum	of mark	ks presci 0. e tests ge	ribed for	test an						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes	and Protheory ( est shall t in a the	ractice, the course is be 30 are courteenth	ne CIE m ninar an hall be nd that fo urse shall week of	the sum or assignr be based	of mark	ks presci 0. e tests go	ribed for enerally c	test an						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes at the end of fifth, tent	theory (est shall t in a the marks and formarks and forma	ractice, the oject sense of course is the sense of course of courteenth and the first	hall be had that for the shall week of that marks	the sum or assignr be based each ser shall be	of marl nent is 10 d on thre mester. E	o.  de tests go ach test age of the	ribed for enerally of shall be of ree tests.	test and conducted						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes at the end of fifth, tent for a maximum of 30 t	and Prand Pr	Course s  be 30 are eory Courteenth and the fire begins as the courteenth	hall be ad that for urse shall week of al marks arded ba	the sum or assignment be based feach ser sed on to the signment of the sum	of mark ment is 10 d on three mester. E the aver- the evaluate Course	o.  e tests getach test age of the ation of e/program	enerally of shall be of tests. Assigning outcome	test and conducted conducted tents/Un						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes at the end of fifth, tend for a maximum of 30 m The remaining 10 ma tests/written Quizzes	and Practice and P	course so the source of the so	hall be ad that for the shall week of that marks arded bacover so f these tv	the sum or assignr be based each ser shall be sed on t me of th	of mark ment is 10 d on thre mester. E the aver- the evalu- ie Course maximu	o.  e tests go ach test age of the ation of e/program of 40 i	enerally of shall be of ree tests. Assignn n outcor marks.	test and conducted conducted the conducted t						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes at the end of fifth, tent for a maximum of 30 m The remaining 10 ma tests/written Quizzes CIE marks awarded sh	est shall t in a the ch and for marks and that sup tall be the	Course s  be 30 are eory Courteenth and the find the sum of the International Internat	hall be and that for the shall week of the sarded bacover so of these two ternal	the sum or assignment be based feach ser is shall be seed on the series of the series	of mark ment is 10 d on three mester. E the avera he evaluate Course maximum ment Ter	o.  e tests go ach test: age of the ation of e/program of 40 in sts and	enerally of shall be of ree tests.  Assignments.  Assignments.	test and conducte conducte nents/Unites. Final						
	For Technical seminar For Internship/ Profess For Project Phase –I respectively.  CIE Marks in each assignment.  Marks prescribed for t The CIE marks for tes at the end of fifth, tent for a maximum of 30 m The remaining 10 ma tests/written Quizzes CIE marks awarded sh The candidates shall	est shall t in a the chand for marks and that supplied that all be the marks that	course s be 30 are eory Courteenth and the firm the sum of the In Books	hall be and that for the shall week of the sarded bactover soof these two thermal which sl	the sum or assignment be based seach ser shall be sed on the or out of Assessmall be	of mark ment is 10 d on thre mester. E the avera he evalu he Course maximu ment Tex	o.  e tests go ach test age of the ation of e/program m of 40 u sts and a d by the	enerally of shall be of ree tests. Assignment outcommarks. Assignment of Princip	test and conducted conducted ments/United the conducted ments/United the conducted the						

17OB8.3	In the case of a Practical, the CIE marks shall be based on the laboratory journals/ records (30 Marks on continuous evaluation based on conduct of experiment, viva and report writing) and one practical test (10 Marks) to be conducted at the end of the semester.
17OB8.4	<ul> <li>(i) The CIE marks for I year Computer Aided Engineering / Drawing:</li> <li>a) 24 marks for class work (sketching and Computer Aided engineering Drawing).</li> <li>b) 16 marks for test conducted in the same pattern as that of SEE (The marks secured can be taken as best of the two tests).</li> <li>(ii) The CIE marks for other Drawings/ Design Drawings offered by various branches shall be based on the evaluation of the sheets and one test in the ratio 60:40.</li> </ul>
17OB8.5	The CIE marks in the case of projects and seminars in the final year shall be based on the evaluation at the end of VIII semester by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the project / seminar guide.
17OB8.6	<ul> <li>i. For theory Courses, there shall not be any minimum requirements of CIE marks.</li> <li>ii. Minimum requirement of CIE marks for Practical/ Internship/Project work shall be 50% of the maximum marks.</li> <li>iii. For seminar, the minimum requirement of CIE marks shall be 40% of the maximum marks.</li> </ul>
17OB8.7	<ul> <li>i) Students failing to secure a minimum of 50% of the CIE marks in Practical/ Internship/Project work shall not be eligible for the Practical / Internship/Project examination conducted by the University and they shall be considered as failed in that/those Course/s. However, they can appear for University examinations conducted in other Courses of the same semester and backlog Courses if any.</li> <li>Students after satisfying the prescribed minimum CIE marks in the Course/s when offered during subsequent semester shall appear for SEE.</li> <li>ii) If any student fails to secure a minimum of 40% of the maximum CIE marks in seminar/ fails to deliver the seminar, he/she shall be considered as failed in that Course and shall not be eligible for the award of degree. However, the student shall become eligible for the award of degree after satisfying the requirements prescribed for seminar during the subsequent semester/s.</li> <li>iii) The Course/s under 170B8.6 (ii) and (iii), when repeated are considered as attempts.</li> </ul>
17OB8.8	CIE marks of those students, who come under 170B8.7, shall be sent separately to the Registrar (Evaluation).
17OB8.9	If a student remains absent for all the CIE tests conducted, the CIE Marks shall be marked as AB for the Courses against the University Seat Number (USN) of the student in the marks sheet submitted to the University by the Principal of the College.
17OB8.10	Improvement of CIE marks shall not be allowed in a. Theory Courses and b. Laboratory/Workshop/Seminar/Internship/Project where the student has already secured the minimum required marks.
17OB8.11	The final list, incorporating corrections (if any) of CIE marks awarded to the students in the Theory/Practical/Internship/Project work/ Seminar, shall be displayed on the notice board of the college at least seven days before the closure of the semester and a certified copy of the same shall be sent by the Principal to the University Examination Section within the stipulated date. Every page of the CIE marks sheet shall bear the signatures of the concerned Teacher/Teachers, Head of the Department and Principal.
17OB8.12	Any corrections or overwriting of CIE marks shall bear the signature(s) of concerned Teacher(s) and in such cases the Head of the Department shall indicate the number of corrections on every sheet and attest it with his/her signature.

17OB8.13	CIE marks shall reach the University before the commencement of examination as per the
	notification issued from the office of the Registrar (Evaluation) from time to time. After the submission of CIE marks to the University, any request under any circumstances for change of CIE marks shall not be considered.
17OB 9.0	Eligibility for Passing and Award of Degree(To be read along with 170B4.2, 5.1, 5.2, 8.6 and 8.7)
17OB 9.1	<ul> <li>(a) For a pass in a theory Course/Drawing, the student shall secure minimum of 35% of the maximum marks prescribed in the University examination and in total 40% of the maximum marks (i.e., prescribed for SEE and CIE) including the CIE marks secured by the student.</li> <li>(b) The Minimum Passing letter grade in a Course is 'E'.</li> <li>(c) For a pass in a Practical/Internship/Project/Viva-voce examination, a student shall secure a minimum of 40% of the maximum marks prescribed for the University Examination. The Minimum Passing Grade in a Course is 'E'.</li> </ul>
17OB 9.2	<ol> <li>A student who obtain any grade from 'S' to 'E' shall be considered as passed.</li> <li>If a student secure F grade in any of the head of passing (17 OB 4.2, 17 OB 5.1, 17 OB 5.2 and 17 OB 11.2) he/she has to reappear in that head for the SEE.</li> <li>A student will be declared successful at the end of academic year if he/she has not more than four 'F' grades in the immediate preceding two semesters.</li> <li>A student will be declared successful at the end of program, when he/she has none of the Courses remaining with F grade and shall have CGPA of greater than or equal to 5.00.</li> <li>In case, the CGPA falls below 5.00 at the end of the program, the student shall be permitted to appear again for SEE in full or part of the previous semester Courses by rejecting the performance for required number of Course/s (other than seminar, Project and Practical's) and times, subject to the provision of 17OB1.5, to make up CGPA equal to or greater than 5.0. The student should reject the SEE results of the previous attempt and obtain written permission from the Registrar (Evaluation) to reappear in the subsequent SEE.</li> </ol>
17OB 9.3	The students who do not satisfy the provision 170B9.2 (1) and the students who remain absent for the University examinations shall be deemed to have failed in that Course/s. They have to reappear for the University examination in the subsequent examinations. The CIE marks awarded to the student/s at first attempt in the concerned theory Course/s will be carried forward.  Revised CIE marks are considered only in cases under the provisions of 170B8.7.
17OB 9.4	Students who pass a Course of a semester as per 170B 9.1 and has earned CGPA equal to or greater than 5.00 shall not be allowed to appear for any individual Course/s again, unless they opt for rejection of results of entire semester as per 170B 9.5.
17OB9.5	A student may, at his/her desire, reject the total performance of a semester (including CIE marks) or reject only the result of his/her performance in University examination of a semester. The rejection is permitted only once during the entire programme of study.
17OB9.6	The student who desires to reject the results of a semester shall reject performance in all the Courses of the semester, irrespective of whether the student has passed or failed in any Course. However, the rejection of performance of VIII semester project shall not be permitted.

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17OB9.7	A student, who desires to reject the total performance of a semester including CIE marks, has to take readmission for that semester.
	Application for approval of readmission shall be sent to the Registrar through the Principal of
	College within 30 days from the date of the announcement of the results. Late submission of
	application shall not be accepted for any reasons.
	Readmission to First semester in such cases shall not be considered as fresh admission and
	therefore the student will continue to have the same University Seat Number, which was
	allotted earlier. The Course duration (as per 170B1.5) will be counted with reference to old
	USN.
17OB9.8	The student, who rejects only the results of University examination of a semester, shall be
	permitted to re-appear for University examinations of all the Courses of that semester in the
	subsequent examinations. However, the CIE marks obtained by the student in the rejected
	semester shall be retained.
	Applications for rejection and approval to reappear for University examination shall be sent to
	the Registrar (Evaluation) through the Principal of the College within 30 days from the date of
	announcement of the results. Late submission of applications shall not be accepted for any
	reasons.
	If the rejection of results of University examination is of odd semester, the student shall be
	allowed to take admission to the immediate next even semester. However, if the rejection of
	results of University examination is of even semester, then the student shall not be allowed to
	take admission to the next odd semester (as per 170B11.2).
17OB9.9	Students who opt for rejection of results of University examination are eligible for the award
	of class and distinction, but are not eligible for the award of ranks.
17OB9.10	A student shall be declared to have completed the program of B.E. / B.Tech. degree, provided
	the student has undergone the stipulated Course work as per the Scheme of Teaching and
	Examination and has earned the prescribed number of credits as per the provision 170B1.6,
	having CGPA ≥ 5 with none of the registered courses remaining with 'F' grade.
17OB10.0	Attendance Requirement
17OB10.1	Courses of each semester shall be treated as a separate unit for calculation of the
	attendance. The candidate has to put in a minimum attendance of 85% in each Course with a
	provision to condone 10% of the attendance by the Vice-Chancellor on the specific
	recommendations of the Principal of the college where the candidate is studying, based
	on medical grounds, participation in University/State/ National/ International level sports
	and cultural activities, seminars, workshops, paper presentation etc., of significant value.
	The supporting documents for condoning the shortage of attendance are to be submitted along
	with the recommendations.
17OB 10.2	The datum for the calculation of attendance shall be the number of Teaching hours prescribed
	for a Course [50 hours for 04 credit Courses (theory), and 40 hours for 03 credit Courses
	(theory) counted from the date of commencement of the semester. In case of Laboratories, the
	number of classes (deemed as teaching hours) is equal to the number of experiments
	prescribed under main heading].
	In case of late admission, approved by competent authority (DTE/VTU), to I semester/III
	semester (lateral entry scheme)/ III semester (lateral entry scheme) of Engineering
	programme conducted during evening the attendance shall be reckoned from the date of
	admission to the programme.

17OB10.3	The Course Instructor/ Mentor/College shall inform the students as well as their parents about the attendance status periodically. Students who are facing the shortage of attendance be mentored to make up the shortage. Principals shall also notify every month, the list of candidates who are under short of attendance.
17OB10.4	A candidate, who does not satisfy the attendance requirement (in one or more Courses) as mentioned in 17OB10.1 shall not be eligible to appear for the SEE of that semester and shall not be permitted to take admission to next higher semester. The candidate shall be required to repeat that semester during the subsequent year.
17OB 10.5	The list of the candidates falling short of attendance shall be sent to Registrar (Evaluation) at least once in a month and final list shall be sent one week prior to the commencement of the examination.  The detained students should obtain permission from Registrar, VTU for readmission to the semester concerned as a repeater.
17OB 11.0	Promotion and Eligibility
17OB 11.1	There shall be no restriction for promotion from an odd semester to the next even semester, provided the student has fulfilled the attendance requirement.
17OB 11.2	A student shall be eligible for promotion from an even semester to next odd semester if the student has not failed in more than four heads of passing of the immediately preceding two semesters and has passed in all the Courses of all the lower semester examinations. Each credit Course shall be treated as a head of passing.
	Illustrations:
	a) A student seeking eligibility to III semester should not have failed in more than 4 heads of passing of I and II semesters considered together.
	b) A student seeking eligibility to V semester should have passed in all the subjects of I and II semesters and should not have failed in more than 4 heads of passing of III and IV semesters considered together.
	c) A student seeking eligibility to VII semester should have passed in all the subjects up to IV semester and should not have failed in more than 4 heads of passing of V and VI semesters considered together.
	Lateral entry scheme:
	<ul> <li>a. A student seeking eligibility to V semester should not have failed in more than 4 heads of passing of III and IV semesters considered together.</li> </ul>
	b. A student seeking eligibility to VII semester should have passed in all the subjects of III and IV semesters and should not have failed in more than 4 heads of passing of fifth and sixth semesters considered together.

#### 17OB 11.3

- a. All students admitted to I semester and to III semester under lateral entry scheme to B.E./B.Tech. programme have to undergo the Mandatory non credit Courses viz., Environmental Studies and English Language. However these Courses shall not be considered for the Eligibility criterion prescribed for promotion, award of Class, calculation of SGPA and CGPA.
- b. The Courses viz., Advanced Mathematics I and II, to be completed by the candidates (diploma holders) admitted to III semester under lateral entry scheme shall not be considered for the eligibility criterion prescribed for promotion, award of Class, calculation of SGPA and CGPA. However, a pass in the above Courses is mandatory for the completion of the programme and award of degree.
- c. The Courses Viz., (i) Computer Aided Engineering Drawing (ii) Programming in C and Data structure and (iii) Environmental Studies (if not studied at B.Sc. level), to be completed by the candidates who have passed B.Sc. degree and admitted to III semester of the programme; shall not be considered for the award of Class, calculation of SGPA and CGPA. However, a pass in the above Courses is mandatory for the completion of the programme and award of degree.

#### 17OB 12.0 Temporary Discontinuation/Break in the Program

#### 17OB 12.1

- a) If a candidate, for any reason, temporarily discontinues the Programme or take a break from the programme during any semester intentionally, he/she may be permitted to continue the programme by registering to the same semester of the prevailing scheme. The candidate shall complete all the remaining Course work subject to the provision 17 OB 1.5. Also the Candidates may have to complete additional Course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidates shall not be eligible for the award of rank.
- b) Candidates who takes admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons have to complete additional Course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank.

17OB 13.0	Award of Prizes, Medals and Ranks
17OB 13.1	For the award of Prizes and Medals, the conditions stipulated by the Donor shall be considered subject to the provisions of the statutes framed by the University for such awards.
17OB 13.2	<ol> <li>For award of rank in a Specialization of Bachelor of Engineering/ Technology, the CGPA secured by the students from III to VIII semester is considered.</li> <li>A student shall be eligible for a rank at the time of award of degree of Bachelor of Engineering/ Technology, provided the student,         <ul> <li>(i) Has passed I to VIII semester in all the Courses in first attempt only in case of candidates admitted I year.</li> <li>(ii) Has passed III to VIII semester in all the Courses in first attempt only in case of candidates admitted under lateral entry scheme.</li> <li>(iii) Has completed all the prescribed Audit/mandatory Courses.</li> <li>b) Is not a repeater in any semester because of rejection of result of a semester shortage of attendance etc.</li> <li>c) Has completed all the semesters without any break/discontinuity.</li> <li>d) Has completed all the semesters (I to VIII/III to VIII) in VTU constituent college or in any VTU affiliated non-autonomous college.</li> <li>e) Has not been transferred from autonomous institution affiliated to VTU or from any other University.</li> </ul> </li> <li>The total number of ranks awarded shall be 10% of total number of students appeared in VIII semester subject to a maximum of 10 ranks in a Specialization.</li> <li>For award of ranks in a Specialization, a minimum of 10 students should have appeared in the VIII semester examination.</li></ol>
17 OB 13.3	Ranks are awarded based on the merit of the students as determined CGPA. If two or more students get the same CGPA, the tie shall be resolved by considering the number of times a student has obtained higher SGPA. If it is not resolved even at this stage, the number of times a student has obtained higher grades like S, A, B etc., shall be taken into account to decide the order of the rank.

#### 17OB 14.0 Transfers of Students Transfer of students from one college to another college within Karnataka state shall be 17OB 14.1 permitted only at the beginning of third, fifth, and seventh semesters, subject to availability of seats within the permitted intake in respective Colleges and subject to the prior approval of the University. (a) Transfer of students from one non - autonomous to another non - autonomous college affiliated to VTU is permitted with the approval of the Registrar, VTU subject to the provision 170B11.2. The students seeking transfer shall have to, (i) Obtain No Objection certificate for admission from the University and from both the colleges before the commencement of term as notified by VTU. (ii) Complete the programme subject to the provision 170B1.5. (b) Transfer of students from an autonomous to non - autonomous college affiliated to VTU is permitted with the approval of the Registrar, VTU provided the candidates have passed in all the Courses of the previous semesters. The students seeking transfer shall have to, (i) Obtain No Objection certificate for admission from the University and from both the colleges before commencement of term as notified by VTU. (ii) Complete additional Course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on between two schemes. A Grade card shall be establishing equivalence issued to that effect. shall not be considered for the Eligibility criterion Additional Course/s prescribed for promotion, Class, calculation of SGPA and CGPA. However, a pass in the Additional Courses, if any, is mandatory before the completion of Degree. iii) Complete the programme subject to the provision 170B1.5. (c) In the case of students from Universities other than VTU, the students must have passed in all the Courses of I and II semesters for admission to III semester and all the Courses of I to IV semesters for admission to V semester and all the Courses of I to VI semesters for admission to VII semester. The students seeking admission from other Universities to VTU shall have to, i) Apply for establishment of equivalence with prescribed fees as notified by the VTU and obtain No Objection certificate for admission from the University before commencement of term as notified by VTU. ii) Produce No Objection certificate for admission from both the colleges before commencement of term as notified by VTU. iii)Complete additional Course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be considered for the eligibility criterion prescribed for promotion, Class, calculation of SGPA and CGPA. However, a pass in the additional Courses, if any, is mandatory before the completion of Degree. (ii) Complete the programme subject to the provision 17OB1.5. Transfer of students within the College from one branch to another branch at the start of 17 OB 14.2 III semester shall be permitted with the approval of the Registrar, VTU subject to the provisions made by the Government of Karnataka and AICTE in this behalf. 17OB 14.3 The University may prescribe fee for administrative purpose, which shall be notified from time to time, for transfer from one college to another (Change of College) or one branch to another branch (change of branch within the college).

17 OB 15.0	Applicability and Power to Modify
17 OB15.1	The regulations governing the Degree of Bachelor of Engineering/Technology of Visvesvaraya Technological University shall be a binding on all concerned.
17 OB15.2	<ul> <li>i) Notwithstanding anything contained in the foregoing, the University shall have the power to issue directions/ orders to address any difficulty.</li> <li>ii) Nothing in the foregoing may be construed as limiting the power of the University to amend, modify or repeal any or all of the above.</li> </ul>



### Annexure -1 VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI Scheme of Teaching and Examination 2017-2018

			SEMESTER B.E.		Te	aching		Examin	ation		
SL No	Course Code	Course Title	Teaching Department	Beard	Theory	Practical/ Drawing sa	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17MAT11	Engineering Mathematics	Mathematics	Basic Science	04		03	60	40	100	4
2	17PHY12	Engineering Physics	Physics	Basic Science	04		03	60	40	100	4
3	17CIV13	Elements of Civil Engineering and Mechanics	Civil Engineering	Civil Engineering	04		03	60	40	100	4
4	17EME14	Elements of Mechanical Engineering	Mechanical Engineering	Mechanical Engineering	04		03	60	40	100	4
5	17ELE15	Basic Electrical Engineering	E and E Engineering	E and E Engineering	04		03	60	40	100	4
6	17WSL16	Workshop Practice	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering	01Hour l 02Hour l	Instruction Practical	03	60	40	100	1
7	17PHYL17	Engineering Physics Laboratory	Physics	Basic Science	01Hour l 02Hour l	Instruction Practical	03	60	40	100	:
8	17ENG18	Language – English (Audit Course)	Humanities	•=	01						
				TOTAL		21 hours d: 06 hours	21	420	280	700	2
		II	SEMESTER B.E./F	Tech. (CHEMIS	TRY GRO	OUP)					_
1	17MAT21	Engineering Mathematics -II	Mathematics	Basic Science	04		03	60	40	100	
2	17CHE22	Engineering Chemistry	Chemistry	Basic Science	. 04		03	60	40	100	
3	17PCD23	Programming in C and Data Structures	Any Engineering Department	Computer Science and Engineering	04		03	60	40	100	ŀ
4	17CED24	Computer Aided Engineering Drawing	ME, Auto, IP, IEM, Mfg Engineering	Mechanical Engineering		Instruction Practice	03	60	40	100	
5	17ELN25	Basic Electronics	ECE/EEE/TC/E and I.	E and C Engineering	04		03	60	40	100	
	17CPL26	Computer Programming Laboratory	Any Engineering Department	Computer Science and Engineering		Practical	03	60	40	100	
6		Engineering Chemistry Laboratory	Chemistry	Basic Science		Tutorial Practical	03	60	40	100	
6 7	17CHEL27		Civil/	CV 11		• 1		30	20	-	
_	17CHEL27	Environmental Studies (Audit Course)	Environmental Engineering	Civil Engineering	01Tutor	:21 hours		30	20	50	

420

280

700

24

21

Practical: 06 hours

### Visvesvaraya Technological University, Belagavi Regulations Governing the Degree of Bachelor of Engineering/ Technology (B.E/B.Tech.) Under Choice Based Credit System (CBCS)

(w.e.f. academic year 2017 - 18)

#### Annexure -1

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS) I SEMESTER B.E./B.Tech (CHEMISTRY GROUP) Teaching Examination Hours /Week Credits **Fotal Marks** SEE Marks Marks Sl. Course Title Duration i bours Theory Course Code No CIE 100 40 03 60 4 1 17MAT11 Engineering Mathematics -I **Mathematics** Basic Science 04 60 40 100 4 2 17PHY12 **Engineering Chemistry** Chemistry Basic Science 04 03 Any Computer Programming in C and Data 03 60 40 100 4 Engineering Science and 3 17PCD13 04Structures Department Engineering ME, Auto, IP. Mechanical Computer Aided **02Hour Instruction** 4 17CED14 1EM, Mfg Engineering 03 60 40 100 4 04Hour Practice **Engineering Drawing** Engineering ECE/EEE/TC/E E and C 03 40 100 4 64 60 5 17ELN15 Basic Electronics Engineering and I. Any Computer 01Hour Tutorial Computer Programming 17CPL16 03 60 40 100 2 Science and 6 Engineering 02Hour Practical Laboratory Engineering Department Engineering Chemistry 01Hour Tutorial 2 Basic Science 03 60 40 100 7 17CHEL17 Chemistry 02Hour Practical Laboratory Civil/ Civil Environmental Studies 01HourTutorial 30 20 8 17CIV18 Environmental 50 Engineering (Audit Course) Engineering Theory:21 hours 450 300 750 21 24 Practical: 08 hours TOTAL II SEMESTER B.E./B.Tech (PHYSICS GROUP) 17MAT21 Engineering Mathematics -II Mathematics Basic Science 04 03 60 40 100 4 4 2 17PHY22 **Engineering Physics** Physics Basic Science 04 03 60 40 100 Elements of Civil Civil Civil 100 03 60 40 4 3 17CIV23 04 Engineering Engineering and Mechanics Engineering 100 Elements of Mechanical Met hanical Mechanical 04 03 60 40 4 4 17EME24 Engineering Engineering Engineering E and E E and E 4 5 17ELE25 Basic Electrical Engineering 04 03 60 40 100 Engineering Engineering ME, Auto, IP, Mechanical 01-Hour Instruction 40 100 03 2 17WSL26 Workshop Practice 1EM, Mfg 6 02-Hour Practical Engineering Engineering 01-Hour Instruction Engineering Physics 03 60 40 100 2 7 17PHYL27 **Physics** Basic Science 02-Hour Practical Laboratory Language - English Humanities 8 17ENG28 (Audit Course) Theory:21 hours

(w.e.f. academic year 2017 – 18)
Annexure -1

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018 Choice Based Credit System (CBCS)

B.E./B.Tech

				44	Teach	ing Hours/Week		Exami	nation		
SI. No	Course Code	Course	Course Title	Teaching Department	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17MAT31	Core Course	Engineering Mathematics-III		04	****	03	60	40	100	4
2	17XX32	Core Course			04		03	60	40	100	4
3	17XX33	Core Course			04		03	60	40	100	4
4	17XX34	Core Course			04		03	60	40	100	4
- 5	17XX35	Core Course			04		03	60	40	100	4
6	17XX36	Foundation Course			03		03	60	40	100	3
7	17XXL37	Laboratory				Instruction Practical	03	60	40	100	2
8	17XXL38	Laboratory			0 2 220	Instruction Practical	03	60	40	100	2
9	17KL/CPH39/49	Core Course	Kannada/Constitution of India, Professional Ethics and Human Rights	Humanities	01	,	01	30	20	50	01
			T	OTAL		4hours d: 06 hours	25	510	340	850	28

- 1. Core Course: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Foundation Course: The courses based upon the content that leads to Knowledge enhancement.
- 3. Kannada/Constitution of India, Professional Ethics and Human Rights: 50 % of the programs of the Institution have teach Kannada/Constitution of India, Professional Ethics and Human Rights in cycle based concept during III and IV semesters.
- 4. Audit Course:
- (i) All lateral entry students (except B.Sc candidates) have to register for Additional Mathematics I which is 04 contact hours per week.
- (ii) Language English (Audit Course) be compulsorily studied by all lateral entry students (except B. Sc candidates)

(w.e.f. academic year 2017 – 18)

Annexure -1 (page -4)

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS)

#### B.E./B.Tech

					Teach	ing Hours /Week		Exami	nation		
SI. No	Course Code	Course	Course Title	Teaching Department	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17MAT41	Core Course	Engineering Mathematics-IV		04		03	60	40	100	4
2	17XX42	Core Course	54		04		03	60	40	100	4
3	17XX43	Core Course			04		03	60	40	100	4
4	17XX44	Core Course			04		03	60	40	100	4
5	17XX45	Core Course			04	**	03	60	40	100	4
6	17XX46	Foundation Course	=		03		03	60	40	100	3
7	17XXL47	Laboratory				Instruction Practical	03	60	40	100	2
8	17XXL48	Laboratory				Instruction Practical	03	60	40	100	2
9	17KL/CPH39/49	Core Course	Kannada/Constitution of India, Professional Ethics and Human Rights	Humanities	01		01	30	20	50	01
	1	1.	Т	OTAL		24hours d: 06 hours	25	510	340	850	28

- 1. Core Course: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Foundation Course: The courses based upon the content that leads to Knowledge enhancement.
- 3. Kannada/Constitution of India, Professional Ethics and Human Rights: 50 % of the programs of the Institution have teach Kannada/Constitution of India, Professional Ethics and Human Rights in cycle based concept during III and IV semesters.
- 4 Audit Course
- (i) All lateral entry students (except B. Sc candidates) have to register for Additional Mathematics II which is 04 contact hours per week.
- (ii) Language English (Audit Course) be compulsorily studied by all lateral entry students (except B. Sc candidates)

(w.e.f. academic year 2017 - 18)

Annexure -1 (page -5)

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018 Choice Based Credit System (CBCS)

B.E./B.Tech

V SEI	MESTER				Teach	ing Hours /Week		Exami	nation		
SI. No	Course Code	Course	Course Title	Teaching Department	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17XX51	Core Course	Management and Entrepreneurship Excluding CSE, ISE and EV Programs. (The course must be related to Management and Entrepreneurship. However, the title and syllabus content can be as per the programme requirement).		04		03	60	40	100	4
2	17XX52	Core Course			04		03	60	40	100	4
3	17XX53	Core Course			04		03	60	40	100	4
4	17XX54	Core Course			04		03	60	40	100	4
5	17XX55X	Professional Elective			03		03	60	40	100	3
6	17XX56Y	Open Elective			03		03	60	40	100	3
7	17XXL57	Laboratory				r instruction r Practical	03	60	40	100	2
8	17XXL58	Laboratory				r Instruction r Practical	03	60	40	100	2
			Т	OTAL		:22hours al: 06 hours	24	480	320	800	26

		Electives		
Professional Elective		Offered by the I	Open Elective *** Department of	
Courses under Code 17XX55X	Course Title	Courses under Code 17XX56Y	Course Title	
17XX551		17XX561		
17XX552		17XX562		
17XX553		17XX563		
17XX554		17XX564		

- Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives). Selection of an open elective is not allowed provided;
  - The candidate has pre requisite knowledge.
  - The candidate has not studied during I and II year of the programme.
  - The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
  - · A similar course, under any category, is prescribed in the higher semesters.

Registration to electives shall be documented under the guidance of Programme Coordinator and Adviser.

- 1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective: Electives relevant to chosen specialization/ branch.
- 3. Open Elective: Electives from other technical and/ or emerging subject areas.

#### Visvesvaraya Technological University, Belagavi Regulations Governing the Degree of Bachelor of Engineering/ Technology (B.E/B.Tech.)

Under Choice Based Credit System (CBCS) (w.e.f. academic year 2017 - 18)

Annexure -1 (page -6)

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018 Choice Based Credit System (CBCS)

#### B.E./B.Tech

					Teachi	ng Hours /Week		Exam	ination		
SI. No	Course Code	Course	Course Title	Teaching Department	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17XX61	Core Course	Management and Entrepreneurship Excluding CSE, ISE and EV Programs. (The course must be related to Management and Entrepreneurship. However, the title and syllabus content can be as per the programme requirement).		04		03	60	40	100	4
2	17XX62	Core Course			04	-	03	60	40	100	4
3	17XX63	Core Course	· · · · · · · · · · · · · · · · · · ·		04	_	03	60	40	100	4
4	17XX64	Core Course			04	-	03	60	40	100	4
5	17XX65X	Professional Elective			03		03	60	40	100	3
6	17XX66Y	Open Elective			03	••	03	60	40	100	3
7	17XXL67	Laboratory				Instruction Practical	03	60	40	100	2
8	17XXL68	Laboratory				Instruction Practical	03	60	40	100	2
		-111	Т	OTAL		22hours d: 06 hours	24	480	320	809	26

		Electives		
Profes	ssional Elective	Offered by the	Open Elective*** Department of	
Courses under Code 17XX65X	Course Title	Courses under Code 17XX66Y	Course Title	
17XX651		17XX661		
17XX652		17XX662		
17XX653		17XX663		
17XX654		17XX664		

Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives). Selection of an open elective is not allowed provided;

- The candidate has pre requisite knowledge.
- The candidate has not studied during I and II year of the programme.
- · The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- · A similar course, under any category, is prescribed in the higher semesters.

Registration to electives shall be documented under the guidance of Programme Coordinator and Adviser.

- 1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective: Electives relevant to chosen specialization/ branch.
- 3. Open Elective: Electives from other technical and/or emerging subject areas.

(w.e.f. academic year 2017 - 18)

### Annexure -1 (page -7) VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018 Choice Based Credit System (CBCS)

#### B.E./B.Tech

					Teach	ing Hours/Week		Exami	nation		
SI. No	Course Code	Course	Course Title	Teaching Department	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17XX71	Core Course			04		03	60	40	100	4
2	17XX72	Core Course			04		03	60	40	100	4
3	17XX73	Core Course			04		03	60	40	100	4
4	17XX74 X	Professional Elective			03	***	03	60	40	100	3
5	17XX75Y	Professional Elective			03	_	03	60	40	100	3
6	17XXL76	Laboratory				Instruction Practical	03	60	40	100	2
7	17XXL77	Laboratory				Instruction Practical	03	60	40	100	2
8	17XXP78	Core Course	Project Phase - I and Project seminar			03			100	100	2
			N	TOTAL		:18 hours al and Project: 09	21	420	380	800	24

Professional Elective		Professional Elective				
Courses under Code 17XX74X	Course Title	Courses under Code 17XX75Y	Course Title			
17XX741		17XX751				
17XX742		17XX752				
17XX743		17XX753				
17XX744		17XX <b>7</b> 54				

- 1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective: Electives relevant to chosen specialization/ branch.
- 3. Project Phase I and Project seminar: Comprises of Literature Survey, Problem identification, Objectives and Methodology. CIE marks shall be based on the report covering Literature Survey, Problem identification, Objectives and Methodology and seminar presentation skill.

(w.e.f. academic year 2017 - 18)

Annexure -1 (page -8)

#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

			Choice Based	Credit S	Teaching Hours / Week   Examination						
			B.E./B.Tech	Course Title							
VIII S	EMESTER						1				
					Teachi	ing Hours /Week		Exami	nation		
Sl. No	Course Code	Course	Course Title	Teaching Departmen	Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	Credits
1	17XX81	Core Course			04	_	03	60	40	100	4
2	17XX82	Core Course			04		03	60	40	100	4
3	17XX83X	Professional Elective			03	_	03	60	40	100	3
4	17XX84	Core Course	Internship/ Professional Practice				03	50	50	100	2
5	17XXP85	Core Course	Project work Phase -II			06	03	100	100	200	6
6	17XXS86	Core Course	Technical Seminar			04			100	100	1
				TOTAL	Project :		15	390	310	700	20
			Profe	essional El	ectives						
Courses under Code 17XX83X					Course Ti	tle					
17	XX831										
17	XX832										
17	XX833										
17	XX834										
1. Cor	re subject: Th	is is the course, v	which is to be compulsorily studie	ed by a stu	dent as a co	ore requirement to co	mplete the	require	ment of a	progran	nme

in a said discipline of study.

2. Professional Elective: Electives relevant to chosen specialization/branch.

3. Internship/ Professional Practice: To be completed between the V and VI semester vacation and/or VI and VII semester vacation period.



BENGALURU-560 083.



### Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

Dr. H. N. Jagannatha Reddy, BE, ME, Ph.d. REGISTRAR

Ref No. VTU/Aca/A12/2017-18/4 & XO

Date: 1 4 SEP 2017

: (0831) 2405467

Phone: (0831) 2405468

Fax

#### **NOTIFICATION**

Sub:

Regulations B.E/B.Tech & Scheme for 2017-18 admitted students and onwards

Ref:

1. Resolution No 2 of 133<sup>rd</sup> Extraordinary Executive Council Meeting, dated: 11<sup>st</sup>

September 2017.

2. Vice-Chancellor's order, dated 14.09.2017

With reference to the above subject, the Scheme & Regulations governing B.E/B.Tech programme from the academic year 2017-18 has been updated on the website.

#### In this regard following is brought to the notice:

- 1. The Course Evaluation shall be carried in the ratio 60 and 40 for SEE (Semester End Examination) and CIE (Continuous Internal Evaluation) respectively.
  - The SEE will be conducted for 100 marks and proportionally reduced to 60 marks.
  - The CIE is prescribed for maximum of 40 marks. Marks prescribed for test shall be 30 and that for assignment is 10. The CIE marks for test in a theory Course shall be based on three tests generally conducted at the end of fifth, tenth and fourteenth week of each semester. Each test shall be conducted for a maximum of 30 marks and the final marks shall be the average of three tests. The remaining 10 marks shall be awarded based on the evaluation of Assignments/Unit tests/written Quizzes that support to cover some of the Course/program outcomes. Final CIE marks awarded shall be the sum of these two out of maximum of 40 marks.
  - In the case of Practical, the CIE marks shall be based on the laboratory journals/ records (30 Marks for continuous evaluation based on conduct of experiment, viva and report writing) and one practical test (10 Marks) to be conducted at the end of the semester.
- 2. The Scheme of teaching from the academic year 2017-18 admitted batch and onwards has been changed by retaining the contents of the syllabus of 2015-16 scheme as it is.

Principals of Constituent and Affiliated Engineering Colleges are required to conduct an orientation program for the students, clearly mentioning the guidelines of Regulations & Scheme.

Contents of this notification may kindly be brought to the notice of all the concerned.

By order. Sa/-REGISTRAR

To,

The Principals of Constituent & Affiliated Engineering Colleges.

Copy FWCs to:

y FWCs to:

1. The Vice Chancellor, through Secretary to VC, VTU, Belagavi, for information.

AMC ENGINEERING COLLEGE BENGALIE!

2. The Registrar, VTU, Belagavi, for information.

3. The Registrar (Evaluation), VTU, Belagavi, for information and needful.

4. The in-Charge Regional Director's of VTU Regional Offices at Belagavi, Bengaluru, Mysuru & Kalaburagi, for information.

5. The Special Officer, Academic Section, VTU, for information.

6. Office Superintendent, Academic Section, VTU, for information.

CNC to upload.

REGISTRAR 14/09/17

BENGALURU-560 083.





### Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018, Karnataka State

Prof. A S. Deshpande B.E. M. Tech., Ph.D. REGISTRAR

Ref VTU/BGM/Aca-OS/Gen-Cirs/2019-20/ 3013 NOTIFICATION Phone: (0831) 2498100 Fax : (0831) 2405467

AUG 2014 Date :

Sub: Regulations Governing the Degree of B.E./ B.Tech. under OBE and CBSE (Revised-2018) - reg...

Ref: Executive Council Resolution. No. 2.2.1 dt: 30th May, 2019

Pursuant to the aforesaid Executive Council Resolution, the "Regulations Governing the Degree of B.E./ B.Tech. under outcome Based Education and Choice Based Credit System - (Revised - 2018) " are hereby notified.

These Regulations are applicable for the following students:

- 1. Admitted to I semester/I year from the academic year 2018-19 (i.e. USN XXXX8XXXXX
- 2. Admitted to III semester/II year from the academic year 2019-20 (i.e. USN XXX19XX4XX)

You are hereby directed to bring the same to the notice of all the concerned and to follow them scrupulously.

The previous regulations in this regard (published on VTU website and printed in syllabus books are treated as null and void.

Enci: as above

The of Principals of All Engineering Colleges under the ambit of VTU, Belagavi

Copy to:

1. Hon'ble Vice-Chancellor through the Secretary to VC, VTU, Belagavi for kind information

2. The Registrar (Evaluation), VTU, Belagavi

3. The Regional Directors (I/C) of all the Regional Offices of VTU for circulation

4. The Computer Network Centre, VTU, Belagavi- to upload on VTU website

5. PS to Registrar, VTU, Belagavi

6. All the concerned Special Officer and Case-workers of Academic Section, VTU, Belagavi

> A.G. Natared AMC ENGINEERING COLLEGE BENGALURU-560 083.





### Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018, Karnataka State

Prof. A S. Deshpande B.E. M.Tech., Ph.D. REGISTRAR

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NOTIFICATION

Phone: (0831) 2498100 Fax: (0831) 2405467

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#### **Definitions of Keywords**

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of B.E./B.Tech. Programmes:

- 1) Programme: Is an educational Programme in a particular stream/ branch of Engineering/branch of specialization leading to award of the Degree. It involves events/activities, comprising of lectures/tutorials/laboratory work/field work, outreach activities/project work/vocational training/viva voce/ seminars/ internship/assignments/ presentations/ self-study etc., or a combination of some of these.
- 2) Branch: Means Specialization or discipline of B.E./B.Tech. Degree Programme, like Civil Engineering, Mechanical Engineering, Textile Engineering, etc.
- 3) Semester: Refers to one of the two sessions of an academic year (vide: serial number 4), each session being of sixteen weeks duration (with working days greater than or equal to ninety). The odd and even semesters shall be as per the University academic calendar.
- 4) Academic Year: Refers to the sessions of two consecutive semesters (odd followed by an even) including periods of vacation.
- Course: Refers to usually referred to as 'papers' and is a component of a Programme. All Courses need not carry the same weight. The Courses should define learning objectives and learning outcomes. A Course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ outreach activities/project work/ vocational training/ viva voce/ seminars/ term papers/assignments/ presentations/ self-study etc., or a combination of some of these.
  - Credit: Refers to a unit by which the Course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical Courses/ tutorials/ fieldwork per week etc.
- 7) Audit Courses: Means the Knowledge/ Skill enhancing Courses without the benefit of a grade or credit for a Course.
- 8) Choice Based Credit System (CBCS): Refers to customizing the Course work, through Core, Elective and soft skill Courses, to provide necessary support for the students to achieve their goals.
- 9) Course Registration: Refers to formal registration for the Courses of a semester (Credits) by every student under the supervision of a Faculty Advisor (also called Mentor, Counsellor etc.) in each semester for the Institution to maintain proper record.
- 10) Course Evaluation: Means Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluations prescribed for each Course. CIE and SEE to carry 40 % and 60 % respectively, to enable each Course to be evaluated for 100 marks, irrespective of its Credits.
- 11) Continuous Internal Evaluation (CIE): Refers to evaluation of students' achievement in the learning process. CIE shall be by the Course Instructor and includes tests, homework, problem solving, group discussion, quiz, mini-project and seminar throughout the semester, with a weightage for the different components being fixed by the University.
- 12) Semester End Examinations (SEE): Refers to the examinations conducted by the University covering the entire Course Syllabus. For this purpose, Syllabi to be modularized and SEE questions to be set from each module, with a choice confined to the concerned module only. SEE is also termed as University examination.
- 13) First Attempt: Refers to a student who has completed all formalities and has become eligible to attend the SEE and has attended at least one head of passing, such attempt shall be considered as first attempt.

- 14) Credit Based System (CBS): Refers to quantification of Course work, after a student completes teaching learning process, followed by passing in both CIE and SEE. Under CBS, the requirement for awarding degree is prescribed in terms of total number of credits to be earned by the students.
- 15) Credit Representation: Refers to the Credit Values for different academic activities considered, as per the Table.1 Credits for seminar, project phases, project viva—voce and internship shall be as specified in the Scheme of Teaching and Examinations.

16) Letter Grade:

Table 1: Credit Values									
Theory/Lectures (L) (hours/week/Semester)	Tutorials (T) (hours/week/Semester)	Laboratory/Practical (P) (hours/week/Semester)	Credits (L:T:P)	Total Credits					
4	0	0	4:0:0	4					
3	0	0	3:0:0	3					
2	2	0	2:1:0	3					
2	0	2	2:0:1	3					
2	2	2	2:1:1	4					
0	0	6	0:0:3	3					

NOTE: Activities like, practical training, study tour and participation in Guest lectures not to carry Credits.

It is an index of the performance of students in a said Course. Grades are denoted by letters S, A, B, C, D, E and F.

- 17) Grading: Grade refers to qualitative measure of achievement of a student in each Course, based on the percentage of marks secured in CIE and SEE. Grading is done by Absolute Grading [Refer: 18 OB 6.0]. The rubrics attached to letter grades are as follows: S Outstanding, A Excellent, B Very Good, C Good, D Above Average, E Average and F Fail.
- 18) Grade Point (GP): Refers to a numerical weightage allotted to each letter grade on a 10-point scale as under.

	Letter Gra	ide and coi	rrespondin 10 – Point		oints on a	typical	
Letter Grade	S	A	В	C	D	E	F
Grade Point	10	09	08	07	06	04	00

- 19) Passing Standards: Refers to passing a Course only when getting GP greater than or equal to 04 (as per serial number 18).
- 20) Credit Point: Is the product of GP and number of credits for a Course i.e., Credit points (CrP) = GP × Credits for the Course.
- 21) Semester Grade Point Average (SGPA): Refers to the measure of academic performance of student/s in a semester. [Refer: 180B6.2]
- 22) Cumulative Grade Point Average (CGPA): Is a measure of overall cumulative performance of a student over all semesters. [Refer: 180B6.2]
- 23) Grade Card: Refers to the certificate showing the grades earned by a student. A grade card shall be issued to all the registered students after every semester end examination. The grade card will display the Programme details (Course code, title, number of credits, grades secured) along with SGPA of that semester and CGPA earned till that semester.
- 24) University: Visvesvaraya Technological University (VTU), Belagavi.

18OB1.0	Title, Duration and Credits of the Programme of Study.
18OB1.1	The Programme of study shall be called the degree of Bachelor of Engineering /Bachelor of Technology, abbreviated as B.E./B.Tech.
18OB1.2	<ul> <li>(a) The Programme to which students are admitted to First semester of B.E./B.Tech. Programme shall be of four academic year duration divided into eight semesters. The actual Teaching and Learning days shall be for at least 90 working days in a semester.</li> <li>(b) The Programme to which students are admitted to third semester of B.E./B.Tech. Programme under lateral entry shall be of three academic year duration, divided into six semesters. The actual Teaching and Learning days shall be at least 90 working days in a semester.</li> <li>(c) The Programme (conducted during evening) to which students are admitted to third semester of B.E./B.Tech. Programme under lateral entry scheme shall be of three academic year duration, divided into six semesters. The actual Teaching and Learning days shall be for at least 90 working days in a semester. The deficit contact hours of the Programme, conducted during evening on all working days, shall be compensated on all Sundays (except on general holidays).</li> </ul>
18OB1.3	The calendar of events in respect of the Programme of study shall be notified by the University in advance.
18OB1.4	Maximum Duration for Programme Completion:  (a) In case of students admitted to First semester of First year B.E./B.Tech. Programme  (i) Students admitted to First year first semester B.E./B.Tech. shall complete the Programme within a period of eight academic years from the date of first admission, failing which they have to discontinue the Programme.  (ii) A student who has not obtained eligibility to third semester even after three academic years from the date of first admission to first semester shall discontinue the Programme or get readmitted to first semester of first year B.E./B.Tech. with a revised University Seat Number having the same year of admission but serial number of the student starting with SIX hundred series (6XX).  (iii) A student who has joined first year (to I or II semester) as a repeater and has not obtained eligibility to third semester even after three academic years from the date of first year shall discontinue the Programme or get readmitted to first semester of first year B.E./B.Tech., subject to the provision of 180B1.4 (a)(i), with a revised University Seat Number having the same year of admission but serial number of the student starting with SIX hundred series (6XX).  (iv) A student, who has been readmitted to First year [as per 180B1.4 (a) (ii) and (iii)], does not get eligibility to third semester even after two academic years from the date of readmission procedure at that time.  (v) A student who gets admitted to III semester from I year in three or less than three years shall complete the Programme, with or without break, within a period of eight academic years from the date of first admission, failing which they have to discontinue the Programme or seek fresh admission following the prevailing admission procedure at that time.  (b) In case of lateral entry students admitted to Third semester of Second year B.E./B.Tech. Programme.  (ii) A student who has not obtained eligibility to fifth semester even after two academic years from the date of first admission to third semeste

	Effective from the Academic Year 2018 – 19
180B1.5	obtained eligibility to fifth semester even after three academic years from the date of readmission to second year shall discontinue the Programme or get readmitted to third semester of second year B.E./B.Tech., subject to the provision of 18OB1.4 (b) (i), with a revised University Seat Number having the same year of admission but serial number of the student starting with SEVEN hundred series (7XX).  (iv) A student, who has been readmitted to second year [as per 18OB1.4 (b) (ii) and (iii)], does not get eligibility to fifth semester even after two academic years from the date of readmission to second year, he/she shall discontinue the Programme or seek fresh admission following the prevailing admission procedure at that time.  (v) A student who gets admitted to V semester from II year in two or less than two years shall complete the Programme, with or without break, within a period of six academic years from the date of first admission, failing which they have to discontinue the Programme or seek fresh admission following the prevailing admission procedure at that time.  Prescribed Number of Credits for the Programme [to be read along with 18OB12.2]:  (a) The number of credits to be completed by students admitted to third semester of B.E./B.Tech. Programme shall be 175.  (b) The number of credits to be completed by students admitted to third semester of
	B.E./B.Tech. Programme under lateral entry scheme shall be 135.  (c) A student shall be eligible to get Undergraduate degree with Honours, if he/she earns additional 20 credits, as per VTU norms issued from time to time regarding the earning of additional credits. [To be read along with Regulations Governing the award of Honours' in B.E./B.Tech. Degree Programmes.]
18OB1.6	<ul> <li>(a) Definition of Credits:</li> <li>(a.1) I hour Lecture (L) per week per semester = 1 Credit</li> <li>(a.2) 2 hours Tutorial (T) per week per semester = 1 Credit</li> <li>(a.3) 2 hours Practical/Laboratory/Drawing (P) per week per semester = 1 Credit.</li> <li>(a.4) Four credit theory courses shall be designed for 50 hours of Teaching - Learning process.</li> <li>(a.5) Three credit theory courses shall be designed for 40 hours of Teaching - Learning process.</li> </ul>
18OB2.0	Eligibility for Admission to B.E./B.Tech. Programmes (As per the Government orders issued from time to time)
18OB2.1	(a)Day Engineering College (Eligibility: Candidates who have Passed Second PUC/Twelfth standard)  (i) Passed Second PUC/12 <sup>th</sup> standard/Equivalent examination with English as one of the Languages and obtained a minimum of 45 % of Marks in aggregate in Physics and Mathematics along with Chemistry/Bio-Technology/Biology/Electronics/Computer. 40 % for SC, ST, Category – 1, 2A, 2B, 3A and 3B category candidates of Karnataka only.  (ii) Those students, who have passed a qualifying examination other than the PUC II examination of the Pre-University Education Board of Karnataka, have to obtain eligibility certificate for seeking admission to B.E./B.Tech. Degree Programme from Visvesvaraya Technological University, Belagavi.
	(b) Day Engineering College (Eligibility: Candidates who have Passed 3 year Diploma) (i) A candidate who has passed any Engineering diploma examination or equivalent examination and obtained an aggregate minimum of 45 % marks taken together in all the subjects of the final year (Fifth and Sixth semester) diploma examination (qualified examination) is eligible for admission to B.E./B.Tech. Programmes, in respective branch of Engineering (as notified by the Government of Karnataka for admission to 3rd semester / 2nd year B.E./B.Tech.) and 40 % of marks in qualified examination in case of SC, ST and Backward Classes of Karnataka candidates.  (ii) Those candidates who have completed Engineering Diploma from other than Karnataka state shall provide the Equivalence/ Eligibility Certificate issued from the Director of Technical Education, Karnataka.

### Regulations Governing the Degree of Bachelor of Engineering/Technology (B.E./B.Tech.)

	Under Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
	Effective from the Academic Year 2018 - 19
	(c) Evening Engineering College (Eligibility: Candidates who have Passed 3 year
ale	Diploma):
*	(i) A candidate who has passed any Engineering diploma examination or equivalent
1	examination and obtained an aggregate minimum of 45 % marks taken together in all the
gyva	subjects of the final year (Fifth and Sixth semesters) diploma examination (qualified
	examination) is eligible for admission to B.E./B.Tech. Programmes, in respective branch of
	Engineering (as notified by the Government of Karnataka for admission to 3rd semester /
	2nd year B.E./B.Tech.) and 40 % of marks in qualified examination in case SC, ST and
i	Backward Classes of Karnataka candidates.
	In addition to this a candidate after passing the diploma, must have minimum of Two years
	full-time work experience as on 1st September of the year of admission, in a registered
1	firm/Company/Industry/Educational Institution /Government/Autonomous Organizations in
	the branch of Engineering/Technology, in which the candidates holds a diploma and in
	which admission is sought by him/her.
	Professional experience refers to the experience earned as an employee on regular basis in
	Government, Government Undertaking, Public Sector Undertaking, Corporation or Private
	company registered under the Directorate of Industries and Commerce or the Directorate of
	Small Scale Industries or Government recognized Institutions as technical staff, Provided
İ	that the period of apprenticeship undergone shall also be treated as professional experience,
1	if sponsored by the Board of Apprenticeship Training, Southern Region, Chennai or by
1	Government, Government Undertakings and Public Sector Undertakings.
	Note: In case where genuineness of the employment certificate is questionable, such
	candidates have to produce supportive documents specifying the registration details of the
}	Industry/Company (e.g., SSI Registration) and or identity cards provided to them together
	with latest salary certificate and provident fund certificate. However, the employer has to fill
	up the NOC duly signed by the company authority.
	(d) Day Engineering College (Eligibility: Candidates who have Passed B.Sc Degree)
	Passed B.Sc. Degree from a recognized University as defined by UGC, with at least 45%
	marks (40% in case of candidates belonging to reserved category) and passed 10+2
1	examination with Mathematics as a subject.
190DA 2	
180B2.2	C
	the University/ Association of Indian Universities is mandatory for admission to
ŀ	B.E./B.Tech. Programmes. In case of any dispute about the equivalence in qualification
	earned from foreign countries, the decision of the University Equivalence Committee shall
100700	be the final in establishing the eligibility of the student.
18OB3.0	
180B3.1	Q 71
	(a) Humanities, Social Sciences and Management Courses (HSMC): These are mandatory
	for all disciplines.
	b) Basic Sciences Courses (BSC): Physics, Chemistry and Mathematics. These are
1	mandatory for all disciplines.
V . Q . W	(c) Engineering Science Courses (ESC): Materials, Workshop, Drawing, and Basics of
A STORES	Electrical/ Electronics/ Instrumentation/ Civil/ Mechanical/ Computer Engineering etc.
Charles as	These are mandatory for all disciplines.
100 41	(d) Professional Core Courses (PCC) - Core: Are the professional Core Courses, relevant to
STATE OF STA	the chosen specialization/ branch. The core Courses are to be compulsorily studied by
S.	students and are mandatory to complete them to fulfill the requirements of a Programme.
	the protection to the the protection by the the
	chosen specialization / branch and can be chosen from the pool of papers. It shall be
	supportive to the discipline providing extended scope/enabling an exposure to some other
	discipline /domain and nurturing student proficiency skills.
	(f) Open Elective Courses (OEC): Are the Elective Courses from other technical areas and/
	or from amarcine fields

elsewhere without affecting with the regular classwork,

(g) Project Work (PROJ): Mini project and Main Project. Carried out at the Institution or

or from emerging fields.

	Effective from the Academic Year 2018 - 19
	(h) Seminar: Deliverable at the Institution under the supervision of a Faculty.
	(i) Internship: Preferably at an industry/R and D organization/IT company/Government
	organization or elsewhere of significant repute for a specified period as mentioned in
	Scheme of Teaching and Examinations.
2	(j) Mandatory Courses (MC): These Courses are mandatory, without the benefit of a grade
	or credit, for students admitted to B.E./B.Tech. Programme. A pass in each mandatory
	Course is required to quality for the award of degree.
18OB3.2	The minimum number of students registered to any Elective Course offered by the
	Departments shall be not less than ten.
	However, the above condition shall not be applicable to Programmes having class strength
	of less than 10. In such cases, only one elective course shall be offered.
18OB3.3	A student shall exercise his option in respect of Elective Course/s and registered for the
	same at the beginning of the concerned semester. The student may be permitted to opt for a
1	change of Elective Course/s within 15 days from the date of commencement of the semester
1	as per the calendar of the University.
18OB3.4	Course Registration:
10025.4	
	In order to maintain proper academic record of each student at the Institution, every student
	shall register for the Courses of a semester (Credits) under the supervision of a Faculty
18OB4.0	Advisor (also called Mentor, Counselor, etc.,) in each semester.
	Internship/Professional Practice
18OB4.1	Internship / Professional Practice
	The Internship shall be completed during the period specified in the Scheme of Teaching
	and Examinations.
	1) The internship shall preferably be at an industry/R and D organization/IT company/
	Government organization of significant repute for a specified period as mentioned in
	Scheme of Teaching and Examinations.
	2) The Department/college shall nominate staff member/s to facilitate, Guide and supervise
	students under internship.
	3) The students shall report progress of the internship to the Guide in regular intervals and
	seek his/her advice. The Guide shall maintain the progress record of the candidates
	undergoing internship.
	4) After the completion of Internship, students shall submit a report with completion
-3	certificate and attendance certificate to the Head of the Department with the approval of
/	both internal and external Guides.
A SHIP	5) There shall be 40 marks for CIE and 60 marks for SEE. The minimum requirement of
STATE STATE	CIE marks shall be 50% of the maximum marks.
St. Marie	6) The internal Guide shall be the internal examiner for the SEE.
Blue 3	7) The external Guide for Internship shall be the external examiner for SEE. Examination
10. 12.	for internship shall be conducted at the college and the date shall be fixed in consultation
100	with the external Guide. The Examiners shall jointly award the SEE marks. [To be read
	along with 18OB8.9 (f)]
1	8) In case the external Guide expresses his inability to conduct the Examination, the
	Principal /Chief Superintendent of the Institute shall appoint a senior faculty of the
	Department to conduct the Examination along with the internal Guide.
	9) Non-availability of Internal guide due to inevitable situations for the conduct of SEE, the
1	Principal /Chief Superintendent of respective institute shall appoint a senior faculty of the
	Department to conduct the Examination.
	10) The students are permitted to carry out the internship anywhere in India or abroad. The
	University will not provide any kind of financial assistance to any student for carrying out
	the Internship.
180B 5.0	Technical Seminar and Project
18OB 5.1	Technical Seminar: Technical Seminar is one of the head of passing.
1	(i) Each candidate shall deliver Technical seminar as per the Scheme of Teaching and
	Examinations on the topic chosen from the relevant field.
	(ii) The Head of the Department shall make arrangements for the conduct of seminars
	The state of the s

		En	fective from	tue Academic	(I, C.M.)	2010 - 17	·					
	through concerned faculty members of the Department. The committee, constituted for the											
	purpose by the Head of the Department, shall award the CIE marks for the seminar. The committee shall consist of two senior faculty members of the Department and the senior											
	committee shall consist of two senior faculty members of the Department and the senior											
and the state of t	most acting as the Chairperson. [To be read along with 18OB8.2 (e)]											
18OB 5.2	Project: Project (Mini and Main) is one of the head of passing.											
	Mini Project Work and Main Project Work shall preferably be batch wise, the strength of											
	each batch	shall not e	xceed a ma:	kimum of for	ır stud	lents. [To	be read al	long with 1	8OB 8.2			
	(f), (g) 180	OB8.9 (f) an	d the details	s mentioned i	n Sch	eme of Te	eaching an	d Examina	tions.]			
18OB 5.3	Examinations in Mini Project Work and Main Project Work shall be conducted batch-wise.											
18OB 6.0	Computation of SGPA and CGPA  (i) The University adopts absolute grading system wherein the marks are converted to											
18OB 6,1	(i) The U	niversity ad	opts absolu	te grading s	ystem	wherein	the mark	s are con	verted to			
	grades, an	d every ser	mester resu	lts shall be	declar	ed in ter	ms of Ser	nester Gra	de Poin			
	Average (	SGPA) cons	sidering all	the courses a	ppear	ed in tha	t Semester	End Exar	nination:			
	including	backlog cou	irse/s/arrear	papers (refe	rs to c	courses of	ther than t	he current	semeste			
	courses th	at have not	yet been co	impleted) and	1 Cun	ulative C	irade Poin	t Average	(CGPA)			
	The CGPA	will be cal	culated for a	every semeste	er. exc	ept for th	e first sem	ester.	(			
	(ii) The g	rading syste	em with the	e letter grad	es an	d the ass	igned ran	ge of mar	ks under			
	absolute g	rading syste	m shall be a	s given belov	v:							
	Level	Outstand	ling Exce	llent Very	Good	Good	Above Average	Average	Fail			
	Letter Grade	s	<i>A</i>	. 8		С	D	E	F			
	Grade Points	10	9	) 8		7	6	4	00			
	Percentage of		ব			< 70	< 60	< 45	< 40			
	Percentage of Marks Score	ed 290	≥8	30 ≥7	0	≥60	≥ 4.5	≥40	< 40			
	Percentage of Marks Score in a Course (iii) A stud reappear in	(90-10) dent obtaining the subse	0) (80 ⋅ ng Grade F equent SEE	80 ≥7 89) (70 - in a Course . Whatever ti	79) shall he lett	≥60 (60- 69) be consider grade	≥45 (45 - 59) dered fail a secured by	≥40 (40 - 44) and is red the stude	(0 - 39) Quired to			
18OR6 2	Percentage of Marks Score in a Course  (iii) A studies reappear in his /her reshall be in	(90 -10) dent obtaining the subscappearance dicated in the subscape of the subscappearance dicated in the subscappearance of the subscapp	0) (80 cm Grade F equent SEE shall be avithe grade ca	in a Course. Whatever the warded. The rd.	79) shall he lett	≥60 (60- 69) be consider grade	≥45 (45 - 59) dered fail a secured by	≥40 (40 - 44) and is red the stude	(0 - 39) Quired to			
18OB6.2	Percentage of Marks Score in a Course (ili) A stude reappear in his /her reshall be in Computa	dent obtaining the subscappearance dicated in the tion of SG	0) (80- ng Grade F equent SEE shall be av the grade ca PA and C	in a Course. Whatever the warded. The rd.	79) shali he lett numb	≥60 (60-69) be consider grade er of atte	≥ 45 (45 - 59) dered fail a secured by empts take	≥40 (40 - 44) and is red the studen to clear	(0 - 39) quired to nt during Course/s			
18OB6.2	Percentage of Marks Score in a Course  (iii) A study reappear in his /her reshall be in Computa	d (90-10)  dent obtaining the subscrappearance dicated in the tion of SG wing express	0) (80 cmg Grade F equent SEE shall be avithe grade ca PA and Cossions shall	in a Course. Whatever the warded. The rd.  GPA  be used to a	o 79) shali he lett numb	≥60 (60- 69) be consider grade er of atte	≥ 45 (45 - 59) dered fail a secured by empts take	≥40 (40 - 44) and is red the studen to clear	(0 - 39) quired to nt during Course/s			
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	Percentage of Marks Score in a Course (iii) A study reappear in his /her reshall be in Computa. The follow Average (  SGPA =   The SGPA =   The SGPA cards.  (a) SGPA	290   100	o) (80- ng Grade F equent SEE shall be average ca PA and Co ssions shall cumulative dits × Grade redits × Grade	in a Course. Whatever the varded. The varded. The rd.  GPA be used to eve Grade Points for all rade Points for all for	shall he lett number comprint Arthe Countil the Countil the 2 decrative	be consider grade er of attender of attend	245 (45.59) dered fail a secured by empts taked emester GGPA) resources in a that Sent atter uding eter and research and research effect entry and research effect effect entry and research effect effect entry and research entry and	irade Pointspectively that Sementester ding ported in to	(0-39) quired to nt during Course/s  t ster  cGPA			
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<u></u>		En	ective fro	m the Acad	emic Year	2018 - 19					
	I	XX105	4:1:0 =			6	5x6=30		· · · · · · · · · · · · · · · · · · ·		
	I	XX106	5:0:0 =	5 E		4	5x4=20				
	4	Total	25(18*	)		Total	117				
	(18*): Total credits of the semester excluding the credits of the courses under F grade										
	Considered for the calculation of CGPA of the two consecutive semesters unde										
	consideration.  II XX107 3:1:1=5 C 7 5x7=35										
						7	5x7=35				
		X108	4:0:0=			8	4x8=32	SGPA	$= \frac{201}{32} = 6.28$		
		(X109		3:0:0=3 D		6	3x6=18		32		
•		CX110	4:1:0=			4	5x4=20		= 0.28		
		CX111	2:1:1=	4 A		9	4x9=27				
		(X112	2:0:0=2	2 F		0	2x0=00	CGPA			
	II 7	X113	0:2:0=2	2 B		8	2x8=16	_ (11	7 + 201)		
	I semester							1	8 + 30		
	1 7	X102	3:2:0=:	5 D		6	5x6=30	$=\frac{318}{49}$	= 6.63		
	I	X104	0:1:1=2	2 C		7	2x7=14	10			
		Total	32 (30*	)		Total	201				
	(30*): Total	credits of	the sem	ester exch	iding the	credits o	f the cou	rses unde	r F grade		
	Considered i	for the	calculatio	n of CG	PA of the	he two	consecutiv	e semest	ers unde		
	consideration										
	(b) CGPA Ca					strative E	Example				
/ 46	Semester	I	II	III	IV	V	VI	VII	VIII		
A JUNIA	Credits of the	20	20	24	24	25	24	20	18		
de de di	semester		1					Laure			
THE SECTION	SGPA	4.68	6.28	9.20	6.86	8.18	7.73	9.18	9.40		
and the second	∑CrP	117	201	22	165	204	185	184	169		
No.	$CGPA = \frac{[117 + 201 + 220 + 165 + 204 + 185 + 184 + 169]}{[1445]} = \frac{[1445]}{[1445]} = 8.26$										
	$CGPA = \frac{117 + 201 + 220 + 165 + 204 + 185 + 184 + 169}{175} = \frac{\{1445\}}{175} = 8.26$										
18OB6.3	Grade Card:	Based or	n the secu	med letter	grades, gr	rade noin	s SGPA	and CGP	A a arade		
	card for each	semeste	r and a	onsolidate	d grade	card indic	cating the	performa	nce in all		
	semesters sha	ll be issua	ed.		Ū		-	,			
18OB7.0	Conversions	of CGPA	into Per	centage of	marks a	nd Class	Equivale	nco			
18OB7.1	Conversions of CGPA into Percentage of marks and Class Equivalence  Formula for the conversion of CGPA into percentage of marks.										
	Percentage of marks secured, P = [CGPA Earned - 0.75] × 10										
	Illustration for a CGPA of 8.20:										
	P = [CGPA Earned 8.20 - 0.75]× 10										
	= 74.5 %										
18OB7.2	Class Equival										
	Subsequent to	the conv	ersion of	final CGP/	A, after su	ccessful o	completion	of the Pr	ogramme		
	into percentag	e of mark	(s-(P), a g	graduating	student is	reckone	d to have p	assed in			
		(i) First Class with Distinction (FCD) if $P \ge 70\%$									
		<ul> <li>(ii) First Class (FC) if P≥ 60% but &lt;70% and</li> <li>(iii) Second Class (SC) if P &lt; 60%.</li> </ul>									
18OB8.0					17-3 1	21		100	OIF 1		
100200	Continuous I SEE Marks	ilici ilkii j	E ASHRIA NO	u, semesi	er eng 1	evaluatio	n and N	linimum	CIE and		
18OB8.1	Continuous I	ternal E	valuation	Marks a	nd Minim	um CIE	Marks				
	(a) For Vya							ada (San	skruthika		
	Kannada) the	maximun	n CIE ma	rks shall be	: 100. For	the awar	d of credit	the mini	mam CIF		
	marks to be se	cured sha	ill be 40 9	of the ma	iximum m	arks i.e.,	40 marks.				
	(b) For Project	work Ph	ase -1 and	d Technica	l seminar	the maxi	mum CIE	marks sha	ill be 100.		
	For the award	(b) For Project work Phase -1 and Technical seminar the maximum CIE marks shall be 100. For the award of credit, the minimum CIE marks to be secured shall be 50 % of the									
	maximum mai	ksie 50	marks								

maximum marks i.e., 50 marks.

- (c) For Practical/ Mini-project/Internship/Project work—Phase 2 the maximum CIE marks shall be 40. To appear for the SEE, the minimum CIE marks to be secured shall be 50 % of the maximum marks i.e., 20 marks.
- (d) For all other theory Courses of the Programme, the maximum CIE marks shall be 40. To appear for the SEE, the minimum CIE marks to be secured shall be 40 % of the maximum marks i.e., 16 marks.
- (f) For Additional Mathematics I and II (to be completed by diploma lateral entry students) the maximum CIE marks shall be 40. To appear for the SEE, the minimum CIE marks to be secured shall be 40 % of the maximum marks i.e., 16 marks.
- (g) For Engineering Graphics and Elements of Civil Engineering and Mechanics (of First Year Engineering and to be completed by B.Sc graduates under lateral entry) the maximum CIE marks shall be 40. To appear for the SEE, the minimum CIE marks to be secured shall be respectively 50 % and 40 % of the maximum marks i.e., 20 and 16 marks.

#### 18OB8.2

#### Continuous Internal Evaluation Procedure: [To be read along with 18 OB 8.1 and 8.3]

(a) Theory Courses:

- (i) CIE Marks in each theory Course [including 'Technical English I and II', 'Constitution of India, Professional Ethics and Cyber Law', 'Environmental Studies', 'Additional Mathematics I and II'), shall be the sum of marks prescribed for tests and assignments. Marks prescribed for tests shall be 30 and that for assignments 10.
- (ii) The CIE marks awarded for tests in the theory Courses shall be based on three tests generally conducted at the end of fifth, tenth and fifteenth week of each semester. Each test shall be conducted for a maximum of 50 marks and the final test marks shall be the average of three tests, proportionately reduced to a maximum of 30 marks.
- (iii) The remaining 10 marks shall be awarded based on the evaluation of assignments/unit tests/written quizzes that support to cover both lower and higher order thinking skills as per Revised Bloom's Taxonomy.
- (iv) Final CIE marks awarded shall be the sum of 180B8.2 (a) (ii) and (iii) for a maximum of 40 marks.
- (v) The candidates shall write the tests, assignments/unit-tests /written quizzes in Blue Books which shall be preserved by the Principal/ Head of the Department for at least six months after the announcement of University results and shall be made available for verification at the direction of the Registrar (Evaluation).

(b) Engineering Graphics/ Drawing/Field work Courres:

The CIE marks awarded for I year Engineering Graphics Course shall be based on

(i) Classwork for 24 marks (sketching and Computer Aided Engineering Drawing).

- (ii) Two Tests conducted in the same pattern as that of SEE for 16 marks (The marks secured can be taken as best of the two tests).
- (iii) Final CIE marks awarded for Engineering Graphics shall be the sum of 180B8.2 (b) (i) and (ii) for a maximum of 40 marks.
- (iv) The CIE marks awarded for higher semester Drawings/ Design Drawings offered by various branches shall be based on the evaluation of the sheets and one test in the ratio 60:40.
- (v) The CIE marks awarded for field work (like Surveying Practice) shall be based on the evaluation of the associated field work and one test in the ratio 60:40.

(c) Practical Courses:

The CIE marks awarded in case of Practical shall be based on the weekly evaluation of laboratory journals/ reports after the conduction of every experiment and one practical test in the ratio 60:40.

(d) Internship:

The CIE marks awarded for internship shall be based on the evaluation of Internship Report, Presentation skill and Question and Answer session in the ratio 50:25:25.

(e) Technical Seminar:

The CIE marks awarded for Technical Seminar shall be based on the evaluation of Seminar Report, Presentation skill and Question and Answer session in the ratio 50:25:25.

(f) Mini - Project:

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# Regulations Governing the Degree of Bachelor of Engineering/Technology (B.E./B.Tech.) Under Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Effective from the Academic Year 2018 – 19

The CIE marks awarded for Mini - Project, shall be based on the evaluation of Mini -Project Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25. The marks awarded for Mini - Project report shall be the same for all the batch (g) Main Project Work: (i) Project Work Phase - 1 The CIE marks awarded for project work phase -1 shall be based on the evaluation of project work phase -1 Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25. The marks awarded for the Project report shall be the same for all the batch mates. (ii) Project Work Phase - 2 The CIE marks awarded for project work phase -2 shall be based on the evaluation of project work phase -2 Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25. The marks awarded for Project report shall be the same for all the batch (h) Vyavaharika Kannada (Balake Kannada)/Aadalitha Kannada (Samskruthika Kannada) (i) CIE Marks in Vyavaharika Kannada (Balake Kannada)/Aadalitha Kannada (Samskruthika Kannada) shall be the sum of marks prescribed for tests and assignments. Marks prescribed for tests shall be 75 and that for the assignments shall be 25. (ii) The CIE marks awarded for the tests shall be based on three tests generally conducted at the end of fifth, tenth and fifteenth week of each semester. Each test shall be conducted for a maximum of 25 marks and the final CIE marks shall be the sum of the marks of all the three tests. (iii) The remaining 25 marks shall be awarded based on the evaluation of assignments/oral discussions/ quizzes that supports communication skills. (iv) Final marks awarded shall be the sum of 180B8.2 (h) (ii) and (iii) for a maximum of 100 marks. (v) Students shall write the tests in Blue Books and complete the exercises/activates/ questions given in the University Kannada textbook. These shall be preserved by the Principal/ Head of the Department for at least six months after the announcement of University results and shall be made available for verification at the direction of the Registrar (Evaluation). (a) The CIE marks in the case of Internship/Technical Seminar/Mini-Project and Project 18OB8.3 Work Phase 1 and 2 shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. (b) A committee constituted by the Head of the Department of Humanities and Social Science shall inspect and authenticate the award the CIE marks for the Course Vyavaharika Kannada (Balake Kannada)/Aadalitha Kannada (Samskruthika Kannada). The committee shall consist of two senior faculty members of the Department and the senior most acting as the Chairperson. 18**OB8.4** (i) Students satisfying the attendance requirement but failing to secure the minimum percentage of CIE marks, in any Course/s, shall not be eligible for the SEE conducted by the University and they shall be considered as fail in that Course /those Courses. However, they can appear for University examinations conducted in other Courses of the same semester and backlog Course/s if any. (ii) Students who have satisfied the attendance requirement but not the CIE requirements shall be permitted to register afresh and appear for SEE after satisfying the CIE requirements in the same Course/s (with or without satisfying the attendance requirement) when offered during subsequent semester/s. (iii) Each appearance to SEE to complete a course shall be treated as an attempt. 18OB8.5 CIE marks of those students, who come under 180B8.4, shall also be sent to the Registrar (Evaluation) along with other course CIE Marks.

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18OB8.6	<ul> <li>(i) The final list, incorporating corrections (if any), of CIE marks awarded to the students in the Theory/Practical/Internship/ Technical Seminar / Mini - Project/Project work -phase 1 and 2, shall be displayed on the notice board of the college much before the closure of the semester.</li> <li>(ii) The institution shall enter the CIE marks of each semester in the format of the VTU online CIE marks portal and submit a certified copy of the same to the University Examination Section within the stipulated date notified by University. Every page of the CIE marks sheet (hardcopy) shall bear the signatures of the concerned Teacher/Teachers, Head of the Department and Principal.</li> </ul>
18OB8.7	Any corrections or overwriting of CIE marks shall bear the signature(s) of concerned Teacher(s) and in such cases the Head of the Department shall indicate the number of corrections on every sheet and attest it with his/her signature.
18OB8.8	CIE marks shall reach the University before the commencement of examination as per the notification from the office of the Registrar (Evaluation) from time to time. After the submission of CIE marks to the University, any request under any circumstances for change of CIE marks shall not be considered.
180B8.9	Semester End Examination Marks and Passing standards  (a) University examination for all Courses under SEE shall be conducted for a maximum of 100 Marks. The marks secured by the students for 100 marks shall be proportionately reduced to a maximum of 60 marks to add the same with the CIE marks for the award of letter grade.  (b) The University examinations for all the Programmes of study shall be conducted at the end of each semester for all the eight semesters.  (c) Students having no backlog course/s, may not have more than one examination on the same day. However, students having backlog course/s may face a situation where they may have  (i) Two examinations scheduled at the same time of the day.  (ii) To take two examinations on the same day, one during the morning session and the other in the afternoon session, and  (iii) Examinations on consecutive days.  As changing the examination dates is not an option, the examination time table shall not be modified/ altered/ adjusted in any of the above three cases. In the first case, the students shall select any one of the clacking courses and in second and third cases the students

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18OB8.10	Students who pass a Course of a semester as per 18OB8.9 (g) shall not be allowed to appear for any individual Course again, unless they opt for rejection of results of entire semester. However, students who have CGPA less than 5.00 at the end of academic Programme, subject to the provision 18OB1.4, shall be allowed to appear for only SEE of Course/s to make up the deficiency in CGPA.
18OB8.11	A student may, at his/her desire, can reject the total performance of a semester (including CIE marks) or reject only the result of his/her performance in University examinations of a semester. The rejection is permitted only once during the entire Programme of study.
180B8.12	Students who desire to reject the SEE results of a semester shall reject the total performance (irrespective of the earned Course grades) in all the Courses of the semester either rejecting or retaining the CIE marks. However, rejection of the performance of VIII semester project shall not be permitted.  (i) Students, who desire to reject the total SEE performance of an odd or even semester including CIE marks, have to repeat that odd or even semester of the prevailing scheme by taking readmission during the subsequent academic year/s. They shall also be governed by 180B12.1, 12.2 and 1.4.  (ii) If the rejection of SEE results excluding CIE marks is of odd semester, students shall be allowed to take admission to the immediate next even semester.  (iii) If the rejection of SEE results excluding CIE marks is of even semester, then students shall not be allowed to take admission to the next odd semester as per 180B10.3. In such cases, students shall take admission to the next odd semester of the prevailing scheme during the subsequent academic year/s, after obtaining the eligibility to move to higher semester. They shall also be governed by 180B12.1, 12.2 and 1.4.  (iv) Readmission to odd/ev.n semester as per 180B8.12 (i) and (iii) shall not be considered as fresh admission and therefore students shall continue to have the same University Seat Number, which was allotted earlier. The maximum duration of the Programme (as per
STATE OF THE PARTY	18OB1.4) shall be counted with reference to old University Seat Number.  (v) Applications for rejection and approval to reappear for University examinations shall be sent to the Registrar (Evaluation) through the Principal of the College within 30 days from the date of announcement of the results. Late submission of applications shall not be accepted for any reasons.  (vi) Application for approval of readmission shall be sent to the Registrar through the Principal of College within 30 days from the date of the announcement of the results. Late submission of application shall not be accepted for any reasons.
18OB8.13	Students who opt for rejection of results of University examination shall be eligible for the award of degree and not for the award of ranks and Honours Degree.
18OB9.0	Attendance Requirement
18OB9.1	Each semester shall be considered as a unit for calculation of the attendance and the Candidates have to put in a minimum attendance of 85% in each Course with a provision of condonation of 10% of the attendance by the Vice-Chancellor on the specific recommendations of the Principal of the college where the candidate is studying, based on medical grounds, participation in University/State/ National/International level sports and cultural activities, seminars, workshops, paper presentation etc., of significant value. The supporting documents for condoning the shortage of attendance shall be submitted along with the recommendations.
18OB9.2	(a) The basis for the calculation of attendance shall be the period prescribed by the University by its calendar of events and as notified by the Registrar (Evaluation) from time to time.  (b) In case of late admissions, approved by competent authority (DTE/VTU), to I semester/ III semester (lateral entry scheme) of day college/III semester (lateral entry scheme) of Engineering Programme conducted during evening, the attendance shall be reckoned from the date of admission to the Programme.

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18OB9.3	The Course Instructor/ Mentor/College shall inform the students as well as their parents
	/guardians about the attendance status periodically. Students who are facing the shortage of
	attendance shall be mentored to make up the shortage. Principals shall also notify every
	month, the list of candidates who are under short of attendance.
18OB9.4	A candidate, who does not satisfy the attendance requirement (in one or more Courses and
	including the Courses Additional Mathematics I and II) as mentioned in 180B 9.1 shall not
and the second	be eligible to appear for the Semester End Examinations of that semester and shall not be
	permitted to take admission to next higher semester. The candidate shall be required to
	repeat that semester during the subsequent year.
18OB10.0	Vertical Progression (Promotion/ Eligibility to higher semesters)
18OB10.1	There shall be no restriction for promotion from an odd semester to the next even semester,
2000101	provided the student has fulfilled the attendance requirement.
18OB10.2	Along with the reasons specified at 180B8.9 (h), a student shall be declared fail if he/she
2.VIQV01	(i) Has not satisfied the CIE requirements of any Course/s.
	(ii) Has not registered for the SEE even after satisfying the attendance and CIE requirements.
18OB10.3	(A) Vertical Progression in case of students admitted to First year:
	(a) Students having not more than four F grades in the two semesters of first year of the
	Programme shall be eligible to move to second year.
	(a.1) Students having not more than four F grades in the four semesters of I and II year shall
	be eligible to move to III year.
	(a.2) Students who have earned all the prescribed credits of I year, and having not more than
	four F grades in the four semesters of II and III year shall be eligible to move to IV year.
	(B) Vertical Progression in case of Diploma students admitted to Second year (lateral
	entry):
	(a) Students having not more than four F grades (excluding the Fail or pass status of
	Additional Mathematics I and II) in the two semesters of II year of the Programme shall be
	eligible to move to III Year.
STREET, SOUTH	(a.1) Students having not more than four F grades (excluding the Fail or pass status of
Na Will	Additional Mathematics I and II, if any) in the four semesters of II and III year shall be
A BONT IN STATE OF	eligible to move to IV year.
of old of	(b) The mandatory non - credit Courses Additional Mathematics I and II prescribed at III
Collin . 3	and IV semesters respectively, to lateral entry Diploma holders admitted to III semester of
Char	B.E./B.Tech. Programmes shall attend the classes during the respective semesters to satisfy
e a	attendance and CIE requirements and to appear for the University examinations.
	(b.1) In case, any student fails to satisfy the attendance requirement of the Courses
	Additional Mathematics I and II, he/she shall not be eligible to appear for the Semester End
	Examinations of that semester and shall not be permitted to take admission to next higher
	semester. The candidate shall be required to repeat that semester during the subsequent year.
	(b.2) Students who have satisfied the attendance requirement but not the CIE requirements
	of the Courses Additional Mathematics I and II shall be permitted to register afresh and
	appear for SEE after satisfying the CIE requirements in the same Course/s (with or without
	satisfying the attendance requirement) when offered during subsequent semester/s.
	(c) Completion of Additional Mathematics I and II shall be mandatory for the award of
	degree.
and the second s	(C) Vertical Progression in case of B.Sc students admitted to Second year (lateral
	entry);
	(a) Students having not more than four F grades (excluding the Fail or pass status of
	Engineering Graphics and Elements of Civil Engineering and Mechanics of First Year
	Engineering Graphics and Elements of Civil Engineering and Mechanics of First Tear Engineering Programme) in the two semesters of II year of the Programme shall be eligible
	to move to III Year.
	(a.1) Students having not more than four F grades (excluding the Fail or pass status of
	Engineering Graphics and Elements of Civil Engineering and Mechanics of First Year
	Engineering Programme, if any) in the four semesters of II and III year shall be eligible to
	move to IV year.

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- (b) The prescribed mandatory non credit Courses Engineering Graphics and Elements of Civil Engineering and Mechanics of First Year Engineering Programme to lateral entry B.Sc. holders admitted to III semester of B.E./B.Tech. Programmes, shall attend the classes during the respective semesters to complete CIE and attendance requirements and to appear for the University examinations.
- (b.1) In case, any student fails to satisfy the attendance requirement of the above said Courses, he/she shall not be eligible to appear for the Semester End Examinations of that semester and shall not be permitted to take admission to next higher semester. The candidate shall be required to repeat that semester during the subsequent year.
- (b.2) Students who have satisfied the attendance requirement but not the CIE requirements of the above said Courses, shall be permitted to register afresh and appear for SEE after satisfying the CIE requirements in the same Course/s (with or without satisfying the attendance requirement) when offered during subsequent semester/s.
- (c) Completion of Engineering Graphics and Elements of Civil Engineering and Mechanics shall be mandatory for the award of degree.

The Principal of each college shall make suitable arrangements in the timetable to facilitate the B.Sc students to attend the above mentioned courses to satisfy the CIE and attendance requirements and to appear for the University examinations.

### 180B11.0

#### Award of Degree

#### 18OB11.1

## 1. B.E./B.Tech. degree

- (a) Students shall be declared to have completed the Programme of B.E. / B.Tech. degree and is eligible for the award of degree, provided the students have undergone the stipulated Course work of all the semesters under the Scheme of Teaching and Examinations and has earned the prescribed number of credits as per the provision 18OB1.5. [To be read along with 18 OB 12.] and 12.2]
- (b) For the award of degree, a CGPA  $\geq$  5.00 at the end of Programme shall be mandatory. [To be read with 180B11.2 (1)]
- (c) Completion of Additional Mathematics I and II, shall be mandatory for the award of degree to lateral entry diploma students.
- (d) Completion of Engineering Graphics and Elements of Civil Engineering and Mechanics of First Year Engineering Programme shall be mandatory for the award of degree to lateral entry B.Sc graduates.
- (e)(i) Over and above the academic credits, every Day College regular student admitted to the 4 years Degree Programme and every student entering 4 years Degree Programme through lateral entry, shall earn 100 and 75 Activity Points respectively through AICTE Activity Point Programme for the award of degree. Students transferred from other Universities/ Autonomous colleges under VTU to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eight semester Grade Card.
- (ii) Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points before the commencement of 8<sup>th</sup> semester examinations, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

#### 2. B.E./B.Tech. (Honours) degree

- (a) A student shall be declared to have completed the Programme of B.E. / B.Tech. degree and shall be eligible to get undergraduate BE/B.Tech degree with Honours, provided.
- (a.1) The student has undergone the stipulated Course work of all the semesters under the same Scheme of Teaching and Examinations and has earned the prescribed number of credits as per the provision 18 OB1.5 (a) and (b).
- (a.2) Has earned additional 20 or more credits through University approved online Courses.
- (a.3) Satisfies the Regulations Governing the award of Honours at B.E./B.Tech. Degree Programmes.

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# Effective from the Academic Year 2018 - 19 180B11.2 (1) Noncompliance of CGPA ≥5.00 at the end of the Programme (a) Students who have completed all the courses of the Programme but not having a CGPA ≥5.00 at the end of the Programme, shall not be eligible for the award of the degree. (b) In the cases of 180B11.2 (1) (a), students shall be permitted to appear again for SEE in course/s [other than Internship, Technical semi, ar, Project (Mini and Main), and Laboratories] of any Semester/s without the rejection of CIE marks for any number of times, subject to the provision of maximum duration of the Programme to make up the CGPA equal to or greater than 5.00 for the award of the Degree. (c) In case, the students earn improved grade/s in all the reappeared course/s, the CGPA shall be calculated considering the improved grade/s. If it is ≥5.00, the students shall become eligible for the award of the degree. If CGPA <5.00, the students shall follow the procedure laid in 18OB11.2(1) (b). (d) In case, the students earn improved grade/s in some course/s and the same or lesser than the previously earned pass grade/s in the other reappeared course/s, the CGPA shall be calculated considering the improved grade/s and the pass grades earned before the reappearance. If it is ≥5.00, the students shall become eligible for the award of the degree. If CGPA <5.00, the students shall follow the procedure laid in 180B11.2 (1) (b). (e) In case, the students earn improved grade/s in some courses and fail in the other reappeared course/s, the CGPA shall be calculated by considering the improved grade/s and the previously earned pass grade/s of the reappeared course/s in which the students have failed. If it is ≥5.00, the students shall become eligible for the award of the degree. If CGPA <5.00, the students shall follow the procedure laid in 18OB11.2 (1) (b). (f) In case, the students fail (i.e., earns F grade) in all the reappeared course/s, pass grade/s of the course/s earned by the students before reappearance shall be retained. In such cases, the students shall follow the procedure laid in 180B11.2 (1) (b). (g) Students shall obtain written permission from the Registrar (Evaluation) to reappear in SEE to make up the CGPA equal to or greater than 5.00. (2) Noncompliance of Mini-project (a) The mini-project shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the mini-project shall be declared fail in that course and shall have to complete the same during subsequent University examinations after satisfying the Mini-project requirements. Also, mini-project shall be considered for eligibility to VII semester. (3) Noncompliance of Internship (a) All the students of B.E./B.Tech. shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credits shall be included with the credits of VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not takeup/complete the internship shall be declared fail in that Course and shall have to complete the same during subsequent University examinations after satisfy the internship requirements. 18OB12.0 18OB12.1 (a) If a candidate, for any reason, temporarily discontinues the Programme or take a break

Temporary Discontinuation/Break in the Programme/Change in Scheme of Study

from the Programme during any semester intentionally, he/she shall be permitted to continue the Programme by registering to the same semester of the prevailing scheme. The candidate from that semester shall attend and complete all the remaining Course works of all the semesters, adhering to the regulations of the prevailing scheme and subject to the provision 180B1.4. Also the Candidates may have to complete additional Course/s, if any, as per the decision of concerned Board of Studies on establishing the equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be

considered for the eligibility criteria prescribed for promotion. Based on the individual cases, they shall be considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidates shall not be eligible for the award of rank / Honours degree.

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Effective from the Academic Year 2018 - 19 (b) Candidates who take admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons, shall attend and complete all the remaining semester/s of the Programme adhering to the regulations of the prevailing scheme, and shall complete additional Course/s, if any, as per the decision of concerned Board of Studies on establishing the equivalence between two schemes. A Grade card shall be issued to that effect. Additional Courses shall not be considered for the eligibility criteria prescribed for promotion. Based on the individual cases, they shall be considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank/Honours Degree. (c) The credits to be earned by the candidates under 18OB12.1 (a) and (b) and 18OB14.1(b) and (c) shall be decided by the University along with the additional Course/s to be completed. 180B12.2 (i) The candidates who have temporarily discontinued the Programme of study or changed the scheme of study from one to another because of various reasons, or transferred from autonomous/other University to non-autonomous VTU constituent/affiliated college, shall be eligible for the award of degree provided the credits earned is equal to or greater than the credits decided by the University in the individual cases. (ii) In case, the credits earned is less than the credits decided by the University in the individual cases, after the completion of all the semesters of the Programme under the prevailing scheme, the candidate shall register for a Course or courses not studied earlier and make up the credits earned equal to or greater than the required for the award of degree. (iii) If the earned Programme credits are greater than the prescribed, the CGPA shall be proportionately reduced to the prescribed Programme credits. 180B13.0 Award of Prizes, Medals and Ranks For the award of Prizes and Medals, the conditions stipulated by the Donor shall be 180B13.1 considered subject to the provisions of the statutes framed by the University for such 1) For award of rank in a Specialization of Bachelor of Engineering/ Technology, the CGPA 180B13.2 secured by the students from III to VIII semester shall be considered. (2) The additional credits earned for the award of Honours degree shall not have any bearing for the Rank declaration. (3) A student shall be eligible for a rank at the time of award of degree of Bachelor of Engineering/ Technology, provided that the student, (a) (i) Has passed all the Courses of I to VIII semester in first attempt only in case of Candidates admitted to I year. (ii) Has passed all the Courses (including Additional Mathematics I and II in case Diploma students/ Engineering Graphics and Elements of Civil Engineering and Mechanics in case of B.Sc graduates under lateral entry) of III to VIII semester in first attempt only in case of Candidates admitted under lateral entry scheme. (b) Is not a repeater in any semester because of rejection of result of a semester/ shortage of attendance etc. (c) Has completed all the Courses/semesters of the same Scheme of Teaching and Examinations without any break/discontinuity. (d) Has completed all the semesters (I to VIII/III to VIII) in VTU constituent college or in any VTU affiliated non-autonomous college. (e) Has not been transferred from any autonomous institution affiliated to VTU or from any other University. (4) The total number of ranks awarded shall be 10% of total number of students appeared in VIII semester subject to a maximum of 10 ranks in a Specialization. (5) For award of ranks in a Specialization, a minimum of 10 students should have appeared in the VIII semester examination. Illustration: (a) If 1228 students appeared for the VIII semester in Electronics and Communication Engineering Programme, the number of ranks to be awarded for Electronics and Communication Engineering shall be 10.

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	(b) If 90 students appeared for the VIII semester in Biomedical Engineering, the number of ranks to be awarded for Biomedical Engineering will be 09.
	(6) In case of fractional number of ranks, it is rounded to higher integer only when the first decimal place is greater than or equal to 5.
18OB13.3	Ranks shall be awarded based on the merit of the students as determined by CGPA. If two or more students get the same CGPA, the tie shall be resolved by considering the number of times a student has obtained higher SGPA. If it is not resolved even at this stage, the number of times a student has obtained higher grades like S, A, B etc., shall be taken into account to decide the order of the rank.
18OB14.0	Transfer of students
18OB14.1	(a) (i) Transfer of students from one VTU affiliated non – autonomous college to another VTU non – autonomous affiliated college shall be permitted only at the beginning of third, fifth and seventh semesters, subject to availability of seats within the permitted intake in respective Colleges with the approval of the Registrar, VTU subject to the provision 180B10.3.
15 =	(ii) The students seeking transfer as per 180B14.1 (a) (i) shall have to obtain No Objection certificate for admission from the University and from both the colleges before the commencement of term as notified by VTU.  (iii) Complete the Programme subject to the provision 180B1.4.
	(b) Transfer of students from an autonomous to non – autonomous college, affiliated to VTU is permitted with the following conditions.
	<ul> <li>(i) Transfer shall only be at the beginning of III and V semester B.E./B.Tech. Programme.</li> <li>(ii) No transfer shall be permitted to VII semester B.E./B.Tech. Programme.</li> <li>(iii) Students who are seeking transfer must have passed in all the Courses of the previous semesters.</li> </ul>
	(iv) Obtain No Objection certificate for admission from the University and from both the colleges before commencement of term as notified by VTU.
AND SALIDATION OF THE PARTY OF	(v) Complete additional Course/s, if any, as per the decision of concerned Board of Studies on establishing the equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be considered for the Eligibility criteria prescribed for promotion, calculation of SGPA and CGPA. However, a pass in the additional Courses, if any, is mandatory before the completion of Degree.  (vi) Earn the credits decided by the University as per 18OB12.2.
Hall Sale	(vii) Complete the Programme subject to the provision 180B1.4.
dill.	permitted to VII semester B.E./B.Tech. Programme of VTU from any other Universities.  The students seeking admission from other Universities to VTU shall have to  (i) Apply for establishment of equivalence with prescribed fees as notified by the VTU and obtain No Objection certificate for admission from the University before the
Rep. 4	commencement of term as notified by VTU.  (ii) Produce No Objection certificate for admission from both the colleges before the commencement of term as notified by VTU.
	(iii) Complete additional Course/s, if any, as per the decision of concerned Board of Studies on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional Course/s shall not be considered for the eligibility criteria prescribed for promotion, calculation of SGPA and CGPA. However, a pass in the additional Courses, if any, is mandatory before the completion of Degree.
	(iv) Earn the credits as decided by the University as per 180B12.2.
18OB14.2	(v) Complete the Programme subject to the provision 18OB1.4.  Transfer of students within the College from one branch to another branch at the start of III semester shall be permitted with the approval of the Registrar, VTU subject to the

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The University may prescribe fee for administration purpose, which shall be notified from
time to time, for transfer from one college to another (Change of College) or one branch to
another branch (change of branch within the college).
Applicability and Power to Modify
The regulations governing the Degree of Bachelor of Engineering/Technology of Visvesvaraya Technological University shall be a binding on all concerned.
i) Notwithstanding anything contained in the foregoing, the University shall have the power to issue directions/ orders to address any difficulty.
ii) Nothing in the foregoing may be construed as limiting the power of the University to



REGISTRAR
Visvesvaraya Technological University,
BELAGAVI - 590 018.

A.S. Nataraj PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU-560 083.





# Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018, Karnataka State

Dr. A S. Deshpande B.E. M.Tech., Ph.D.,

REGISTRAR
Ref: VTU/BGM/OS-Aca/Cirs/2020-21/ 2745
CIRCULAR

Date : E

23 OCT 2020

Phone: (0831) 2498100

Sub: Schemes of study for the academic year 2020-21- reg..

Ref: Hon'ble Vice Chancellor's approval dated: 3-10-2020

With reference to the above, the following is informed:

# Part 1: Regular/ Readmission/ Repeater:

1. All readmissions and repeater admissions are subject to maximum duration as per their year of admission to programme.

2. Readmissions and repeater admissions will not claim any additional benefits.

3. They are governed by the applicable regulations of the University

		Academic yea	ır 2020-21			
B.E/B.Tech.	Sc	heme offered :	and to be studied by stude	nts		
	Reg	ular	Repeaters/ reads	mission		
	Scheme	SEE : CIE	Scheme	SEE: CIE		
I year (I / II sem)	2018 scheme	CBCS 60: 40	2018 scheme	CBCS 60: 4		
II Year (III/ IV sem)	2018 scheme	CBCS 60: 40	III Sem: 2018 scheme (E.C. Res. No. 2.2.1 dt: 30-5-2019 (146 <sup>th</sup> meeting)	CBCS 60: 40		
		- Angelogie	IV Sem: The scheme studied during 3rd semester to be continued at IV sem. (2015/ 2017/2018)	As applicable & Parallel Classes to be conducted		
III Year (V / VI sem)	2018 scheme	CBCS 60: 40	The scheme studied during 4th semester to be continued at V sem (2015/ 2017/2018)	As applicable & Parallel Classes to be conducted		
IV year (VII/VIII sem)	2017 scheme	CBCS 60: 40	To be continued in the scheme studied during	CBCS 80: 20/ CBCS 60: 40		
The second secon	2015 parallel	CBCS 80: 20	6th semester (2015/ 2017)	& Parallel Classes to be conducted		
Batches under extension	Regular 2011 a 2021	and Lateral Ent	ry 2013 – attempts provided	the same of the sa		
2010 Scheme	semesters (wit	hin maximum	eme seeks admission to duration), shall continue i ed from 2010 to 2015 schem	in 2010 schem		



scheme	Credits for award of Degree for the students admitted to I Sem.	Credits for award of Degree for the students admitted under lateral entry to III Sem.	SEE/CIE
2015	200	152	CBCS 80: 20
2017	200	152	CBCS 60: 40
2018	175	135	CBCS 60: 40
2010	Absolute marks	Absolute marks	

	Academi	c year 2020-21
B.Arch.	Scheme offe	ered and to be studied by students
	Regular	Repeaters/ readmission
	Scheme	Scheme
I year (I / II sem)	2018 scheme	2018 scheme
II Year (III/ IV sem)	2018 scheme	III Sem: 2018 scheme (E.C. Res. No. 2.2.1 dt: 30-5-2019 (146th meeting)
		IV Sem: as per their admission (2015)
III Year (V / VI sem)	2018 scheme	as per scheme studied upto 4th semester
IV year (VII/VIII sem)	2015 scheme	as per scheme studied upto 6th semester
V Year (IX/ X sem)	2015 scheme	as per scheme studied upto 8th semester

	B.Arch.
scheme	Credits for award of Degree
2015	250
2018	260
Before 2015	Absolute marks

Part II: Admission of Year back / students (only for 2020-21):

- 1. The students are permitted to take admission to 3/5/7/9 semesters with any number of backlog subjects, provided
  - Must have attended classes up to 2<sup>nd</sup> semester to take admission to 3<sup>rd</sup> semester.
  - > Must have attended classes up to 4th semester to take admission to 5th semester.
  - > Must have attended classes up to 6th semester to take admission to 7th semester.
  - > Must have attended classes up to 8th semester to take admission to 9th semester (B.Arch. only).

**NOTE:** The above facility is provided only for admission to higher semester during the academic year 2020-2021 and the students are required to gain eligibility to respective higher semesters while taking admission during the academic year 2021-2022.

X

2. The students who have taken admission to B.E./B.Tech. during the academic year 2017 -2018 and not become eligible to 3<sup>rd</sup> semester may seek readmission to 1<sup>rd</sup> semester under 2018 scheme and such students are not permitted to take admission to 3<sup>rd</sup> semester during the academic year 2020-2021.

# Part III: Grouping of students under B.E. Mechanical Engineering A and B subjects 2018 scheme:

- 1. The students are required to opt subjects from only one group i.e. either A or B at 3<sup>rd</sup> / 4<sup>th</sup> semester level.
- 2. Opting subjects from both A and B groups in a semester is not permitted.
- If required, the students may be divided into two groups and each group may be given different group of subjects like how the Physics and Chemistry cycle subjects are offered during 1st year.

## Part IV: Registering for Humanities Subjects:

If the student registers for 18KVK – Vyvaharika Kannada (Samskrutika Kannada) / Adalitha Kannada (Balake Kannada) in 3<sup>rd</sup> semester, he/she has to register for 18CPC– Constitution of India Professional Ethics and Cyber Law during 4<sup>th</sup> semester and vice-versa for 4<sup>th</sup> semester

#### Part V:Registration of students for higher semester:

- 1. Each and every student seeking admission to higher semester shall register with the University through its portal
- 2. A separate procedure for online registration will be notified shortly.
- 3. College shall maintain proper records of all above students.
- 4. In case if the students does not register for the semester, admission for the semester will be invalid.

BY ORDER,

REGISTRAR

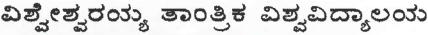
To,
The of Principals of All Engineering (Affiliated/ Constituent) Colleges under the ambit of VTU, Belag.ivi

Copy to:

- 1. Hon'ble Vice-Chancellor through the Secretary to VC, VTU, Belagavi for kind information
- 2. The Registrar (Evaluation), VTU, Belagavi
- 3. The Regional Directors (I/C) of all the Regional Offices of VTU for circulation
- 4. The Director, Computer Network Centre, VTU, Belagavi- to upload on VTU website
- 5. PS to Registrar, VTU, Belagavi
- 6. All the concerned Special Officer and Case-workers of Academic Section, VTU, Belagavi

PRINCIPAL —
AMC ENGINEERING COLLEGE
BENGALURU-560 083.

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ಪಿಟಿಯು ಅಧಿಪಿರುವು ೧೯೯೪೯ರ ಆಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ಏಕ್ರಪರ್ಯಾಲಯ "ಚ್ರಾನ ಸಂಗಮ". ಬೆಳಗಾವಿ∽ಅಕ್೦೦೧೮. ಕರ್ನಾಟಕ, ಭಾರತ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act. 1993)
"Inana Sangama" Belagavi-590018, Karnataka, india
Phone: (0831) 2498100. Fax: (0831) 2405467, Website: vtu.ac.ur.

Dr. A. S. Deshpandeb.E., M. Tech., Ph.D.

Registrar

Phone: (0831) 2498100

Fax: (0831) 2405467

Date: **3** DEC **202**1

Ref: VTU/BGM/BOS/A9/2021-22 / 3391

# CIRCULAR

Subject: 1st and 2nd -semester scheme(2021) of Teaching and Examinations

regarding...

Reference: Hon'ble Vice-Chancellor's approval dated: 03.12.2021

The courses, 21IDT19- Innovation and Design Thinking (offered in 1st semester both for chemistry and physics groups) and 21SFH29- Scientific Foundations of Health (offered in 2nd semester both for chemistry and physics group) are compulsory courses for the students admitting to 1st year B.E./B.Tech. programs.

A slight modification is made in the scheme of teaching and examinations to offer both the courses in 1<sup>st</sup> as well as 2<sup>nd</sup>semester for 50:50 strength of intake. The scheme is attached with this circular for reference and needful. Also, 3-8 semesters scheme template has been attached for stakeholder's information.

All the principals of Engineering Colleges are hereby informed to bring the content of this circular to the notice of the concerned. Please note: corrected scheme of programs is made available @ https://vtu.ac.in/en/b-e-scheme-syllabus/#menu05

Sd/-

Registrar

Encl: As mentioned above.

To.

All the Principals of the Engineering Colleges under the ambit of VTU Belagavi.

## Copy to:

- 1. The Hon'ble Vice-Chancellor through the secretary to VC for information
- 2. The Registrar(Evaluation) for information and needful
- 3. The Registrar's Office, VTU, Belagavi, for information.
- 4. The Special Officer, Academic Section, VTU Belagavi, for information.
- 5. The Director ITI SMU CNC for information and to upload the circular on the VTU web portal

REGISTRAR

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PRINCIPAL PRINCIPAL AMC ENGINEERING COLLEGE BENGALURU-560 083.

Note: BSC: Basic Science Course, ESC: Engineering Science Course, HSMC: Humanity and Social Science & Management Courses, AEC -Ability Enhancement Courses.

	Com	soctor ()	Semester (Physics Group)	(Effective from the academic year 2021 – 22)	(Effective from the academic year 2021 – 22)	2021 – 2	(77	3	mmo	[Common to all B.E./B.Tech. Programs]	E./B.T.	ech. Pro	grams	
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	2	BSC	21PHY12	Engineering Physics	TD and PSB: Physics	2	2	:		03	20	20	100	က
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1	4	ESC	21CIV14	Elements of Civil Engineering and Mechanics	TD and PSB: Civil	3	ŀ	<b>!</b>		03	20	20	100	ന
	r)	ESC	21EVN .15	Engineering Visualization	TD: ME, Auto, IP, IEM, Mfg. Engineering PSB: Mechanical Engg	2	:	2		03	20	50	100	co
	9	BSC	21PHYL16	Engineering Physics Laboratory	TD and PSB: Physics	4	:	2		03	20	20	100	
	_	ESC	21ELEL17	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	:	ì	2		. 03	20	20	100	₩
1	8	HSMC	21EGH18	Communicative English	TD and PSB: Humanities	П	₹™	<del>(~</del>		02	20	20	100	7
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			21SFH19/29	Scientific Foundations of Health										
1					TOTAL	13	07	07		24	450	450	900	20
- [														1

CIE: Continuous Internal Evaluation, SEE: Semester End Examination	<ul> <li>(a) Four-credit courses are to be designed for 50 hours of Teaching-Learning process.</li> <li>(b) Three credit courses are to be designed for 40 hours of Teaching-Learning process.</li> <li>(c) Two credit courses are to be designed for 25 hours of Teaching-Learning process.</li> <li>(d) One-credit courses are to be designed for 15 hours of Teaching-Learning process.</li> </ul>	
L-Lecture, T-Tutorial, P-Practical/ Drawing, S-Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination	Lredit definition: 1 hour Lecture (L) per week = 1 Credit 2 hours Tutorial (T) per week = 1 Credit 2 hours Practical / Drawing (P) per week = 1 Credit	AICHTE A 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

ALCIVITY FOIRTS TO DE EARNED DY STUDENTS Admitted to BE/B.Tech., /B.Plan day college programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE ActivityPoint Programme. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, an Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card. Summer Internship - I (21INT36): All the students admitted to engineering programmes shall have to undergo a mandatory summer internship of 03 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination (Presentation followed by question-answer session) shall be conducted during III semester and the prescribed credit shall be included in III semester. The internship shall be consideredas a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

L-Lecture, T-Tutorial, P-Practical/ Drawing. S-Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination

II Sei	mester (1	For students who	Semester (For students who attended I semester under Physics Group)	Physics Group)				<u>[0</u>	mmon to	all B.E.	[Common to all B.E./B.Tech Programs]	Progra	ms]
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2	BSC	21CHE22	Engineering Chemistry	TD and PSB: Chemistry	2	2	:		03	20	20	100	3
2	ESC	21PSP23	Problem-Solving through Programming	TD and PSB: Computer Science and Engineering	2	2	ł		03	50	20	100	
4.	ESC	21ELN24	Basic Electronics & Communication Engine	TD: ECE/E and I/ TCPSB: ECE	2	2	:		03	20	20	100	
ın	ESC	21EME25	Elements of Mechanical Engineering	TD: ME, Auto, IP,IEM, Mfg . Engineering PSB: Mechanical Engg	2	·	2		03	20	20	100	
9	BSC	21CHEL26	Engineering Chemistry Laboratory	TD and PSB: Chemistry	<b>2</b> 3	:	2		03	20	20	100	
_	ESC	21CPL27	Computer Programming Laboratory	TD and PSB: Computer Science and Engineering	:	÷	2		63	20	20	100	
· ·	HSMC	21EGH28	Professional Writing Skills in English	TD and PSB: Humanities	1	1	Н		0.2	20	20	100	
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Credit definition:	(a) Four credit courses are to be designed for 50 hours of Teaching - Learningprocess.
1hour Lecture (L) per week = 1 Credit	(b) Three credit courses are to be designed for 40 hours of Teaching - Learning process.
2 hours Tutorial (T) per week = 1 Credit	(c) <b>Two credit</b> courses are to be designed for <b>25</b> hours of Teaching – Learning process.
2 hours Practical / Drawing (P) per week = 1 Credit	(d) One credit courses are to be designed for 15 hours of Teaching - Learning process.

AICTE Activity Points to be earned by students admitted to BE/B.Tech.,/B.Plan day college programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):

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JBoS 26.08.2021/ EC 14.09.2021	elagavi	2021	lit System (CBCS)
	Visvesvaraya Technological University, Belagavi	Scheme of Teaching and Examinations 2021	Outcome-Based Education(OBE) and Choice Based Credit System (CBCS)

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		Course Title		Calculus & Differential Equations	Engineering Chemistry	Problem-Solving through Programming	Basic Electronics & Communication Engineering	Elements of Mechanical Engineering	Engineering Chemistry Laboratory	Computer Programming Laboratory	Communicative English	Innovation and Design Thinking	OR	Scientific Foundations of Health	
I Semester (Chemistry Group)		Course and Course Code		21MAT11	21CHE12	21PSP13	21ELN14	21EME15	21CHEL16	21CFL17	21EGH18	21IDT19/29		21SFH19/29	
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L-Lecture, T - Tutorial, P-Practical/ Drawing, S - Self Study Component, CIE: Continuous Internal Evaluation, SEE: Semester End Examination  Credit definition:  (a) Four-credit courses are to be designed for 50 hours of Teal  1 hour Lecture (L) per week = 1 Credit  2 hours Tutorial (T) per week = 1 Credit  2 hours Practical / Drawing (P) per week = 1 Credit  (d) One-credit courses are to be designed for 15 hours of Teal
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			Visvesvaray Scheme o Outcome-Based Educat (Effective	Visvesvaraya Technological University, Belagavi Scheme of Teaching and Examinations 2021 Outcome-Based Education(OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2021 – 22)	y, Belag ns 2021 Credit S :1 – 22)	avi ystem	(CBCS)							
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SI.	Code	Course and Course Code	Course Title	Teaching Tepartment(T Span Baper Settin Bag) brace	Тиеогу Гессите	[sirotuT	Practical/ Drawing	Self-Study	Duration in erworf	CIE Marks	SEE Marks	Total Marks	Credits	
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-	BSC	21MAT21	Advanced Calculus and Numerical Methods	TD and PSB: Mathematics	2	2	ı		03	50	20	100	m	
2	BSC	21PHY22	Engineering Physics	TD and PSB: Physics	2	2	:		03	20	20	100	က	
m	ESC	21ELE23	Basic Electrical Engineering	TD and PSB: E and E Engineering	2	2	1	÷	03	20	20	. 100	က	
4	ESC	21CIV24	Elements of Civil Engineering and Mechanics	TD and PSB: Civil Engineering	co	:	ı		03	20	20	100	co.	
ın	ESC	21EVN 25	Engineering Visualization	TD: ME, Auto, IP,IEM, Mfg. Engineering PSB: Mechanical Engg	2	1	2		03	20	20	100	w	
9	BSC	21PHYL26	Engineering Physics Laboratory	TD and PSB: Physics	:	1	2		03	20	20	100	ᆏ	
7	ESC	21E'JEL27	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	:	:	2		03	Ç.	50	100	∺	
8	HSMC	21EGH28	Professional Writing Skills in English	TD and PSB: Humanities	1	1	₩.		02	50	20	100	2	
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		211DT19/29	Innovation and Design Thinking											_
				TOTAL	13	20	07		24	450	450	906	20	1

(a) Four credit courses are to be designed for 50 hours of Teaching – Learning process.   (b) Three credit courses are to be designed for 40 hours of Teaching – Learning process.   (c) Two credit courses are to be designed for 25 hours of Teaching – Learning process.
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AICTE Activity Points to be earned by students admitted to BE/B.Tech.,/B.Plan day college programme (For more details refer to Chapter 6,AICTE Activity Point credit courses are to be designed for 15 hours of Teaching - Learning process. Programme, Model Internship Guidelines):

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