



Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

REGISTRAR

Phone: (0831) 2405468

Fax : (0831) 2405467

Ref. No. VTU/Aca/A6/2014-15/1379

Date: 25 MAY 2015

CIRCULAR

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:

1. **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,**
2. **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.



Dr. K. E. Prakash
13/5/2015
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103

Dr. K. E. Prakash

REGISTRAR
(Dr. K. E. Prakash)

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

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Principals
 13/5/2022
PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



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

Prashant K. G.
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103





Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

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

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

Ref No. VTU/Aca/A12/2017-18/ 5506

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.

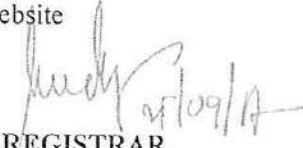
However, w.r.t. the students seeking admission to III semester/ II year Lateral entry during the year 2017-18, the CBCS Regulations notified w.r.t. 2015-16 is applicable.

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
Navodaya Institute of Technology (NIT)
RAICHUR-584 103





Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

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

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

Ref No. VTU/Aca/A12/2017-18/4880

Date: 14 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-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,
Sd/-
REGISTRAR

To,
The Principals of Constituent & Affiliated Engineering Colleges.

Copy FWCs to:

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

Amika
PRINCIPAL 13/9/2017
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



Judy
14/09/17
REGISTRAR

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

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:** 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 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.

Gulik K...
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



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: 17OB6.0]. 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) **Grade Point (GP):** Refers to a numerical weightage allotted to each letter grade on a 10-point scale as under.

Letter Grade and corresponding Grade Points on a typical 10 – Point scale							
Letter Grade	S	A	B	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

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PRINCIPAL 13/5/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 102



- 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:17OB6.0]
- 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.



G. K. K. K.
PRINCIPAL 18/6/2020

Navodaya Institute of Technology (NIT)
RAICHUR-584 103





RL18

Visvesvaraya Technological University
"Jnana Sangama", Belagavi - 590 018, Karnataka State

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

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

Ref VTU/BGM/Aca-OS/Gen-Cirs/2019-20/ 3013

Date : 21 AUG 2019

NOTIFICATION

**Sub: Regulations Governing the Degree of B.E./ B.Tech.
under OBE and CBCS (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 XXX18XXXXX)
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.

Encl: as above

BY ORDER

01.08.2019
REGISTRAR

To,
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

Galki Kargu
PRINCIPAL 13/8/2019
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



Visvesvaraya Technological University, Belagavi
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)

Definitions of Keywords

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of BE/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 BE/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.
- 5) **Course:** Referstousually 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.
- 6) **Credit:** Refersto a unit by which the Course work is measured. It determines the number ofhours of instructions required per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical Courses/ tutorials/ fieldwork per weeketc.
- 7) **Audit Courses:** Meansthe 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:** MeansContinuous 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 examinationsconducted 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 beconsidered 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.

9/11/2019
 PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



Visvesvaraya Technological University, Belagavi
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)

- 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 Examination.

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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: 18OB6.0]. 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) **Grade Point (GP):** Refers to a numerical weightage allotted to each letter grade on a 10-point scale as under.

Letter Grade	S	A	B	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 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: 18 OB6.2]
- 22) **Cumulative Grade Point Average (CGPA):** Is a measure of overall cumulative performance of a student over all semesters. [Refer: 18 OB6.2]
- 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.



Pratikay
PRINCIPAL 13/12/2020
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



Visvesvaraya Technological University, Belagavi

Regulations Governing the Degree of Master of Technology (M.Tech.)

Under Choice Based Credit System (CBCS) Scheme

(Full Time and Part Time)

Effective from academic year 2016 -17

Definitions of Keywords

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of M.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 M.Tech Degree Programme, like Power Electronics, Structures, Machine Design, 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:** 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 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. CIE and SEE to carry 20 % and 80 % 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.

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- 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).
- 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.

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.				

- 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: 16OMT6.0]. 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) **Grade Point (GP):** Refers to a numerical weightage allotted to each letter grade on a 10-point scale as under.

Letter Grade and corresponding Grade Points on a typical 10 – Point scale							
Letter Grade	S	A	B	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 points (CrP) = GP × Credits for the Course.

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- 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:16OMT6.0]
- 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: 16OMT6.0]
- 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.

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Visvesvaraya Technological University, Belagavi

Regulations Governing the Degree of Master of Technology (M.Tech.)

Under Choice Based Credit System (CBCS) Scheme

(Full Time and Part Time)

Effective from 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 M.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 M.Tech Degree Programme, like Power Electronics, Structures, Machine Design, 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:** 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 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.
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Visvesvaraya Technological University, Belagavi

Regulations Governing the Degree of Master of Technology (M.Tech.)
Under Outcome based Education (OBE) and Choice Based Credit System (CBCS) Scheme
(Full-time and Part-time)
Effective from academic year 2018 -19

Definitions of Keywords

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

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Under Outcome based Education (OBE) and Choice Based Credit System (CBCS) Scheme
(Full-time and Part-time)
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Regulations Governing the Degree of Master of Technology (M.Tech.)
Under Outcome based Education (OBE) and Choice Based Credit System (CBCS) Scheme
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SCHEME OF TEACHING AND EXAMINATION
B.E. ELECTRONICS & COMMUNICATION ENGINEERING

VI SEMESTER

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination			
				Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks
1	10EC61	Digital Communication	EC	4	-	3	25	100	125
2	10EC62	Microprocessors	EC	4	-	3	25	100	125
3	10EC63	Microelectronics Circuits	EC	4	-	3	25	100	125
4	10EC64	Antennas and Propagation	EC	4	-	3	25	100	125
5	10EC65	Operating Systems	EC	4	-	3	25	100	125
6	10EC66x	Elective-I (Group A)	EC	4	-	3	25	100	125
7	10ECL67	Advanced Communication Lab	EC	-	3	3	25	50	75
8	10ECL68	Microprocessor Lab	EC	-	3	3	25	50	75
TOTAL				24	06	24	200	700	900

Elective – I (Group A)			
10EC661	Analog and Mixed Mode VLSI Design	10EC664	Low Power VLSI Design
10EC662	Satellite Communications	10EC665	Data Structure Using C++
10EC663	Random Process	10EC666	Digital System Design Using Verilog
		10EC667	Virtual Instrumentation


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SCHEME OF TEACHING AND EXAMINATION
B.E. ELECTRONICS & COMMUNICATION ENGINEERING

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination			
				Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks
1	10EC71	Computer Communication Networks	EC	4	-	3	25	100	125
2	10EC72	Optical Fiber Communicatio	EC	4	-	3	25	100	125
3	10EC73	Power Electronics	EC	4	-	3	25	100	125
4	10EC74	Embedded System Design	EC	4	-	3	25	100	125
5	10EC75x	Elective-II (Group B)	EC	4	-	3	25	100	125
6	10EC76x	Elective-III (Group C)	EC	4	-	3	25	100	125
7	10ECL77	VLSI Lab	EC	-	3	3	25	50	75
8	10ECL78	Power Electronics Lab	EC	-	3	3	25	50	75
TOTAL				24	06	24	200	700	900

Elective – II (Group B)		Elective – III (Group C)	
10EC751	DSP Algorithms & Architecture	10EC761	Programming in C++
10EC752	Micro and Smart Systems Technology	10EC762	Real Time Systems
10EC753	Artificial Neural Network	10EC763	Image Processing
10EC754	CAD for VLSI	10EC764	Radio Frequency Integrated Circuits
10EC755	Applied Embedded System Design*	10EC765	Wavelet Transforms
10EC756	Speech Processing	10EC766	Modeling and Simulation of Data Networks

NOTE: * 06EC755 Applied Embedded System Design has a LAB component (syllabus is different and in the Theory Examination, questions from Lab experiments will also be there.)


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SCHEME OF TEACHING AND EXAMINATION
B.E. ELECTRONICS & COMMUNICATION ENGINEERING

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination			
				Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks
1	10EC81	Wireless Communication	EC	4	-	3	25	100	125
2	10EC82	Digital Switching Systems	EC	4	-	3	25	100	125
3	10EC83x	Elective-IV (Group D)	EC	4	-	3	25	100	125
4	10EC84x	Elective-V (Group E)	EC	4	-	3	25	100	125
5	10ECP85	Project Work	EC	-	6	3	100	100	200
6	10ECS86	Seminar	EC	-	3	-	50	-	50
TOTAL				16	09	15	250	500	750

Elective – IV (Group D)		Elective – V (Group E)	
10EC831	Distributed Systems	10EE841	Multimedia Communication
10EC832	Network Security	10EC842	Real Time Operating Systems
10EC833	Optical Networks	10EC843	GSM
10EC834	High Performance Computing Networks	10EC844	Ad-hoc Wireless Networks
10EC835	Internet Engineering	10EC845	Optical Computing


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**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
V SEMESTER**

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Theory / Practical	Total
1	10 AL 51	Management & Entrepreneurship	Any Dept.	04	-	03	25	100	125
2	10 CV 52	Design of RCC Structural Elements	Civil	04	--	03	25	100	125
3	10 CV 53	Structural Analysis – II	Civil	04	--	03	25	100	125
4	10 CV 54	Geotechnical Engineering. – I	Civil	04	--	03	25	100	125
5	10 CV 55	Hydrology and Irrigation Engineering	Civil	04	--	03	25	100	125
6	10 CV 56	Transportation Engineering – I	Civil	04	--	03	25	100	125
7	10 CVL 57	Hydraulics and Hydraulic Machinery Lab.	Civil	--	03	03	25	50	75
8	10 CVL 58	Computer Aided Design Lab.	Civil	--	03	03	25	50	75
TOTAL				24	06	24	200	700	900

**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VI SEMESTER**

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Theory / Practical	Total
1	10 CV 61	Environmental Engineering - I	Civil	04	--	03	25	100	125
2	10 CV 62	Design & Drawing of RC structures	Civil	02	03	04	25	100	125
3	10 CV 63	Transportation Engineering – II	Civil	04	--	03	25	100	125
4	10 CV 64	Geotechnical Engineering. – II	Civil	04	--	03	25	100	125
5	10 CV 65	Hydraulic Structures and Irrigation Design-Drawing	Civil	02	03	04	25	100	125
6	10 CV 66x	Elective-I (Group A)	Civil	04	--	03	25	100	125
7	10 CVL 67	Geotechnical Engineering. Lab.	Civil	--	03	03	25	50	75
8	10 CVL 68	Extensive Survey Viva Voce	Civil	--	03	03	25	50	75
TOTAL				20	12	25	200	700	900

Elective-I (Group A)

10 CV 661	Theory of Elasticity	10 CV 665	Ground Water Hydrology
10 CV 662	Alternative Building Materials and Technologies	10 CV 666	Rural Water Supply and Sanitation
10 CV 663	Ground Improvement Techniques	10 CV 667	Traffic Engineering
10 CV 664	Advanced Surveying		

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**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VII SEMESTER**

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Duration (Hrs)	Examination		
				Theory	Practical		Marks		Total
1	10 CV 71	Environmental Engineering.-II	Civil	04	--	03	25	100	125
2	10 CV 72	Design of Steel Structures	Civil	04	--	03	25	100	125
3	10 CV 73	Estimation and Valuation	Civil	04	--	03	25	100	125
4	10 CV 74	Design of Pre Stressed Concrete Structures	Civil	04	--	03	25	100	125
5	10 CV 75x	Elective-II (Group B)	Civil	04	--	03	25	100	125
6	10 CV 76x	Elective-III (Group C)	Civil	04	--	03	25	100	125
7	10 CVL 77	Environmental Engineering. Lab	Civil	--	03	03	25	50	75
8	10 CVL 78	Concrete and Highway Materials lab.	Civil	--	03	03	25	50	75
TOTAL				24	06	24	200	700	900

Elective-II (Group B)

- 10 CV 751 Matrix Method of Structural Analysis
- 10 CV 752 Advanced Design of RC Structures
- 10 CV 753 Design of Masonry Structures
- 10 CV 754 Earth and Earth Retaining Structures
- 10 CV 755 Highway Geometric Design
- 10 CV 756 Open Channel Hydraulics
- 10 CV 757 Solid Waste Management

Elective-III (Group C)

- 10 CV 761 Numerical methods in Civil Engineering
- 10 CV 762 Rock Mechanics
- 10 CV 763 Pavement Materials and Construction
- 10 CV 764 Photogrammetry and Remote Sensing
- 10 CV 765 Air Pollution and Control
- 10 CV 766 Design and Drawing of Bridges.: * (2 Hrs of Theory + 3 Hrs of Drawing) * (Exam Duration : 4 Hrs)
- 10 CV 767 Structural Dynamics

**SCHEME OF TEACHING AND EXAMINATION
B.E. CIVIL ENGINEERING
VIII SEMESTER**

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Duration (Hrs)	Examination		
				Theory	Practical		Marks		Total
1	10 CV 81	Advanced Concrete Technology	Civil	04	--	03	25	100	125
2	10 CV 82	Design and Drawing of Steel Structures	Civil	02	03	04	25	100	125
3	10 CV 83x	Elective-IV (Group D)	Civil	04	--	03	25	100	125
4	10 CV 84x	Elective-V (Group E)	Civil	04	--	03	25	100	125
5	10 CV 85	Project Work	Civil	--	06	03	100	100	200
6	10 CV 86	Seminar	Civil	--	03	03	50	--	50
TOTAL				14	12	19	250	500	750

Elective-IV (Group D)

- 10 CV 831 Advanced Pre-stressed Concrete Structures
- 10 CV 832 Advanced Foundation Design
- 10 CV 833 Pavement Design
- 10 CV 834 Earthquake Resistant Design of Structures
- 10 CV 835 Industrial Waste Water Treatment
- 10 CV 836 Construction Management & Engineering Economics.

Elective-V (Group E)

- 10 CV 841 Finite Element Analysis
- 10 CV 842 Reinforced Earth Structures
- 10 CV 843 Urban Transport Planning
- 10 CV 844 Geographic Information System
- 10 CV 845 Advanced Design of Steel Structures
- 10 CV 846 Water Resources Engineering
- 10 CV 847 Environmental Impact Assessment


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SCHEME OF TEACHING AND EXAMINATION
B.E. INFORMATION SCIENCE AND ENGINEERING

VI SEMESTER

S. No.	Subject Code	Subject	Teaching Dept.	Teaching Hrs / Week		Examination.			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Exam	Total
1	10AL61	Management and Entrepreneurship	CSE/ISE/ MBA	04	-	03	25	100	125
2	10CS62	Unix Systems Programming	CSE/ISE	04	-	03	25	100	125
3	10IS63	File Structures	CSE/ISE	04	-	03	25	100	125
4	10CS64	Computer Networks - II	CSE/ISE	04	-	03	25	100	125
5	10IS65	Software Testing	CSE/ISE	04	-	03	25	100	125
6	10IS66x	Elective I (Group-A)	CSE/ISE	04	-	03	25	100	125
7	10ISL67	File Structures Laboratory	CSE/ISE	-	03	03	25	50	75
8	10ISL68	Software Testing Laboratory	CSE/ISE	-	03	03	25	50	75
Total				24	06	-	200	700	900

Elective I – Group A

10IS661/10CS661	Operations Research
10IS662/10CS63	Compiler Design
10IS663/10CS663	Data Compression
10IS664/10CS664	Pattern Recognition
10IS665/10CS65	Computer Graphics and Visualization
10IS666/10CS666	Programming Languages

Note: Software Testing Lab to be implemented in UNIX environment

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SCHEME OF TEACHING AND EXAMINATION
B.E. INFORMATION SCIENCE AND ENGINEERING

VII SEMESTER

S. No.	Subject Code	Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Exam	Total
1	10CS71	Object Oriented Modeling and Design	CSE/ISE	04	-	03	25	100	125
2	10IS72	Information Systems	CSE/ISE	04	-	03	25	100	125
3	10CS73	Programming the Web	CSE/ISE	04	-	03	25	100	125
4	10IS74/ 10CS755	Data Warehousing and Data Mining	CSE/ISE	04	-	03	25	100	125
5	10IS75x	Elective II (Group-B)	CSE/ISE	04	-	03	25	100	125
6	10IS76x	Elective III(Group-C)	CSE/ISE	04	-	03	25	100	125
7	10CSL77	Networks Laboratory	CSE/ISE	-	03	03	25	50	75
8	10CSL78	Web Programming Laboratory	CSE/ISE	-	03	03	25	50	75
Total				24	06	-	200	700	900

Elective II – Group B

10IS751/10CS751	Advanced DBMS
10IS752/10CS72	Embedded Computing Systems
10IS753/10CS753	JAVA and J2EE
10IS754/10CS754	Multimedia Computing
10IS755	Advanced Software Engineering
10IS756/10CS756	Neural Networks

Elective III – Group C

10IS761/10CS761	C# Programming and .Net
10IS762/10CS762	Digital Image Processing
10IS763/10CS763	Game Theory
10IS764/10CS764	Artificial Intelligence
10IS765/10CS765	Storage Area Networks
10IS766/10CS766	Fuzzy Logic


PRINCIPAL
 Navodaya Institute of Technology (NIT)
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SCHEME OF TEACHING AND EXAMINATION
B.E. INFORMATION SCIENCE AND ENGINEERING

VIII SEMESTER

S. No.	Subject Code	Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration	Marks		
							IA	Exam	Total
1	10IS81	Software Architectures	CSE/ISE	04	-	03	25	100	125
2	10CS82	System Modeling and Simulation	CSE/ISE	04	-	03	25	100	125
3	10IS83x	Elective IV(Group-D)	CSE/ISE	04	-	03	25	100	125
4	10IS84x	Elective V(Group-E)	CSE/ISE	04	-	03	25	100	125
5	10IS85	Project Work	ISE		06	03	100	100	200
6	10IS86	Seminar	ISE		-	-	50	-	50
Total				16	06		250	500	750

Elective IV – Group D

10IS831/10CS831	Wireless Networks and Mobile Computing
10IS832/10CS832	Web 2.0 and Rich Internet Applications
10IS833	User Interface Design
10IS834/10CS834	Network Management Systems
10IS835/10CS835	Information and Network Security
10IS836/10CS836	Microcontroller-Based Systems

Elective V– Group E

10IS841/10CS841	Ad-hoc Networks
10IS842	Information Retrieval
10IS843	Supply Chain Management
10IS844/10CS844	Services Oriented Architecture
10IS845/10CS845	Clouds, Grids and Clusters
10IS846	Decision Support Systems

NOTE: Students have to register for one Elective from each of the five Elective Group


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SCHEME OF TEACHING AND EXAMINATION
B.E. MECHANICAL ENGINEERING

VI SEMESTER

Sl. No	Sub-Code	Title	Teaching hours /week		Examination			
			Theory	Pract. / Drg.	Duration	I.A. Marks	Theory/ Pract.	Total Marks
1	10ME61	Computer Integrated Manufacturing	04	--	03	25	100	125
2	10ME62	Design of Machine Elements II	04	--	03	25	100	125
3	10ME63	Heat & Mass Transfer	04	--	03	25	100	125
4	10ME64	Finite Element Methods	04	--	03	25	100	125
5	10ME65	Mechatronics & Microprocessor	04	--	03	25	100	125
6	10ME66X	Elective 'A'	04	--	03	25	100	125
7	10MEL67	Heat & Mass Transfer Lab	--	03	03	25	50	75
8	10MEL68	CAMA Lab	--	03	03	25	50	75
TOTAL			24	06	24	200	700	900

Elective – I (Group A)			
10ME661	Theory of Elasticity	10ME662	Mechanics of Composite Materials
10ME663	Refrigeration & Air Conditioning	10ME664	Design of Heat Exchangers
10ME665	Non-Traditional Machining	10ME666	Knowledge Management
10ME667	Project Management	10ME668	Statistical Quality Control


PRINCIPAL
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SCHEME OF TEACHING AND EXAMINATION
B.E. MECHANICAL ENGINEERING

VII SEMESTER

Sl. No	Sub-Code	Title	Teaching hours /week		Examination			
			Theory	Pract/ Drg.	Duration	I.A. Marks	Theory/ Pract.	Total Marks
1	10ME71	Economics	04	--	03	25	100	125
2	10ME72	Mechanical Vibrations	04	--	03	25	100	125
3	10ME73	Hydraulics and Pneumatics	04	--	03	25	100	125
4	10ME74	Operations Research	04	--	03	25	100	125
5	10ME75X	Elective B	04	--	03	25	100	125
6	10ME76X	Elective C	04	--	03	25	100	125
7	10MEL77	Design Lab	--	03	03	25	50	75
8	10MEL78	CIM and Automation Lab	--	03	03	25	50	75
TOTAL			24	06	24	200	700	900


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Elective – 2 (Group B)		Elective – 3 (Group C)	
10ME751	Mechanism Design	10ME761	Experimental Stress Analysis
10ME752	Theory of Plasticity	10ME762	Tool Design
10ME753	Engineering Design	10ME763	Cryogenics
10ME754	Non Conventional Energy Sources	10ME764	Smart Materials
10ME755	Gas Dynamics	10ME765	Agile Manufacturing
10ME756	Management Information System	10ME766	Robotics
10ME757	Automation in Manufacturing	10ME767	Finance Management
10ME758	Total Quality Management	10ME768	Micro & Smart System Technology
		10ME769	Product Life Cycle Management


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SCHEME OF TEACHING AND EXAMINATION
B.E. MECHANICAL ENGINEERING

VIII SEMESTER

Sl. No	Sub-Code	Title	Teaching hours /week		Examination			
			Theory	Pract/ Drg.	Duration	I.A. Marks	Theory/ Pract.	Total Marks
1	10ME81	Operations Management	04	--	03	25	100	125
2	10ME82	Control Engineering	04	--	03	25	100	125
3	10ME83X	Elective D	04	--	03	25	100	125
4	10ME84X	Elective E	04	--	03	25	100	125
5	10ME85L	Project Work	--	06	03	100	100	200
6	10ME86L	Seminar	--	03	--	50	--	50
TOTAL				09	15	250	500	750


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Elective – 4 (Group D)		Elective – 5 (Group E)	
10ME831	Tribology	10ME841	Machine Tool Design
10ME832	Fracture Mechanics	10ME842	Industrial Engineering & Ergonomics
10ME833	Power Plant Engineering	10ME843	Bio Mass Energy Systems
10ME834	Nanotechnology	10ME844	Automotive Engineering
10ME835	Organisational Behaviour and Professional Communication	10ME845	Database Management System
10ME836	Computer Graphics	10ME846	Artificial Intelligence
10ME837	Rapid Prototyping	10ME847	Design of Experiments
10ME838	Foundry Technology	10ME848	Design for Manufacture & Assembly

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(SCHEME OF TEACHING & EXAMINATIONS)
VI SEMESTER
ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching		Examination			
				Hrs / Week		Duration (Hrs)	Marks		
				Theory	Practical		IA	Theory / Practical	Total
1	10EE61	Power System Analysis and Stability	E&EE	4	-	3	25	100	125
2	10EE62	Switchgear & Protection	E&EE	4	-	3	25	100	125
3	10EE63	Electrical Machine Design	E&EE	4	-	3	25	100	125
4	10EE64	Digital Signal Processing	E&EE	4	-	3	25	100	125
5	10EE65	Computer Aided Electrical Drawing	E&EE	1	3	3	25	100	125
6	10EE66X	Elective-I (Group A)	E&EE	4	-	3	25	100	125
7	10EEL67	D.C. Machines and Synchronous Machines Laboratory	E&EE	-	3	3	25	50	75
8	10EEL68	Control Systems Laboratory	E&EE	-	3	3	25	50	75
Total				21	09	24	200	700	900

Elective-I (Group A)

10EE661 - Operations Research

10EE662 - Advanced Power Electronics

10EE663 - Fuzzy Logic

10EE664 - Object Oriented Programming using C++

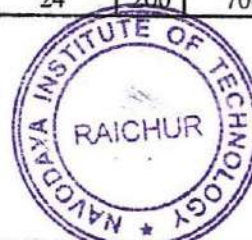
10EE665 - Embedded Systems

10EE666 - Electrical Engineering Materials

(SCHEME OF TEACHING & EXAMINATIONS)
VII SEMESTER
ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Theory / Practical	Total
1	10EE71	Computer Techniques in Power System Analysis	E&EE	4	-	3	25	100	125
2	10EE72	Electrical Power Utilization	E&EE	4	-	3	25	100	125
3	10EE73	High Voltage Engineering	E&EE	4	-	3	25	100	125
4	10EE74	Industrial Drives and Applications	E&EE	4	-	3	25	100	125
5	10EE75X	Elective-II (Group B)	E&EE	4	-	3	25	100	125
6	10EE76X	Elective-III (Group C)	E&EE	4	-	3	25	100	125
7	10EEL77	Relay and High Voltage Laboratory	E&EE	-	3	3	25	50	75
8	10EEL78	Power System Simulation Laboratory	E&EE	-	3	3	25	50	75
Total				24	06	24	200	700	900

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Elective-II (Group B)

10EE751 - HVDC Transmission
 10EE752 - Programmable Logic Controllers
 10EE753 - Artificial Neural Network
 10EE754 - Operating System
 10EE755 - Digital System Design with VHDL Technology
 10EE756 - Testing and Commissioning of Electrical Equipment

Elective-III (Group C)

10EE761 - Power System Planning
 10EE762 - Computer Control of Electrical Drives
 10EE763 - Data Structure
 10EE764 - VLSI Circuits and Design
 10EE765 - Micro & Smart System
 10EE766 - Electromagnetic Compatibility

Principals
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(SCHEME OF TEACHING & EXAMINATIONS)
VIII SEMESTER
ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	Theory / Practical	Total
1	10EE81	Electrical Design, Estimating and Costing	E&EE	4	-	3	25	100	125
2	10EE82	Power System Operation and Control	E&EE	4	-	3	25	100	125
3	10EE83X	Elective-IV (Group D)	E&EE	4	-	3	25	100	125
4	10EE84X	Elective-V (Group E)	E&EE	4	-	3	25	100	125
5	10EEP85	Project Work	E&EE	-	6	3	100	100	200
6	10EES86	Seminar (on a latest topic relevant to the branch and independent of the project work)	E&EE	-	3	50	-	-	50
Total				16	09	15	250	500	750

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Elective-IV (Group-D)

- 10EE831 - Reactive Power Management
- 10EE832 - Flexible A.C. Transmission Systems (FACTS)
- 10EE833 - Advanced Instrumentation System
- 10EE834 - AI Applications to Power Systems
- 10EE835 - Data Base Management Systems (DBMS)
- 10EE836 - Renewable Energy Sources

Elective-V (Group-E)

- 10EE841 - Power Systems Dynamics and Stability
- 10EE842 - Energy Auditing & Demand Side Management
- 10EE843 - Data communications and Networking
- 10EE844 - Electrical Distribution Systems
- 10EE845 - Insulation Engineering
- 10EE846 - Intellectual Property Rights
- 10EE847 - Electrical Power Quality

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Gulik Kano
13/1/2020
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SCHEME OF TEACHING AND EXAMINATION
B.E.: Electronics & Communication Engineering

V SEMESTER

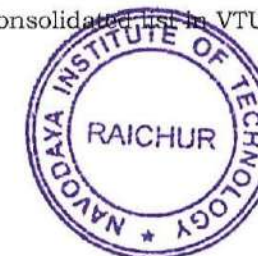
Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical /Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ES51	Management and Entrepreneurship Development	04		03	80	20	100	4
2	15EC52	Digital Signal Processing	04		03	80	20	100	4
3	15EC53	Verilog HDL	04		03	80	20	100	4
4	15EC54	Information Theory & Coding	04		03	80	20	100	4
5	15EC55X	Professional Elective-1	03		03	80	20	100	3
6	15EC56X	Open Elective-1	03		03	80	20	100	3
7	15ECL57	DSP Lab		11+2P	03	80	20	100	2
8	15ECL58	HDL Lab		11+2P	03	80	20	100	2
TOTAL			22	06	24	640	160	800	26

Professional Elective-1		Open Elective – 1* (List offered by EC/TC Board only)	
15EC551	Nanoelectronics	15EC561	Automotive Electronics
15EC552	Switching & Finite Automata Theory	15EC562	Object Oriented Programming Using C++
15EC553	Operating System	15EC563	8051 Microcontroller
15EC554	Electrical Engineering Materials		
15EC555	MSP430 Microcontroller		

1. **Professional Elective:** Elective relevant to chosen specialization/ branch.

2. * **Open Elective List:** For other Open Electives offered by other Boards, refer the Scheme of other Boards or Consolidated list in VTU Website.


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SCHEME OF TEACHING AND EXAMINATION
B.E.: Electronics & Communication Engineering

VI SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EC61	Digital Communication	04		03	80	20	100	4
2	15EC62	ARM Microcontroller & Embedded Systems	04		03	80	20	100	4
3	15EC63	VLSI Design	04		03	80	20	100	4
4	15EC64	Computer Communication Networks	04		03	80	20	100	4
5	15EC65X	Professional Elective-2	03		03	80	20	100	3
6	15EC66X	Open Elective-2	03		03	80	20	100	3
7	15ECL67	Embedded Controller Lab		1I+2P	03	80	20	100	2
8	15ECL68	Computer Networks Lab		1I+2P	03	80	20	100	2
TOTAL			22	6	24	640	160	800	26

Professional Elective-2		Open Elective – 2* (List offered by EC/TC Board only)	
15EC651	Cellular Mobile Communication	15EC661	Data Structures Using C++
15EC652	Adaptive Signal Processing	15EC662	Power Electronics
15EC653	Artificial Neural Networks	15EC663	Digital System Design using Verilog
15EC654	Digital Switching Systems		
15EC655	Microelectronics		

1. Professional Elective: Elective relevant to chosen specialization/branch.

2. * Open Elective List: For other Open Electives offered by other Boards, refer the Scheme of other Boards or Consolidated list in VTU Website.


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SCHEME OF TEACHING AND EXAMINATION
B.E.: Electronics & Communication Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours / Week		Examination				15EC
			Theory	Practical/Drawing	Duration	I.A. Marks	Theory/Practical Marks	Total Marks	Credits
1	15EC71	Microwave and Antennas	04		03	20	80	100	4
2	15EC72	Digital Image Processing	04		03	20	80	100	4
3	15EC73	Power Electronics	04		03	20	80	100	4
4	15XX74X	Professional Elective-3	03		03	20	80	100	3
5	15EC75X	Professional Elective-4	03		03	20	80	100	3
6	15ECL76	Advanced Communication Lab		1I+2P	03	20	80	100	2
7	15ECL77	VLSI Lab		1I+2P	03	20	80	100	2
8	15ECP78	Project Work Phase-I + Project work Seminar		03		100	-	100	2
TOTAL			18	09	21	240	560	800	24

Professional Elective-3		Professional Elective-4	
15EC741	Multimedia Communication	15EC751	DSP Algorithms and Architecture
15EC742	Biomedical Signal Processing	15EC752	IoT and Wireless Sensor Networks
15EC743	Real Time Systems	15EC753	Pattern Recognition
15EC744	Cryptography	15EC754	Advanced Computer Architecture
15EC745	CAD for VLSI	15EC755	Satellite Communication

1. **Project Phase -I + Project Work Seminar:** Literature Survey, Problem Identification, Objectives and Methodology. Submission of Synopsis and Seminar.


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SCHEME OF TEACHING AND EXAMINATION
B.E.: Electronics & Communication Engineering

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EC81	Wireless Cellular and LTE 4G Broadband	4	-	3	20	80	100	4
2	15EC82	Fiber Optics & Networks	4	-	3	20	80	100	4
3	15EC83X	Professional Elective-5	3	-	3	20	80	100	3
4	15EC84	Internship/Professional Practice	Industry Oriented		3	50	50	100	2
5	15ECP85	Project Work	-	6	3	100	100	200	6
6	15ECS86	Seminar	-	4	-	100	-	100	1
TOTAL			11	10	15	310	390	700	20

Professional Elective -5	
15EC831	Micro Electro Mechanical Systems
15EC832	Speech Processing
15EC833	Radar Engineering
15EC834	Machine learning
15EC835	Network and Cyber Security

1. Internship / Professional Practice: To be carried between the (6th and 7th Semester) or (7th and 8th) Semester Vacation period.

Principal
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. CIVIL ENGINEERING

V SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15CV51	Design of RC Structural Elements	04		03	80	20	100	4
2	15CV52	Analysis of Indeterminate Structures	04		03	80	20	100	4
3	15CV53	Applied Geotechnical Engineering	04		03	80	20	100	4
4	15CV54	Computer Aided Building Planning and Drawing	01	3D	03	80	20	100	4
5	15CV55X	Professional Elective-I	03		03	80	20	100	3
6	15CV56X	Open Elective-I	03		03	80	20	100	3
7	15CVL57	Geotechnical Engineering Laboratory		11+2P	03	80	20	100	2
8	15CVL58	Concrete and Highway Materials Laboratory		11+2P	03	80	20	100	2
TOTAL			19	09	24	640	160	800	26

Professional Elective 1		Open Elective 1	
15CV551	Air pollution and Control	15CV561	Traffic Engineering
15CV552	Railways, Harbours, tunneling and Airports	15CV562	Sustainability Concepts in Engineering
15CV553	Masonry Structures	15CV563	Remote Sensing and GIS
15CV554	Theory of Elasticity	15CV564	Occupational Health and Safety
		15NC565	NCC

1. **Professional Elective:** Elective relevant to chosen specialization/ branch

2. **Open Elective:** Electives from other technical and/or emerging subject areas


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. CIVIL ENGINEERING

VI SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15CV61	Construction Management and Entrepreneurship	04		03	80	20	100	4
2	15CV62	Design of Steel Structural Elements	04		03	80	20	100	4
3	15CV63	Highway Engineering	04		03	80	20	100	4
4	15CV64	Water Supply and Treatment Engineering	04		03	80	20	100	4
5	15CV65X	Professional Elective 2	03		03	80	20	100	3
6	15CV66X	Open Elective 2	03		03	80	20	100	3
7	15CVL67	Software Application Lab		11+2P	03	80	20	100	2
8	15CVP68	Extensive Survey Project /Camp		11+2P	03	80	20	100	2
TOTAL			22	6	24	640	160	800	26

Professional Elective-2		Open Elective-2	
15CV651	Solid Waste Management	15CV661	Water Resource Management
15CV652	Matrix Method of Structural Analysis	15CV662	Environmental Protection and Management
15CV653	Alternative Building Materials	15CV663	Numerical Methods and applications
15CV654	Ground Improvement Techniques	15CV664	Finite Element Analysis

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. CIVIL ENGINEERING

VII SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CV71	Municipal and Industrial Waste Water Engineering	04		03	20	80	100	4
2	15CV72	Design of RCC and Steel Structures	04		03	20	80	100	4
3	15CV73	Hydrology and Irrigation Engineering	04		03	20	80	100	4
4	15CV74X	Professional Elective 3	03		03	20	80	100	3
5	15CV75X	Professional Elective 4	03		03	20	80	100	3
6	15CVL76	Environmental Engineering Laboratory		11+2P	03	20	80	100	2
7	15CVL77	Computer Aided Detailing of Structures		11+2D	03	20	80	100	2
8	15CVP78	Project Phase I +Project Seminar		3		100		100	2
TOTAL			18	9	21	240	560	800	24

Professional Elective 3		Professional Elective 4	
15CV741	Design of Bridges	15CV751	Urban Transportation and Planning
15CV742	Ground Water & Hydraulics	15CV752	Prefabricated Structures
15CV743	Design Concept of Building Services	15CV753	Rehabilitation and Retrofitting of Structures
15CV744	Structural Dynamics	15CV754	Reinforced Earth Structures

1. Project Phase-I + Seminar: Literature Survey, Problem Identification, objectives and Methodology, Submission of synopsis and seminar

Galli Kalyan
PRINCIPAL 13/5/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016
B.E. CIVIL ENGINEERING

VIII SEMESTER

Sl. No.	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CV81	Quantity Surveying and Contracts Management	4	-	3	20	80	100	4
2	15CV82	Design of Pre Stressed Concrete Elements	4	-	3	20	80	100	4
3	15CV83X	Professional Elective 5	3	-	3	20	80	100	3
4	15CV84	Internship/Professional Practice	Industry Oriented		3	50	50	100	2
5	15CVP85	Project Work	-	6	3	100	100	200	6
6	15CVS86	Seminar on current trends in Engineering and Technology	-	4	-	100	-	100	1
TOTAL			11	10	15	310	390	700	20

Professional Elective 5

15CV831	Earthquake Engineering
15CV832	Hydraulic Structures
15CV833	Pavement Design
15CV834	Advanced Foundation Design

Principals
PRINCIPAL 13/4/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI CHOICE
BASED CREDIT SYSTEM (CBCS) SCHEME OF TEACHING AND
EXAMINATION 2015-2016**

B.E. Computer Science & Engineering

V SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15CS51	Management and Entrepreneurship for IT Industry	04	--	03	80	20	100	4
2	15CS52	Computer Networks	04	--	03	80	20	100	4
3	15CS53	Database Management System	04	--	03	80	20	100	4
4	15CS54	Automata theory and Computability	04	--	03	80	20	100	4
5	15CS55x	Professional Elective 1	03	--	03	80	20	100	3
6	15CS56x	Open Elective 1	03	--	03	80	20	100	3
7	15CSL57	Computer Network Laboratory	--	1I+2P	03	80	20	100	2
8	15CSL58	DBMS Laboratory with mini project	--	1I+2P	03	80	20	100	2
TOTAL			22	6	24	640	160	800	26

Professional Elective 1	
15CS551	Object Oriented Modeling and Design
15CS552	Introduction to Software Testing
15CS553	Advanced JAVA and J2EE
15CS554	Advanced Algorithms

1. Professional Elective: Electives relevant to chosen specialization / branch
2. Open Elective: Electives from other technical and/or emerging subject areas (Announced separately)

Principal
PRINCIPAL
Wavodaya Institute of Technology (WIT)
RAICHUR-584 103

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI CHOICE
BASED CREDIT SYSTEM (CBCS) SCHEME OF TEACHING AND
EXAMINATION 2015-2016**

B.E. Computer Science & Engineering

VI SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15CS61	Cryptography, Network Security and Cyber Law	04	--	03	80	20	100	4
2	15CS62	Computer Graphics and Visualization	04	--	03	80	20	100	4
3	15CS63	System Software and Compiler Design	04	--	03	80	20	100	4
4	15CS64	Operating Systems	04	--	03	80	20	100	4
5	15CS65x	Professional Elective 2	03	--	03	80	20	100	3
6	15CS66x	Open Elective 2	03	--	03	80	20	100	3
7	15CSL67	System Software and Operating System Laboratory	--	1I+2P	03	80	20	100	2
8	15CSL68	Computer Graphics Laboratory with mini project	--	1I+2P	03	80	20	100	2
TOTAL			22	6	24	640	160	800	26

Professional Elective 2

15CS651	Data Mining and Data Warehousing
15CS652	Software Architecture and Design Patterns
15CS653	Operations research
15CS654	Distributed Computing system

1. Professional Elective: Electives relevant to choosen specialization / branch
2. Open Elective: Electives from other technical and/or emerging subject areas (Announced separately)

gallikay
PRINCIPAL 9/8/2015
Navodaya Institute of Technology (IIT)
RAICHUR-584 103

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2015-2016

B.E. Computer Science & Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CS71	Web Technology and its applications	04	--	03	20	80	100	4
2	15CS72	Advanced Computer Architectures	04	--	03	20	80	100	4
3	15CS73	Machine Learning	04	--	03	20	80	100	4
4	15CS74x	Professional Elective 3	03	--	03	20	80	100	3
5	15CS75x	Professional Elective 4	03	--	03	20	80	100	3
6	15CSL76	Machine Learning Laboratory	--	1I+2P	03	20	80	100	2
7	15CSL77	Web Technology Laboratory with mini project	--	1I+2P	03	20	80	100	2
8	15CSP78	Project Phase 1 + Seminar	--	--	--	100	--	100	2
TOTAL			18	6	21	240	560	800	24

Professional Elective 3		Professional Elective 4	
15CS741	Natural Language Processing	15CS751	Soft and Evolutionary Computing
15CS742	Cloud Computing and its Applications	15CS752	Computer Vision and Robotics
15CS743	Information and Network Security	15CS753	Digital Image Processing
15CS744	Unix System Programming	15CS754	Storage Area Networks

1. Professional Elective: Electives relevant to chosen specialization / branch
2. Project Phase 1 + Seminar : Literature Survey, Problem Identification, Objectives and Methodology, Submission of Synopsis and Seminar



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2015-2016

B.E. Computer Science & Engineering
 VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credits
			Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15CS81	Internet of Things and Applications	4	--	3	20	80	100	4
2	15CS82	Big Data Analytics	4	--	3	20	80	100	4
3	15CS83x	Professional Elective 5	3	--	3	20	80	100	3
4	15CS84	Internship / Professional Practice	Industry Oriented		3	50	50	100	2
5	15CSP85	Project work phase II	--	6	3	100	100	200	5
6	15CSS86	Seminar	--	4	--	100	--	100	2
TOTAL			11	10	15	310	390	700	20

Professional Elective 5	
15CS831	High Performance Computing
15CS832	User Interface Design
15CS833	Network management
15CS834	System Modeling and Simulation

1. Professional Elective: Electives relevant to chosen specialization / branch
2. Internship / Professional Practice: To be carried out between 6th and 7th semester vacation or 7th and 8th semester vacation period

Ganilaya
 PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103

B.E. Mechanical Engineering

V SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME51	Management and Engineering Economics	3	2	0	03	80	20	100	4
2	15ME52	Dynamics of Machinery	3	2	0	03	80	20	100	4
3	15ME53	Turbo Machines	3	2	0	03	80	20	100	4
4	15ME54	Design of Machine Elements - I	3	2	0	03	80	20	100	4
5	15ME55X	Professional Elective-I	3	0	0	03	80	20	100	3
6	15ME56X	Open Elective-I	3	0	0	03	80	20	100	3
7	15MEL57	Fluid Mechanics & Machinery Lab	1	0	2	03	80	20	100	2
8	15MEL58	Energy Lab	1	0	2	03	80	20	100	2
TOTAL			21	06	04		640	160	800	26

Professional Elective-I		Open Elective-I	
15ME551	Refrigeration and Air-conditioning	15ME561	Optimization Techniques
15ME552	Theory of Elasticity	15ME562	Energy and Environment
15ME553	Human Resource Management	15ME563	Automation and Robotics
15ME554	Non Traditional Machining	15ME564	Project Managemet

- 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:** Elective relevant to chosen specialization/ branch
- 3. Open Elective:** Electives from other technical and/or emerging subject areas.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



B.E. Mechanical Engineering

VI SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME61	Finite Element Analysis	3	2	0	03	80	20	100	4
2	15ME62	Computer integrated Manufacturing	4	0	0	03	80	20	100	4
3	15ME63	Heat Transfer	3	2	0	03	80	20	100	4
4	15ME64	Design of Machine Elements -II	3	2	0	03	80	20	100	4
5	15ME65X	Professional Elective-II	3	0	0	03	80	20	100	3
6	15ME66X	Open Elective-II	3	0	0	03	80	20	100	3
7	15MEL67	Heat Transfer Lab	1	0	2	03	80	20	100	2
8	15MEL68	Modeling and Analysis Lab(FEA)	1	0	2	03	80	20	100	2
TOTAL			21	6	04		640	160	800	26

Professional Elective-II		Open Elective-II	
15ME651	Computational Fluid Dynamics	15ME661	Energy Auditing
15ME652	Mechanics of Composite Materials	15ME662	Industrial Safety
15ME653	Metal Forming	15ME663	Maintenance Engineering
15ME654	Tool Design	15ME664	Total Quality Management
15ME655	Automobile Engineering		

- 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:** Elective relevant to chosen specialization/ branch
- 3. Open Elective:** Electives from other technical and/or emerging subject areas.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Mechanical Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME71	Energy Engineering	3	2	0	03	80	20	100	4
2	15ME72	Fluid Power Systems	4	0	0	03	80	20	100	4
3	15ME73	Control Engineering	3	2	0	03	80	20	100	4
4	15ME74X	Professional Elective - III	3	0	0	03	80	20	100	3
5	15ME75X	Professional Elective-IV	3	0	0	03	80	20	100	3
6	15MEL76	Design Lab	1	0	2	03	80	20	100	2
7	15MEL77	CIM Lab	1	0	2	03	80	20	100	2
8	15MEP78	Project Phase – I	-	-	-	-	-	100	100	2
TOTAL			18	4	04		560	240	800	24

Professional Elective-III		Professional Elective-IV	
15ME741	Design of Thermal Equipments	15ME751	Automotive Electronics
15ME742	Tribology	15ME752	Fracture Mechanics
15ME743	Financial Management	15ME753	Mechatronics
15ME744	Design for Manufacturing	15ME754	Advanced Vibrations
15ME745	Smart Materials & MEMS		

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: Elective relevant to chosen specialization/ branch

Principal
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Mechanical Engineering

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME81	Operations Research	3	2	0	03	80	20	100	4
2	15ME82	Additive Manufacturing	4	0	0	03	80	20	100	4
3	15ME83X	Professional Elective - V	3	0	0	03	80	20	100	3
4	15ME84	Internship / Professional Practice	Industry Oriented			03	50	50	100	2
5	15ME85	Project Phase – II	-	6	-	03	100	100	200	6
6	15ME86	Seminar	-	4	-	-	-	100	100	1
TOTAL			10	12	-		390	310	700	20

Professional Elective-V	
15ME831	Cryogenics
15ME832	Experimental Stress Analysis
15ME833	Theory of Plasticity
15ME834	Green Manufacturing
15ME835	Product life cycle management

- 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:** Elective relevant to chosen specialization/ branch
- 3. Internship / Professional Practice:** To be carried out between 6th & 7th semester vacation or 7th & 8th semester vacation.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION - 2015-16 B.E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS)

V SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EE51	Core Subject	Management and Entrepreneurship	EEE	04	--	03	80	20	100	4
2	15EE52	Core Subject	Microcontroller	EEE	04	--	03	80	20	100	4
3	15EE53	Core Subject	Power Electronics	EEE	04	--	03	80	20	100	4
4	15EE54	Core Subject	Signals and Systems	EEE	04	--	03	80	20	100	4
5	15EE55X	Professional Elective	Professional Elective – I	EEE	03	--	03	80	20	100	3
6	15EE56Y	Open Elective	Open Elective - I	EEE	03	--	03	80	20	100	3
7	15EEL57	Laboratory	Microcontroller Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
8	15EEL58	Laboratory	Power Electronics Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
TOTAL					Theory:22hours Practical: 06 hours		24	160	640	800	26

Elective

Professional Elective		Open Elective***	
		Offered by the Department of Electrical and Electronics Engineering	
Courses under Code 15EE55X	Title	Courses under Code 15EE55X	Title
15EE551	Introduction to Nuclear Power	15EE561	Electronic Communication systems
15EE552	Electrical Engineering Materials	15EE562	Programmable Logic controllers
15EE553	Estimating and Costing	15EE563	Renewable Energy Systems
15EE554	Special Electrical Machines	15EE564	Business Communication

*** 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.


PRINCIPAL 13/1/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION - 2015-16 B.E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS)

VI SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EE61	Core Subject	Control Systems	EEE	04	--	03	80	20	100	4
2	15EE62	Core Subject	Power System Analysis – I	EEE	04	--	03	80	20	100	4
3	15EE63	Core Subject	Digital Signal Processing	EEE	04	--	03	80	20	100	4
4	15EE64	Core Subject	Electrical Machine Design	EEE	04	--	03	80	20	100	4
5	15EE65X	Professional Elective	Professional Elective – II	EEE	03	--	03	80	20	100	3
6	15EE66Y	Open Elective	Open Elective - II	EEE	03	--	03	80	20	100	3
7	15EEL67	Laboratory	Control System Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
8	15EEL68	Laboratory	Digital Signal Processing Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
TOTAL					Theory: 22 hours Practical: 06 hours		24	160	640	800	26

Elective

Professional Elective		Open Elective ***	
Courses under Code 15EE65X		Offered by the Department of Electrical and Electronics Engineering	
Title		Title	
15EE651	Computer Aided Electrical Drawing	15EE661	Artificial Neural Networks and Fuzzy logic
15EE652	Advanced Power Electronics	15EE662	Sensors and Transducers
15EE653	Energy Audit and Demand side Management	15EE663	Batteries and Fuel Cells for Commercial, Military and Space Applications
15EE654	Solar and Wind Energy	15EE664	Industrial Servo Control Systems

*** 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.


PRINCIPAL
 Navodaya Institute of Technology (Autonomous)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION - 2015-16

B.E. ELECTRICAL AND ELECTRONICS ENGINEERING

CHOICE BASED CREDIT SYSTEM (CBCS)

VII SEMESTER

V SEMESTER											
Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours/Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EE71	Core Subject	Power System Analysis - 2	EEE	04	--	03	20	80	100	4
2	15EE72	Core Subject	Power System Protection	EEE	04	--	03	20	80	100	4
3	15EE73	Core Subject	High Voltage Engineering	EEE	04	--	03	20	80	100	4
4	15EE74X	Professional Elective	Professional Elective – III	EEE	04	--	03	20	80	100	3
5	15EE75Y	Professional Elective	Professional Elective – IV	EEE	04	--	03	20	80	100	3
6	15EEL76	Laboratory	Power system Simulation Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
7	15EEL77	Laboratory	Relay and High Voltage Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
8	15EEP78	Project Phase – I + Seminar		EEE	--		--	100	--	100	2
TOTAL					Theory:24 hours Practical: 06 hours		21	240	560	800	24

Elective

Professional Elective – III		Professional Elective – IV	
Courses under Code 15EE74X	Title	Courses under Code 15EE75Y	Title
15EE741	Advanced Control Systems	15EE751	FACTS and HVDC Transmission
15EE742	Utilization of Electrical Power	15EE752	Testing and Commissioning of Power System Apparatus
15EE743	Carbon Capture and Storage	15EE753	Spacecraft Power Technologies
15EE744	Power System Planning	15EE754	Industrial Heating

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: Elective relevant to chosen specialization/ branch.

3. Project Phase –I + Seminar: Literature Survey, Problem Identification, objectives and Methodology. Submission of synopsis and seminar.

4. Internship / Professional Practice: To be carried between the VI and VII semester vacation or VII and VIII semester vacation period.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION - 2015-16 B.E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS)

VIII SEMESTER

Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EE81	Core Subject	Power System Operation and Control	EEE	04	--	03	20	80	100	4
2	15EE82	Core Subject	Industrial Drives and Applications	EEE	04	--	03	20	80	100	4
3	15EE83X	Professional Elective	Professional Elective – V	EEE	03	--	03	20	80	100	3
4	15EE84	Core Subject	Internship / Professional Practice	EEE	Industry Oriented		03	50	50	100	2
5	15EEP85	Core Subject	Project Work Phase -II	EEE	--	06	03	100	100	200	6
6	15EES86	Core Subject	Seminar	EEE	--	04	--	100	--	100	1
TOTAL					Theory:11 hours Practical: 10 hours		15	310	390	700	20

Professional Elective – V

Courses under Code 15EE83X	Title
15EE831	Smart Grid
15EE832	Operation and Maintenance of Solar Electric Systems
15EE833	Integration of Distributed Generation
15EE834	Power System in Emergencies

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: Elective relevant to chosen specialization/ branch.

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


PRINCIPAL
 Navodaya Institute of Technology (NIT,
 RAICHUR-584 103



B.E.: Electronics & Communication Engineering

V SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17ES51	Management and Entrepreneurship Development	EC	04		03	60	40	100	4
2	17EC52	Digital Signal Processing	EC	04		03	60	40	100	4
3	17EC53	Verilog HDL	EC	04		03	60	40	100	4
4	17EC54	Information Theory & Coding	EC	04		03	60	40	100	4
5	17EC55X	Professional Elective-1	EC	03		03	60	40	100	3
6	17EC56X	Open Elective-1	EC	03		03	60	40	100	3
7	17ECL57	DSP Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17ECL58	HDL Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory: 22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-1		Open Elective – 1*** (List offered by EC/TC Board only)	
17EC551	Nanoelectronics	17EC561	Automotive Electronics
17EC552	Switching & Finite Automata Theory	17EC562	Object Oriented Programming Using C++
17EC553	Operating System	17EC563	8051 Microcontroller
17EC554	Electrical Engineering Materials		
17EC555	MSP430 Microcontroller		

***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, if:
 · The candidate has no pre – requisite knowledge.
 · The candidate has studied similar content course during previous semesters.
 · The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).
 Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.


PRINCIPAL 13/5/2022
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



B.E.: Electronics & Communication Engineering

VI SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EC61	Digital Communication	EC	04		03	60	40	100	4
2	17EC62	ARM Microcontroller & Embedded Systems	EC	04		03	60	40	100	4
3	17EC63	VLSI Design	EC	04		03	60	40	100	4
4	17EC64	Computer Communication Networks	EC	04		03	60	40	100	4
5	17EC65X	Professional Elective-2	EC	03		03	60	40	100	3
6	17EC66X	Open Elective-2	EC	03		03	60	40	100	3
7	17ECL67	Embedded Controller Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17ECL68	Computer Networks Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory: 22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-2		Open Elective – 2*** (List offered by EC/TC Board only)	
17EC651	Cellular Mobile Communication	17EC661	Data Structures Using C++
17EC652	Adaptive Signal Processing	17EC662	Power Electronics (not for E&C students)
17EC653	Artificial Neural Networks	17EC663	Digital System Design using Verilog
17EC654	Digital Switching Systems		
17EC655	Microelectronics		

***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, if:

- The candidate has no pre – requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).

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


PRINCIPAL 13/6/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



B.E.: Electronics & Communication Engineering

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EC71	Microwave and Antennas	EC	04		03	60	40	100	4
2	17EC72	Digital Image Processing	EC	04		03	60	40	100	4
3	17EC73	Power Electronics	EC	04		03	60	40	100	4
4	17EC74X	Professional Elective-3	EC	03		03	60	40	100	3
5	17EC75X	Professional Elective-4	EC	03		03	60	40	100	3
6	17ECL76	Advanced Communication Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17ECL77	VLSI Lab	EC	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17ECP78	Project Work Phase-I + Project work Seminar	EC		03		-	100	100	2
TOTAL				Theory: 18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17EC741	Multimedia Communication	17EC751	DSP Algorithms and Architecture
17EC742	Biomedical Signal Processing	17EC752	IOT and Wireless Sensor Networks
17EC743	Real Time Systems	17EC753	Pattern Recognition
17EC744	Cryptography	17EC754	Advanced Computer Architecture
17EC745	CAD for VLSI	17EC755	Satellite Communication

1. 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.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
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B.E.: Electronics & Communication Engineering

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EC81	Wireless Cellular and LTE 4G Broadband	EC	4	-	3	60	40	100	4
2	17EC82	Fiber Optics & Networks	EC	4	-	3	60	40	100	4
3	17EC83X	Professional Elective-5	EC	3	-	3	60	40	100	3
4	17EC84	Internship/Professional Practice	EC	Industry Oriented		3	50	50	100	2
5	17ECP85	Project Work	EC	-	6	3	100	100	200	6
6	17ECS86	Seminar	EC	-	4	-	-	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17EC831	Micro Electro Mechanical Systems
17EC832	Speech Processing
17EC833	Radar Engineering
17EC834	Machine learning
17EC835	Network and Cyber Security

I. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

V SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CV51	Design of RC Structural Elements	Civil Engg.	04		03	60	40	100	4
2	17CV52	Analysis of Indeterminate Structures	Civil Engg.	04		03	60	40	100	4
3	17CV53	Applied Geotechnical Engineering	Civil Engg.	04		03	60	40	100	4
4	17CV54	Computer Aided Building Planning and Drawing	Civil Engg.	04		03	60	40	100	4
5	17CV55X	Professional Elective-1	Civil Engg.	03		03	60	40	100	3
6	17CV56X	Open Elective-1	Civil Engg.	03		03	60	40	100	3
7	17CVL57	Geotechnical Engineering Laboratory	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CVL58	Concrete and Highway Materials Laboratory	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory: 22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-1		Open Elective – 1*** (List offered by Civil Engg Board only)	
17CV551	Air pollution and Control	17CV561	Traffic Engineering
17CV552	Railways, Harbours, tunneling and Airports	17CV562	Sustainability Concepts in Engineering
17CV553	Masonry Structures	17CV563	Remote Sensing and GIS
17CV554	Theory of Elasticity	17CV563	Occupational Health and Safety
		17CV563	NCC

***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, if:

- The candidate has no pre – requisite knowledge.
 - The candidate has studied similar content course during previous semesters.
 - The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).
- Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

VI SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CV61	Construction Management and Entrepreneurship	Civil Engg.	04		03	60	40	100	4
2	17CV62	Design of Steel Structural Elements	Civil Engg.	04		03	60	40	100	4
3	17CV63	Highway Engineering	Civil Engg.	04		03	60	40	100	4
4	17CV64	Water Supply and Treatment Engineering	Civil Engg.	04		03	60	40	100	4
5	17CV65X	Professional Elective-2	Civil Engg.	03		03	60	40	100	3
6	17CV66X	Open Elective-2	Civil Engg.	03		03	60	40	100	3
7	17CVL67	Software Application Laboratory	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CVL68	Extensive Survey Project /Camp	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory:22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-2		Open Elective – 2*** (List offered by Civil Engg Board only)	
17CV651	Solid Waste Management	17CV661	Water Resource Management
17CV652	Matrix Method of Structural Analysis	17CV662	Environmental Protection and Management
17CV653	Alternative Building Materials	17CV663	Numerical Methods and Applications
17CV654	Ground Improvement Techniques	17CV664	Finite Element Analysis

***Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives).
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· The candidate has no pre – requisite knowledge.
· The candidate has studied similar content course during previous semesters.
· The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).
Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.

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Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

VII SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CV71	Municipal and Industrial Waste Water Engineering	Civil Engg.	04		03	60	40	100	4
2	17CV72	Design of RCC and Steel Structures	Civil Engg.	04		03	60	40	100	4
3	17CV73	Hydrology and Irrigation Engineering	Civil Engg.	04		03	60	40	100	4
4	17CV74X	Professional Elective-3	Civil Engg.	03		03	60	40	100	3
5	17CV75X	Professional Elective-4	Civil Engg.	03		03	60	40	100	3
6	17CVL76	Environmental Engineering Laboratory	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17CVL77	Computer Aided Detailing of Structures	Civil Engg.	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CVP78	Project Work Phase-I + Project work Seminar	Civil Engg.		03	--	--	100	100	2
TOTAL				Theory: 18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17CV741	Design of Bridges	17CV751	Urban Transportation and Planning
17CV742	Ground Water & Hydraulics	17CV752	Prefabricated Structures
17CV743	Design Concept of Building Services	17CV753	Rehabilitation and Retrofitting of Structures
17CV744	Structural Dynamics	17CV754	Reinforced Earth Structures

1. 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.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2017-2018

B.E: CIVIL ENGINEERING

VIII SEMESTER

Sl. No.	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CV81	Quantity Surveying and Contracts Management	Civil Engg.	4	-	3	60	40	100	4
2	17CV82	Design of Pre Stressed Concrete Elements	Civil Engg.	4	-	3	60	40	100	4
3	17CV83X	Professional Elective-5	Civil Engg.	3	-	3	60	40	100	3
4	17CV84	Internship/ Professional Practice	Civil Engg.	Industry Oriented		3	50	50	100	2
5	17CVP85	Project Work-II	Civil Engg.	-	6	3	100	100	200	6
6	17CVS86	Seminar on current trends in Engineering and Technology	Civil Engg.	-	4	-	-	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17CV831	Earthquake Engineering
17CV832	Hydraulic Structures
17CV833	Pavement Design
17CV834	Advanced Foundation Design

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: Computer Science and Engineering

V SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS51	Management and Entrepreneurship for IT Industry	CS/IS	04		03	60	40	100	4
2	17CS52	Computer Networks	CS/IS	04		03	60	40	100	4
3	17CS53	Database Management System	CS/IS	04		03	60	40	100	4
4	17CS54	Automata theory and Computability	CS/IS	04		03	60	40	100	4
5	17CS55x	Professional Elective-1	CS/IS	03		03	60	40	100	3
6	17CS56x	Open Elective-1	CS/IS	03		03	60	40	100	3
7	17CSL57	Computer Network Laboratory	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CSL58	DBMS Laboratory with mini project	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory: 22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-1		Open Elective – 1*** (List offered by CSE Board only)	
17CS551	Object Oriented Modeling and Design	17CS561	Programming in JAVA (Not for CSE/ISE students)
17CS552	Introduction to Software Testing	17CS562	Artificial Intelligence
17CS553	Advanced JAVA and J2EE	17CS563	Embedded Systems
17CS554	Advanced Algorithms	17CS564	Dot Net framework for application development;
		17CS565	Cloud Computing (Not for CSE/ISE students)

***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, if:

- The candidate has no pre – requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).

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



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: Computer Science and Engineering

VI SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS61	Cryptography, Network Security and Cyber Law	CS/IS	04		03	60	40	100	4
2	17CS62	Computer Graphics and Visualization	CS/IS	04		03	60	40	100	4
3	17CS63	System Software and Compiler Design	CS/IS	04		03	60	40	100	4
4	17CS64	Operating Systems	CS/IS	04		03	60	40	100	4
5	17CS65x	Professional Elective-2	CS/IS	03		03	60	40	100	3
6	17CS66x	Open Elective-2	CS/IS	03		03	60	40	100	3
7	17CSL67	System Software and Operating System Laboratory	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CSL68	Computer Graphics Laboratory with mini project	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory:22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-2		Open Elective – 2*** (List offered by CSE Board only)	
17CS651	Data Mining and Data Warehousing	17CS661	Mobile Application Development
17CS652	Software Architecture and Design Patterns	17CS662	Big Data Analytics (Not for CSE/ISE students)
17CS653	Operations research	17CS663	Wireless Networks and Mobile computing
17CS654	Distributed Computing system	17CS664	Python Application Programming
		17CS665	Service Oriented Architecture
		17CS666	Multicore Architecture and Programming

***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, if:
 • The candidate has no pre – requisite knowledge.
 • The candidate has studied similar content course during previous semesters.
 • The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).
 Registration to open electives shall be documented under the guidance of Programme Coordinator and Adviser.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: Computer Science and Engineering

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS71	Web Technology and its applications	CS/IS	04		03	60	40	100	4
2	17CS72	Advanced Computer Architectures	CS/IS	04		03	60	40	100	4
3	17CS73	Machine Learning	CS/IS	04		03	60	40	100	4
4	17CS74x	Professional Elective 3	CS/IS	03		03	60	40	100	3
5	17CS75x	Professional Elective 4	CS/IS	03		03	60	40	100	3
6	17CSL76	Machine Learning Laboratory	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17CSL77	Web Technology Laboratory with mini project	CS/IS	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17CSP78	Project Work Phase-I + Project work Seminar	CS/IS		03	--	--	100	100	2
TOTAL				Theory:18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17CS741	Natural Language Processing	17CS751	Soft and Evolutionary Computing
17CS742	Cloud Computing and its Applications	17CS752	Computer Vision and Robotics
17CS743	Information and Network Security	17CS753	Digital Image Processing
17CS744	Unix System Programming	17CS754	Storage Area Networks

1. 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.



VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17CS81	Internet of Things and Applications	CS/IS	4	-	3	60	40	100	4
2	17CS82	Big Data Analytics	CS/IS	4	-	3	60	40	100	4
3	17CS83X	Professional Elective-5	CS/IS	3	-	3	60	40	100	3
4	17CS84	Internship/ Professional Practice	CS/IS	Industry Oriented		3	50	50	100	2
5	17CSP85	Project Work-II	CS/IS	-	6	3	100	100	200	6
6	17CSS86	Seminar	CS/IS	-	4	-	-	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17CS831	High Performance Computing
17CS832	User Interface Design
17CS833	Network management
17CS834	System Modeling and Simulation

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.

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B.E. Mechanical Engineering

V SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	SEE Marks	CIE Marks	Total Marks	
1	17ME51	Management and Engineering Economics	3	2	0	03	60	40	100	4
2	17ME52	Dynamics of Machinery	3	2	0	03	60	40	100	4
3	17ME53	Turbo Machines	3	2	0	03	60	40	100	4
4	17ME54	Design of Machine Elements - I	3	2	0	03	60	40	100	4
5	17ME55X	Professional Elective-I	3	0	0	03	60	40	100	3
6	17ME56X	Open Elective-I	3	0	0	03	60	40	100	3
7	17MEL57	Fluid Mechanics & Machinery Lab	1	0	2	03	60	40	100	2
8	17MEL58	Energy Lab	1	0	2	03	60	40	100	2
TOTAL			20	08	04		480	320	60	40

Professional Elective-I		Open Elective-I	
17ME551	Refrigeration and Air-conditioning	17ME561	Optimization Techniques
17ME552	Theory of Elasticity	17ME562	Energy and Environment
17ME553	Human Resource Management	17ME563	Automation and Robotics
17ME554	Non Traditional Machining	17ME564	Project Management

- 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:** Elective relevant to chosen specialization/ branch
- 3. Open Elective:** Electives from other technical and/or emerging subject areas.


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 Navodaya Institute of Technology (NIT)
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B.E. Mechanical Engineering

VI SEMESTER

SL No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	SEE Marks	CIE Marks	Total Marks	
1	17ME61	Finite Element Analysis	3	2	0	03	60	40	100	4
2	17ME62	Computer integrated Manufacturing	4	0	0	03	60	40	100	4
3	17ME63	Heat Transfer	3	2	0	03	60	40	100	4
4	17ME64	Design of Machine Elements -II	3	2	0	03	60	40	100	4
5	17ME65X	Professional Elective-II	3	0	0	03	60	40	100	3
6	17ME66X	Open Elective-II	3	0	0	03	60	40	100	3
7	17MEL67	Heat Transfer Lab	1	0	2	03	60	40	100	2
8	17MEL68	Modeling and Analysis Lab(FEA)	1	0	2	03	60	40	100	2
TOTAL			21	6	04		480	320	60	40

Professional Elective-II		Open Elective-II	
17ME651	Computational Fluid Dynamics	17ME661	Energy Auditing
17ME652	Mechanics of Composite Materials	17ME662	Industrial Safety
17ME653	Metal Forming	17ME663	Maintenance Engineering
17ME654	Tool Design	17ME664	Total Quality Management
17ME655	Automobile Engineering		

- 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.
- Professional Elective:** Elective relevant to chosen specialization/ branch
- Open Elective:** Electives from other technical and/or emerging subject areas.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Mechanical Engineering

VII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	SEE Marks	CIE Marks	Total Marks	
1	17ME71	Energy Engineering	3	2	0	03	60	40	100	4
2	17ME72	Fluid Power Systems	4	0	0	03	60	40	100	4
3	17ME73	Control Engineering	3	2	0	03	60	40	100	4
4	17ME74X	Professional Elective - III	3	0	0	03	60	40	100	3
5	17ME75X	Professional Elective-IV	3	0	0	03	60	40	100	3
6	17MEL76	Design Lab	1	0	2	03	60	40	100	2
7	17MEL77	CIM Lab	1	0	2	03	60	40	100	2
8	17MEP78	Project Phase – I	-	-	-	-	60	40	100	2
TOTAL			18	4	04		480	320	60	24

Professional Elective-III		Professional Elective-IV	
17ME741	Design of Thermal Equipment's	17ME751	Automotive Electronics
17ME742	Tribology	17ME752	Fracture Mechanics
17ME743	Financial Management	17ME753	Human Resource Management
17ME744	Design for Manufacturing	17ME754	Mechatronics
17ME745	Smart Materials & MEMS	17ME755	Advanced Vibrations

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 discipline of study.

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

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016

B.E. Mechanical Engineering

VIII SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	SEE Marks	CIE Marks	Total Marks	
1	17ME81	Operations Research	3	2	0	03	60	40	100	4
2	17ME82	Additive Manufacturing	4	0	0	03	60	40	100	4
3	17ME83X	Professional Elective - V	3	0	0	03	60	40	100	3
4	17ME84	Internship / Professional Practice	Industry Oriented			03	60	40	60	40
5	17ME85	Project Phase – II	-	6	-	03	60	40	200	6
6	17ME86	Seminar	-	4	-	-	60	40	100	1
TOTAL			10	12	-		480	320	700	20

Professional Elective-V	
15ME831	Cryogenics
15ME832	Experimental Stress Analysis
15ME833	Theory of Plasticity
15ME834	Green Manufacturing
15ME835	Product life cycle management

- 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.
- Professional Elective:** Elective relevant to chosen specialization/ branch
- Internship / Professional Practice:** To be carried out between 6th & 7th semester vacation or 7th & 8th semester vacation.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS)

B.E: ELECTRICAL AND ELECTRONICS ENGINEERING

CHOICE BASED CREDIT SYSTEM (CBCS)

V SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EE51	Management and Entrepreneurship	EEE	04		03	60	40	100	4
2	17EE52	Microcontroller(Core)	EEE	04		03	60	40	100	4
3	17EE53	Power Electronics(Core)	EEE	04		03	60	40	100	4
4	17EE54	Signals and Systems(Core)	EEE	04		03	60	40	100	4
5	17EE55X	Professional Elective – I	EEE	03		03	60	40	100	3
6	17EE56Y	Open Elective - I	EEE	03		03	60	40	100	3
7	17EEL57	Microcontroller Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17EEL58	Power Electronics Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
TOTAL				Theory: 22hours Practical: 06 hours		24	480	320	800	26

Professional Elective-1		Open Elective – I*** (List offered by EEE Board only)	
17EE551	Introduction to Nuclear Power	17EE561	Electronic Communication systems
17EE552	Electrical Engineering Materials	17EE562	Programmable Logic controllers
17EE553	Estimating and Costing	17EE563	Renewable Energy Systems
17EE554	Special Electrical Machines	17EE564	Business Communication

***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, if:

- The candidate has no pre –requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied Professional elective(s).

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

Galibaw
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination 2017-2018

Choice Based Credit System (CBCS)

B.E: ELECTRICAL AND ELECTRONICS ENGINEERING

CHOICE BASED CREDIT SYSTEM (CBCS)

VI SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EE61	Control Systems(Core)	EEE	04		03	60	40	100	4
2	17EE62	Power System Analysis – I(Core)	EEE	04		03	60	40	100	4
3	17EE63	Digital Signal Processing(Core)	EEE	04		03	60	40	100	4
4	17EE64	Electrical Machine Design(Core)	EEE	04		03	60	40	100	4
5	17EE65X	Professional Elective – II	EEE	03		03	60	40	100	3
6	17EE66Y	Open Elective - II	EEE	03		03	60	40	100	3
7	17EEL67	Control System Laboratory	EEE	01- Hour Instruction 02- Hour Practical		03	60	40	100	2
8	17EEL68	Digital Signal Processing Laboratory	EEE	01- Hour Instruction 02- Hour Practical		03	60	40	100	2
TOTAL				Theory:22hours Practical: 06 hours		Core Course	480	320	800	26

Professional Elective-2		Open Elective – 2*** (List offered by EEE Board only)	
17EE651	Computer Aided Electrical Drawing	17EE661	Artificial Neural Networks and Fuzzy logic
17EE652	Advanced Power Electronics	17EE662	Sensors and Transducers
17EE653	Energy Audit and Demand side Management	17EE663	Batteries and Fuel Cells for Commercial, Military and Space Applications
17EE654	Solar and Wind Energy	17EE664	Industrial Servo Control Systems

***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, if:

- The candidate has no pre –requisite knowledge.
- The candidate has studied similar content course during previous semesters.
- The syllabus content of the selected open elective is similar to that of Departmental core course(s) or to be studied as Professional elective(s).
- A similar course, under any category, is prescribed in the higher semesters.

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

Gallikar
PRINCIPAL 13/5/2020
Navodaya Institute of Technology (NIT)
RAICHUR-584 10.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EE71	Power System Analysis – 2(Core)	EEE	04		03	60	40	100	4
2	17EE72	Power System Protection(Core)	EEE	04		03	60	40	100	4
3	17EE73	High Voltage Engineering(Core)	EEE	04		03	60	40	100	4
4	17EE74X	Professional Elective – III	EEE	03		03	60	40	100	3
5	17EE75Y	Professional Elective – IV	EEE	03		03	60	40	100	3
6	17EEL76	Power system Simulation Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
7	17EEL77	Relay and High Voltage Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	60	40	100	2
8	17EEP78	Project Work Phase-I + Project work Seminar	EEE		03	--	--	100	100	2
TOTAL				Theory: 18 hours Practical and Project: 09 hours		21	420	380	800	24

Professional Elective-3		Professional Elective-4	
17EE741	Advanced Control Systems	17EE751	FACTs and HVDC Transmission
17EE742	Utilization of Electrical Power	17EE752	Testing and Commissioning of Power System Apparatus
17EE743	Carbon Capture and Storage	17EE753	Spacecraft Power Technologies
17EE744	Power System Planning	17EE754	Industrial Heating

1. 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.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2017-2018
Choice Based Credit System (CBCS)

B.E: ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

VIII SEMESTER

Sl. No	Course Code	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration in hours	SEE Marks	CIE Marks	Total Marks	
1	17EE81	Power System Operation and Control (Core)	EEE	4	-	3	60	40	100	4
2	17EE82	Industrial Drives and Applications(Core)	EEE	4	-	3	60	40	100	4
3	17EE83X	Professional Elective-5	EEE	3	-	3	60	40	100	3
4	17EE84	Internship/ Professional Practice (Core)	EEE	Industry Oriented		3	50	50	100	2
5	17EEP85	Project Work-II(Core)	EEE	-	6	3	100	100	200	6
6	17EES86	Seminar (Core)	EEE	-	4	-	-	100	100	1
TOTAL				Theory: 11 hours Project and Seminar: 10 hours		15	330	370	700	20

Professional Elective -5	
17EE831	Smart Grid
17EE832	Operation and Maintenance of Solar Electric Systems
17EE833	Integration of Distributed Generation
17EE834	Power System in Emergencies

1. Internship/ Professional Practice: 4 Weeks internship to be completed between the (VI and VII semester vacation) and/or (VII and VIII semester vacation) period.



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18EC61	Digital Communication		3	2	--	03	40	60	100	4
2	PCC	18EC62	Embedded Systems		3	2	--	03	40	60	100	4
3	PCC	18EC63	Microwave & Antennas		3	2	--	03	40	60	100	4
4	PEC	18XX64X	Professional Elective -I		3	--	--	03	40	60	100	3
5	OEC	18XX65X	Open Elective -A		3	--	--	03	40	60	100	3
6	PCC	18ECL66	Embedded Systems Laboratory		--	2	2	03	40	60	100	2
7	PCC	18ECL67	Communication Laboratory		--	2	2	03	40	60	100	2
8	MP	18ECMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	6	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -I

Course code under 18XX64X	Course Title
18EC641	Operating System
18EC642	Artificial Neural Networks
18EC643	Object Oriented Programming using C++
18EC644	Digital System Design using Verilog
18EC645	Nanoelectronics

Open Elective -A

(i) 18EC651 Signal Processing (ii) 18EC652 Sensors & Signal Conditioning

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if.

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project 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.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18EC71	Computer Networks		3	--	--	03	40	60	100	3
2	PCC	18EC72	VLSI Design		3	--	--	03	40	60	100	3
3	PEC	18XX73X	Professional Elective - 2		3	--	--	03	40	60	100	3
4	PEC	18XX74X	Professional Elective - 3		3	--	--	03	40	60	100	3
5	OEC	18XX75X	Open Elective -B		3	--	--	03	40	60	100	3
6	PCC	18ECL76	Computer Networks Lab		--	2	2	03	40	60	100	2
7	PCC	18ECL77	VLSI Laboratory		--	2	2	03	40	60	100	2
8	Project	18ECP78	Project Work Phase - 1		--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					15	4	6	21	380	420	800	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18XX73X	Course Title
18EC731	Real Time System
18EC732	Satellite Communication
18EC733	Digital Image Processing
18EC734	Data Structures using C++
18EC735	DSP Algorithms & Architecture

Professional Electives - 3

Course code under 18XX74X	Course Title
18EC741	IOT & Wireless Sensor Networks
18EC742	Automotive Electronics
18EC743	Multimedia Communication
18EC744	Cryptography
18EC745	Machine Learning

Open Elective -B

(i) 18EC751 Communication Theory (ii) 18EC752 Neural Networks

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the 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.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Principals
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RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours/Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18EC81	Wireless and Cellular Communication		3	--	--	03	40	60	100	3
2	PEC	18XX82X	Professional Elective - 4		3	--	--	03	40	60	100	3
3	Project	18ECP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar	18ECS84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship	18ECI85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	4	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18XX82X	Course Title
18EC821	Network Security
18EC822	Micro Electro Mechanical Systems
18EC823	Radar Engineering
18EC824	Optical Communication Networks
18EC825	Biomedical Signal Processing

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

Galli K Gow
PRINCIPAL
 Navodaya Institute of Technology (NIT)
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18ME61	Finite Element Methods		3	2	--	03	40	60	100	4
2	PCC	18ME62	Design of Machine Elements II		3	2	--	03	40	60	100	4
3	PCC	18ME63	Heat Transfer		3	2	--	03	40	60	100	4
4	PEC	18ME64X	Professional Elective -I		3	--	--	03	40	60	100	3
5	OE	18ME65X	Open Elective -A		3	--	--	03	40	60	100	3
6	PCC	18MEL66	Computer Aided Modelling and Analysis Lab		--	2	2	03	40	60	100	2
7	PCC	18MEL67	Heat Transfer Lab		--	2	2	03	40	60	100	2
8	MP	18MEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -I

Course code under 18XX64X	Course Title	Course code under 18XX64X	Course Title
18ME641	Non-Traditional Machining	18ME644	Vibrations and Noise Engineering
18ME642	Refrigeration and Air conditioning	18ME645	Composite Materials Technology
18ME643	Theory of Elasticity	18ME646	Entrepreneurship Development

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if:

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project 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.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.


PRINCIPAL (13/5/2022)
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER

Sl. No	Course and Course code	Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18ME71	Control Engineering	3	--	--	03	40	60	100	3
2	PCC	18ME72	Computer Aided Design and Manufacturing	3	--	--	03	40	60	100	3
3	PEC	18ME73X	Professional Elective - 2	3	--	--	03	40	60	100	3
4	PEC	18ME74X	Professional Elective - 3	3	--	--	03	40	60	100	3
5	OEC	18ME75X	Open Elective -B	3	--	--	03	40	60	100	3
6	PCC	18ME76	Computer Integrated Manufacturing Lab	--	2	2	03	40	60	100	2
	PCC	18ME77	Design Lab	--	2	2	03	40	60	100	2
7	Project	18ME78	Project Work Phase - 1	--	--	2	--	100	--	100	1
8	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)							
TOTAL				15	04	06	18	340	360	700	20

Professional Elective - 2

Course code under 18XX73X	Course Title	Course code under 18XX73X	Course Title
18ME731	Design for Manufacture	18ME734	Total Quality Management
18ME732	Automation and Robotics	18ME735	Operations Research
18ME733	Computational Fluid Dynamics		

Professional Electives - 3

Course code under 18XX74X	Course Title	Course code under 18XX74X	Course Title
18ME741	Additive Manufacturing	18ME744	Mechatronics
18ME742	Emerging Sustainable Building Cooling Technologies	18ME745	Project Management
18ME743	Theory of Plasticity		

Open Elective -B

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if:

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - I:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the project work phase -I, shall be based on the evaluation of the project work phase -I Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -I, shall be based on the evaluation of project work phase -I Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the Internship requirements.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VIII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18ME81	Energy Engineering		3	--	--	03	40	60	100	3
2	PEA	18ME82X	Professional Elective - 4		3	--	--	03	40	60	100	3
3	Project	18MEP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar	18MES84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship	18XX185	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18XX82X	Course Title	Course code under 18XX82X	Course Title
18ME821	CNC Machine Tools	18ME824	Automobile Engineering
18ME822	Tribology	18ME825	Tool Design
18ME823	Non-Destructive Testing and Evaluation	18ME826	Fracture Mechanics

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

Principals
PRINCIPAL 13/5/2020
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



B.E. Mechanical Engineering					
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)					
SEMESTER - VI					
OPEN ELECTIVE - A					
Course Code	18ME65X	CIE Marks	40		
Teaching Hours/Week (L:T:P)	3:0:0	SEE Marks	60		
Credits	03	Exam Hours	03		
Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (For syllabus, please refer to the concerned programme syllabus book or VTU website vtuv.ac.in may be visited.).					
Selection of an open elective shall not be allowed if:					
<ul style="list-style-type: none">• The candidate has studied the same course during the previous semesters of the programme.• The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.• A similar course, under any category, is prescribed in the higher semesters of the programme.					
Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.					
Sl. No.	Board and the Department offering the Electives		Course		Course Title
			Sl. No.	code under 18XX65X	
1	ME	Mechanical Engineering	1	18ME651	Non-Conventional Energy Sources
			2	18ME652	World Class Manufacturing
			3	18ME653	Supply Chain Management
			4	18ME654	Advanced Materials Technology

B.E Mechanical Engineering Outcome Based Education (OBE) and Choice Based Credit System (CBCS) SEMESTER - VII OPEN ELECTIVE - B					
Course Code	18ME75X		CIE Marks	40	
Teaching Hours/Week (L:T:P)	3:0:0		SEE Marks	60	
Credits	03		Exam Hours	03	
Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (For syllabus, please refer to the concerned programme syllabus book or VTU website vtuv.ac.in may be visited.). Selection of an open elective shall not be allowed if: <ul style="list-style-type: none">• The candidate has studied the same course during the previous semesters of the programme.• The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.• A similar course, under any category, is prescribed in the higher semesters of the programme. Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.					
Sl NO	Board and the Department offering the Electives		Course		Course Title
			Sl No	code under 18XX75X	
2	ME	Mechanical Engineering	1	18ME751	Energy and Environment
			2	18ME752	Automotive Engineering
			3	18ME753	Industrial Safety
			4	18ME754	Optimization Techniques


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 Navodaya Institute of Technology (NIT)
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI												
Scheme of Teaching and Examination 2018 – 19												
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)												
(Effective from the academic year 2018 – 19)												
Programme: CIVIL ENGINEERING												
VI SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CV61	Design of Steel Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
2	PCC	18CV62	Applied Geotechnical Engineering	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV63	Hydrology and Irrigation Engineering	Civil Engg.	3	2	--	03	40	60	100	4
4	PEC	18CV64X	Professional Elective -I	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV65X	Open Elective -A	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL66	Software Application Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL67	Environmental Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	EP	18CVEP68	Extensive Survey project	Civil Engg.	--	2	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	12	06	24	320	480	800	24
Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.												
Professional Elective -I												
Course code under18CV64X												
18CV641		Matrix Method of Structural Analysis										
18CV642		Solid Waste Management										
18CV643		Alternate Building Materials										
18CV644		Ground Improvement Techniques										
18CV645		Railway, Harbours, Tunnelling & Airports										
Open Elective -A												
Course code under18CV65X												
18CV651		Remote Sensing & GIS										
18CV652		Traffic Engineering										
18CV653		Occupational Health & Safety										

Jalli K. S. 13/5/2020
PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



Jalil Kayno
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI												
Scheme of Teaching and Examination 2018 – 19												
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)												
(Effective from the academic year 2018 – 19)												
Programme: CIVIL ENGINEERING												
VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CV71	Quality Surveying and Contract Management	Civil Engg.	3	--	--	03	40	60	100	3
2	PCC	18CV72	Design of RCC and Steel Structures	Civil Engg.	3	--	--	03	40	60	100	3
3	PEC	18CV73X	Professional Elective - 2	Civil Engg.	3	--	--	03	40	60	100	3
4	PEC	18CV74X	Professional Elective - 3	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV75X	Open Elective -B	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL76	Computer Aided Detailing of Structures	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL77	Geotechnical Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	Project	18CVP78	Project Work Phase - I		--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					15	04	06	21	380	420	00	20
Note: PCC: Professional core, PEC: Professional Elective.												
Professional Elective - 2												
Course code under 18CV73X		Course Title										
18CV731		Theory of Elasticity										
18CV732		Air Pollution and Control										
18CV733		Pavement Materials & Construction										
18CV734		Ground Water Hydraulics										
18CV735		Masonry Structures										
Professional Electives - 3												
Course code under 18CV74X		Course Title										
18CV741		Earthquake Engineering										
18CV742		Design Concepts of Building Services										
18CV743		Reinforced Earth Structures										


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 Navodaya Institute of Technology (NIT)
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18CV744	Design of Hydraulic Structures
18CV745	Urban Transport Planning
Open Elective -B	
Course code under 18CV75X	Course Title
18CV751	Finite Element Method
18CV752	Numerical Methods and Applications
18CV753	Environmental Protection and Management
<p>Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).</p> <p>Selection of an open elective shall not be allowed if,</p> <ul style="list-style-type: none"> • The candidate has studied the same course during the previous semesters of the programme. • The syllabus content of open elective is similar to that of the Departmental core courses or professional electives. • A similar course, under any category, is prescribed in the higher semesters of the programme. <p>Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.</p>	
<p>Project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.</p> <p>CIE procedure for Project Work Phase - 1: (i) Single discipline: The CIE marks 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. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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.</p> <p>(ii) Interdisciplinary: Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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.</p> <p>Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.</p> <p>AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.</p>	


PRINCIPAL
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 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
					L	T	P					
1	PCC	18CV81	Design of Pre-stressed Concrete	Civil Engg.	3	--	--	03	40	60	100	3
2	PEC	18CV82X	Professional Elective - 4	Civil Engg.	3	--	--	03	40	60	100	3
3	Project	18CVP83	Project Work Phase - 2	Civil Engg.	--	--	16	03	40	60	100	8
4	Seminar	18CVS84	Technical Seminar	Civil Engg.	--	--	2	03	100	--	100	1
5	Internship	18CVI85	Internship	Completed during the vacation/s of VI and VII semesters and/or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	18	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18CV82X	Course Title
18CV821	Bridge Engineering
18CV822	Prefabricated Structures
18CV823	Advanced Foundation Engineering
18CV824	Rehabilitation & Retrofitting
18CV825	Pavement Design

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

Ganesh Kumar
PRINCIPAL 13/5/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



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(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points. 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.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

Juli Kano
13/5/2022
PRINCIPAL
Navodaya Institute of Technology
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CS61	System Software and Compilers	CS / IS	3	2	--	03	40	60	100	4
2	PCC	18CS62	Computer Graphics and Visualization	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS63	Web Technology and its applications	CS / IS	3	2	--	03	40	60	100	4
4	PEC	18CS64X	Professional Elective -I	CS / IS	3	--	--	03	40	60	100	3
5	OEC	18CS65X	Open Elective -A	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CSL66	System Software Laboratory	CS / IS	--	2	2	03	40	60	100	2
7	PCC	18CSL67	Computer Graphics Laboratory with mini project	CS / IS	--	2	2	03	40	60	100	2
8	MP	18CSMP68	Mobile Application Development	CS / IS	--	--	2	03	40	60	100	2
9	INT	--	Internship	(To be carried out during the intervening vacations of VI and VII semesters)				--	--	--	--	--
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project, INT: Internship.

Professional Elective -I

Course code under 18XX64X	Course Title
18CS641	Data Mining and Data Warehousing
18CS642	Object Oriented Modelling and Design
18CS643	Cloud Computing and its Applications
18CS644	Advanced JAVA and J2EE
18CS645	System Modelling and Simulation
Open Elective -A (Not for CSE / ISE Programs)	
18CS651	Mobile Application Development
18CS652	Introduction to Data Structures and Algorithms
18CS653	Programming in JAVA
18CS654	Introduction to Operating System

Students can select any one of the open electives offered by any Department (Please refer to the list of open electives under 18CS65X). Selection of an open elective is not allowed provided.

- The candidate has studied the same course during the previous semesters 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 of the programme.

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

Mini-project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini- project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

- (i) **Single discipline:** The CIE marks 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. The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project 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.

SEE for Mini-project:

- (i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.
- (ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Internship: All the students admitted to III year of BE/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 credit shall be included in 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 and shall have to complete during subsequent University examination after satisfying the internship requirements

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CS71	Artificial Intelligence and Machine Learning	CS / IS	4	--	--	03	40	60	100	4
2	PCC	18CS72	Big Data Analytics	CS / IS	4	--	--	03	40	60	100	4
3	PEC	18CS73X	Professional Elective – 2	CS / IS	3	--	--	03	40	60	100	3
4	PEC	18CS74X	Professional Elective – 3	CS / IS	3	--	--	03	40	60	100	3
5	OEC	18CS75X	Open Elective –B	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CSL76	Artificial Intelligence and Machine Learning Laboratory	CS / IS	--	--	2	03	40	60	100	2
7	Project	18CSP77	Project Work Phase – 1	CS / IS	--	--	2	--	100	--	100	1
8	INT	--	Internship	(If not completed during the vacation of VI and VII semesters, it has to be carried out during the intervening vacations of VII and VIII semesters)								
TOTAL					17	--	04	18	340	360	700	20

Note: PCC: Professional core, PEC: Professional Elective, OEC: Open Elective, INT: Internship.

Professional Elective - 2

Course code under 18CS73X	Course Title
18CS731	Software Architecture and Design Patterns
18CS732	High Performance Computing
18CS733	Advanced Computer Architecture
18CS734	User Interface Design

Professional Electives – 3

Course code under 18CS74X	Course Title
18CS741	Digital Image Processing
18CS742	Network management
18CS743	Natural Language Processing
18CS744	Cryptography
18CS745	Robotic Process Automation Design & Development

Open Elective –B (Not for CSE / ISE Programs)

Course code under 18CS75X	Course Title
18CS751	Introduction to Big Data Analytics
18CS752	Python Application Programming
18CS753	Introduction to Artificial Intelligence
18CS754	Introduction to Dot Net framework for Application Development

Students can select any one of the open electives offered by any Department (Please refer to the list of open electives under 18CS75X).
 Selection of an open elective is not allowed provided.

- The candidate has studied the same course during the previous semesters 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 of the programme.

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

Project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks 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. The CIE marks awarded for the project work phase -I, shall be based on the evaluation of the project work phase -I Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -I, shall be based on the evaluation of project work phase -I 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.

Internship: All the students admitted to III year of BE/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 credit shall be included in 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 and shall have to complete during subsequent University examination after satisfying the internship requirements

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Joshi Kave
 PRINCIPAL
 Navodaya Institute of Technology
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VIII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CS81	Internet of Things	CS / IS	3	--	--	03	40	60	100	3
2	PEC	18CS82X	Professional Elective – 4	CS / IS	3	--	--	03	40	60	100	3
3	Project	18CSP83	Project Work Phase – 2	CS / IS	--	--	2	03	40	60	100	8
4	Seminar	18CSS84	Technical Seminar	CS / IS	--	--	2	03	100	--	100	1
5	INT	18CSI85	Internship	(Completed during the intervening vacations of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective, OEC: Open Elective, INT: Internship.

Professional Electives – 4

Course code under 18CS82X	Course Title
18CS821	Mobile Computing
18CS822	Storage Area Networks
18CS823	NoSQL Database
18CS824	Multicore Architecture and Programming

Project Work CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks 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. The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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. Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).


PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18 EE61	Control Systems	EEE	3	2	--	03	40	60	100	4
2	PCC	18 EE62	Power System Analysis – I	EEE	3	2	--	03	40	60	100	4
3	PCC	18 EE63	Digital Signal Processing	EEE	3	2	--	03	40	60	100	4
4	PEC	18 EE64X	Professional Elective -I	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE65X	Open Elective -A	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL66	Control System Laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL67	Digital Signal Processing Laboratory	EEE	--	2	2	03	40	60	100	2
8	MP	18 EEMP68	Mini-project		--	--	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
TOTAL					15	10	06	24	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Professional Elective -I

Course code under 18XX64X	Course Title
18 EE641	Introduction to Nuclear Power
18 EE642	Electrical Engineering Materials
18 EE643	Computer Aided Electrical Drawing
18 EE644	Embedded System
18 EE645	Object Oriented Programming using C++

Open Elective -A

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX65X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the Mini-project work, shall be based on the evaluation of project 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all the guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project 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.

SEE for Mini-project:

(i) **Single discipline:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.


PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VII SEMESTER												
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18 EE71	Power System Analysis – 2	EEE	2	2	--	03	40	60	100	3
2	PCC	18 EE72	Power System Protection	EEE	3	--	--	03	40	60	100	3
3	PEC	18 EE73X	Professional Elective - 2	EEE	3	--	--	03	40	60	100	3
4	PEC	18 EE74X	Professional Elective - 3	EEE	3	--	--	03	40	60	100	3
5	OEC	18 EE75X	Open Elective -B	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EEL76	PSS laboratory	EEE	--	2	2	03	40	60	100	2
7	PCC	18 EEL77	Relay & HV lab	EEE	--	2	2	03	40	60	100	2
8	Project	18 EEP78	Project Work Phase - 1	EEE	--	--	2	--	100	--	100	1
9	Internship	--	Internship	(If not completed during the vacation of VI and VII semesters, it shall be carried out during the vacation of VII and VIII semesters)								
TOTAL					14	06	06	21	380	420	800	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional Elective - 2

Course code under 18XX73X	Course Title
18EE731	Solar and Wind Energy
18EE732	Sensors and Transducers
18 EE733	Integrated of Distribution Generation.
18 EE734	Advanced Control Systems
18 EE735	Reactive Power Control in Electric Power Systems

Professional Electives - 3

Course code under 18 EE74X	Course Title
18 EE741	Industrial Drives and Application
18 EE742	Utilization of Electrical Power
18 EE743	PLC and SCADA
18 EE744	Smart Grid
18 EE745	Artificial Neural Network With Applications to Power Systems

Open Elective -B

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18XX75X).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.


PRINCIPAL
 Navodaya Institute of Technology (NIT,
 RAICHUR-584 103



Project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

CIE procedure for Project Work Phase - 1:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of the project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the project work phase -1, shall be based on the evaluation of project work phase -1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), 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.

Internship: All the students admitted to III year of BE/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 credit shall be included in VIII semester. Internship 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 internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Jalli Kano
PRINCIPAL *BK/TW*
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VIII SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18EE81	Power System Operation and Control	EEE	3	--	--	03	40	60	100	3
2	PEC	18EE82X	Professional Elective - 4	EEE	3	--	--	03	40	60	100	3
3	Project	18EEP83	Project Work Phase - 2		--	--	2	03	40	60	100	8
4	Seminar	18EES84	Technical Seminar		--	--	2	03	100	--	100	1
5	Internship	18EEI85	Internship	Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core, PEC: Professional Elective.

Professional Electives - 4

Course code under 18XX82X	Course Title
18EE821	FACTS and HVDC Transmission
18EE822	Electrical Estimation and Costing
18EE823	Electric Vehicles Technologies
18EE824	Power System Planning
18EE825	Electrical Power Quality

Project Work

CIE procedure for Project Work Phase - 2:

(i) **Single discipline:** The CIE marks 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.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the 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 the project report shall be the same for all the batch mates.

SEE for Project Work Phase - 2:

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship, shall be declared as fail and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case students fail to earn the prescribed activity Points, 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.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

Principals
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B.E ELECTRICAL AND ELECTRONICS ENGINEERING
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER - VI

OPEN ELECTIVE - A

Course Code	18EE65X	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (For syllabus, please refer to the concerned Programme syllabus book or VTU website vtuv.ac.in may be visited.).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Sl No	Board and the Department offering the Electives	Course		Course Title
		Sl No	code under 18EE65X	
	Electrical and Electronics Engineering	1	18EE651	Industrial Servo Control Systems
		2	18EE652	PLC and SCADA
		3	18EE653	Renewable Energy Systems
		4	18EE654	Testing and Commissioning of Electrical Equipment

B.E ELECTRICAL AND ELECTRONICS ENGINEERING Outcome
Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER - VII

OPEN ELECTIVE - B

Course Code	18EE75X	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (For syllabus, please refer to the concerned Programme syllabus book or VTU website vtuv.ac.in may be visited.).

Selection of an open elective shall not be allowed if,

The candidate has studied the same course during the previous semesters of the programme.

The syllabus content of open elective is similar to that of the Departmental core courses or professional electives.

A similar course, under any category, is prescribed in the higher semesters of the programme.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Sl No	Board and the Department offering the Electives	Course		Course Title
		Sl No	code under 18EE75X	
	Electrical and Electronics Engineering	1	18EE751	Industrial Motors and Control
		2	18EE752	Sensors and Transducers
		3	18EE753	Electric Vehicles
		4	18EE754	Energy Conservation and Audit

Principals
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 RAICHUR-584 105



I Semester

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
14ELD11	Advanced Mathematics	4	2	3	50	100	150	4
14ECS12	Antenna Theory and Design	4	2	3	50	100	150	4
14ECS13	Probability and Random Process	4	2	3	50	100	150	4
14ECS14	Advanced Digital Communication	4	2	3	50	100	150	4
14ECS15X	Elective - I	4	2	3	50	100	150	4
14ECS16	DEC Lab -1	--	3	3	25	50	75	2
14ECS17	Seminar on Advanced topics from refereed journals	--	3	--	25	--	25	1
Total		20	16	18	300	550	850	23

14 ECS 151	Wireless and Mobile Networks	14 ECS 154	CMOS VLSI Design
14 ELD 152	Automotive electronics	14 ELD155	Simulation, Modeling, and Analysis
14 ELD153	Nanoelectronics		

9/11/2020
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 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.Tech. Digital Communication & Networking

II Semester

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
14ECS21	Wireless Communication	4	2	3	50	100	150	4
14ECS22	RF and Microwave circuit design	4	2	3	50	100	150	4
14ECS23	Modern DSP	4	2	3	50	100	150	4
14ECS24	Optical Communication and Networking	4	2	3	50	100	150	4
14ECS25X	Elective-2	4	2	3	50	100	150	4
14ECS26	DEC Lab -2		3	3	25	50	75	2
14ECS27	Seminar on Advanced topics from refereed journals	--	3	--	25	--	25	1
**Project Phase-I(6 week Duration)								
Total		20	16	18	300	550	850	23

Elective -2

14 ECS 251	Broadband Wireless networks	14 ECS 254	Multimedia Communication
14 ECS 252	ASIC design	14 ECS 255	Spread Spectrum Communication
14 ECS 253	Advanced Embedded system		

** Between the II Semester and III Semester, after availing a vocation of 2 weeks.


PRINCIPAL
 Navodaya Institute of Technology
 RAICHUR-584 101



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.Tech. Digital Communication & Networking

III Semester: INTERNSHIP #

CREDIT BASED

Course Code	Subject	Teaching hours/week		Duration of the Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work		I.A.	Exam		
14ECS31	Midterm Presentation on Internship (After 8 weeks from the date of commencement) *	-	-	-	25	-	25	1
14ECS32	Report on Internship (After 16 weeks from the date of commencement)	-	-	-	75		75	15
14ECS33	Evaluation and Viva-voce	-	-	3	-	50	50	4
	Total	-	-	-	100	50	150	20

* The student shall make a midterm presentation of the activities undertaken during the first 8 weeks of internship to a panel comprising Internship Guide, a senior faculty from the department and Head of the Department.

The College shall facilitate and monitor the student internship program.

The internship report of each student shall be submitted to the University.

J. K. Rao
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.Tech. Digital Communication & Networking

IV Semester

CREDIT BASED

Subject Code	Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
14ECS41	Error control coding	4	2	3	50	100	150	4
14ECS42X	Elective-3	4	2	3	50	100	150	4
14ECS43	Evaluation of Project Phase-I	-	-	-	25	-	25	1
14ECS44	Phase-II : Midterm evaluation of Project	-	-	-	25	-	25	1
14ECS45	Evaluation of Project Work and Viva-voce	-	-	3	-	100+100	200	18
Total		8	04	09	150	400	550	28
Grand Total (I to IV Sem.) : 2400 Marks; 94 Credits								

Elective -3:

14 ECS 421	RF MEMS	14 ECS 424	Communication System design using DSP algorithm
14 ECS 422	Advanced Computer Networks	14 ECS 425	Advanced Radar systems
14 ECS 423	Advances in VLSI Design		

Gallikayus
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



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Note:

- 1) Project Phase – I: 6 weeks duration shall be carried out between II and III Semesters. Candidates in consultation with the guides shall carryout literature survey / visit to Industries to finalize the topic of dissertation.
- 2) Project Phase – II: 16 weeks duration during III Semester. Evaluation shall be taken during the Second week of the IV Semester. Total Marks shall be 25.
- 3) Project Evaluation: 24 weeks duration in IV Semester. Project Work Evaluation shall be taken up at the end of the IV Semester. Project Work Evaluation and Viva-Voce Examinations shall be conducted. Total Marks shall be 250 (Phase I Evaluation: 25 Marks, Phase –II Evaluation: 25 Marks, Project Evaluation marks by Internal Examiner (guide): 50, Project Evaluation marks by External Examiner: 50, marks for external and 100 for viva-voce).

Marks of Evaluation of Project:

- The I.A. Marks of Project Phase – I & II shall be sent to the University along with Project Work report at the end of the Semester.
- 4) During the final viva, students have to submit all the reports.
 - 5) The Project Valuation and Viva-Voce will be conducted by a committee consisting of the following:
 - a) Head of the Department (Chairman)
 - b) Guide
 - c) Two Examiners appointed by the university. (Out of two external examiners at least one should be present).

J. K. K. w
PRINCIPAL 13/1/2020
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2016-2017

M.Tech. in Communication Systems, Digital Communication & Networking, Digital Communication Engineering, Digital Electronics & Communication Systems, Digital Electronics & Communication
(Common to all 5 Programmes)

I SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credit
			Theory	Practical/Field Work/Assignment	Duration	L.A. Marks	Theory/Practical Marks	Total Marks	
1	16ELD11	Advanced Engineering Mathematics	4	-	3	20	80	100	4
2	16ECS12	Antenna Theory and Design	4	-	3	20	80	100	4
3	16EVE13	Advanced Embedded System	4	-	3	20	80	100	4
4	16ECS14	Advanced Digital Communications	4	-	3	20	80	100	4
5	16EXX15X	Elective-1	3	-	3	20	80	100	3
6	16ECSL16	Advanced Communication Lab		3	3	20	80	100	2
7	16ECS17	Seminar on advanced topics from refereed journals	-	3	-	100	-	100	1
TOTAL			19	6	18	220	480	700	22

Elective-1

16ECS151	Advanced Computer Networks
16EVE152	Nanoelectronics
16ECS153	Optical Communication and Networking
16ECS154	Simulation, Modelling and Analysis



Ganesh
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RAICHUR-584 103

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2016-2017

M.Tech. in Communication Systems, Digital Communication & Networking, Digital Communication Engineering, Digital Electronics & Communication Systems, Digital Electronics & Communication
(Common to all 5 Programmes)

II SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credit
			Theory	Practical/Field Work/ Assignment	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	16ECS21	Advanced DSP	4	-	3	20	80	100	4
2	16ECS22	Error Control Coding	4	-	3	20	80	100	4
3	16ECS23	Wireless Communication	4	-	3	20	80	100	4
4	16ECS24	RF and Microwave Circuit Design	4	-	3	20	80	100	4
5	16EXX25X	Elective-2	3	-	3	20	80	100	3
6	16ECSL26	Advanced DSP Lab		3	3	20	80	100	2
7	16ECS27	Seminar on advanced topics from refereed journals	-	3	-	100	-	100	1
TOTAL			19	6	18	220	480	700	22

Elective-2

16ELD251	Automotive Electronics
16ECS252	Multimedia Over Communication links
16ELD253	MEMS
16ECS254	Cryptography and Network Security



g. w. k. g. w.
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 RAICHUR-584 103

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2016-2017

M.Tech. in Communication Systems, Digital Communication & Networking, Digital Communication Engineering, Digital Electronics & Communication Systems, Digital Electronics & Communication
(Common to all 5 Programmes)

III SEMESTER: Internship

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credit
			Theory	Practical/Field Work/Assignment	Duration	I.A. Marks	Theory/Practical Marks	Total Marks	
1	16ECS31	Seminar / Presentation on Internship (After 8 weeks from the date of commencement)	-	-	-	25	-	25	20
2	16ECS32	Report on Internship	-	-	-	25	-	25	
3	16ECS33	Evaluation and Viva-Voce of Internship	-	-	-	-	50	50	
4	16ECS34	Evaluation of Project phase -I	-	-	-	50	-	50	1
TOTAL			-	-	-	100	50	150	21



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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
OF TEACHING AND EXAMINATION 2016-2017

M.Tech. in Communication Systems, Digital Communication & Networking, Digital Communication Engineering, Digital Electronics & Communication Systems, Digital Electronics & Communication
(Common to all 5 Programmes)

IV SEMESTER

Sl. No	Subject Code	Title	Teaching Hours /Week		Examination				Credit
			Theory	Practical/Field Work/Assignment	Duration	I.A. Marks	Theory/Practical Marks	Total Marks	
1	16ECS41	Wireless Broadband Communications	4	-	3	20	80	100	4
2	16EXX42X	Elective-3	3	-	3	20	80	100	3
3	16ECS43	Evaluation of Project phase -2	-	-	-	50	-	50	3
4	16ECS44	Evaluation of Project and Viva-Voce	-	-	-	-	100+100	200	10
TOTAL			-	-	6	90	360	450	20

Elective-3	
16EVE421	CMOS RF Circuit Design
16ECS422	Advances in Image Processing
16ECS423	Communication System Design using DSP Algorithms
16ECS424	Real Time Systems

Note:

- Project Phase-1:** 6-week duration shall be carried out between 2nd and 3rd Semester vacation. Candidates in consultation with the guide shall carry out literature survey/ visit industries to finalize the topic of Project.
- Project Phase-2:** 16-week duration during 4th semester. Evaluation shall be done by the committee constituted comprising of HoD as Chairman, Guide and Senior faculty of the department.
- Project Evaluation:** Evaluation shall be taken up at the end of 4th semester. Project work evaluation and Viva-Voce examination shall be conducted.
 - Internal Examiner shall carry out the evaluation for 100 marks.
 - External Examiner shall carry out the evaluation for 100 marks.
 - The average of marks allotted by the internal and external examiner shall be the final marks of the project evaluation.
 - Viva-Voce examination of Project work shall be conducted jointly by Internal and External examiner for 100 marks.



Ganika
PRINCIPAL
 Navodaya Institute of Technology (NIT),
 RAICHUR-584 103

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI Scheme of Teaching and Examination – 2018-19 M.Tech in Communication Systems/ Digital Communication & Networking/ Digital Communication Engineering/ Digital Electronics & Communication Systems/ Digital Electronics & Communication (ECS) Choice Based Credit System (CBCS)										
I SEMESTER										
Sl. No	Course	Course Code	Course Title	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Field work/ Assignment	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18ELD11	Advanced Engineering Mathematics	04	--	03	40	60	100	4
2	PCC	18ECS12	Advanced Digital Signal Processing	04	--	03	40	60	100	4
3	PCC	18EVE13	Advanced Embedded System	04	--	03	40	60	100	4
4	PCC	18ECS14	Advanced Communication Systems-1	04	--	03	40	60	100	4
5	PCC	18ECS15	Advanced Communication Networks	04	--	03	40	60	100	4
6	PCC	18ECSL16	Advanced Digital Signal Processing Lab	-	04	03	40	60	100	2
7	PCC	18RMI17	Research Methodology and IPR	02	--	03	40	60	100	2
TOTAL				22	04	21	280	420	700	24
Note: PCC: Professional core										
Internship: All the students have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted for the same semester. Internship 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 internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.										


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination – 2018-19

**M.Techin Communication Systems/ Digital Communication & Networking/
Digital Communication Engineering/ Digital Electronics & Communication
Systems/ Digital Electronics & Communication (ECS)**

Choice Based Credit System (CBCS)

II SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Field work/ Assignments	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18ECS21	Advanced Communication Systems-2	04	--	03	40	60	100	4
2	PCC	18ECS22	Antenna Theory and Design	04	--	03	40	60	100	4
3	PCC	18ECS23	Error Control Coding	04	--	03	40	60	100	4
4	PEC	18XXX24X	Professional Elective 1	04	--	03	40	60	100	4
5	PEC	18XXX25X	Professional Elective 2	04	--	03	40	60	100	4
6	PCC	18ECSL26	Advanced Communication Lab	--	04	03	40	60	100	2
7	PCC	18ECS27	Technical Seminar	--	02	--	10 0	--	100	2
TOTAL				20	06	18	34 0	360	700	24

Note: PCC: Professional core, PEC: Professional Elective

Professional Elective 1		Professional Elective 2	
Course Code under 18XXX24X	Course title	Course Code under 18XXX25X	Course title
18ECS241	Wireless Sensor Networks	18ECS251	Multimedia Over Communication links
18EVE242	Nanoelectronics	18ESP252	Statistical Signal Processing
18ECS243	Cryptography and Network Security	18ELD253	Micro Electro Mechanical Systems

Note:

1. Technical Seminar: CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Participation in the seminar by all postgraduate students of the same and other semesters of the programme shall be mandatory.

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.

2. Internship: All the students shall have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted in the same semester. Internship 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 internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination - 2018-19

M.Techin Communication Systems/ Digital Communication & Networking/
 Digital Communication Engineering/ Digital Electronics & Communication
 Systems/ Digital Electronics & Communication (ECS)
 Choice Based Credit System (CBCS)

III SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Field work/ Assignment	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18ECS31	LTE 4G Broadband	04	--	03	40	60	100	4
2	PEC	18XXX32X	Professional Elective 3	04	--	03	40	60	100	4
3	PEC	18XXX33X	Professional Elective 4	04	--	03	40	60	100	4
4	Project	18ECS34	Evaluation of Project phase -1	--	02	--	10 0	--	100	2
5	Internship	18ECSI35	Internship	(Completed during the intervening vacation of I and II semesters and /or II and III semesters.)		03	40	60	100	6
TOTAL				12	02	12	26 0	24 0	500	2 0

Note: PCC: Professional core, PEC: Professional Elective

Professional Elective 3		Professional Elective 4	
Course Code under 18XXX32X	Course title	Course Code under 18XXX33X	Course title
18ECS321	Advances in Image Processing	18ECS331	RF and Microwave Circuit Design
18ESP322	Array Signal Processing	18ESP332	Pattern Recognition & Machine Learning
18ECS323	Real Time Systems	18ECS333	IoT

Note:

1. **Project Phase-1:** Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare relevant introductory project document, and present a seminar.

CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE (University examination) shall be as per the University norms.

2. **Internship:** Those, who have not pursued /completed the internship shall be declared as failed and have to complete during subsequent University examinations after satisfying the internship requirements. Internship SEE (University examination) shall be as per the University norms.

Principals
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 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination - 2018-19

**M.Tech in Communication Systems/ Digital Communication & Networking /
Digital Communication Engineering/ Digital Electronics & Communication
Systems/ Digital Electronics & Communication (ECS)
Choice Based Credit System (CBCS)**

IV SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week		Examination				Credits
				Theory	Field work/ Assignment	Duration in hours	CIE Marks	SEE Marks Viva voce	Total Marks	
1	Project	18ECS41	Project work Phase -2	--	04	03	40	60	100	20
TOTAL				--	04	03	40	60	100	20

Note:

1. Project Phase-2:

CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a Senior faculty of the department. The CIE marks awarded for project work phase -2, shall be based on the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the University norms.

Principals Signature
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Navodaya Institute of Technology
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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

SCHEME OF TEACHING AND EXAMINATION FOR M.TECH. Thermal Power Engineering.

I SEMESTER

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment / Tutorials		I.A.	Exam		
14MDE11	Applied Mathematics	4	2	3	50	100	150	4
14MTP12	Finite Element Method	4	2	3	50	100	150	4
14MTP13	Advanced Fluid Mechanics	4	2	3	50	100	150	4
14MTP14	Thermodynamics & Combustion Engineering	4	2	3	50	100	150	4
	Elective – I	4	2	3	50	100	150	4
14MTP16	Thermal Engineering Measurement Lab- 1	--	3	--	25	50	75	2
14MTP17	SEMINAR	--	3	--	25	--	25	1
Total		20	13	15	300	550	850	23

ELECTIVE-I

14MTP 151	Non Conventional Energy System	14 MTP 153	Energy Conservation and Management
14MTP 152	Nuclear Energy Conversion	14MTP 154	Refrigeration and Air Conditioning

Appli Kave
13/5/2024
PRINCIPAL
Navodaya Institute of Technology
RAICHUR-58



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.TECH. Thermal Power Engineering.

II SEMESTER

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
14MTP 21	Advanced Heat Transfer	4	2	3	50	100	150	4
14MTP 22	Steam & Gas Turbines	4	2	3	50	100	150	4
14MTP 23	Advanced Power Plant Cycles	4	2	3	50	100	150	4
14MTP 24	Theory of IC Engines	4	2	3	50	100	150	4
	Elective - II	4	2	3	50	100	150	4
14MTP26	Simulation Laboratory Projects on Thermal Engineering - Lab 2		3	3	25	50	75	2
14MTP27	SEMINAR	--	3	--	25	--	25	1
	**PROJECT WORK PHASE-I COMMENCEMENT (6 WEEKS DURATION)	--	--	--	--	--	--	--
Total		20	13	15	300	550	850	23

ELECTIVE-II

14MTP 251	Thermal Power Station - I	14MTP 253	Modeling and Simulation of Thermal Systems
14MTP252	Alternate Fuels for IC Engines	14MTH 254	Computational Methods in Heat Transfer & Fluid Flow

** Between the II Semester and III Semester, after availing a vacation of 2 weeks.


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.TECH. M.TECH.Thermal Power Engineering.

III SEMESTER : INTERNSHIP

CREDIT BASED

Course Code	Subject	No. of Hrs./Week		Duration of the Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work		I.A.	Exam		
14MTP31	SEMINAR / PRESENTATION ON INTERNSHIP (AFTER 8 WEEKS FROM THE DATE OF COMMENCEMENT)	-	-	-	25	-	25	20
14MTP 32	REPORT ON INTERNSHIP	-	-	-		75	75	
14MTP 33	INTERNSHIP EVALUATION AND VIVA-VOCE	-	-	-	-	50	50	
	Total	-	-	-	25	125	150	20


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.TECH. M.TECH.Thermal Power Engineering.

IV SEMESTER

CREDIT BASED

Subject Code	Subject	No. of Hrs./Week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Field Work / Assignment / Tutorials		I.A.	Exam		
14MTP41	Design of Heat Transfer Equipments for Thermal Power Plant	4	--	3	50	100	150	4
	ELECTIVE-III	4	-	3	50	100	150	4
14MTP43	EVALUATION OF PROJECT WORK PHASE-II	-	-	-	25	-	25	1
14MTP44	EVALUATION OF PROJECT WORK PHASE-III	-	-	-	25	-	25	1
14MTP45	EVALUATION OF PROJECT WORK AND VIVA-VOCE	-	-	3	-	100+100	200	18
Total		12	07	09	150	400	550	28
Grand Total (I to IV Sem.) : 2400 Marks; 94 Credits								

ELECTIVE-III

14MTP421	Convective Heat and Mass Transfer	14MTP423	Design & Analysis of Thermal Systems
14MTP422	Engine Flow & Combustion	14MTP 424	Experimental Methods in Thermal Power Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION FOR M.TECH. in Thermal Engineering/Thermal Power Engineering

CHOICE BASED CREDIT SYSTEM (CBSC)

I SEMESTER

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignmen		I.A.	Exam		
16MTP11	Applied Mathematics	4	-	3	20	80	100	4
16MTP12	Finite Element Method	4	-	3	20	80	100	4
16MTP13	Advanced Fluid Mechanics	4	-	3	20	80	100	4
16MTP14	Thermodynamics & Combustion Engineering	4	-	3	20	80	100	4
16MTP15X	Elective – I	4	-	3	20	80	100	4
16MTP16	Thermal Engineering measurement - Lab I	--	3	3	20	80	100	2
16MTP/MTH 17	SEMINAR	--	-	--	100	--	100	1
Total		20	3	18	220	480	700	23

Elective – I

16MTP 151	Non Conventional Energy System	14 MTP 153	Energy Conservation and Management
16MTP 152	Nuclear Energy Conversion	14MTP 154	Refrigeration and Air Conditioning

Jalli Kano
PRINCIPAL 13/5/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-58



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION FOR M.TECH. in Thermal Engineering/Thermal Power Engineering

CHOICE BASED CREDIT SYSTEM (CBSC)

II SEMESTER

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment		I.A.	Exam		
16MTP21	Advanced Heat Transfer	4	-	3	20	80	100	4
16MTP22	Steam & Gas Turbines	4	-	3	20	80	100	4
16MTP23	Advanced Power Plant Cycles	4	-	3	20	80	100	4
16MTP24	Theory of IC Engines	4	-	3	20	80	100	4
16MTP25X	Elective – II	4	-	3	20	80	100	4
16MTP26	Simulation Laboratory Projects on Thermal Engineering - Lab 2	--	3	3	20	80	100	2
16MTP/MT27	SEMINAR	--	-	--	100	--	100	1
	**PROJECT WORK PHASE-I COMMENCEMENT(6 WEEKS DURATION)	--	--	--	--	--	--	--
Total		20	3	18	220	480	700	23

Elective – II

16MTP251	Thermal Power Station – 1	16MTP253	Modeling and Simulation of Thermal Systems
16MTP252	Alternate Fuels for IC Engines	16MTP254	Computational Methods in Heat Transfer & Fluid Flow


PRINCIPAL 13/1/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION FOR M.TECH. in Thermal Engineering/Thermal Power Engineering

CHOICE BASED CREDIT SYSTEM (CBSC)

III SEMESTER

Subject Code	Title	Teaching hours/week		Examination			Total Marks	CREDITS
		Theory	Practical / Field Work / Assignment	Duration	I.A. Marks	Theory / Practical Marks		
16MTP31	Seminar/ Presentation on Internship (After 8 weeks from the date of commencement)	-	-	-	25	-	25	20
16 MTP32	Report on Internship	-	-	-	25	-	25	
16 MTP 33	Evaluation and Viva-Voce of Internship	-	-	-	-	50	50	
16 MTP34	Project Work Phase-1	-	-	-	50	-	50	1
Total		-	-	-	100	50	150	21


PRINCIPAL 13/5/2020
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
SCHEME OF TEACHING AND EXAMINATION FOR M.TECH. in Thermal Engineering/Thermal Power Engineering
CHOICE BASED CREDIT SYSTEM (CBSC)

VI SEMESTER

Subject Code	Title	Teaching hours/week		Examination Duration			Total Marks	CREDITS
		Theory	Practical / Field Work /	Duration in Hrs	L.A. Marks	Theory / Practical Marks		
16MTP41	Design of heat Transfer Equipments for thermal power plant	4	2	3	20	80	100	4
	ELECTIVE-III	4	2	3	20	80	100	3
16 MTP 43	Evaluation of Project Work Phase-II	-	-	-	50	-	50	3
16 MTP 44	Evaluation of Project Work and Viva-Voce	-	-	3	-	100+100	200	10
Total		-	4	9	90	360	450	20

ELECTIVE-III

16MTP421	Convective Heat and Mass Transfer	16MTP423	Design & Analysis of Thermal Systems
16MTP422	Engine Flow & Combustion	16MTP424	Experimental Methods in Thermal Power Engineering

Note:

1. Project Phase-2: 16-week duration during 4th semester. Evaluation shall be done by the committee constituted comprising of HoD as Chairman, Guide and Senior faculty of the department.

2. Project Evaluation: Evaluation shall be taken up at the end of 4th semester. Project work evaluation and Viva-Voce examination shall be conducted

3. Project evaluation:

- Internal Examiner shall carry out the evaluation for 100 marks.
 - External Examiner shall carry out the evaluation for 100 marks.
 - The average of marks allotted by the internal and external examiner shall be the final marks of the project evaluation.
- c. Viva-Voce examination of Project work shall be conducted jointly by Internal and External examiner for 100 marks.

Gulli K Rao
PRINCIPAL 13/4/2022
Wavodaya Institute of Technology (NIT)
RAICHUR-584 103



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination – 2018-19
M.Tech in Thermal Engineering/Thermal Power Engineering (MTP)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

1 SEMESTER

Sl. No	Course	Course Code	Title	Teaching Hours /Week		Examination				Credits
				Theory	Practical work/ Assignment	Duration in hours	CIE Marks	Marks	Total Marks	
1	PCC	18MTP11	Mathematics	04	--	03	40	60	100	4
2	PCC	18MTP12	Finite Element Method	04	--	03	40	60	100	4
3	PCC	18MTP13	Advanced Fluid Mechanics	04	--	03	40	60	100	4
4	PCC	18MTP14	Thermodynamics & Combustion Engineering	04	--	03	40	60	100	4
5	PEC	18MTP15	Energy Conservation and Management	04	--	03	40	60	100	4
6	PCC	18MTPL16	Thermal Engineering measurement - Lab I	-	04	03	40	60	100	2
7	PCC	18RMI17	Research Methodology and IPR	02	--	03	40	60	100	2
TOTAL				22	04	21	280	420	700	24

Note: PCC: Professional core, PEC: Professional Elective.

Internship: All the students have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted for the same semester. Internship 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 internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.

J. H. Kaw
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103

NAVODAYA INSTITUTE OF TECHNOLOGY
RAICHUR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examination – 2018-19

M.Tech in Thermal Engineering/Thermal Power Engineering (MTP)

Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

II SEMESTER

Sl. No	Course	Course Code	Title	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Field work/ Assignment	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18MTP21	Advanced Heat Transfer	04	--	03	40	60	100	4
2	PCC	18MTP22	Steam & Gas Turbines	04	--	03	40	60	100	4
3	PCC	18MTP23	Refrigeration and Air Conditioning	04	--	03	40	60	100	4
4	PEC	18MTP24X	Professional elective 1	04	--	03	40	60	100	4
5	PEC	18MTP25X	Professional elective 2	04	--	03	40	60	100	4
6	PCC	18MTP26	Simulation Laboratory Projects on Thermal Engineering - Lab 2	--	04	03	40	60	100	2
7	PCC	18MTP27	Technical Seminar	--	02	-	100	-	100	2
TOTAL				20	06	18	340	360	700	24

Note: PCC: Professional core, PEC: Professional Elective, OEC: Open Elective, Aud: Audit Course

Professional Elective 1		Professional Elective 2	
Course Code under 18MTP24X	Course title	Course Code under 18MTP25X	Course title
18MTP241	Advanced Power Plant Cycles	18MTP251	Theory of IC Engines
18MTP242	Thermal Power Station – 1	18MTP252	Modeling and Simulation of Thermal Systems
18MTP243	Alternate Fuels for IC Engines	18MTP253	Computational Methods in Heat Transfer & Fluid Flow

Note:

1. **Technical Seminar:** CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Participation in the seminar by all postgraduate students of the same and other semesters of the programme shall be mandatory.

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.

2. **Internship:** All the students shall have to undergo mandatory internship of 6 weeks during the vacation of I and II semesters and /or II and III semesters. A University examination shall be conducted during III semester and the prescribed credit shall be counted in the same semester. Internship 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 internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination – 2018-19
M.Tech in Thermal Engineering/Thermal Power Engineering (MTP)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

III SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week		Examination				Credits
				Theor y	work / Assig nmen	ion in hours	Mark s	s	Mark s	
1	PCC	18MTP31	Design of heat Transfer Equipments for thermal power plant	04	--	03	40	60	100	4
2	PEC	18MTP32X	Professional elective-3	04	--	03	40	60	100	4
3	PEC	18MTP33X	Professional elective- 4	04	--	03	40	60	100	4
4	Proj	18MTP34	Evaluation of Project phase -I	--	02	--	100	--	100	2
5	INT	18MTPI35	Internship	(Completed during the intervening vacation of I and II semesters and /or II and III semesters.)		03	40	60	100	6
TOTAL				12	02	12	260	240	500	20

Note: PCC: Professional core, PEC: Professional Elective.

Professional elective 3		Professional elective 4	
Course Code under 18XXX32X	Course title	Course Code under 18XXX33X	Course title
18MTP321	Convective Heat and Mass Transfer	18MTP331	Experimental Methods in Thermal Power Engineering
18MTP322	Engine Flow & Combustion	18MTP332	Biomass Conversion and Technologies
18MTP323	Design & Analysis of Thermal Systems	18MTP333	CAD for thermal engineering

Note:

1. Project Phase-1: Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare relevant introductory project document, and present a seminar.

CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department.

The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE (University examination) shall be as per the University norms.

2. Internship: Those, who have not pursued /completed the internship shall be declared as failed and have to complete during subsequent University examinations after satisfying the internship requirements.

Internship SEE (University examination) shall be as per the University norms.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination – 2018-19
M.Tech in Thermal Engineering/Thermal Power Engineering (MTP)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)

IV SEMESTER

Sl. No	Course	Course Code	Title	Teaching Hours /Week		Examination					Credits
				Theory	Field work/Assignments	Duration in hours	CIE Marks	SEL Marks	Viva voce	Total Marks	
1	Proj	18MTP41	Project work phase -2	--	04	03	40	60	100	20	
TOTAL				--	04	03	40	60	100	20	

Note: PC: Proj: Project.

Note:

1. Project Phase-2:

CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a Senior faculty of the department. The CIE marks awarded for project work phase -2, shall be based on the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and Question and Answer session in the ratio 50:25:25.

SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the University norms.

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2.2 : Matters Concerning Board of Studies

Item No.2.2.1 of the Agenda of the
114th meeting of the Executive Council
to be held on 2nd August 2014

**CONSIDERATION OF REVISION OF SCHEME &
SYLLABUS OF B.E./B.Arch. PROGRAMMES (2014-15)**

The Scheme & Syllabus of UG Programmes were revised during the year 2010-11. As has been the policy of VTU to revamp the Scheme and Syllabus for every 4 years for UG Programme and two years for PG Program, the University has taken up this exercise in revising the Scheme & Syllabus from the academic year 2014-15.

In this connection, the Chairman, BOS of the concerned Boards of Studies have prepared and submitted the final Draft Scheme & Syllabus of I Year B.E. / B.Arch. Programmes to be made effective from 2014-15. However, the same has already been uploaded in the University website for convenient of the students and teaching staff in view of urgency.

Hence, the final 'Draft Scheme & Syllabus' of I Year B.E. / B.Arch. Programmes is being placed before the Academic Senate and the recommendations of the Academic Senate will be placed on the table.

Resolution No.2.2.1

The Executive Council resolved to accept the recommendation of the Academic Senate which recommended to approve the revision of Scheme & Syllabus of B.E. / B.Arch. Programmes from the academic year 2014-15.

Minutes of the 114th Executive Council Meeting held on 2-8-2014

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Proceedings of the Meeting of Joint Board of Studies held on 11th July 2016 at VTU Regional Office, Bengaluru 11.00 a.m.

The Joint Board of Studies meeting was convened on 11th July 2016 to discuss on the following agenda:

1. *Finalization of III and IV Semester UG Scheme and Syllabus based on CBCS and Bloom's Taxonomy,*
2. *Finalization of PG Scheme and Syllabus based on CBCS and Bloom's Taxonomy,,*
3. *Internship Programme for QIP and Part Time Students,*
4. *Internship and Project for the Part Time PG students,*
5. *Adding Electives in Engineering physics suggested by few faculty members.*
6. *Any other matter with the permission of the chair.*

The Registrar, Dr. H.N. Jagannath Reddy formally welcomed Hon'ble Vice-Chancellor Dr. V. Sridhar and Chairmen of newly formed Boards of Studies, also Special invitee Dr. M.S. Shivakumar and requested Hon'ble Vice-Chancellor for further proceedings.

Hon'ble Vice-Chancellor once again welcomed Chairmen of newly formed Boards of Studies and Special invitee Dr. M.S. Shivakumar. Hon'ble Vice-Chancellor addressed regarding feedback received from faculty and other stake holders about revised Schemes and Syllabus to be adopted from 3rd to 8th semesters and PG programmes. The Hon'ble Vice-Chancellor requested Hon'ble members for discussions and deliberations. After detailed deliberations the following resolutions were made.

- UGC introduced CBCS to bring uniformity among all universities but in totality the system works in Autonomous colleges and deemed universities. However, university is adopting the same with certain modifications, in this regard.
- Regulations governing the CBCS to be reviewed and incorporated.
- Registration process and dropping of courses are not included in regulations.
- Committee shall be formed to review regulations governing CBCS.
- Resolved to adopt letter grades and guidelines as defined by AICTE regarding CBCS.
- No electives at 3rd and 4th semester levels. Electives are offered from 5th semester onwards with open elective concept one each in 5th and 6th semesters.

6 Theory and 2 Labs to be introduced in all semesters (UG).



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Item No.2.2.2	Recommendations of the Joint Board of Studies meeting held on 6-3-2017
	<p>The Chairman stated that the Joint Board of Studies Meetings was called on 6-03-2017 and following agenda items were discussed:</p> <ol style="list-style-type: none"> 1. Modifications in the CBCS Regulations pertaining to allotment of cred its 2. Review of CBCS 2016-17 Regulations (i) 16 OB 6.1(iii) (ii) 16 OB 9.1(3) (iii) 16 OB 11.3 3. Applicability of Regulations governing B.E./B.Tech. under CBCS 2016-17 4. Revision of mandatory subjects like 'Management' 5. Admission to vacant seats of PG courses 6. NCC as an Elective subject 7. Mobile Development Application as inter disciplinary courses. 8. Revision of Research Methodology for Ph.D. Program. 9. Any other matter with the permission of the Chair <p>The recommendations of the Joint Board of Studies on the above agenda points are placed before the Executive Council for consideration and approval. The subject was placed before the Academic Senate and the Academic Senate has recommended to approve the recommendations of Joint Board of Studies with certain modifications. The Executive Council approved the same.</p>
	<p>Resolution No.2.2.2 The Executive Council resolved to accept the recommendations of the Academic Senate on the proceedings of JBOS, as under:</p> <ul style="list-style-type: none"> • Members suggested revision in the procedure adopted in conducting IA and award of IA marks which is affecting the career of VTU students as compared to the students of Autonomous colleges. The Chairman assured that it will be taken care at the next revision of syllabus under CBCS. • Academic Senate appreciated the stand taken by the University in filling the vacant seats of PG courses, after the completion of PG Admission Process by KEA • Agenda and resolution No.7 to be read as <i>Mobile Application Development</i> instead of Mobile Development Application. • The Dean has come out with the revised Research Methodology Syllabus for Ph.D. programme which will be common to all the branches of Engineering and Management Studies. The Academic Senate recommended to adopt the same. <p>Further, pertaining to filling the vacant seats of PG Courses after the completion of PG Admission Process by KEA, the Executive Council resolved to write a letter to the Government regarding the procedure being adopted.</p> <p>Further, the Executive Council resolved to add to the CBCS 2016-17 Regulations 16 OB 11.3, that 'the candidate shall pass the required Bridge Courses of the UG Programme before the commencement of 7th semester.'</p> <p>Further, The Executive Council resolved to constitute an Expert Committee to finalise the Regulations governing CBCS, pertaining to Vertical Progression of the student during the course.</p>



Minutes of the 131st Executive Council Meeting held on 22-03-2017.....

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Minutes of the Meeting:

Registrar, Dr. H.N. Jagannatha Reddy, welcomed the Hon'ble Vice-Chancellor Dr. Karisiddappa, Chairmen of Board of Studies and also Special invitee Prof. Keshava Murthy, He requested Hon'ble Vice-Chancellor for further proceedings.

Hon'ble Vice-Chancellor, Dr. Karisiddappa once again welcomed all the members and requested members for discussions and deliberations. After detailed deliberations the following resolutions were made.

Agenda -1	:	Finalization of Scheme and Syllabus for 5 th to 8 th Semesters.
Resolution	:	<p>The Scheme of 5th to 8th Semesters were approved with the following changes</p> <p>a) The consolidated list of open elective shall prepared such that student of any branch can opt it.</p> <p>b) The syllabus and title of course for Management and Entrepreneurship at 5th and 6th semester with code 15XX51/15XX61 i.e., shall be changed in line with the respective branches.</p> <p>c) At the 7th Semester level the course code 15XXP78 shall be read as Project Phase-1 + Project Seminar instead of Project Phase-1+ Seminar with duration of 3 hours/ week.</p> <p>d) At the 8th Semester level the seminar under the course code 15XXS86 shall be on topics of current trends in Engineering and Technology.</p>
Agenda -2	:	Finalization of Open Elective
Resolution	:	<p>It was resolved that the open elective shall be offered at the 5th and 6th semester level, and can be offered to all B.E Programmes (Except B.Arch). All the boards of studies have to submit the list open electives to be offered in respect their programme. The consolidated list will be made available to students to opt the open elective. The student is allowed to opt an open elective if and the he/she have not studied or will be studying in the higher semesters courses having similar syllabus up to 80% extent. The students may be advised to select an open elective of their interest if they have pre-requisites knowledge.</p> <p>The colleges shall have a Programme Coordinator and Advisors to help the students in opting the open elective and also the colleges conduct a orientation programme to students on Regulations of the University. It also resolved to submit the 5th & 6th Semester Scheme & Syllabus with open elective on or</p>



		before 20 th July 2017 for feedback and final scheme and syllabus shall be submitted on or before 28 th July 2017.
		The 7 th and 8 th Scheme & Syllabus should be submitted on or before 5 th August 2017.
		It is also resolved to conduct course registration at each semester level.
Agenda -3	:	Proposal from CL InfoTech for Industry Aligned Program for VTU Students
Resolution	:	It is resolved that, the colleges can opt for such Add-on courses at their individual college level.
Agenda -4	:	Eligibility criteria for admission to M.Tech in Master of Engineering Management Program
Resolution	:	It is resolved to consider all the branches B.E/ B.Tech. are eligible for the admission to M.Tech., in Master of Engineering Management Program.
Agenda -5	:	Proposal from GoK for start of Online Courses under SWAYAM MOOCs.
Resolution	:	It is resolved that, the colleges shall encourage students to make use of MOOCs and University will issue the circular w.r.t. to SWAYAM (MOOCs) to the colleges to create awareness of the programme and also they may be advised create facility for the implementation. Pertaining to the credits allocation for these courses will be taken up in the next revision of scheme & syllabus.
Agenda -6	:	Proposal from PG Students for uploading Thesis prior to exams.
Resolution	:	It is resolved that, there shall be uniformity in uploading the thesis of all PG Courses. Hence, it resolved to upload the thesis and to get it valued but the announcement of results will fall in line with the regulation.
Agenda -7	:	Preparation of Model Question Papers.
Resolution	:	It is resolved that, the Boards of various programmes have to submit the three sets of model question papers before 16 th August 2017.
Agenda -8	:	Equivalent Subjects for students entering into CBCS from Non-CBCS Scheme
Resolution	:	It is resolved that, the colleges have to conduct parallel classes for the Non-CBCS students who become eligible for admission to 5 th Semester. It also resolved that the members to provide equivalent subjects of their respective boards for the 3 rd and 4 th semester students, who entre from Non-CBCS Scheme to CBCS Scheme.
Agenda-9	:	Review of PG Theory and Internal Assessment Marks
Resolution	:	Since 'E' is awarded as pass grade with marks ranging from ≥ 40 to ≤ 45 , it is resolved that, the student shall secure minimum 50% of the maximum marks in Internal Assessment Marks and minimum 40% of the maximum marks in Theory with an aggregate of in 42% of CIE and SEE. It is also resolved to redefine the marks range for 'E' grade as ≥ 42 to ≤ 45 for PG programmes only.



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- Agenda -3** : Applicability of Regulations governing B.E/B.Tech under CBCS 2016-17
- Resolution** : It is resolved that, Regulations governing B.E/B.Tech under CBCS 2016-17 are in effect from 2015-16 batch.
- Agenda -4** : Revision of mandatory subjects like 'Management'.
- Resolution** : Respective Board of Studies authorized to revise the contents as per the needs by considering the proposal given by Sri Sharth Arun on Project Management Methodologies.
- Agenda -5** : Admission to vacant seats of PG Courses
- Resolution** : It is resolved that, seats remaining vacant(unfilled), after the completion of PG admission process by Karnataka Examination Authority, shall be filled by the Institution by inviting applications through Press notification. The seats shall be filled by Candidates preferably who have valid GATE/PGCET score. In the absence of such Candidates, admission shall be based on merit in the entrance test conducted at the Institution level. By constituting an Admissions Committee, consisting of the Principal of the College, Head of the concerned Department and the subject experts.
- Agenda -6** : NCC as an Elective subject
- Resolution** : NCC shall be included as an open Elective subject at 5th semester level. A student can opt this as an elective subject to satisfying the prerequisites. Dr. H.C. Nagaraj, Dean, Faculty of Engineering, VTU, Belagavi is requested to frame the modalities and syllabus as per UGC guidelines.
- Agenda -7** : Mobile Development Application as inter disciplinary courses.
- Resolution** : Mobile Development Application shall be included as an open Elective subject at 6th semester level. Dr. Basavaraj Anami, Chairman BoS in CSE/ISE board is requested for framing syllabus.
- Agenda -8** : Revision of Research Methodology for Ph.D. Program.
- Resolution** : Dr. H.C. Nagaraj, Dean, Faculty of Engineering, VTU, Belagavi, is requested to revise the Research Methodology syllabus for Ph.D. Program.

Table Agenda

With the permission of the chair, the following issues taken up for discussion

Table Agenda-1 : Review and Revision of curricula once in three years.

Resolution : It is resolved to write a letter to UGC stating that, Review and Revision of curricula in the University is once in four years and two years for UG and PG Programs respectively as all UG Programs are of 4 years duration and PG of 2 years duration.

Table Agenda-2 : Approval of five years integrated degree in Engineering & Technology program leading to Master of Technology (M.Tech.)

Resolution : The matter is deferred.



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Table Agenda-3 : Equivalence of UG courses. As per the EC resolutions the courses are considered as equivalent except for teaching career.

Course	Considered Equivalent to	EC Res. No.
Industrial Production Engg.	Mechanical Engg.	9 dt. 4/4/2005
Automobile Engg.	Mechanical Engg.	2.9 dt. 29/5/2006
Transportation Engg.	Civil Engg.	3.2.1 dt. 15/12/2007
Construction Tech. & Mgmt.	Civil Engg.	3.2.3 dt. 6/7/2009
Environmental Engg.	Civil Engg.	3.2.2 dt. 6/7/2009
Information Sc. & Engg.	Computer Science & Engg.	2.2.2 dt. 29/7/2011

Apart from of these the University has also received requests for equivalence for,

1. Electronics & Instrumentation to Electronics & Communication Engg.
2. Instrumentation technology to Electronics & Communication Engg.
3. Tool Engg. (Closed during 2012-13 only two batches) to Mechanical Engg.
4. Information Sc. & Engg. to Information Technology

Resolution : Resolved to consider the request including for teaching career.

Table Agenda-4 : Proposal of inclusion of ITIL (Information Technology Infrastructure Library) Processes (for IT branches)

Resolution : Dr. Basavaraj Anami, Chairman BoS in CSE/ISE board is requested to check the details and implementation modalities.

Table Agenda-5 : Age limit for Ph.D./M.Sc. Engg. (By Research) Guide ship.

Resolution : Guide ship for Ph.D./M.Sc. Engg. (By Research) shall be allowed up to 65 (70-5) years for the faculty in service.

The Meeting concluded with thanks by the Registrar, Dr. H.N. Jagannatha Reddy, with a request to all board chairmen to finalize the Scheme for UG programs by 13th March 2017.

Dean:

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Registrar:

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Vice-Chancellor:

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Visvesvaraya Technological University, Belagavi

Proceedings of the Joint Board of Studies meeting held on 19th August 2016 at VTU
Regional Office, Bangalore

Members Present:

1. Dr. V. Sridhar, Vice Chancellor and the Chairman, JBoS
2. Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU
3. Dr. M. S. Shivakumar, Hon'ble Executive Council Member, VTU, Special Invitee
4. Dr. Omprakash S Bawane, Chairman, BOS in Architecture
5. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences
6. Dr. S. M. Gopinath, Chairman, BOS in Bio-Technology
7. Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science
8. Dr. Aswath M. U., Chairman, BOS in Civil Engg.
9. Dr. Srinivas Rao Kunte, Chairman, BOS in E & C
10. Dr. B. R. Lakshmikanth, Chairman, BOS in E & E
11. Dr. M. C. Jagath, Chairman, BOS in IPE
12. Dr. Mallikarjun. S. Holi, Chairman, BoS in Electronics & Instrumentation Engineering
13. Dr. U. Bhojanina, Chairman, BOS in Business Administration
14. Dr. R. P. Reddy, Chairman, BOS in Mech. Engineering
15. Dr. Murugesh Babu, Chairman, BOS in Silk/Textile Technology
16. Dr. Vasudev T, Chairman BOS in MCA
17. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology
18. Dr. Keshava Murthy, Special Invitee.

Agenda:

1. Finalization of PG Programme Regulations under CBCS.
2. Finalization of PG Programme syllabus under CBCS.
3. Discussion on scheme to be followed by detained students joining the 3rd semester from conventional system.
4. Discrepancies in M.Tech 3rd Semester Internship Marks under CBCS.
5. Equivalence of UG Courses.
6. Any other matter with permission of the chair.

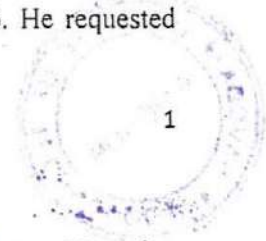
Minutes of the Meeting:

Dr. H.N. Jagannatha Reddy, Registrar, VTU, formally welcomed Dr. V. Sridhar, Hon'ble Vice-Chancellor and Chairman of Joint Board of Studies, VTU, Special invitees Dr. M.S. Shivakumar & Dr. Keshavamurthy and all the members to the meeting. He also also requested the Hon'ble Vice-Chancellor to Chair and to conduct the proceedings of the meeting.

The Hon'ble Vice-Chancellor on his behalf welcomed the members and briefed about the action taken on the resolutions of the previous JBoS meeting held on 11th July 2016. He requested



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members to deliberate on the agenda and make recommendations. After detailed deliberations the following resolutions were made.

1. Agenda item 1: Finalization of PG Programmes Regulations under CBCS:

The committee reviewed the PG Regulations placed on the table and noted that:

- i) The procedure for registration and dropping of courses were not specified in the Regulations.
- ii) Evaluation procedure for Internship is to be similar to that of practical exams i.e. if examiner is not available from industries an external examiner may be called from other Colleges.
- iii) As lateral entry admission at 2nd year level of course in UG and MCA programs are permitted, the rank declaration for the courses have to be made by considering the results starting from 2nd year level of the course.

Resolution: Resolved to accept in principle the Common Regulations under Choice Based Credit System for all PG programs as placed on the table. However, the Committee authorized the Special Invitees Dr. M.S. Shivakumar and Dr. Keshavamurthy, to take note of the above observations and recast the CBCS regulations for M.Tech., MCA and MBA inline with the structure of the already approved BE/ B.Tech. Regulations under CBCS system, so that uniformity is maintained across all the PG course Regulations to the extent as far as possible.

2. Agenda item 2: Finalization of PG Programmes syllabus under CBCS:

Resolution: Resolved to approve the Scheme and Syllabus of all M.Tech., MCA and MBA programmes as recommended by the respective Board of Studies.

3. Agenda item 3: Discussion on scheme to be followed by detained students joining the 3rd semester from conventional system:

Resolution: The failed/discontinued students taking readmission/joining the CBCS scheme shall follow the prevailing CBCS scheme and the marks obtained by them in the earlier semesters shall be converted into corresponding letter grades using the present Regulations.

4. Agenda item 4: Discrepancies in M.Tech. 3rd Semester Internship Marks under CBCS:

Resolution: Resolved to make modifications and incorporate the same the Scheme of Teaching and Examination.

5. Agenda item 5: Equivalence of UG Courses:

Resolution: A committee shall be constituted to frame guidelines for declaring equivalence of the UG courses for the purpose of employment and higher studies.



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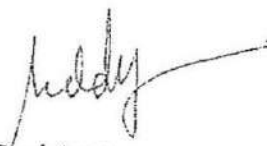
6. Agenda item 6: Any other matter with permission of the chair:

The subjects proposed by the members were discussed and the Committee resolved as follows:

- (a): Because the CBCS scheme is being newly introduced in the University, the Institutions shall take necessary steps to educate the students at regular intervals regarding passing standards and promotion criteria.
- (b): In the BE/B.Tech Courses, a student shall complete the mandatory courses like MATDIP, CIV and CIP before obtaining admission to final year of the course.
- (c): The dissertation reports of UG and PG programs printed on both sides of the sheet shall be accepted by the University. However, for the Ph.D and M.Sc (Engg) thesis the prevailing regulation shall continue.
- (d): Resolved to include the Chairman, Board of Studies, as Co-opted member in the respective Board of Examiners.
- (e): Regional level workshops shall be organized for Faculty to train them for writing effective Course Outcome statements and setting question papers helpful in assessing Program Outcomes as per NBA requirement.
- (f): Regional level workshops shall be organized for Principals, HODs and Senior Faculty to educate them for smooth implementation of CBCS scheme in their respective Institutions.

The meeting concluded with the thanks to the Chair by the Registrar, Dr. H.N. Jagannatha Reddy, and he also requested all the BOS Chairmen to finalize the Scheme and Syllabus for PG programs in the format provided by the University and submit to the University with in a week, as PG classes are notified to commence from 1st September 2016.




Registrar


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Proceedings of the Joint BoS meeting held on 06th March 2017 at VTU, Belagavi

Members Present:

1. Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU, Belagavi.
2. Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi.
3. Dr. K. Ramachandra, Chairman, BOS in Aeronautical Engg., of VTU, Belagavi.
4. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences of VTU, Belagavi.
5. Dr. S. M. Gopinath, Chairman, BOS in Bio-Technology of VTU, Belagavi.
6. Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science of VTU, Belagavi.
7. Dr. K.B. Prakash in place of Dr. Aswath M. U., Chairman, BOS in Civil Engg. of VTU, Belagavi.
8. Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi.
9. Dr. Basavaraj S. Anami, Chairman BoS in CSE/ISE of VTU Belagavi.
10. Dr. B. R. Lakshmikanth, Chairman, BOS in E & E of VTU, Belagavi.
11. Dr. Mallikarjun: S. Holli, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi.
12. Dr. Manjunath in place of Dr.U. Bhojanna, Chairman, BOS in Business Administration of VTU, Belagavi.
13. Dr. R. P. Reddy, Chairman, BOS in Mech. Engg. of VTU, Belagavi.
14. Dr. Ramakrishna in place of Dr. M. C. Jagath, Chairman, BOS in IPE of VTU, Belagavi
15. Dr. Murugesh Babu, Chairman, BOS in Silk/Textile Technology of VTU, Belagavi.
16. Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi.
17. Dr. Nandakishore, Chairman, BOS in Automobile Engg., of VTU, Belagavi.
18. Prof. Keshava Murthy, Special Invitee.
19. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology of VTU, Belagavi
20. Dr. K.R.Mulla in place of Dr.N.Chowdappa, Chairman, BOS in Library & Information Science of VTU, Belagavi
21. Dr. Sateesh Annigeri, Registrar(Evl). VTU, Belagavi

Agenda:

1. Modifications in the Regulation pertaining to allotment of credits.
2. Review of CBCS 2016-17 Regulations
 - i. 16 OB 6.1 (iii),
 - ii. 16 OB 9.1(3)
 - iii. 16 OB 11.3
3. Applicability of Regulations governing B.E/B.Tech under CBCS 2016-17
4. Revision of mandatory subjects like 'Management'
5. Admission to vacant seats of PG Courses
6. NCC as an Elective subject
7. Mobile Development Application as inter disciplinary courses.
8. Revision of Research Methodology for Ph.D. Program
9. Any other matter with the permission of the chair.



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RAICHUR-584 103

Minutes of the Meeting:

Registrar, Dr. H.N. Jagannatha Reddy, welcomed the Hon'ble Vice-Chancellor Dr. Karisiddappa, Chairmen of Board of Studies and also Special invitee Prof. Keshavamurthy, He requested Hon'ble Vice-Chancellor for further proceedings.

Hon'ble Vice-Chancellor, Dr. Karisiddappa once again welcomed all the members The Hon'ble Vice-Chancellor requested members for discussions and deliberations. After detailed deliberations the following resolutions were made.

- Agenda -1** : Modifications in the Regulation pertaining to allotment of credits.
- Resolution** : It is resolved to teach Kannada language and Constitution of India, Professional Ethics and Human Rights during 3rd and 4th semesters with one credit each by adjusting credits of 3rd and 4th Semesters on cycle base concept i.e., 50% of branches of the Institute shall opt Kannada language in 3rd Semester and remaining 50% of branches shall opt Constitution of India, Professional Ethics and Human Rights, vice-versa in 4th Semester respectively. The scheme is enclosed (Annexure-1). The same is in effect from 2017-18 batch. Also Kannada language and Constitution of India, Professional Ethics and Human Rights shall be considered for the eligibility criterion prescribed for promotion.

It is also resolved that, Internal Assessment Marks in each theory course shall be the sum of marks prescribed for test and assignment. Marks prescribed for test shall be 15 and that for assignment be 05.

The Internal Assessment marks for test in a theory course 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 minimum of 15 marks and the final test marks shall be the average of three tests, proportionally reduced to a maximum of 15 marks.

The remaining 05 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 marks awarded shall be the sum of these two out of maximum of 20 marks.



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Ganesh K 15/7/2018
PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103

Agenda -2 : Review of CBCS 2016-17 Regulations

i. 16 OB 6.1 (iii),

ii. 16 OB 9.1(3)

iii. 16 OB 11.3

Resolution : i). The regulation 16 OB 6.1 (iii) reads as, *"A student obtaining Grade "F" in a course shall be considered failed and is required to reappear in subsequent SEE. Number of attempts taken to clear a course shall be indicated in the grade cards/ transcripts."*

It is resolved to award the grade secured by the student during his/her reattempt.

ii). The regulation 16 OB 9.1 (2 & 3) reads as,

"A student will be declared successful at the Semester-end or Programme-end only on obtaining each SGPA and CGPA is greater than or equal to 5.00, with none of the courses registered in a Semester/s remaining with "F" Grade."

"In case, the SGPA/ CGPA fall below 5.00, the student shall be permitted to appear again for SEE for required number of course/s (other than seminar and Practical) and times, subject to the provision of 16OB1.5, to make up SGPA greater than or equal to 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".

It is resolved to consider passing standard of SGPA/CGPA of 5.00 from the 2016-17 batch, however SGPA/CGPA falling below 5.00 cannot be considered for vertical progression, however candidate shall be declared successful by achieving final CGPA of 5.00.

Also it is resolved that, a student is allowed to reappear for maximum 4 Courses per semester i.e. maximum of 16 credits in case SGPA/CGPA falls below 5.00

iii). The Mandatory non – credit courses for all kind of Lateral Entry students viz., Environmental Studies, Advanced mathematics III and IV , Computer Aided Engineering Drawing and Programming in C and Data structure 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 before the completion of Degree.



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Ganesh K...
15/11/2017
PRINCIPAL
Navodaya Institute of Technology (III)
RAICHUR-584 103

Proceedings of the Joint BoS meeting held on 13th March 2017 at VTU, Regional Office, Bengaluru

Members Present:

1. Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU, Belagavi.
2. Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi.
3. Dr. K. Ramachndra, Chairman, BOS in Aeronautical Engg., of VTU, Belagavi.
4. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences of VTU, Belagavi.
5. Dr. S. M. Gopinath, Chairman, BOS in Bio-Technology of VTU, Belagavi.
6. Dr. C. M. Kalleshappa (officiated for Chairman), BOS in Chemical Engineering / Polymer Science of VTU, Belagavi.
7. Dr. Aswath M. U., Chairman, BOS in Civil Engg. of VTU, Belagavi.
8. Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi.
9. Dr. Basavaraj S. Anami, Chairman BoS in CSE/ISE of VTU Belagavi.
10. Dr. Mallikarjun. S. Holli, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi.
11. Dr.U. Bhojanna, Chairman, BOS in Business Administration of VTU, Belagavi.
12. Dr. R. P. Reddy, Chairman, BOS in Mech. Engg. of VTU, Belagavi.
13. Dr. M. C. Jagath, Chairman, BOS in IPE of VTU, Belagavi
14. Mr. Dinesh Y N(officiated for Chairman),Dr. Muruges Babu, Chairman, BOS in Silk/Textile Technology of VTU, Belagavi.
15. Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi.
16. Dr. Nandakishore, Chairman, BOS in Automobile Engg., of VTU, Belagavi.
17. Prof.Keshava Murthy, Special Invitee.
18. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology of VTU, Belagavi

Agenda:

1. Finalization of Scheme and Syllabus for 5th to 8th semesters.
2. Finalization of Open Electives.
3. Proposal from CL InfoTech for Industry Aligned Program for VTU Students.
4. Eligibility criteria for admission to M.Tech in Master of Engineering Management Program
5. Proposal from GoK for start of Online Courses under SWAYAM MOOCs.
6. Proposal from PG Students for uploading Thesis prior to exams.
7. Preparation of Model Question Papers.
8. Equivalent subjects for students entering into CBCS from Non-CBCS scheme.
9. Review of PG Theory and Internal Assessment marks.
10. Nomenclature of Instrumentation Technology to Electronics & Instrumentation as per AICTE's nomenclature.
11. Any other matter with the permission of the chair.



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Ganesh K 15/3/2017
PRINCIPAL
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RAICHUR-584 103

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24.3.17

Agenda-10	:	Nomenclature of Instrumentation Technology to Electronics & Instrumentation as per AICTE's nomenclature.
Resolution	:	It is resolved to write a letter to AICTE with respect to the nomenclature of the courses.

Table Agenda

With the permission of the chair, the following issues taken up for discussion

Table Agenda-1	:	Regarding institution of B-Plan course
Resolution	:	It is resolved to retain the syllabus and course code for similar subjects in B.Architecture and B.Plan and also to write a letter to Council of Architecture regarding the institute of B.Plan course in the university and to invite a Industry person as Special Invitee to the Board of Studies.
Table Agenda-2	:	Regarding institution of Aerospace Engineering
Resolution	:	It is resolved to retain the syllabus and course code for similar subjects in Aerospace Engineering, Aeronautical Engineering and Mechanical Engineering.
Table Agenda-3	:	VTU Aerospace Center of Excellence with Dassault Systems
Resolution	:	It is resolved to consider the training program conducted by Dassault Systems under VTU Aerospace Center of Excellence as Internship Program.

The Meeting concluded with vote of thanks by the Chair.

Dean:

[Signature]

Registrar:

[Signature]

Vice-Chancellor:

[Signature]

24.7.17



[Signature] 15/7/2017
PRINCIPAL
 Navodaya Institute of Technology (NIT)
 RAICHUR-584 103

Proceedings of the Joint BoS meeting held on 8th September 2017 at VTU, Belagavi

Members Present:

- 1 Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU, Belagavi & Principal, Nitte Meenakshi Inst. of Technology, Bengaluru.
- 2 Prof. Keshava Murthy, Dept. of E & E, Dr. Ambedkar Institute of Technology, Bengaluru.- Special Invitee
- 3 Dr. D.S.Suresh, Prinicipal, Channabasaveshwara Institute of Technology, Gubbi - Special Invitee
- 4 Dr. K.Ramachandra, Chairman, BOS in Aeronautical Engg. of VTU, Belagavi, Retd. Director, GTRE, 600/1, 10th Cross, 7th Block, West Jayanagara, Bengaluru-560082
- 5 Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi & Professor, RV School of Architecture, Bengaluru.
- 6 Dr. Nandkishore, Chairman, BOS in Automobile Engineering of VTU, Belagavi & Professor, Dept. of Automobile, Guru Nanak Dev Engineering College, Bidar.
- 7 Dr. Basavarajappa, (Officiating On behalf of Dr. A.T. Eswar) BOS in Basic Sciences of VTU, Belagavi
- 8 Dr. S. M. Gopinath, Chairman, BOS in Bio-Technology of VTU, Belagavi & Professor, Acharya Institute of Technology, Bengaluru.
- 9 Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science of VTU, Belagavi & Professor, Dept. of Chemical Engg, Bapuji Institute of Engineering & Technology, Davangere.
- 10 Dr. Aswath M. U., Chairman, BOS in Civil Engg. of VTU, Belagavi & Professor & Head, Dept. of Civil Engg., Bangalore Institute of Technology, Bengaluru.
- 11 Dr. Basavaraj S. Anami, Chairman BoS in CSE/ISE of VTU Belagavi & Principal, KLE Institute of Technology, Hubballi.
- 12 Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi & Principal, JNN College of Engineering, Shivamogga.
- 13 Dr. Shoba R Savanur, Chairman, BOS in E & E of VTU, Belagavi & Professor, Dept. of EEE, BLDEA's VP Dr. PG Halkatti College of Engineering, Vijayapur
- 14 Dr. Mallikarjun. S. Holi, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi & Professor, Dept. of E & IE, University B.D.T. College of Engineering, DAVANGERE.
- 15 Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi & Professor, Dept. of Computer Applications, Maharaja Institute of Technology, Mysuru.
- 16 Dr.N.Chowdappa, Chairman, BOS in Library & Information Science of VTU, Belagavi and Chief Librarian, BMS College of Engineering, Bengaluru
- 17 Dr. Anandakumar C. S , (Officiating On behalf of Dr. Dinesh Rangappa)Chairman, BOS in Nano Technology of VTU, Belagavi & Professor, Dept. of Nano Technology, VTU, PG Centre, Muddenahalli.

Agenda:

1. Review of Non-CBCS and CBCS students' grievances
2. Review of B.E./B.Tech. Regulations of 2017-18 pertaining to SEE and CIE Marks
3. Change in course code in the Scheme and Syllabus of 2017-18 admitted batches and onwards
4. Submission of 6th to 8th semester Scheme and Syllabus
5. Constitution of Board under Humanities
6. Any other matter with the permission of the chair

Minutes of the Meeting:

Registrar, Dr. H.N. Jagannatha Reddy, welcomed the Hon'ble Vice-Chancellor Dr. Karisiddappa, Chairmen of Board of Studies and also Special invitees. He requested Hon'ble Vice- Chancellor for further proceedings.

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PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



Hon'ble Vice-Chancellor, Dr. Karisiddappa once again welcomed all the members and briefed about the agenda of the meeting and requested for deliberations. After detailed deliberations the following resolutions are made:

Agenda -1	:	Review of Non-CBCS and CBCS student's grievance
Preamble	:	CBCS Scheme is implemented from year 2015-16. The scheme of teaching and Examination is different from Non-CBCS Scheme. As per the data available from the examination section, they are around 5,326 & 19,800 students who are not eligible take admission to 5th & 7th semester respectively. The committee constituted to discuss about continuation of 2010 scheme for 5th semester onwards has proposed to conduct parallel classes.
Resolution	:	In view of the above it is resolved to permit the Non-CBCS scheme students to attend classes to complete the course work and to satisfy the attendance and Internal Assessment criteria as per regulations applicable to them. However, they are not permitted to appear for the university examinations till they become eligible as per the regulations. Also they have to complete the programme as per the OB6.2. The students of Non-CBCS scheme who are to attend exit scheme classes have to execute an affidavit to the effect that they adhere to the decisions of the university.
Agenda -2	:	Review of B.E./B.Tech. Regulations of 2017-18 pertaining to SEE and CIE Marks
Resolution	:	It is resolved to modify the SEE and CIE marks from 80:20 ratio to 60:40 and to incorporate the change into regulations and scheme.
Agenda -3	:	Change in course code in the Scheme and Syllabus of 2017-18 admitted batches and onwards
Resolution	:	It is resolved to change course code from 15XXXXXX to 17XXXXXX retaining the content of each course syllabus of 2015-16 scheme.
Agenda -4	:	Submission of 6th to 8th semester Scheme and Syllabus
Resolution	:	It is resolved to submit the scheme & syllabus of 6 th to 8 th Semester on or before 16 th September 2017 and the university to receive the feedback before 22 nd September 2017. The Final Submission of Scheme & Syllabus to be sent to the university on or before 28 th September 2017. The last date for submission of Scheme & Syllabus 2017-18 admitted batch is 30 th October 2017.
Agenda -5	:	Constitution of Board under Humanities
Resolution	:	It is resolved to constitute the Board in Humanities.



Table Agenda

With the permission of the chair, the following issues taken up for discussion

Table Agenda-1	:	Proceedings of the committee to discuss continuation of 2010 scheme from 5 th Semester onwards.
Resolution	:	It is resolved to accept the recommendations of the committee.
Table Agenda-2	:	Requisition to Schedule project phases in 6 th & 7 th Semester of B.E. programme for 2015-16 scheme.
Resolution	:	The proposal is not accepted.
Table Agenda-3	:	PG Regulations
Resolution	:	It is resolved to accept the regulations.
Table Agenda-4	:	Question paper printing for 2015-16 and 2017-18 schemes
Resolution	:	It is resolved to print separate Question papers for 2015-16 and 2017-18 schemes
Table Agenda-5	:	Ambiguity in the B.E./B.Tech. Regulations of 2017-18 with respect to consideration of mandatory non-credit courses for promotion and eligibility
Resolution	:	It is resolved that students shall pass in of mandatory non-credit courses for award of degree.

The Meeting concluded with vote of thanks by the Chair.

Dean:

[Signature]
08/09/17

Registrar:

[Signature]
08/09/17

Vice-Chancellor:

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8.9.17



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PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103
3 | 4 Page



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ

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ಕಡತದ ಸಂ. :

ದಿನಾಂಕ : 01/02/2018

ವಿಭಾಗ

Academic

ವಿಷಯ : JBOS Meeting Items Approval - reg

Submitted:

It is proposed to conduct the **Joint Board of Studies**

Meeting with the following agenda:

- The CBCS scheme for PG programmes was introduced during 2016-17 by revising the curriculum accordingly. Due to reconsideration in the SGPA and CGPA calculations two Regulations are in place for PG programmes that is the students admitted to PG programmes during 2016-17 and 2017 - 18 are governed by the different regulations. However there is no change in the content of syllabus except the course codes. In regular practice the course content will be revised once in two years for PG and once in 4 years for UG programmes. So as the revision in course content is due for PG programmes for 2018-19 and also whether to revise SEE and CIE in the ratio of 60:40 for PG Programmes.
- Review of Model Curriculum for UG Programme Designed by AICTE.
- Review & Implementation of Model Curriculum for PG Programme Designed by AICTE from 2018-19.
- Finalization of 3rd to 8th Semester Syllabus for 2017-18 Scheme
- Regulations and Scheme to be followed for 2016-17 batch students in case of re-admission/Eligibility to first year or higher semester at later stage.
 - a) These Students are governed by 2015-16 regulation and scheme, but currently 2017-18 scheme is in place or first year.

Hence, it is requested to suggest the date and venue of the meeting of Joint BoS.

For kind orders & directions,

Office Suptd:

14/2/18



SO,

submitted for kind directions & orders - *14/2/18*

Register:

For kind approval *14/2/18*
Cdt 14/2/18 @ 11 AM at Blue Ro

VL):

Approved to conduct on *1.2.18*

14.2.18
Navodaya Institute of Technology (NIT)
RAICHUR-584 103



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ

ಟಿಪ್ಪಣಿ ಪುಟ :

ಪುಟ ಸಂಖ್ಯೆ :1.....

ಕಡತದ ಸಂ. :

ದಿನಾಂಕ : 01/02/2018

ವಿಭಾಗ

ವಿಷಯ : Approval for inclusion of some additional names in the organizing committee for JAGRUTI- A Techno-Educative-Mela by VTU at Bengaluru & Hubballi-reg
Permissioin to conduct JBOS. ...

Academic

Submitted:

It is proposed to conduct the **Joint Board of Studies**

Meeting with the following agenda:

- The CBCS scheme for PG programmes was introduced during 2016-17 by revising the curriculum accordingly. Due to reconsideration in the SGPA and CGPA calculations two Regulations are in place for PG programmes that is the students admitted to PG programmes during 2016-17 and 2017 - 18 are governed by the different regulations. However there is no change in the content of syllabus except the course codes. In regular practice the course content will be revised once in two years for PG and once in 4 years for UG programmes. So as the revision in course content is due for PG programmes for 2018-19 and also whether to revise SEE and CIE in the ratio of 60:40 for PG Programmes.
- Review of Model Curriculum for UG Programme Designed by AICTE.
- Regulations and Scheme to be followed for 2016-17 batch students in case of re-admission/Eligibility to first year or higher semester at later stage.
 - a) These Students are governed by 2015-16 regulation and scheme, but currently 2017-18 scheme is in place or first year.

Hence, it is requested to suggest the date and venue of the meeting of Joint BoS.

For kind orders & directions,

Office Suptd: 1/2/18

Special Officer : submitted for kind order 7/2/18

leg: for kind approval 1/2/18
[dd 14/02/18 @ 11 AM, Blore Ro]

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PRINCIPAL
Navodaya Institute of Technology (NIT)
RAICHUR-584 103

Proceedings of the Joint BoS meeting held on 14th February 2018 at VTU, Regional Office,
Bengaluru

Members Present:

1. Prof.V.Keshava Murthy, Special Invitee, Dept., of E&E, Dr.Ambedkar Institute of Technology, Bengaluru.
2. Dr.D.S.Suresh, Special Invitee, Principal, Channabasaveshwara Institute of Technology, Gubbi
3. Prof.Vaman B Gudi, Special Invitee, Professor, Dept., of E&C, Cambridge Institute of Technology, Bengaluru
4. Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi.
5. Dr. K. Ramachandra, Chairman, BOS in Aeronautical Engg., of VTU, Belagavi.
6. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences of VTU, Belagavi.
7. Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science of VTU, Belagavi.
8. Dr. Aswath M. U., Chairman, BOS in Civil Engg. of VTU, Belagavi.
9. Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi.
10. Dr. Shobha Savanur, Chairman, BOS in E & E of VTU, Belagavi.
11. Dr. Mallikarjun. S. Holi, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi.
12. Dr.U. Bhojanna, Chairman, BOS in Business Administration of VTU, Belagavi.
13. Dr. R. P. Reddy, Chairman, BOS in Mech. Engg. of VTU, Belagavi.
14. Dr. M. C. Jagath, Chairman, BOS in IPE of VTU, Belagavi
15. Dr. Murugesh Babu, Chairman, BOS in Silk/Textile Technology of VTU, Belagavi.
16. Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi.
17. Dr. Nandakishore, Chairman, BOS in Automobile Engg., of VTU, Belagavi.
18. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology of VTU, Belagavi
19. Dr.N.Chowdappa, Chairman, BOS in Library & Information Science of VTU, Belagavi
20. Dr. Sateesh Annigeri, Registrar (Evaluation), VTU, Belagavi

Agenda:

1. Revision of PG Syllabus, SEE and CIE Ratio for 2018-19.
2. Review & Implementation of Model Curriculum for PG Programme designed by AICTE from 2018-19.
3. Review of Model Curriculum for UG Programme designed by AICTE.
4. Finalization of 3rd to 8th Semester Syllabus for 2017-18 Scheme.
5. Regulations and Scheme to be followed by 2016-17 admitted batch in case of re-admission/ Eligibility to first year or higher semester.
6. Any other matter with the permission of the chair.

Table Agenda:

1. An Alternate Question Paper Pattern for 2017 Scheme CBCS Batch.
2. Regulations Governing the Degree of Doctor of Philosophy (Ph.D)- Amended-2014.
3. To include Kannada as one of the credit course for B.Arch Programme from academic year 2018-19
4. Number of ranks to be limited to 50% or less for programmes offered in only one Institution.
5. Providing Subject wise University Aggregate Results.
6. Clarification regarding Internship.
7. Formulation of Modalities/Guidelines for UG Internship (2015-16 Scheme).



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PRINCIPAL

Navodaya Institute of Technology (NIT)
RAICHUR-584 103

Minutes of the Meeting:

Dr. H.N. Jagannatha Reddy, Registrar welcomed the Hon'ble Vice-Chancellor Dr. Karisiddappa, Chairman, Joint Board of Studies, all the Chairmen of Board of Studies and also Special invitees Prof. V. Keshava Murthy and Dr. D.S. Suresh. He requested the Hon'ble Vice-Chancellor for further proceedings.

Hon'ble Vice-Chancellor, Dr. Karisiddappa once again welcomed all the members and requested members for active discussions as the agenda items. After detailed deliberations, the following resolutions were made.

Agenda -1 & 2	:	1. Revision of PG Syllabus, SEE and CIE Ratio for 2018-19. 2. Review & Implementation of Model Curriculum for PG Programme designed by AICTE from 2018-19																											
Resolution	:	(a) Recommended to revise the scheme and syllabus of PG programs for the academic year 2018-19 in line with AICTE model curriculum with following recommendations: 1. Marks division for CIE and SEE to be in the ratio 40:60. 2. Programme credits for the award of degree: ➤ M.Tech. - 72 ➤ MBA - 102 ➤ MCA - 125 ➤ M. Arch - To be confirmed by the Chairman, BOS in Architecture in consultation with COA.																											
Agenda -3	:	3. Review of Model Curriculum for UG Programme designed by AICTE.																											
Resolution	:	(a) Recommended to revise the UG BE/B.Tech programme scheme of Teaching and Examination, and Syllabus in line with AICTE model curriculum and proposed to implement the same from the academic year 2018-19 with the following recommendations: 1. Conduct Three weeks mandatory Induction Programme. 2. Prepare the UG BE/B.Tech programme scheme of Teaching and Examination with the following structure: <table><tr><th>Sl No</th><th>Category</th><th>Prescribed credits</th></tr><tr><td>1</td><td>Humanities and Social Sciences including Management courses. [Kannada: 01 credit, English: 02 credit, CIPH: 01 credit, Management: 03 credits.]</td><td>07</td></tr><tr><td>2</td><td>Basic Science courses</td><td>25</td></tr><tr><td>3</td><td>Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.,</td><td>24</td></tr><tr><td>4</td><td>Professional core courses</td><td>80</td></tr><tr><td>5</td><td>Professional Elective courses relevant to chosen specialization/branch</td><td>15</td></tr><tr><td>6</td><td>Open subjects – Electives from other technical and /or emerging subjects</td><td>09</td></tr><tr><td>7</td><td>Project work, seminar and internship in industry or elsewhere. [Seminar: 01 credit, Project: 05 credit, Internship: 09 credits]</td><td>15</td></tr><tr><td colspan="2">Total credits</td><td>175</td></tr></table> 3. Academic Section to provide Templates for tentative scheme of teaching and evaluation as decided in the JBOS. 4. The respective Board of Studies to organize workshop/s regarding proposed AICTE model curriculum and to prepare the model	Sl No	Category	Prescribed credits	1	Humanities and Social Sciences including Management courses. [Kannada: 01 credit, English: 02 credit, CIPH: 01 credit, Management: 03 credits.]	07	2	Basic Science courses	25	3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.,	24	4	Professional core courses	80	5	Professional Elective courses relevant to chosen specialization/branch	15	6	Open subjects – Electives from other technical and /or emerging subjects	09	7	Project work, seminar and internship in industry or elsewhere. [Seminar: 01 credit, Project: 05 credit, Internship: 09 credits]	15	Total credits		175
Sl No	Category	Prescribed credits																											
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7	Project work, seminar and internship in industry or elsewhere. [Seminar: 01 credit, Project: 05 credit, Internship: 09 credits]	15																											
Total credits		175																											

		<p>scheme of teaching and examination based on the outcome of the workshop/s.</p> <p>5. It was proposed to conduct one day workshop to all the Chairmen & Members, Board of Studies on-AICTE-Model-Curriculum.</p> <p>6. Call for a meeting of chair persons of Basic Sciences, Humanities, board including the Chairmen of EEE, ECE, Mech and Civil boards for deliberation on the preparation of scheme of Teaching and Examination, and syllabus for 1st year B.E and B.Arch Programmes.</p> <p>7. B. Arch - To be confirmed by the Chairman, BOS in Architecture in consultation with COA. Chairman of B. Arch to propose scheme of Teaching and Examination, and syllabus of both UG and PG consultation with COA.</p>
Agenda -4	:	Finalization of III to VIII Semester Syllabus for 2017-18 Scheme.
Resolution	:	All Chairmen are to submit the final consolidated copy of syllabus only with minor changes in the contents in line with 2015-16 higher semester syllabus on or before 30-03-2018 without fail
Agenda -5	:	Regulations and Scheme to be followed by 2016-17 admitted batch in case of re-admission/ Eligibility to first year or higher semester.
Resolution	:	<p>(a) Recommended to follow the prevailing scheme for UG Programme. However an equivalence regarding scheme of study to be obtained from Chairman of concerned board.</p> <p>(b) Also recommended for PG Programme students who were admitted in 2016-17 and could not attend the higher semester classes during the academic year 2017 -18 and eligible now should attend the classes with 2017-18 scheme batch students. However, these students have to follow 2016-17 scheme of teaching and Examination and not the prevailing scheme of teaching and Examination.</p>

Table Agenda

Table Agenda-1	:	An Alternate Question Paper Pattern for 2017 Scheme CBCS Batch.
Resolution	:	Resolved to follow the present pattern that is in place.
Table Agenda-2	:	Regulations Governing the Degree of Doctor of Philosophy (Ph.D)- Amended-2014.
Resolution	:	<p>(a) Issue about the qualifications for Research Supervisor for Ph.D (Architecture) to be referred to Research committee for consideration.</p> <p>(b) Issue about the Ph.D comprehensive viva – voce to be referred to Research committee for consideration.</p>
Table Agenda-3	:	Inclusion of Kannada as one credit course for III semester B. Arch Programme from academic year 2018-19.
Resolution	:	To include Kannada as one of the credit course for B.Arch Programme from academic year 2018-19.
Table Agenda-4	:	Number of ranks to be limited to 50% or less for programme offered in only one Institution.
Resolution	:	To abide by the existing regulations.
Table Agenda-5	:	Providing Subject wise University Aggregate Results



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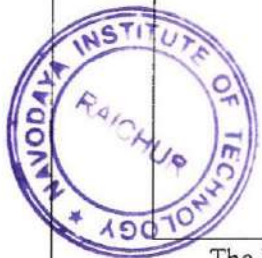
Resolution	:	University to publish Subject wise Aggregate Results so that the institutions can access the same through Principal's login.																												
Table Agenda-6 & 7	:	Clarification regarding Internship. Formulation of Modalities/Guidelines for UG-Internship (2015-16 Scheme).																												
Resolution	:	(a) Four week Internship during 6 th and 7 th and/or 7 th and 8 th Semester vacation period. (b) The examination on Internship to be conducted in line with University project viva -voce examinations. (c) Amend (modify) the existing 2015 -16 regulations governing the internship i.e., ISOB.9																												
Table Agenda-7	:	Book Exhibition and Inclusion of one Librarian to BoS Meetings.																												
Resolution	:	(a) To organize Book Exhibition at VTU Regional office, Bengaluru and VTU Campus, Belagavi. (b) To Invite one librarian to BoS Meetings to assist the Board of Studies to assist to select/propose Reference books and Text Books.																												
Table Agenda- 8	:	Action Plan for Implementation of quality initiatives of AICTE including revised curriculum																												
Resolution	:	It is resolved to write a letter to Ministry of Human Resource Development, Department of Higher Education, Government of India regarding the Action Plan Timeline of Implementation of AICTE Model Curriculum the timeline as follows:																												
<table border="1"> <thead> <tr> <th>Sr.No</th><th>Activity</th><th>Time Line</th></tr> </thead> <tbody> <tr> <td rowspan="5">1.</td><td rowspan="5">Inviting Board of Studies Meeting <ul style="list-style-type: none"> Examining existing curriculum Examining AICTE Model curriculum for its suitability Revision of curriculum incorporating model curriculum suggested by AICTE Identifying PEO, PO, CO </td><td></td></tr> <tr> <td>02/02/2018</td></tr> <tr> <td>14/02/2018</td></tr> <tr> <td>16/04/2018</td></tr> <tr> <td>16/04/2018</td></tr> <tr> <td rowspan="3">2</td><td rowspan="3">Formation of Industry Consultation Committee (ICC) <ul style="list-style-type: none"> Examining curriculum for its suitability of Industry demand. Vetting of PEO, PO, CO </td><td></td></tr> <tr> <td>15/03/2018</td></tr> <tr> <td>02/05/2018</td></tr> <tr> <td>3</td><td>Preparation of Training Plans for Teachers</td><td>05/05/2018</td></tr> <tr> <td rowspan="2">4</td><td rowspan="2">Inviting Academic Council Meeting <ul style="list-style-type: none"> Approval of revised (model) curriculum Approval to teachers training plans </td><td></td></tr> <tr> <td>10/05/2018</td></tr> <tr> <td>5</td><td>Orientation workshop for faculty for implementation of revised curriculum</td><td>15/05/2018 – 20/06/2018</td></tr> <tr> <td>6</td><td>Implementation of curricular retrospectively w.e.f Academic Session 2018-2019</td><td>01/08/2018</td></tr> </tbody> </table>			Sr.No	Activity	Time Line	1.	Inviting Board of Studies Meeting <ul style="list-style-type: none"> Examining existing curriculum Examining AICTE Model curriculum for its suitability Revision of curriculum incorporating model curriculum suggested by AICTE Identifying PEO, PO, CO 		02/02/2018	14/02/2018	16/04/2018	16/04/2018	2	Formation of Industry Consultation Committee (ICC) <ul style="list-style-type: none"> Examining curriculum for its suitability of Industry demand. Vetting of PEO, PO, CO 		15/03/2018	02/05/2018	3	Preparation of Training Plans for Teachers	05/05/2018	4	Inviting Academic Council Meeting <ul style="list-style-type: none"> Approval of revised (model) curriculum Approval to teachers training plans 		10/05/2018	5	Orientation workshop for faculty for implementation of revised curriculum	15/05/2018 – 20/06/2018	6	Implementation of curricular retrospectively w.e.f Academic Session 2018-2019	01/08/2018
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The Meeting concluded with thanks by the chair.

Registrar

Vice-Chancellor:

4 PRINCIPAL
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Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018.

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

Phone: (083 1) 2405468
Fax : (0831) 2405467

Ref No. VTU/Aca/A12/2017-18/ 11721

Date: 17 MAR 2018

MEETING NOTICE

Sub: Meeting of Joint Board of Studies.

Ref: Hon'ble Vice Chancellor's Approval dtd: 17.03.2018

With reference to the above subject, the Joint Board of Studies Meeting is convened on 27th March 2018 at 11.00 a.m. at Executive Council Meeting Hall 'Jnana Sangama', VTU, Belagavi to discuss on the following Agenda:

AGENDA:

1. Finalisation of 1st year scheme for 2018-19 UG and PG curriculum.
2. Guidelines for framing the regulations for 2018-19 scheme.
3. Introduction of Bachelor of Vocation as per AICTE syllabus and guidelines.
4. Any other matter with permission of the chair.

The Dean, Faculty of Engineering, VTU & Chairmen of all BoS are requested to make it convenient to attend the meeting. TA and Sitting Fee will be borne by the University to the members attending the meeting as per the VTU norms.

Sd/-
REGISTRAR

To,

1. Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU, Belagavi & Principal, Nitte Meenakshi Inst. of Technology, Bengaluru.
2. Prof. V.Keshava Murthy, Special Invitee, Dept. of E & E, Dr. Ambedkar Institute of Technology, Bengaluru.
3. Dr.D.S.Suresh, Special Invitee, Principal, Channabasaveshwara Institute of Technology, Gubbi
4. Dr. K Ramachandra BOS in Aeronautical Engg. of VTU, Belagavi, Retd Director, GTRE 600/1, 10th Cross, 7th Block, West Jayanagara, Bengaluru-560082
5. Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi & Professor, RV School of Architecture, Bengaluru.
6. Dr. Nandkishore, Chairman, BOS in Automobile Engineering of VTU, Belagavi & Professor, Dept. of Automobile, Guru Nanak Dev Engineering College, Bidar.
7. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences of VTU, Belagavi & Professor, Dept. of Mathematics, GSSS Institute of Engineering & Technology, Mysuru.
8. Dr. S. M. Gopinath, Chairman, BOS in Bio-Technology of VTU, Belagavi & Professor, Acharya Institute of Technology, Bengaluru.
9. Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science of VTU, Belagavi & Professor, Dept. of Chemical Engg, Bapuji Institute of Engineering & Technology, Davangere.
10. Dr. Aswath M. U., Chairman, BOS in Civil Engg. of VTU, Belagavi & Professor & Head, Dept. of Civil Engg., Bangalore Institute of Technology, Bengaluru.
11. Dr. Basavaraj S. Anami, Chairman BoS in CSE/ISE of VTU Belagavi & Principal, KLE Institute of Technology, Hubballi.
12. Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi & Principal, JNN College of Engineering, Shivamogga.
13. Dr. Shoba R Savanur, Chairman, BOS in E & E of VTU, Belagavi & Professor, BLDEA'S VP Dr.P G Halkatti College of Engineering, Vijayapur
14. Dr. M. C. Jagath, Chairman, BOS in IPE of VTU, Belagavi & Dept. of Industrial Engineering & Management, Bangalore Institute of Technology, K.R. Road, V.V. Puram, Bengaluru.
15. Dr. Mallikarjun, S. Holi, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi & Professor, Dept. of E & IE, University B.D.T. College of Engineering, DAVANGERE.
16. Dr. U. Bhojanna, Chairman, BOS in Business Administration of VTU, Belagavi & Professor, RNS Institute of Technology, Bengaluru.
17. Dr. R. P. Reddy, Chairman, BOS in Mech. Engg. of VTU, Belagavi & Principal, Global Institute of Technology, Bengaluru.
18. Dr. Muruges Babu, Chairman, BOS in Silk/Textile Technology of VTU, Belgaum & Department of Textile Engineering, Bapuji Institute of Engineering & Technology, Shamnoor Road, Davangere.
19. Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi & Professor, Dept. of Computer Applications, Maharaja Institute of Technology, Mysuru.
20. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology of VTU, Belagavi & Professor, Dept. of Nano Technology, VTU, PG Centre, Muddenahalli.
21. Dr.N.Chowdappa, Chairman, BOS in Library & Information Science of VTU, Belagavi & Chief Librarian, BMS College of Engineering, Bengaluru.

REGISTRAR



Copied to:

1. The Vice-Chancellor, through the secretary to V.C., VTU, Belagavi for information.
2. The Finance Officer, VTU, Belagavi, for information.
3. The Registrar's Office, VTU, Belagavi, for information.
4. The Registrar (Evaluation), VTU, Belagavi, with request to attend the meeting.
5. The Special Officer, Academic Section, VTU, Belagavi for information.
6. The Resident Engineer, VTU, Belagavi to make necessary arrangements for the meeting including hospitality.

Note: 1. All the Members and Special Invitees are requested to make their own arrangements towards transportation to attend the meeting.

2. All the Members and Special Invitees are requested to produce Onward and Return Journey Tickets/Vouchers for the disbursement of travelling allowances.

3. The TA will be disbursed as per KCSR/Government Circulars and orders only.

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ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ

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ದಿನಾಂಕ : 17/03/2018

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ವಿಷಯ : JBOS Meeting Items Approval - reg

Academic

Submitted:

It is proposed to conduct the **Joint Board of Studies Meeting** with the following agenda:

- Finalization of 1st year Scheme for 2018-19 curriculum
- Guidelines for framing the Regulations for 2018-19 scheme.
- Introduction of Bachelor of Vocation as per AICTE Syllabus and guidelines

Hence, it is requested to suggest the date and venue of the meeting of Joint BoS.

For kind orders & directions,

Office Suptd:

for directions 17/3/18

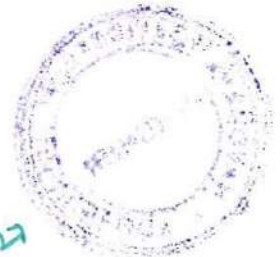
Special officer: For kind directions 17/3/18

Registrar: For kind approval 17/3/18

9 MAR 2018
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**Joint Board of Studies Meeting held on 27th March 2018 at
Executive Council Meeting Hall, Belagavi at 11.00am**

Members Present:

1	Dr. Karisiddappa, Chairman JBoS and Hon'ble Vice-Chancellor, VTU, Belagavi.
2	Dr. H. C. Nagaraj, Dean Faculty of Engineering VTU, Belagavi & Principal, Nitte Meenakshi Institute of Technology, Bengaluru.
3	Dr. A. T. Eswara, Chairman, BOS in Basic Sciences of VTU, Belagavi.
4	Dr. Omprakash S Bawane, Chairman, BOS in Architecture of VTU, Belagavi.
5	Dr. K. Ramachandra, Chairman, BOS in Aeronautical Engineering of VTU, Belagavi.
6	Dr. Gururaj Rao P Desai, Chairman, BOS in Chemical Engineering / Polymer Science of VTU, Belagavi.
7	Dr. Aswath M. U., Chairman, BOS in Civil Engineering of VTU, Belagavi.
8	Dr. Srinivas Rao Kunte, Chairman, BOS in E & C of VTU, Belagavi.
9	Dr. Shobha Savanur, Chairman, BOS in E & E of VTU, Belagavi.
10	Dr. Mallikarjun S. Holi, Chairman, BoS in Electronics & Instrumentation Engineering of VTU, Belagavi.
11	Dr. U. Bhojanna, Chairman, BOS in MBA of VTU, Belagavi.
12	Dr. R. P. Reddy, Chairman, BOS in Mechanical Engineering of VTU, Belagavi.
13	Dr. M. C. Jagath, Chairman, BOS in IPE of VTU, Belagavi.
14	Dr. Murugesh Babu, Chairman, BOS in Silk/Textile Technology of VTU, Belagavi.
15	Dr. Nandakishore, Chairman, BOS in Automobile Engineering of VTU, Belagavi.
16	Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology of VTU, Belagavi.
17	Dr. N. Chowdappa, Chairman, BOS in Library & Information Science of VTU, Belagavi.
18	Dr. H.S. Dayananda, Chairman, BOS Humanities of VTU, Belagavi.
19	Dr. Satish Annigeri, Registrar (Evaluation), VTU, Belagavi.
20	Dr. H.N. Jagannatha Reddy, Member Secretary JBoS and Registrar, VTU, Belagavi.
21	Prof. V. Keshava Murthy, Special Invitee, Department of E&E, Dr. Ambedkar Institute of Technology, Bengaluru.
22	Dr. R. Prabhakara, Former Prof and Head MSRIT, Bengaluru.
23	Dr. C. N. Chandrappa, Special Invitee, Acharya Institute of Technology, Bengaluru
24	Dr. Vaman Oad, Special Invitee, Dept of E&C, Cambridge Institute of Technology, Bengaluru

Members on Leave:

1	Dr. D. S. Suresh, Special Invitee, Principal, Channabasaveshwara Institute of Technology, Gubbi.
2	Dr. Vasudev T, Chairman BoS in MCA of VTU, Belagavi.

Agenda

1. Finalization of 1st year Scheme for 2018-19 UG and PG Curriculum and Timeline for submission of Syllabus is enclosed.
2. Guidelines for Framing the regulations for 2018-19 Scheme (The 2017-18 Scheme Regulation is placed on file for reference)
3. Introduction of Bachelor's of Vocation as per AICTE Syllabus and Guidelines
4. Any other matter with the permission of the chair.

Table Agenda:

1. Implementation of Scientific Perspective and History on Modern Science Course in UG Level (as per the Government order ED 113 UNI 2017, dtd: 05.03.2018).
2. Consideration of M.Sc and B.Sc graduates for the admission of Post Graduate D in Industrial Management-PGDISM for IIISM College (University has a MoU with this college for the award of degree).
3. The Eligibility Criteria for the admissions of MBA, MCA, ME and M.Tech and also the Criteria for the candidates passed through Open University/ Correspondence Course.

Minutes of the Meeting:

Registrar, Dr. H.N. Jagannatha Reddy, welcomed the Honorable Vice-Chancellor Dr. Karisiddappa, Chairman, Joint Board of Studies, Chairpersons of BOS and also Special invitees and presented the salient features of the model AICTE curriculum along with

- Proceedings of the Joint BoS meeting held on 14th February 2018 at VTU, Regional Office, Bengaluru.
- Proceedings of the One Day Workshop on "AICTE Model Curriculum" for UG and PG Programs held on 12th March 2018 at BMSCE, Bengaluru.

He requested the Honorable Vice-Chancellor for the further proceedings. Honorable Vice-Chancellor, Dr. Karisiddappa welcomed and requested all the chairpersons of BoS and Special Invitees for their active participation, discussions and fruitful conclusions. The outcomes of the deliberations in the form of resolutions are listed against each agenda.



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Agenda -1	:	Finalization of 1 st Year scheme for 2018-19 UG and PG curriculum
Resolution		Revise the scheme of Teaching and Examination, and syllabus for UG programs from the academic year 2018-19 in line with AICTE model curriculum and implement the scheme in compliance with the following.

Agenda -1
Resolution
(continued)

A. UG Programs
(UG.a) : UG Programs Credits

Table.1 Credits for the UG Programs starting from the academic year 2018 - 19	
Programs	Credits
B.E/ B.Tech/ Textiles/ Bio Tech/ B. Plan (All 4 years)	175
B. Arch (5 years)	260

(UG.b): Three weeks mandatory Induction Programme

(UG.c): Duration of I semester to be 18 weeks. The exact duration shall be intimated by Registrar (Evaluation) with reference to the period required for conducting of University examinations.

(UG.d): Period of vacation after I semester University examination to be decided with reference (c). Preferable to reduce the present vacation period by 2 weeks.

(UG.e): The credits for I and II semesters to be around 19 and 21 respectively.

(UG.f):

- Formulate the syllabus of Physics, Chemistry and Mathematics that are appropriate for all the programs with due consideration to the PUC and XII Standard syllabi.
- Dr.A. T. Eswara, Chairman of Basic Science Board of Studies to convene a meeting of Chairpersons of BOS in EEE, ECE, Mechanical Engineering, Civil Engineering and Humanities on or before 10th April 2018 to finalize the syllabus of Physics, Chemistry and Mathematics.

(UG.g) : The course, Engineering Graphics be shifted to 1st year with sketching compulsory.

(UG.h) : The mandatory courses Constitution of India and Professional Ethics, Environmental Studies, and Kannada shall be offered in III & IV semesters.

(UG.i) : Number of courses from III to VI semesters to be

- 06 theory and 02 laboratories for Engineering programs and
- 05 theory and 03 laboratories for Textile programme.



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**Agenda -I
Resolution
(continued)**

(UG.j) : The UG, BE/B.Tech. to have

- one mandatory internship and
- Internship or mini – project during VI semester.

(UG.k) :

- (a) The mandatory non – credit courses Diploma Mathematics I and II prescribed at III and IV semesters respectively, to lateral entry Diploma holders admitted to III semester of BE/B.Tech programs shall compulsorily be registered during respective semesters to complete all the formalities of the course and appear for University examination.
- (b) The mandatory non-credit courses Diploma Mathematics I and II, prescribed to lateral entrant Diploma holders admitted to III semester of BE/B.Tech programs, are to be completed to secure eligibility to VII semester. However, they are not considered for vertical progression from II year to III year of the programme but considered as head of passing along with credit courses of the programme to eligibility to VII semester.

(UG.l) : Chairpersons of BOS to organize workshops in their respective field of specialization to debate and evolve, based on the outcome, the scheme of Teaching and Examination for all the semesters.

(UG.m): The academic section to issue templates for tentative UG scheme of teaching and examination.

B. PG Programs

Revise the scheme of Teaching and Examination, and syllabus for PG programs from the academic year 2018-19 in line with AICTE model curriculum and implement the scheme in compliance with the following.

(PG.a) : PG Programs Credits

Credits for the PG Programs starting from the academic year 2018 - 19	
Programs	Credits
M.Tech.	72
MBA	102
MCA	125
M.Arch.	100

(PG.b) : The ratio of evaluation of SEE and CIE be 60:40.

(PG.c) : Courses for M.Tech programs shall be

- 05theory, 01 laboratory and Technical seminar for I semester.
- 05theory, 01 laboratory and mini- project/internship for II semester.
- 02theory and mini- project/internship for III semester.
- Dissertation and Technical seminar for IV semester.



Agenda -1
Resolution
(continued)

(PG.d) : The academic section to issue templates for tentative PG scheme of teaching and examination.

C. Calendar of events for different activities of UG and PG Programs.

Calendar of events	
Particulars	Last Date/Duration
Submission of tentative Scheme of Teaching and Examination, and Syllabus of I and II semesters of UG and PG Programs.	19 th April 2018
Publication of tentative Scheme of Teaching and Examination, and Syllabus of I and II semesters of UG and PG Programs on University website for Feedback	21 th April 2018 to 30 th April 2018
Mandatory workshop to be conduct on Scheme(2018-19) by each BOS	Between 1 st May 2018 and 20 th May 2018
Submission of final Scheme of Teaching and Examination, and Syllabus of I and II semesters of UG and PG Programs University(by E-Mail)	23 rd May 2018
Publication of final Scheme of Teaching and Examination, and Syllabus of I and II semesters of UG and PG Programs on University website.	25 th May 2018
Presentation of final Scheme of Teaching and Examination, and Syllabus of I and II semesters of UG and PG Programs before AS and EC for approval.	Last week of May 2018 or First week of June 2018

Agenda -2 : **Guidelines for framing the regulations for 2018-19 schemes.**

Resolution

- Frame the VTU Regulations 2018-19 of different programs by incorporating appropriate changes in the existing Regulations 2017-18.
- The framing of VTU Regulations 2018-19 to be completed by Prof.V.Keshava Murthy, Dr. R. Parahakara and Sri. Vaman Gudi, all Special Invitees to JBOS.

Agenda -3 : **Introduction of Bachelor's of Vocation as per AICTE Syllabus and Guidelines.**

Resolution : a. A committee under the chairmanship of Dean, Faculty of Engineering to submit a report detailing the procedure for the institution of Bachelors of Vocation at VTU and other affiliated institutions.



Agenda -3 Resolution (continued)	b. Amend a clause to VTU statutes in respect of institution of Bachelors of Vocation programme. c. Seek concurrence from Government of Karnataka with respect to institution of Bachelors of Vocation programme, fees structure etc.
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Table Agenda

With the permission of the chair, the following issues were taken up for discussion

Table Agenda-1	: Implementation of Scientific Perspective and History on Modern Science Course in UG Level (as per the Government order ED 113 UNI 2017, dated 05.03.2018).
Resolution	: Dr. H.S. Dayananda , Chairman , BOS Humanities of VTU, Belagavi to submit a report about the feasibility of introducing the above said course at the earliest.
Table Agenda-2	: Consideration of M.Sc and B.Sc graduates for the admission of Post Graduate Diploma in Industrial Management-PGDISM offered at IISM College (University has a MoU with this college for the award of degree).
Resolution	: Recommended to permit the M.Sc and B.Sc Graduates for the admission to Post Graduate Diploma in Industrial safety Management-PGDISM offered at IISM College (University has a MoU as an extension center with this college for the award of Postgraduate Diploma).
Table Agenda-3	: The Eligibility Criteria for the admissions to MBA, MCA, and M.Tech and also the Criteria for the candidates who have passed through Open University/ Correspondence Course.
Resolution	: Respective BOS chairpersons to submit the eligibility criteria for admission to the concerned Programme as per UGC/AICTE norms by 05 th April to Registrar, VTU for on word submission to Karnataka Examination Authority, Bengaluru.

The Meeting concluded with thanks by the chair.


Registrar


Vice-Chancellor




15/7/2022

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2.2 Matters Concerning Board of Studies

Item No. 2.2.5 of the Agenda of the
140th meeting of the Executive Council
to be held on 13th July 2018

Consideration of the Proceedings of the Joint Board of Studies Meeting held on 11-6-2018 at VTU's Regional Office, Bengaluru

The Joint Board of Studies Meeting was held on 11-6-2018 at VTU's Regional Office, Bengaluru. The Proceedings of the Joint Board of Studies Meeting are placed before the Executive Council for consideration and approval.

The subject is being placed before the Academic Senate and the recommendations of the Academic Senate will be placed on the table.

Resolution No. 2.2.5

The Executive Council resolved to accept the recommendations of the Academic Senate which recommended to approve the Proceedings of the Joint Board of Studies Meeting held on 11-6-2018 at VTU's Regional Office, Bengaluru, as placed in the meeting.

Minutes of the 140th Executive Council Meeting held on 30-6-2018 and adjourned meeting held on 13-7-2018.....



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Principals
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[Signature]

Proceedings of the meeting of Joint Board of Studies
held on 11th June 2018 at VTU, Regional Office, Bengaluru.

Members Present:

1. Dr. Karisidappa, Chairman JBOS and Vice chancellor, VTU, Belagavi.
2. Dr. H. N. Jagannatha Reddy, Registrar, VTU, Belagavi.
3. Dr. Satish Annigeri, Registrar (Evaluation), VTU, Belagavi.
4. Dr. H. C. Nagaraj, Dean Faculty of Engineering, VTU Belagavi, and Principal, Nitte Meenakshi Institute of Technology, Bengaluru.
5. Prof. V. Keshava Murthy, Academic Advisor, VTU Regional office, Bengaluru.
6. Dr. R. Prabhakara, Professor, Emeritus Structural Engineering Division, and Advisor Academic and Admin section, VTU, Belagavi.
7. Dr. A. T. Eswara, Chairman, BOS in Basic Sciences, VTU, Belagavi.
8. Dr. Omprakash S Bawane, Chairman, BOS in Architecture, VTU, Belagavi.
9. Dr. K. Ramachandra, Chairman, BOS in Aeronautical Engineering, VTU, Belagavi.
10. Dr. S. M. Gopinath, Chairman, BOS in Biotechnology, VTU, Belagavi.
11. Dr. Aswath M. U., Chairman, BOS in Civil Engineering, VTU, Belagavi.
12. Dr. Srinivas Rao Kunte, Chairman, BOS in E and C, VTU, Belagavi.
13. Dr. Shobha Savanur, Chairperson, BOS in E and E, VTU, Belagavi.
14. Dr. Mallikarjun. S. Holli, Chairman, BOS in Electronics and Instrumentation Engineering of VTU, Belagavi.
15. Dr. U. Bhojanna, Chairman, BOS in Business Administration, VTU, Belagavi.
16. Dr. R. P. Reddy, Chairman, BOS in Mech. Engineering, VTU, Belagavi.
17. Dr. M. C. Jagath, Chairman, BOS in IPE, VTU, Belagavi.
18. Dr. Murugesha Babu, Chairman, BOS in Silk and Textile Technology, VTU, Belagavi.
19. Dr. Nandakishore, Chairman, BOS in Automobile Engineering, VTU, Belagavi.
20. Dr. Dinesh Rangappa, Chairman, BOS in Nano Technology, VTU, Belagavi.
21. Dr. N. Chowdappa, Chairman, BOS in Library and Information Science, VTU, Belagavi.
22. Dr. H.S. Dayananda, Chairman, BOS Humanities, VTU, Belagavi.

Members Absent

1. Dr. D.S. Suresh, Academic Senate and Executive Committee member, Special Invitee, Principal, Channabasaveshwara Institute of Technology, Gubbi.
2. Dr. C.N. Chandrappa, Executive Council Member and Special Invitee, VTU, Belagavi.
3. Dr. Gururaj Rao P. Desai, Chairman, BOS in Chemical Engineering and Polymer Science, VTU, Belagavi.

Agenda:

1. Finalization of the Scheme for B.E/B.Tech Programme for 2018-19 scheme (as per AICTE Model Curriculum).
2. Finalization of the Scheme for M.Tech/MCA and MBA Programme for 2018-19 scheme (as per AICTE Model Curriculum).
3. To adopt teaching days as 180 in a Year as per UGC.



G. K. K. K.
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Table Agenda:

1. Equivalence Courses for Change of Scheme Students.
2. Mention of paper setting Board.
3. M.Sc Physics consideration for Eligibility in M.Tech (Renewable Energy).
4. Any other matter with the permission of the chair

Minutes of the Meeting:

Registrar, Dr. H.N. Jagannatha Reddy, welcomed the Honorable Vice-Chancellor Dr. Karisiddappa, Chairmen of Joint Board of Studies and all the members present. He requested Honorable Vice-Chancellor for further proceedings.

Honorable Vice-Chancellor, Dr. Karisiddappa once again welcomed all the members and briefed on the agenda. Honorable Vice-Chancellor requested members for discussions. After detailed deliberations the following resolutions were made.

Agenda -1	: Finalization of the Scheme for B.E/B.Tech Programme for 2018-19 scheme (as per AICTE Model Curriculum).
Resolution	: 1. Resolved to incorporate the following to the Scheme of Teaching and Examination of UG programme 2018-19. (a) In order to provide sufficient time for the learners in tutorial classes, it is decided to assign one credit to 2 hour tutorial/week/semester in lieu of earlier decision that one credit to 1 hour tutorial/week/semester. (b) To provide ample opportunity for teaching – learning exercise of two credit English course, the consensus of the Board was to have the course both in I and II semesters instead of limiting it only to II semester. (i) Further, designate the course as Language Laboratory I (English) for I semester and Language Laboratory II (English) for II semester. Each course to carry a credit of one. (ii) Consider the course under practical heading. (iii) Assessment of students in the course to be through CIE only. (c) (i) The III semester course Kannada to be taught as vyavaharika kannada (Communication Kannada) to non-kannada speaking students/ to students who have not studied kannada during schooling and Aadalithathmaka Kannada (Administrative Kannada) to students who can read and write kannada and have studied kannada during schooling. (ii) Consider the course under practical heading. (iii) Assessment of students to be through CIE only. (d) Title of the course Civil Engineering and Mechanics of I / II semester to be modified as Elements of Civil Engineering and Mechanics. (e) Title of the course Computer Programming Laboratory of I / II semester to be modified as C Programming Laboratory. (f) Assessment of students in the VII semester BE/B.Tech course project work Phase -1 to be through CIE only. (2) Four Professional Elective Courses to be assigned to BE/B.Tech programmes; One for VI semester, two for VII semester and one for VIII semester. 3.(i) Two Open Elective Courses to be assigned to BE/B.Tech programmes;



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	<p>One each during VI and VII semesters.</p> <p>(ii) Constitute a Committee with Dean, Engineering as Chairman, Chairpersons of Board of Studies and Advisors of VTU as members for finalization of BE/B.Tech Open Electives.</p> <p>4. Board authorized the Vice-Chancellor to finalize the BE/B.Tech Regulations 2018 – 19 and Scheme of Teaching and Examination.</p> <p>5. Board of Studies to submit the Scheme of Teaching and Examination and syllabus pertaining to III to VIII semesters of BE/B.Tech/ B.Arch programmes on or before 30th June 2018.</p>																				
Agenda -2	Finalization of the Scheme for M.Tech, MCA, MBA and M.Arch Programme for 2018-19 scheme (as per AICTE Model Curriculum).																				
Resolution	<p>(1) Revise the credits of postgraduate programmes to be on par with the credits prescribed for autonomous colleges under VTU from the academic year 2018 -19. The table 1 shows the previous and the revised credits prescribed for the postgraduate programmes.</p> <table border="1"> <caption>Table - I Credits prescribed for different Postgraduate programmes</caption> <tr> <th rowspan="2">Postgraduate programmes</th><th colspan="2">Credits as per the decision of</th></tr> <tr> <th>JBOS held on 27-03-2018</th><th>JBOS held on 11-06-2018</th></tr> <tr> <td>M. Tech.</td><td>72</td><td>88</td></tr> <tr> <td>M. Arch.</td><td>100</td><td>100</td></tr> <tr> <td>M.B.A.</td><td>102</td><td>100</td></tr> <tr> <td>M.C.A.</td><td>125</td><td>132</td></tr> <tr> <td>MCA (Lateral Entry)</td><td>--</td><td>88</td></tr> </table> <p>(2) Marks for evaluation of each course to be 100; SEE and CIE to be in the ratio 60:40.</p> <p>(3) Evaluation of Technical seminar and Project work phase 1 to be through CIE only.</p> <p>(i) 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.</p> <p>(ii) The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session in the ratio 50:25:25.</p> <p>(4) Recent two year MCA Programme sanctioned by AICTE, is to be reckoned as II and III years of the three year MCA programme for which BCA/B.Sc Graduates are only eligible under lateral entry scheme.</p>	Postgraduate programmes	Credits as per the decision of		JBOS held on 27-03-2018	JBOS held on 11-06-2018	M. Tech.	72	88	M. Arch.	100	100	M.B.A.	102	100	M.C.A.	125	132	MCA (Lateral Entry)	--	88
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Agenda -3	To adopt teaching days as 180 in a Year as per UGC.																				
Resolution	Resolved to adopt 180 or more teaching days in an academic Calendar as per UGC norms and to have at least 90 teaching days per semester.																				



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Table Agenda	
Table Agenda-1	: Equivalence courses for students who change the Scheme.
Resolution	: Students who change the scheme of study because of various reasons have to get admitted to the prevailing scheme and follow the norms pertaining to it. Such students may have to complete additional subjects, if any, when the equivalence between the two schemes is decided by the concerned Board of Studies along with the number of credits to be earned after completing all the remaining semesters as a regular student in the prevailing scheme.
Table Agenda-2	: Mention of paper setting Board.
Resolution	: Specific paper setting Board of examiners (BOE) be mentioned against each science Course instead of the generic term Basic Sciences in the BE/B-Tech scheme of Teaching and Examination. Illustration: (i) Engineering Physics: Paper setting Board - BOE in Physics. (ii) Engineering Chemistry: Paper setting Board - BOE in Chemistry. (iii) Mathematics papers: Paper setting Board - BOE in Mathematics.
Table Agenda-3	: Approval of M.Sc Physics degree for Eligibility to M.Tech (Renewable Energy).
Resolution	: After the deliberations, M.Sc Physics degree, as per MNRE, Government of India, is approved to be eligible to M.Tech (Renewable Energy) programme.
Issues with the permission of the chair	
Issue-I	: Change of nomenclature of programme (course, according to AICTE Approval Process Handbook 2018-19) Instrumentation Technology (IT) to Electronics and Instrumentation Engineering (EI)
Resolution	: Address a letter to KEA - CET cell to change the branch name of Instrumentation Technology (page 14)/ Instrumentation Technology (IT) (page 21) to Electronics and Instrumentation Engineering (EI) in the PGCET - 2018 - Information Bulletin.

The Meeting concluded with thanks by the chair.

Registrar



Vice-Chancellor:



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