Minutes of the Fifth Academic Council Meeting held on 07/01/2021 at 04:00 P.M. through online mode.

Fifth Meeting of the Academic Council was held on **07/01/2021 at 04:00 P.M**. through online mode

Meeting Link : **Join Zoom**
Meeting https://zoom.us/j/6291141398?pwd=Ui9hSDVPZWpNQzl2SmJ6QmkrVmVTZz09

Meeting ID: 629 114 1398

Passcode: 5jWfNP

Members Present:

1. Dr.Guduru VNSR Ratnakara Rao   Principal & Chairman
2. Prof. R. Srinivasa Rao, DAP, JNTUK   Member
3. Prof I Sumalatha, DE,JNTUK   Member
4. Prof V.V. Subba Rao, Principal, UCE, JNTUK Narasaraopeta   Member
5. Prof.P.Siva Pullaiah, Pro-Vice Chancellor, GITAM   Member
6. Prof.S.R.K.Reddy, Gudlavelleru Engg.College   Member
7. Sri B.V.Raghavaiah, Director (Retd.), CPRI, Bhopal   Member
8. Dr. N.S.C. Babu, Executive Director, SETS   Member
9. Dr.D.Sudha Rani, HOD, EEE   Member
10. Dr.M.V.Ramesh, HOD, ME   Member
11. Dr.E.Kusuma Kumari, HOD, ECE   Member
12. Dr.D.Jaya Kumari, HOD, CSE   Member
13. Dr.G.V.Subba Raju, HOD, MBA   Member
14. Sri.N.Rajasekhar, HOD, BS&H   Member
15. Dr. T. Sujani, Head Training   Member
16. Sri P.Sita Rama Raju, Section Head, Physics   Member
17. Sri A Vamsi Subbarayan Section Head, Chemistry   Member
18. Sri.K.N.H.Srinivas, Assoc.Prof., ECE   Member
19. Dr. G.Radha Krishnan, HOD I/c, CE   Member
20. Dr.J.Srihari Rao, Former Director   Member
21. Sri P N V GopalaKrishna, Head Placements   Invited Member
22. Sri Ch V S R Gopala Krishna , DCE   Invited Member
23. Sri Ch Apparao, Director Technical   Invited Member
24. Dr.Ch.Rambabu, Dean (SA)   Member Secretary

Members Absent

1. Prof.B.V.S.S.S. Prasad, IIT Madras   Member
2. Sri Lokam Prasad, CEO,Miracle Software Systems   Member

Minutes of Fifth Meeting of Academic Council Meeting

Item No.1: Welcoming the members.

Item No.2: The approve the minutes of the previous meeting.

The Council approved minutes. Details are given in **Annexure-I, Page No: 05**

Item No.3: Approval of the minutes of the meeting of joint BOS held on 26/12/2020.

    a. To approve V20 regulation for the award of B.Tech degree.
      The approved V20 regulations are given in **Annexure-II(a)**). **Page No: 06**

    b. To approve course structure of I Year for different branches of B.Tech
      Programme.
      The approved Course Structure of I Year for different branches of B.Tech
      Programme are given in **Annexure-II(b)**). **Page No: 37**

Item No.4: To approve the minutes of the meeting of BOS of various departments.

    a. Minutes of 4th BOS meeting of Electrical & Electronics Engineering.(Details are given in **Annexure-III**) **Page No: 42**

    b. Minutes of 4th BOS meeting of Mechanical Engineering.(Details are given in **Annexure-IV**) **Page No: 56**

    c. Minutes of 4th BOS meeting of Electronics & Communication Engineering. (Details are given in **Annexure-V**) **Page No: 66**

    d. Minutes of 4th BOS meeting Computer Science and Engineering. (Details are given in **Annexure-VI**) **Page No: 71**

    e. Minutes of 4th BOS meeting of Mathematics.

(Details are given in **Annexure-VII**) **Page No: 84**

f. Minutes of 4th BOS meeting of Physics.

(Details are given in **Annexure-VIII**) **Page No: 90**

g. Minutes of 4th BOS meeting of Chemistry.

(Details are given in **Annexure-IX**) **Page No: 97**

h. Minutes of 4th BOS meeting of English.

(Details are given in **Annexure-X**) **Page No: 106**

The Council approved the minutes of the meeting of BOS of various departments.

Item No.5: To approve M.Tech & MBA students results (2018 Admitted Batch).

The Council reviewed the Results of M.Tech & MBA and suggested for Remedial Measures. The approved results are given in **Annexure-XI**) **Page No: 116**

Item No.6: Replacement and Extension of BOS members to another term

(Two Years). The approved list of BOS members are given in **Annexure-XII**)

Page No: 119

Item No.7: Any other item with the permission of the chair.

The Council reviewed and approved the Results of IV Semester (2018 admitted batch) and II Semester (2019 admitted batch).**Annexure-XIII**) **Page No: 122**

<div align="right">**Annexure-I**</div>

Minutes of the Fourth Academic Council Meeting held on 30/08/2020.

Item No.1: Welcome address by Principal & Introduction of members.

Principal **Prof. Guduru VNSR Ratnakara Rao** welcomed the members and chaired the meeting.

Item No.2: Review of institute progress for the Academic Year 2019-2020
The council reviewed the progress of the institute for the academic year 2019-2020 and appreciated.

Item No.3: Action taken report on the minutes of the previous meeting (held on 02.06.2019).

The council approved the action taken report presented.

Item No.4: Approval of the minutes of the meeting of BOS of Various departments.

The council approved the minutes of the meeting of BOS of Various Departments.

Item No.5: Amendments to **UG V18** Academic Regulations

The proposed amendments are approved by the council.

Item No.6: Approval of Honor's/ Minor degree in Data Science

The proposed Academic regulations for Honor's/ Minor degree in Data Science are approved by the council.

Item No.7: Amendments to **MBA V18** Academic Regulations

The proposed amendments are approved by the council.

Item No.8: Any other item with the permission of the Chair

1) Reviewed result analysis
2) Approved the academic calendars for 2020-21 academic year and modifications in Internal Evaluation for A.Y 2019-2020

The meeting concluded with vote of thanks by the Member Secretary.

Annexure-II(a)

ACADEMIC RULES & REGULATIONS (V20)

Applicable for the batch of students admitted from the Academic Year **2020-2021**

1.0   INTRODUCTION:

Under-Graduate Degree Programme in Engineering & Technology in Sri Vasavi Engineering College offers a 4-year (8 semesters) Bachelor of Technology (B.Tech.) degree programme, under V20 Regulations with effect from the academic year 2020-21. All the rules and regulations specified here after shall be read as a whole for the purpose of interpretation and when any doubt arises, the decision of the Chairman Academic Council of Sri Vasavi Engineering College is final. As per the norms, the Principal of the college (Autonomous) shall be the Chairman of Academic Council.

The provisions of these regulations shall be applicable to any new discipline that may be introduced from time to time

2.0   DEFINITIONS:

"Commission" means University Grants Commission(UGC);

"Council" means All India Council for Technical Education(AICTE);

"University" means Jawaharlal Nehru Technological University Kakinada(JNTUK);

"College" means Sri Vasavi Engineering College, Tadepalligudem;

An **Academic Programme** means any combination of courses and/or requirements leading to award of a degree.

"Course" means a subject either theory or practical identified by its course title and code number and which is normally studied in a semester.

"Degree" means an academic degree conferred by the university upon those who complete the undergraduate curriculum.

 "MOOC" means Massive Open Online Course

"Regular Students" means students enrolled into the four year programme in the first year.

"Lateral Entry Students" means students enrolled into the four year programme in the second year.

3.0 ADMISSION CRITERIA:

The eligibility criteria for admission into UG Engineering programmes are as per the norms approved by Government of Andhra Pradesh from time to time.

The sanctioned seats in each programme in the college are classified into CATEGORY-A, and CATEGORY-B at I year level and only CATEGORY-A at Lateral Entry II year level.

The percentages of Category–A, Category-B and Lateral Entry Seats are decided from time to time by the Government of Andhra Pradesh.

3.1 Category – A Seats

Category - A seats are filled as per the norms approved by the Government of Andhra Pradesh.

3.2 Category – B Seats

Category - B seats are filled by the College as per the norms approved by the Government of Andhra Pradesh.

3.3 Lateral Entry Seats

Lateral entry candidates shall be admitted into the III semester directly as per the norms approved by Government of Andhra Pradesh.

3.4 Admissions Under Special Cases:

These may arise in the following situations.

1. When a student gets detained due to academic regulations and re-joins the college to complete the programme. However, the academic regulations under which he/she was first admitted shall continue to be applicable to him/her.

2. When a student gets detained in B.Tech 1st semester due to academic regulations and re-joins the college to complete the programme. However, the academic regulations under which he/she re-admitted shall continue to be applicable to him/her.

3. When a student discontinues for some time and re-joins the college to complete the programme. However, the academic regulations under which he/she was first admitted shall continue to be applicable to him/her.

4. When a student seeks transfer from other colleges to SVEC and intends to pursue B.Tech programme in the eligible branch of study.

These admissions may be permitted by the College Academic Council as per the norms stipulated by the statutory bodies and the Government of Andhra Pradesh from time-to-time.

4.0 B.TECH. PROGRAMME STRUCTURE:

4.1 Programs of Study in B.Tech:

The four year B.Tech programme is offered in the following branches of study at present:

S.No	Title of the UG Programme	Programme Code
1.	Civil Engineering	CE
2.	Electrical and Electronics Engineering	EEE
3.	Mechanical Engineering	ME
4.	Electronics and Communication Engineering	ECE
5.	Computer Science & Engineering	CSE
6.	Computer Science & Technology	CST
7.	Electronics and Communication Technology	ECT

And any other course as approved by the authorities from time to time.

4.2 Medium of Instruction

The medium of instructions for the entire under graduate programme in Engineering & Technology will be English only.

4.3 UGC/ AICTE specified definitions:

The following descriptions are adopted appropriately for various terms and abbreviations used in these academic regulations/ norms.

4.3.1 Each under graduate programme is of 4 academic years (8 semesters) with the academic year divided into two semesters of 22 weeks ($\geq$ 90

instructional days) each, each semester having - 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)' under V20 Regulations.

4.3.2 All courses are to be registered by the student in a semester to earn credits which shall be assigned to each course in an L: T: P: C (lecture periods: tutorial periods: practical periods: credits) structure based on the following general pattern.

> 1 Hr. Lecture (L) per week - 1 credit
>
> 1 Hr. Tutorial (T) per week - 1 credit
>
> 1 Hr. Practical (P) per week - 0.5 credits

Other than credit courses there will be Mandatory Non-credit Courses. These courses will not carry any credits.

4.4 Course Classification

Every course of B. Tech. Program shall be placed in one of the nine categories as listed in table below:

S.No.	Category	Code	Suggested breakup of Credits (APSCHE)	Suggested breakup of Credits (AICTE)
1.	Humanities and social science including Management courses	HSMC	10.5	12
2.	Basic Science courses	BSC	21	25
3.	Engineering Science Courses	ESC	24	24
4.	Professional core Courses	PCC	51	48
5.	Open Elective Courses	OEC	12	18
6.	Professional Elective Courses	PEC	15	18

7.	Internship, Seminar, Project work	Proj	16.5	15
8.	Mandatory courses	MNC	Non-Credit	Non-Credit
9.	Skill Oriented Courses	SC	10	-
Total Credits			**160**	**160**

4.5 Curriculum Structure

1. There shall be mandatory student induction program for freshers, with a three-week duration before the commencement of first semester. Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations etc., shall be included in the guidelines issued by AICTE

2. All undergraduate students shall register for NCC/NSS/Sports/Club activities. A student will be required to participate in an activity for two hours in a week during second and third semesters. Grade shall be awarded as Satisfactory or Unsatisfactory in the mark sheet on the basis of participation, attendance, performance and behavior. If a student gets an unsatisfactory Grade, he/she shall repeat the above activity in the subsequent years, in order to complete the degree requirements.

3. There shall be 05 Professional Elective courses and 04 Open Elective courses. All the Professional & Open Elective courses shall be offered for 03 credits, wherever lab component is involved it shall be (2-0-2-3) and without lab component it shall be (3-0-0-3). If a course comes with a lab component, that component has to be cleared separately.

4. All Open Electives are offered to students of all branches in general. However, a student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the Programme

5. A student shall be permitted to pursue up to a maximum of two elective courses under MOOCs during the Programme. Each of the courses must be of minimum 12 weeks in duration. Attendance will

not be monitored for MOOC courses. Student has to pursue and acquire a certificate for a MOOC course only from the organizations/agencies approved by the BOS in order to earn the 3 credits. The Head of the department shall notify the list of such courses at the beginning of the semester.

6. The college will invite registration forms from the students at the beginning of the semester for offering professional and open elective courses. There shall be a limit on the minimum and maximum number of registrations based on class/section strength. A course may be offered to the students, only if a minimum of 20 students (1/3 of the section strength) opt for it. The maximum strength of a section is limited to 80 (60 + 1/3 of the section strength).

7. Two summer internships each with a minimum of six weeks duration, done at the end of second and third years, respectively are mandatory. The internship can be done by the students at local industries, Govt. Organizations, construction agencies, Industries, Hydel and thermal power projects and also in software MNCs or at other agencies approved by BOS.

8. There shall also be mandatory full internship in the final semester of the Programme along with the project work.

9. There shall be 05 skill-oriented courses offered during III to VII semesters. Among the five skill courses, four courses shall focus on the basic and advanced skills related to the domain courses and the remaining one shall be a soft skills course.

10. A pool of interdisciplinary job-oriented skill courses shall be designed by a common Board of studies by the participating departments/disciplines and the syllabus along with the pre requisites shall be prepared for each of the laboratory infrastructure requirements. The list of such courses shall be included in the curriculum structure of each branch of Engineering, so as to enable the student to choose from the list.

11. The student shall be given an option to choose either the skill courses being offered by the college or to choose a certificate course being offered by industries/Professional bodies/APSSDC or any other accredited bodies as approved by the concerned BOS.

12. The Board of studies of the concerned discipline of Engineering shall review the skill advanced courses being offered by eligible external agencies and prepare a fresh list every year incorporating latest courses based on industrial demand.

13. Under graduate Degree with Honors/Minor shall be issued by the institute to the students who fulfill all the academic eligibility requirements for the B. Tech program and Honors/Minor program. The objective is to provide additional learning opportunities to academically motivated students.

5.0 ATTENDANCE REQUIREMENTS:

i. A student shall be eligible to appear for end semester examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the courses in a semester.

ii. Shortage of attendance in aggregate up to 10% (65% and above, and below 75%) in each semester may be condoned by the college academic committee on genuine and valid grounds, based on the student's representation with supporting evidence.

iii. A stipulated fee shall be payable towards condonation of shortage of attendance to the college. (a) A student is eligible to write the end examinations if he acquires a minimum of 50% in each course and 75% of attendance in aggregate of all the courses. (b) Shortage of Attendance below 65% in aggregate shall in NO case be condoned.

iv. Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examinations of that semester. They get detained and their registration for that semester shall stand cancelled. They will not be promoted to the next semester. They may seek re-registration for all those courses registered in that

semester in which the student is detained, by seeking re-admission into that semester as and when offered; if there are any professional electives and/ or open electives, the same may also be re-registered if offered. However, if those electives are not offered in later semesters, then alternate electives may be chosen from the same set of elective courses offered under that category.

v. A student fulfilling the attendance requirement in the present semester shall not be eligible for repetition of same semester.

6.0   ACADEMIC REQUIREMENTS

6.1 Minimum Academic requirement

A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each course, if student secures not less than 35% (24 marks out of 70 marks) in the semester end examination, and a minimum of 40% (40 marks out of 100 marks) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

6.2 Promotion Rules:

A. A student shall be promoted from II semester to III semester if he fulfills the minimum attendance requirements.

B. A student will be promoted from IV Semester to V Semester if he fulfills the academic requirement of 50% of credits up to either III Semester or IV Semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in IV semester.

C. A student shall be promoted from VI semester to VII semester if he fulfills the academic requirements of 50% of the credits up to either V semester or VI semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in VI semester.

6.2.1 For Lateral Entry Students:

A. A student shall be promoted from IV semester to V semester if he fulfills the minimum attendance requirements.

B. A student shall be promoted from VI semester to VII semester if he fulfills the academic requirements of 50% of the credits up to either V semester or VI semester from all the examinations, whether or not the candidate takes the examinations and secures prescribed minimum attendance in VI semester.

6.3 Gap - Year:

Gap Year – concept of Student Entrepreneur in Residence shall be introduced and outstanding students who wish to pursue entrepreneurship are allowed to take a break of one year at any time after I year/II year/III year to pursue entrepreneurship full time. This period shall be counted for the maximum time for graduation. An evaluation committee at Institute level shall be constituted to evaluate the proposal submitted by the student and the committee shall decide on permitting the student for availing the Gap Year.

7 AWARD OF DEGREE

A student will be declared eligible for the award of B. Tech. degree if he/she fulfills the following:

a. Eight academic years in sequence from the year of admission for a normal student admitted into the first year of the Programme.

b. Six academic years in sequence from the year of admission for a lateral entry student admitted into the second year of the Programme.

c. After maximum stipulated academic years from the year of their admission, he/she shall forfeit their seat in B. Tech programme and their admission stands cancelled.

d. Registers for 160 credits and must secure all the 160 credits for a normal student admitted into the first year of the Programme.

e. Registers for 121 credits and must secure all the 121 credits for a lateral entry student admitted into the second year of the Programme.

f. Has no dues to the Institute, hostels, Libraries, NCC/NSS etc., and

g. No disciplinary action is pending against him/her.

A student shall be eligible for the award of B.Tech degree with Honors or Minor if he/she earns 20 credits in addition to the 160/121 credits. A student shall be permitted to register either for Honors or for Minor and not for both simultaneously.

8 EVALUATION - DISTRIBUTION AND WEIGHTAGE OF MARKS

The performance of a student in every course will be evaluated for 100 marks each, with 30 marks allotted for CIE (Continuous Internal Evaluation) and 70 marks for SEE (Semester End-Examination).

8.1 Evaluation of Theory Courses:

Continuous Internal Evaluation(CIE): For theory Courses, during a semester, there shall be two mid-term examinations. Each mid-term examination consists of one objective paper, one descriptive paper and one assignment. The objective paper shall be for 10 marks and the descriptive paper shall be for 15 marks with duration of 20 minutes for objective and 90 minutes for descriptive paper.

The objective paper is set with 20 multiple choice, fill-in the blanks and matching type of questions for a total of 10 marks. The descriptive paper shall contain 3 full questions, the student has to answer all 3 questions, each carrying 5 marks.

While the first mid-term examination shall be conducted on 50% of the syllabus, the second mid-term examination shall be conducted on the remaining 50% of the syllabus.

Five marks are allocated for assignments (as specified by the course instructor concerned). The first assignment should be submitted before the conduct of the first mid-term examination, and the second assignment should be submitted before the conduct of the second mid-term examination.

The total marks secured by the student in each mid-term examination are evaluated for 30 marks, and the weighted average of the two mid-term examinations shall be taken as follows

CIE= (Best performance in MID exam x 0.8 + Next best Performance in MID exam x 0.2)

In case the student is unable to appear for any internal evaluation component owing to Pre-approved participation in University/State/National/International co-curricular and extra-curricular activities, or due to Death of immediate family member, the Dean Academics can permit to conduct of reexamination for such students.

Semester End-Examination(SEE):

The semester end examinations (SEE) will be conducted for 70 marks consisting of two parts viz. i) Part- A for 10 marks, ii) Part - B for 60 marks.

Part-A is a compulsory question. It comprises six sub-questions for 10 marks. The four sub-questions of 2 marks each will be given from any of the 4 units and the remaining 2 questions will be of 1 mark each from the other 2 units from which the 2 marks questions are not given.

Part-B consists of six questions (numbered from 2 to 7) carrying 10 marks each. Each of these questions is from one unit and may contain sub-questions. For each question there will be an "either" "or" choice, which means that there will be two questions from each unit and the student should answer either of the two questions.

8.2 Evaluation of Laboratory Courses

For Laboratory courses, there shall be continuous evaluation during the semester for 30 marks and semester end evaluation for 70 marks.

Continuous Internal Evaluation(CIE):

The distribution of marks for continuous internal evaluation is given in the following Table:

Distribution of Marks (CIE)

S. No.	Criterion	Marks
1	Day to Day Evaluation	10
2	Record	10
3	Internal Examination	10

Semester End-Examination(SEE):

The Semester end examination for laboratory courses shall be conducted with three hour duration at the end of semester for 70 marks. The semester end examination shall be conducted with an external examiner and the laboratory Course Instructor. The distribution of marks is shown in the below table.

Distribution of Marks (SEE)

S. No.	Criterion	Marks
1	Procedure	15
2	Experiment/Programme Execution	25
3	Result	20
4	Viva-Voce	10

The distribution of marks maybe changed by the examiner in consultation with concerned HOD.

8.3 Design/Drawing Based Courses

Evaluation and examination pattern for other courses related to design/drawing is mentioned along with the syllabus.

8.4 Evaluation of Mandatory Noncredit Courses:

There shall be mandatory courses with zero credits. There shall be no external examination. However, attendance in these courses shall be considered while calculating aggregate attendance and student shall be declared to have passed the mandatory course

only when he/she secures 40% or more in the mid semester examinations.

In case, the student fails, a re-examination shall be conducted for failed candidates every six months/semester at a mutually convenient date of college/student.

8.5 Evaluation of MOOCS Courses:

A student shall be permitted to pursue up to a maximum of two elective courses under MOOCs during the Programme. Each of the courses must be of minimum 12 weeks in duration. Attendance will not be monitored for MOOC courses. Student has to pursue and acquire a certificate for a MOOC course only from the organizations/agencies approved by the BoS in order to earn the 3 credits. The Head of the department shall notify the list of such courses at the beginning of the semester.

Students who have qualified in the examination conducted by the MOOCs providers are exempted from appearing in the continuous and semester end evaluations conducted by the institution.

In case, a student fails to complete the MOOCs course offered by MOOC's providers, he/she may be allowed to register again for the same with any of the providers from the list provided by the department or the student may be allowed to register for the course as and when offered by the college as supplementary candidate.

The Scheme of Evaluation for MOOCs courses shall be scaled to continuous internal evaluation as 30 marks and semester end examination as 70 marks.

8.6 Evaluation of the summer internships:

A student will be required to submit a summer internship report to the concerned department and appear for an oral presentation

before the departmental committee. The report and the oral presentation shall carry 40% and 60% weightages respectively.

The student shall submit a diary and a technical report for evaluation before the due date notified by the COE then schedule shall be given for oral presentation. Summer internship done at the end of second year shall be evaluated in V semester for 100 marks and summer internship done at the end of third year shall be evaluated in VII semester for 100 marks.

These evaluations shall be done by a committee consisting of Head of the department/Faculty Coordinator along with two senior faculty members of the Department. A student shall acquire credits assigned, when he/she secures 40% or more marks.

In case, if a student fails, he/she shall reappear as and when the V/VII semester supplementary examinations are conducted. There shall be no external evaluation.

8.7 Evaluation of the internship/Project/Seminar:

In the final semester, the student should mandatorily undergo internship and parallelly he/she should work on a project with well-defined objectives. At the end of the semester the candidate shall submit an internship completion certificate and a project report. A student shall also be permitted to submit project report on the work carried out during the internship. The project report shall be evaluated in three phases as follows

Students should submit the intern reports along with the log book signed by the industry representative at the end of 3rd month and 5th month. Students shall submit the final project report after completion of 6 months Along with the internship completion certificate.

Distribution of Marks

Time frame	Student Activity	Evaluation	Max.Marks
At the end of 3rd month	Submit log book and report signed by the industry representative	By the committee consists of supervisor along with two senior faculty nominated by HOD in coordination with industry representative	50 marks
At the end of 5rd month			50 marks
After completion of 6 months	Submit log book, final project report and internship completion certificate	By the committee consists of HOD, supervisor, one senior faculty and external examiner.	100 marks
Total			200 marks

The College shall facilitate and monitor the student internship programs. Completion of internships is mandatory, if any student fails to complete internship, he/she will not be eligible for the award of degree. In such cases, the student shall repeat and complete the internship.

8.8 Evaluation of skill oriented courses

If a student chooses to take a Certificate Course offered by industries/Professional bodies/APSSDC or any other accredited bodies, in lieu of the skill advanced course offered by the Department, the credits shall be awarded to the student upon producing the Course Completion Certificate from the agency/professional bodies as approved by the Board of studies.

If a student prefers to take a certificate course offered by external agency, the department shall mark attendance of the student

for the remaining courses in that semester excluding the skill course in all the calculations of mandatory attendance requirements upon producing a valid certificate as approved by the concerned Board of Studies, the student is deemed to have fulfilled the attendance requirement of the course and acquire the credits assigned to the course.

A college level committee will evaluate the grades/marks given for a course by external agencies and convert to the equivalent marks/grades. The recommended conversions and appropriate grades/marks are to be approved by the Academic Council.

9 GRADING:

After each course is evaluated for 100 marks, the marks obtained in each course will be converted to a corresponding letter grade as given below, depending on the range in which the marks obtained by the student fall.

Marks Range	Level	Letter Grade	Grade Point
≥ 90	Outstanding	A^+	10
80-89	Excellent	A	9
70-79	Very Good	B	8
60-69	Good	C	7
50-59	Fair	D	6
40-49	Satisfactory	E	5
<40	Fail	F	0
-	Absent	Ab	0
-	Malpractice	MP	0
-	Withheld	WH	0

Calculation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

The Semester Grade Point Average (SGPA) is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

$$SGPA = \Sigma (C_i \times G_i) / \Sigma C_i$$

where, C_i is the number of credits of the ith course and G_i is the grade point scored by the student in the ith course

ii.   The Cumulative Grade Point Average (CGPA) will be computed in the same manner taking into account all the courses undergone by a student over all the semesters of a program, i.e.

$$CGPA = \Sigma (C_i \times S_i) / \Sigma C_i$$

where 'S_i' is the SGPA of the ith semester and C_i is the total number of credits in that semester

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

iv.   While computing the SGPA/CGPA, the courses in which the student is awarded Zero grade points will also be included.

v.   Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.

vi.   Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by letters A+, A, B, C, D, E and F.

vii.   As per AICTE regulations, conversion of CGPA into equivalent percentage as follows:

Equivalent Percentage = (CGPA – 0.50) x 10

Award of Class:

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. Tech. degree, he/she shall be placed in one of the following:

Class Awarded	CGPA Secured
First Class with Distinction	≥ 7.50*
First Class	≥ 6.50 < 7.50
Second Class	≥ 5.50 < 6.50
Pass Class	≥ 4.00 < 5.50

*In addition to the required CGPA of 7.50, the student must have necessarily passed all the courses of every semesterin the minimum stipulated period for the programme.

10   REVALUATION

Semester End Examination

1. As per the notification issued by the Controller of Examinations, the students can submit the applications for revaluation, along with the requisite fee receipt for revaluation of his/her answer script(s) of theory course(s), if he/she is not satisfied with the marks obtained.

2. The Controller of Examinations shall arrange for re-evaluation of those answer script(s).

3. A new examiner, other than the first examiner, shall re-evaluate the answer script(s).

4. Better marks out of the two shall be taken into consideration.

5. If the difference of marks between the two valuations is more than 15%, the answer script will be referred to third valuation. The average of nearest two marks will be awarded.

11   IMPROVEMENT OF CLASS:

A candidate, after becoming eligible for the award of the degree, may reappear for the Final Examination in any two (maximum) of the theory courses as and when conducted, for the purpose of improving

the aggregate and the class. But this reappearance shall be within a period of one academic year after becoming eligible for the award of the Degree.

However, this facility shall not be availed of by a candidate who has taken the Provisional Certificate. Candidates shall not be permitted to reappear either for CIE in any course or for Semester End Examination (SEE) in laboratory courses (including project Viva-voce) for the purpose of improvement.

12 SUPPLEMENTARY EXAMINATION:

In addition to the Regular End Examinations held at the end of each semester, Supplementary End Examinations will be conducted. A Student can appear for any number of supplementary examinations till he clears all courses which he could not clear in the first attempt. However the maximum stipulated period shall not be relaxed under any circumstances.

13 ADVANCED SUPPLEMENTARY EXAMINATIONS:

Candidates who fail in courses of VII semester can appear for Advanced Supplementary Examination conducted after declaration of the revaluation of the said exam.

14 WITHHOLDING OF RESULTS

If the student has not paid the fees to the college at any stage, or has dues pending due to any reason whatsoever, or if any case of indiscipline is pending, the result of the student may be withheld, and the student will not be allowed to go into the next higher semester. The award or issue of the degree may also be withheld in such cases.

15 MALPRACTICES:

The Principal shall refer the cases of malpractices in Examination to an Enquiry Committee constituted by him. The committee will submit a report on the malpractice allegedly committed by the student to the Principal. The Principal along with the members of the

committee is authorized to award a suitable punishment, if the student is found guilty.

Disciplinary action for malpractices/improper conduct in examinations

	Nature of Malpractices/Improper conduct	**Punishment**
1 (a)	If the candidate possesses or keeps accessible, any paper, note book, programmable calculators, mobile phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in the examination hall but has not made use of (material shall include any marks on the student's body that can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(b)	If the candidate gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through mobile phones with any candidate or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2	If the candidate has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work. He shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The hall ticket of the candidate is to be cancelled.
3	If the candidate impersonates any other candidate in	The candidate who has impersonated shall be expelled from examination

	connection with the examination.	hall. The candidate is also debarred and forfeits the seat. The performance of the original candidate, who has been impersonated, shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4	If the candidate smuggles in an answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all other examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5	If the candidate uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.
6	If the candidate refuses to obey	In case of students of the Institute,

	the orders of the Chief Superintendent/Assistant - Superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which results in damage to or destruction of property in the examination hall or any part of the Institute campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7	If the candidate leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all other

		examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
8	If the candidate possesses any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.
9	If student of the Institute, who is not a candidate for the particular examination or any person not connected with the Institute indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the Institute: Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work. He shall not be permitted for the remaining examinations of the subjects of that semester/ year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the Institute: Will be handed over to police and a police case will be registered against them.
10	If the candidate comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work. He shall not be permitted for the remaining examinations of the subjects of that semester/year.
11	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/year

		examinations.
12	If any malpractice is detected which is not covered in the above clauses 1 to 11, shall be awarded suitable punishment.	

16 AMENDMENTS:

1. The Institute may change or amend the academic regulations, course structure or syllabi at any time, and the changes or amendments made shall be applicable to all students with effect from the dates notified by the College authorities.

2. The Principal shall deal with any academic problem, which is not covered under these rules and regulations, in consultation with the Heads of the Departments in an appropriate manner, and subsequently such actions shall be placed before the academic council for ratification. Any emergency modification of regulation, approved in the Heads of the Departments Meetings, shall be reported to the academic council for ratification.

17 GENERAL:

a) Where ever the words "he", "him", "his", occur in the regulations, they include "she", "her", "hers".

b) The Academic regulations should be read as a whole for the purpose of any interpretation.

c) In case of any doubt or ambiguity in the interpretation of the above rules the decision of the Chairman of the Academic Council is final.

d) The Academic Council reserves the right to revise, amend, change or nullify the Regulations, Schemes of Examinations and/or Syllabi or any other matter depending on the needs of the students, society and industry.

18   CURRICULAR FRAMEWORK FOR HONORS DEGREE PROGRAMME

i.   B.Tech. (Hons.) is introduced in order to facilitate the students to choose additionally the specialized courses and build their competence in a specialized area.

ii.   Students of a Department/Discipline are eligible to opt for Honors Programme offered by the same Department/Discipline.

iii.   A student shall be permitted to register for Honors program at the beginning of V semester subject to a maximum of two additional courses per semester, provided that the student must have acquired 8 CGPA upto the end of IV semester without any history of backlogs. An CGPA of 8 has to be maintained in the subsequent semesters without any backlog in order to keep the Honors registration active.

iv.   Students can select the additional and advanced courses from their respective branch in which they are pursuing the degree and get an honors degree in the same. e.g. If a Mechanical Engineering student completes the selected advanced courses from same branch under this scheme, he/she will be awarded B.Tech. (Honors) in Mechanical Engineering.

v.   In addition to fulfilling all the requisites of a Regular B.Tech Programme, a student shall earn 20 additional credits to be eligible for the award of B. Tech (Honors) degree. This is in addition to the credits essential for obtaining the Under Graduate Degree in Major Discipline (i.e. 160/121 credits).

vi.   Of the 20 additional Credits to be acquired, 16 credits shall be earned by undergoing specified courses listed as pools, with four courses, each carrying 4 credits. The remaining 4 credits must be acquired through two MOOCs, which shall be domain specific, each with 2 credits and with a minimum duration of 8/12 weeks as recommended by the Head of the department concerned.

vii.   It is the responsibility of the student to acquire/complete prerequisite before taking the respective course. The courses offered in each pool shall be domain specific courses and advanced courses.

viii. Minimum enrollment required for offering a honors degree is considered as 30% of the class size. If minimum enrolments criteria are not met then the students shall be permitted to register for the equivalent MOOC courses as approved by the concerned Head of the department in consultation with BOS.

ix. Each pool can have theory as well as laboratory courses. If a course comes with a lab component, that component has to be cleared separately. The concerned BoS shall explore the possibility of introducing virtual labs for such courses with lab component.

x. MOOC courses must be of minimum 8 weeks in duration. Attendance will not be monitored for MOOC courses. Students have to acquire a certificate from the agencies approved by the BOS with grading or marks or pass/fail in order to earn 4 credits. If the MOOC course is a pass/fail course without any grades, the grade to be assigned will be as decided by the academic council.

xi. The concerned BOS shall also consider courses listed under professional electives of the respective B. Tech programs for the requirements of B. Tech (Honors). However, a student shall be permitted to choose only those courses that he/she has not studied in any form during the Programme.

xii. If a student drops or is terminated from the Honors program, the additional credits so far earned cannot be converted into free or core electives; they will remain extra. These additional courses will find mention in the transcript (but not in the degree certificate). In such cases, the student may choose between the actual grade or a "pass (P)" grade and also choose to omit the mention of the course as for the following: All the courses done under the dropped Minors will be shown in the transcript. None of the courses done under the dropped Minor will be shown in the transcript.

xiii. In case a student fails to meet the CGPA requirement for Degree with Honors at any point after registration, he/she will be dropped from the list of students eligible for Degree with Honors and they will receive

regular B.Tech degree only. However, such students will receive a separate grade sheet mentioning the additional courses completed by them.

xiv. Switching from honors degree to minor degree is not permitted.

xv. Honors must be completed simultaneously with a major degree program. A student cannot earn Honors after he/she has already earned bachelor's degree.

19   CURRICULAR FRAMEWORK FOR MINOR DEGREE PROGRAMME:

i. a) Students who are desirous of pursuing their special interest areas other than the chosen discipline of Engineering may opt for additional courses in minor specialization groups offered by a department other than their parent department. For example, If Mechanical Engineering student selects courses from Civil Engineering under this scheme, he/she will get Major degree of Mechanical Engineering with minor degree of Civil Engineering

b) Student can also opt for Industry relevant tracks of any branch to obtain the Minor Degree, for example, a B.Tech Mechanical student can opt for the industry relevant tracks like Data Mining track, IOT track, Machine learning track etc.

ii. The BOS concerned shall identify as many tracks as possible in the areas of emerging technologies and industrial relevance / demand. For example, the minor tracks can be the fundamental courses in CSE, ECE, EEE,CE,ME etc or industry tracks such as Artificial Intelligence (AI), Machine Learning (ML), Data Science (DS), Robotics, Electric vehicles, Robotics, VLSI etc.

iii. The list of disciplines/branches eligible to opt for a particular industry relevant minor specialization shall be clearly mentioned by the respective BoS.

iv. There shall be no limit on the number of programs offered under Minor. The Institute can offer minor programs in emerging technologies based on expertise in the respective departments or can

explore the possibility of collaborating with the relevant industries/agencies in offering the program.

v. Minimum enrollment required for offering a honors degree is considered as 30% of the class size. If a minimum enrolments criterion is not met, then the students may be permitted to register for the equivalent MOOC courses as approved by the concerned Head of the department in consultation with BoS.

vi. A student shall be permitted to register for Minors program at the beginning of V semester subject to a maximum of two additional courses per semester, provided that the student must have acquired 8 CGPA upto the end of IV semester without any history of backlogs. An CGPA of 8 has to be maintained in the subsequent semesters without any backlog in order to keep the Minors registration active.

vii. A student shall earn additional 20 credits in the specified area to be eligible for the award of B. Tech degree with Minor. This is in addition to the credits essential for obtaining the Under Graduate Degree in Major Discipline (i.e. 160/121 credits).

viii. Out of the 20 Credits, 16 credits shall be earned by undergoing specified courses listed by the concerned BoS along with prerequisites. It is the responsibility of the student to acquire/complete prerequisite before taking the respective course. If a course comes with a lab component, that component has to be cleared separately. A student shall be permitted to choose only those courses that he/she has not studied in any form during the Programme.

ix. In addition to the 16 credits, students must pursue at least 2 courses through MOOCs. The courses must be of minimum 8 weeks in duration. Attendance will not be monitored for MOOC courses. Student has to acquire a certificate from the agencies approved by the BOS with grading or marks or pass/fail in order to earn 4 credits. If the MOOC course is a pass/fail course without any grades, the grade to be assigned as decided by academic council.

x. Student can opt for the Industry relevant minor specialization as approved by the concerned departmental BoS. Student can opt the courses from Skill Development Corporation (APSSDC) or can opt the courses from an external agency recommended and approved by concerned BOS and should produce course completion certificate. The Board of studies of the concerned discipline of Engineering shall review such courses being offered by eligible external agencies and prepare a fresh list every year incorporating latest skills based on industrial demand.

xi. A committee shall be formed at the level of College/department to evaluate the grades/marks given by external agencies to a student which are approved by concerned BoS. Upon completion of courses the departmental committee should convert the obtained grades/marks to the maximum marks assigned to that course. The controller of examinations can take a decision on such conversions and may give appropriate grades.

xii. If a student drops (or terminated) from the Minor program, they cannot convert the earned credits into free or core electives; they will remain extra. These additional courses will find mention in the transcript (but not in the degree certificate). In such cases, the student may choose between the actual grade or a "pass (P)" grade and also choose to omit the mention of the course as for the following: All the courses done under the dropped Minors will be shown in the transcript. None of the courses done under the dropped Minor will be shown in the transcript.

xiii. In case a student fails to meet the CGPA requirement for B.Tech degree with Minor at any point after registration, he/she will be dropped from the list of students eligible for degree with Minors and they will receive B. Tech degree only. However, such students will receive a separate grade sheet mentioning the additional courses completed by them.

xiv. Switching from minor degree to honor degree is not permitted.

xv. Minor must be completed simultaneously with a major degree program. A student cannot earn the Minor after he/she has already earned bachelor's degree.

PROPOSED COURSE STRUCTURE OF FIRST YEAR B.TECH
(Civil Engineering)
I SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20MEL01	Engineering Graphics	1	0	4	3
5	V20CST01	Programming in C for problem solving	3	0	0	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
7	V20PHL01	Engineering Physics Lab	0	0	3	1.5
8	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	-
Total			15	0	13	19.5

Total Contact Hours : 28   Total Credits : 19.5

II SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20MET01	Engineering Mechanics	3	0	0	3
4	V20EET02	Basic Electrical and Electronics Engineering	3	0	0	3
5	V20MEL02	Engineering Workshop	1	0	4	3
6	V20EEL02	Basic Electrical and Electronics Engineering Lab	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5
Total			13	0	13	19.5

Total Contact Hours : 26   Total Credits : 19.5

PROPOSED COURSE STRUCTURE OF FIRST YEAR B.TECH(EEE)

I-Semester

S.No.	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20MEL02	Engineering Workshop	1	0	4	3
5	V20CST01	Programming in C for problem solving	3	0	0	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5

Total Contact Hours : 26   Total Credits : 19.5

II-Semester

S.No.	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ECT01	Switching Theory and Logic Design	3	0	0	3
4	V20EET03	Electrical Circuit Analysis-I	3	0	0	3
5	V20MEL01	Engineering Graphics	1	0	4	3
6	V20EEL03	Electrical Engineering Workshop	0	0	3	1.5
7	V20CSL01	Engineering Physics Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours : 28   Total Credits : 19.5

PROPOSED COURSE STRUCTURE OF FIRST YEAR B.TECH
(Mechanical Engineering)
I SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20MEL01	Engineering Graphics	1	0	4	3
5	V20CST01	Programming in C for problem solving	3	0	0	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
`7	V20PHL01	Engineering Physics Lab	0	0	3	1.5
8	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours: 28   Total Credits: 19.5

II SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20MET01	Engineering Mechanics	3	0	0	3
4	V20EET02	Basic Electrical and Electronics Engineering	3	0	0	3
5	V20MEL02	Engineering Workshop	1	0	4	3
6	V20EEL02	Basic Electrical and Electronics Engineering Lab	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5

Total Contact Hours: 26   Total Credits: 19.5

PROPOSED COURSE STRUCTURE OF FIRST YEAR B.TECH(ECE & ECT)

I Semester

Sl.No.	Course Code	Course Title	Hours per week			Credits
			L	**T**	**P**	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20EET01	Basic Electrical Engineering	3	0	0	3
5	V20MEL01	Engineering Graphics	1	0	4	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
7	V20PHL01	Engineering Physics Lab	0	0	3	1.5
8	V20EEL01	Basic Electrical Engineering Lab	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours: 28   Total Credits: 19.5

II Semester

Sl.No.	Course Code	Course Title	Hours per week			Credits
			L	**T**	**P**	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20CST01	Programming in C for problem solving	3	0	0	3
4	V20MEL02	Engineering Workshop	1	0	4	3
5	V20ECT01	Switching Theory and Logic Design	3	0	0	3
6	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5

Total Contact Hours: 26   Total Credits: 19.5

PROPOSED COURSE STRUCTURE OF FIRST YEAR B.TECH(CSE & CST)

I SEMESTER

S.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	-	-	3
2	V20CHT01	Engineering Chemistry	3	-	-	3
3	V20ENT01	English for Professional Enhancement	3	-	-	3
4	V20MEL02	Engineering Workshop	**1**	-	4	**3**
5	V20CST01	Programming in 'C' for problem Solving	3	-	-	3
6	V20ENL01	Hone Your Communications Skills Lab-I	-	-	3	1.5
7	V20CHL01	Engineering Chemistry Lab	-	-	3	1.5
8	V20CSL01	Programming Lab in 'C' for problem Solving	-	-	3	1.5

Total Contact Hours: 26   Total Credits: 19.5

II SEMESTER

S.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	-	-	3
2	V20PHT01	Engineering Physics	3	-	-	3
3	V20ECT01	Switching Theory and Logic Design	3	-	-	3
4	V20CST02	Python Programming	3	-	-	3
5	V20MEL01	Engineering Graphics	**1**	-	4	**3**
6	V20PHL01	Engineering Physics Lab	-	-	3	1.5
7	V20CSL02	Python Programming Lab	-	-	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	-	-	3	1.5
9	V20CHT02	Environmental Studies	2	-	-	0

Total Contact Hours: 28   Total Credits: 19.5

Annexure-III

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade & NBA,)
Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**
Department of Electrical & Electronics Engineering

Date: 02-01-2021

The fourth meeting of Board of Studies in Department of Electrical and Electronics Engineering was held at 11.30 AM on 30-12-2020 though online mode using Zoom tool (Meeting ID: 84243075482).

The following members have attended the meeting.

S.No.	Name	Designation	Role
1.	Dr. Sudha Rani Donepudi	Associate Professor, Head, Dept. of EEE, SVEC, Pedatadepalli.	Chairperson
2.	Dr. R. SrinivasaRao	Professor, Dept. of EEE, UCEK, JNTUK, Kakinada	Subject Expert Nominated By V.C.
3.	Dr. M. Sydulu	Professor, Dept. of EE, NITW, Warangal	Subject Expert Nominated By A.C.
4.	Dr. Y.P. Obulesu	Professor, School of EE, VIT, Vellore	Subject Expert Nominated By A.C.
5.	Er. B.N.V.R.C. Suresh Kumar	Retired AGM, PGCI, Hyderabad	Industry Expert Nominated By A.C
6.	Er. Ch. Vinay Kumar	Assistant Engineer, EHT Lines, APTRANSCO, Eluru.	Alumni

7.	Dr. Ch. Rambabu	Professor	Member
8.	Mr. U. Chandra Rao	Sr. Asst. Professor	Member
9.	Mr. Ch. V.S.R. Gopala Krishna	Sr. Asst. Professor	Member
10.	Mr. N. Sri Harish	Asst. Professor	Member
11.	Mr. K. Ramesh Babu	Asst. Professor	Member
12.	Mr. P.S.V.N. Sudhakar	Asst. Professor	Member
13.	Mr. K. Suresh	Asst. Professor	Member
14.	Mr. V. Rama Narayana	Asst. Professor	Member
15.	Mr. G. Chandra Babu	Asst. Professor	Member
16.	Mr. G. Madhu Sagar Babu	Asst. Professor	Member
17.	Mr. P.K.S. Sarvesh	Asst. Professor	Member
18.	Mr. K. Venkata Reddy	Asst. Professor	Member
19.	Mr. G. Saveen	Asst. Professor	Member
20.	Mr. N. Madhusudhan Reddy	Asst. Professor	Member
21.	Mr. K. Amarendra	Asst. Professor	Member
22.	Mr. V.S. Aditya	Asst. Professor	Member
23.	Mr. S. Krishna	Asst. Professor	Member
24.	Mr. A.V.V.N. Phanindra	Asst. Professor	Member
25.	Mr. Pradeep V	Asst. Professor	Member
26.	Mr. P. Datta Sai	Asst. Professor	Member
27.	Mr. Ch. Srinivas	Asst. Professor	Member
28.	Ms. I. Meghana Krishna Durga	Asst. Professor	Member

The following are the minutes of the meeting

Item No. 1: Welcome note by the Chairperson BOS

The HOD extended a formal welcome and introduced the members.

Item No. 2: Review of course structure for I & II semesters of B. Tech under V20 Regulation.

Reviewed the course structure of I & II semesters for UG (B.Tech-EEE) Programme of V20 Regulation.

The details of the course structure for I & II semesters of UG (B.Tech- EEE) Programme under V20 Regulation are given in Annexure-III(a)

Item No. 3: Approval of syllabi for the courses offered by the department in I & II semesters of B. Tech under V20 Regulation.

Approved the syllabi for the courses offered by department in I & II B. Tech under V20 Regulation.

The syllabi for the courses offered by department in I & II B. Tech Programme of under V20 Regulation is attached in Annexure-III(b).

Dr. Sudha Rani Donepudi **(BOS Chairperson)**

Department Vision:
- To evolve as a centre of excellence in Electrical and Electronics Engineering that produces graduates of high quality with ethical values.

Department Mission:
- To impart technical knowledge through learner-centric education supplemented with practical exposure.
- To provide opportunities that promote personality development through co-curricular and extra-curricular activities.
- To inculcate human values & team spirit that enables the Electrical and Electronics Engineers to face the future challenges.

Approved Course Structure for B.Tech-EEE Programme under V20 Regulation

I-Semester

S.No.	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20MEL02	Engineering Workshop	1	0	4	3
5	V20CST01	Programming in C for problem solving	3	0	0	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5

Total Contact Hours : 26   Total Credits : 19.5

II-Semester

S.No.	Course Code	Course Title	Hours per Week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ECT01	Switching Theory and Logic Design	3	0	0	3
4	V20EET03	Electrical Circuit Analysis-I	3	0	0	3
5	V20MEL01	Engineering Graphics	1	0	4	3
6	V20EEL03	Electrical Engineering Workshop	0	0	3	1.5
7	V20CSL01	Engineering Physics Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours : 28   Total Credits : 19.5

Syllabi for the courses offered by EEE Dept. in I & II semesters of B. Tech under V20 Regulation.

Semester	I SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	**V20EET01**
Name of the Course	**Basic Electrical Engineering**					
Branches	**Common to ECE & ECT**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C204.1	Understand and compute electrical quantities in DC excited circuits	K3
C204.2	Understand and compute electrical quantities in AC excited circuits	K3
C204.3	Study the working principles of DC machines	K2
C204.4	Study the working principles of transformers	K2
C204.5	Understand construction details and explain the working principles of AC machines	K2
C204.6	Understand the operation of electrical systems	K2

Unit 1 : DC Circuits

Electrical circuit elements (R, L and C), Kirchhoff's Laws, Mesh analysis of simple circuits with dc excitation. Superposition, Thevenin's, and Maximum Power Transfer Theorems, Simple problems.

Unit 2: AC Circuits

Basic Definitions, Peak and RMS values, Types of Powers, Power Factor. Analysis of Single-Phase AC series circuits consisting of RL, RC, RLC combinations, Simple problems.

Unit 3: DC Machines

Construction and operation of DC generator-EMF equation - Types of DC motors: shunt and series motors – applications – Speed control of DC shunt motor: field and armature controls, Simple Problems.

Unit 4: Transformers

Classification, Operation of ideal and practical transformers, EMF equation, losses in transformer, efficiency, OC and SC Test, Simple problems.

Unit 5: AC Machines

Construction and operation of a three-phase induction motor, Slip, torque equation, torque-slip characteristics. Construction and operation of Synchronous Generator, Simple problems.

Unit 6: Overview of Electrical System

Introduction-Single line representation of Electrical Power System–Layout and operation of Hydro, Solar and Wind Power Plants.

Text Books

1. SK Sahdev, "Basic Electrical Engineering", Pearson Education India, 1st Edition, 2015.
2. SmarajitGhosh, "Fundamentals of Electrical and Electronics Engineering", PHI Publishers, 2nd Edition, 2010.
3. D. P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2018.
4. E. Hughes, "Electrical and Electronics Technology", Pearson Education India, 1st Edition, 2010.
5. M. L. Soni, P. V. Gupta, U. S. Bhatnagar and Chakrabarti, "Text Book on Power System Engineering", DhanpatRai& Co. Pvt. Ltd, 2013.

Reference Books

1. L. S. Bobrow, "Fundamentals of Electrical Engineering", Oxford University Press, Asian Edition, 2013.
2. Vincent Del Toro, "Principles of Electrical Engineering", Prentice Hall, 2nd Edition, 1986.
3. S. K. Bhattacharya, "Basic Electrical and Electronics Engineering", Pearson Education India, 2nd Edition, 2017.
4. T. K. Nagsarkar, M. S. Sukhija, "Basic Electrical Engineering", Oxford University Press, 3rd Edition, 2017.

5. J. B. Gupta, "A Course in Power Systems", S K Kataria& Sons Publishers,11th Edition, 2014.

6. D. C. Kulshreshtha, "Basic Electrical Engineering", McGraw Hill, 2nd Edition, 2019.

Semester	I SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	**V20EEL01**
Name of the Course	**Basic Electrical Engineering Lab**					
Branches	**Common to ECE & ECT**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C208.1	Determine the load currents by applying various laws and theorems	K3
C208.2	Find the maximum power delivered to the load	K3
C208.3	Analyze the steady state performance of series circuits	K4
C208.4	Plot the speed control characteristics of DC shunt motor	K3
C208.5	Find the losses and efficiency of a transformer	K3
C208.6	Calculate the energy bill for Domestic loads	K3

Any 10 of the following experiments are to be conducted

1. Verification of Kirchhoff's Laws.
2. Verification of Superposition theorem.
3. Verification of Thevenin's theorem.
4. Verification of Maximum Power Transfer theorem.
5. Analysis of Series RL and RC circuits.
6. Analysis of Series RLC circuit.
7. Speed control of D.C. Shunt motor by Armature control method.
8. Speed control of D.C. Shunt motor by field flux control method.
9. Brake test on DC shunt motor. Determination of performance characteristics.
10. Load Test on Single-Phase transformer
11. OC and SC test on Single-phase transformer (Measurement of Losses)
12. Energy Bill calculation for Domestic loads.

Semester	II SEM	L	T	P	C	**COURSE CODE**
Regulation	V20	3	-	-	3	**V20EET02**
Name of the Course	Basic Electrical & Electronics Engineering					
Branches	Common to ME & CE					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C113.1	Understand and compute electrical quantities in DC excited circuits	K3
C113.2	Understand and compute electrical quantities in AC excited circuits	K3
C113.3	Study the working principles of DC machines	K2
C113.4	Study the working principles of transformers	K2
C113.5	Understand construction details and explain the working principles of AC machines	K2
C113.6	Understand the basic operation of uninterrupted power supplies	K2

Unit 1 : DC Circuits

Electrical circuit elements (R, L and C), Kirchhoff's Laws, Mesh analysis of simple circuits with dc excitation. Superposition, Thevenin's, and Maximum Power Transfer Theorems, Simple problems.

Unit 2: AC Circuits

Basic Definitions, Peak and RMS values, Types of Powers, Power Factor. Analysis of Single-Phase AC series circuits consisting of RL, RC, RLC combinations, Simple problems.

Unit 3: DC Machines

Construction and operation of DC generator -EMF equation - Types of DC motors: shunt and series motors – applications – Speed control of DC shunt motor: field and armature controls, Simple Problems.

Unit 4: Transformers

Classification, Operation of ideal and practical transformers, EMF equation, losses in transformer, efficiency, OC and SC Test, Simple problems.

Unit 5: AC Machines

Construction and operation of a three-phase induction motor, Slip, torque equation, torque-slip characteristics. Construction and operation of Synchronous Generator, Simple problems.

Unit 6: Uninterrupted Power Supplies

Introduction –Basic operation of Rectifier, Inverter and UPS -On-line UPS, Off- line UPS and Line interactive UPS, Comparison between UPS and Inverter, Basic operation of SMPS.

Text Books

1. Smarajit Ghosh, "Fundamentals of Electrical and Electronics Engineering", PHI Publishers, 2nd Edition, 2010.
2. S. K. Sahdev, "Fundamentals of Electrical Engineering & Electronics", Dhanpat Rai & Company, 2nd Re Edition, 2010.
3. S. K. Bhattacharya, "Basic Electrical and Electronics Engineering", Pearson Education India, 2nd Edition, 2017.
4. M. S. Sukhija,T. K. Nagsarkar, "Basic Electrical and Electronics Engineering", Oxford University Press, 1st Edition, 2012.
5. Ned Mohan, T M Undeland and W P Robbins, "Power Electronics-Converters, Applications and Design", John Wiley & Sons, INC, 2nd Edition, 2008.

Reference Books

1. D. P. Kothari and I. J. Nagrath, "Basic Electrical Engineering", Tata McGraw Hill, 4th Edition, 2018.
2. E. Hughes, "Electrical and Electronics Technology", Pearson Education India, 1st Edition, 2010.
3. R. K. Rajput, "Basic Electrical and Electronics Engineering", University Science Press, 2nd Edition, 2012.

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	**V20EEL02**
Name of the Course	**Basic Electrical & Electronics Engineering Lab**					
Branches	**Common to CE & ME**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C115.1	Determine the load currents by applying various laws and theorems	K3
C115.2	Analyze the steady state performance of series circuits	K3
C115.3	Plot the speed control characteristics of DC shunt motor	K3
C115.4	Find the losses and efficiency of a transformer	K3
C115.5	Calculate the energy bill for Domestic loads	K3
C115.6	Plot characteristics of full wave rectifier	K3

Any 10 of the following experiments are to be conducted

1. Verification of Kirchhoff's Laws.
2. Verification of Superposition theorem.
3. Verification of Thevenin's theorem.
4. Verification of Maximum Power Transfer theorem.
5. Analysis of Series RL and RC circuits.
6. Analysis of Series RLC circuit.
7. Speed control of D.C. Shunt motor by Armature control method.
8. Speed control of D.C. Shunt motor by field flux control method.
9. Brake test on DC shunt motor. Determination of performance characteristics.
10. Load Test on Single-Phase transformer
11. OC and SC test on Single-phase transformer (Measurement of Losses)
12. Energy Bill calculation for Domestic loads.
13. Full wave rectifier with and without filters.

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	**V20EET03**
Name of the Course	Electrical Circuit Analysis-I					
Branches	EEE					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C112.1	Apply various network reduction techniques for solving electrical DC circuits.	K3
C112.2	Calculate different parameters of single phase alternating quantities.	K3
C112.3	Understand the concepts of different powers and apply network reduction techniques for solving electrical AC circuits.	K3
C112.4	Determine various parameters in series and parallel resonant circuits.	K3
C112.5	Apply the network theorems for solving electrical DC and AC circuits.	K3
C112.6	Compute electrical parameters for 3-phase balanced systems	K3

Unit-I: Introduction to Electrical Circuits

Classification of network elements, Basic terminology, Kirchhoff's laws; RLC Parameters - series and parallel combinations; Energy Sources; Source transformation; Y-Δ and Δ-Y transformation; Mesh analysis and Nodal analysis – Numerical problems

Unit-II: Single Phase A.C Systems - I

Basic terminology associated with alternating quantity- RMS value, Average value, form factor and peak factor; phase angle and phase difference –lagging, leading networks; steady state analysis of series and parallel combinations of R, L and C circuits, numerical problems.

Unit- III: Single Phase A.C Systems - II

Types of Powers; Power Factor and its significance; Power triangle, Mesh analysis and Nodal analysis of AC networks; Numerical problems.

Unit-IV: Resonance

Concept of Resonance **-** Series and parallel resonance, Bandwidth, quasi factor, selectivity; Numerical problems; Introduction to locus diagrams; Concept of Duality and Dual networks.

Unit-V: Magnetic Circuits

Basic definitions of MMF, Flux and Reluctance; Analogy between electrical and magnetic circuits; Analysis of series, parallel and composite magnetic circuits; Faraday's laws of electromagnetic induction; Concepts of self-inductance, mutual inductance and coefficient of coupling; Concept of Dot Convention and coupled coils.

Unit-VI: Balanced Three phase circuits

Generation of three phase voltages; Advantages of three phase system; Inter connection of three phase windings: Star and delta connection, Phase sequence, Relation between line, phase voltages and currents in balanced - Star and delta connected load.

Text Books:

1. Chakrabarthi ,"Circuit Theory (Analysis and Synthesis)",DhanpatRai& Co, 7th Re Edition, 2018.
2. William Hayt and Jack E. Kemmerley , "Engineering Circuit Analysis", McGraw Hill Company,8th edition, 2013.
3. Mac E. Van Valkenburg, "Network Analysis", Prentice-Hall of India Private Ltd., 3rd Edition, 2019.

Reference Books:

1. Charles K. Alexander and Mathew N.O. Sadiku, "Fundamentals of Electrical Circuits", McGraw Hill Education (India), 6th Edition, 2019.
2. C. L. Wadhwa, "Network Analysis", New Age International Publishers, 3rd Edition, 2018.
3. Sudhakar A. &Shyammohan S. Palli, "Electrical Circuit Analysis",McGraw Hill Publication, 5th Edition, 2017.
4. Robert L. Boylestad, "Introductory Circuit Analysis", Pearson Publications, 13th Edition, 2016.
5. Lawrence P. Huelsman, "Basic Circuit Theory", 3rd Ed Pearson Publications, 2015.

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	**V20EEL03**
Name of the Course	Electrical Engineering Workshop					
Branches	EEE					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
C114.1	Design different wiring circuits	K4
C114.2	Use electrical parameter measuring instruments	K3
C114.3	Construct the circuits on PCB board	K4
C114.4	Test the domestic appliances	K4
C114.5	Identify the parts of the Machine	K3
C114.6	Analyze electrical circuits through simulation	K4

Any 12 of the following experiments are to be conducted

1. Wiring tools and Accessories
2. Electrical Wiring Joints
3. Lamp Circuits
4. Soldering Practice
5. AC and DC circuits
6. Resistance Measurement
7. Capacitance Measurement
8. Battery voltage measurement
9. Special Lamp Connections
10. Wiring Practice for Power Loads
11. Motor Connections
12. Practice on Motor winding
13. Earthing
14. Testing and repair of Domestic appliances
15. Verification of Kirchoff's Laws.
16. Measurement of Choke Coil Parameters.
17. Simulation of series RLC circuit.

<div align="right">**Annexure-IV**</div>

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)
(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade & NBA,)
Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**
Department of Mechanical Engineering

<div align="right">**Date: 30-12-2020**</div>

Fourth meeting of BOS in Mechanical Engineering department was held on 30/12/2020 at 10.00 AM in online mode through Zoom platform.

The following members were present:

S. No	Name of the BOS Members
1.	Dr.N.Mohan Rao, Professor & Director (IIIPT & SDC) JNTUK, Kakinada
2.	Dr. R.V. Chalam, Professor, NIT,Warangal
3.	Dr. A. Krishnaiah, Professor, Osmania University, Hyderabad
4.	Sri S.S. SubramanyaSastry, Director - Projects, Renprotech Solutions Pvt. Ltd., Bangalore.
5.	Sri A.Sai Krishna, Alumni, Maruthi design and engg. Pvt.ltd ,Bangalore
6.	Dr. G.V.N.S.R. Ratnakara Rao, Professor &Principal, SVEC
7.	Dr. M.V. Ramesh, Chairman & HOD, SVEC
8.	All the BOS internal members

<u>Minutes of meeting of 4th BOS held on 30.12.2020</u>

Chairman welcomed all the BOS members and introduced to all the BOS internal members.

Item No. 1: Review and approval of course structure of I & II semesters of B. Tech (ME) under V20 Regulations.

- The approved course structure is attached in **Annexure-IV(a)**

Item No. 2: Approval of syllabi for the Mechanical Engineering courses offered in I & II semesters B. Tech under V20 Regulation.

- The approved syllabi for the courses are attached in **Annexure-IV(b).**

Chairman (Head –ME)

Head of the Department
Mechanical Engineering
Sri Vasavi Engineering Colleg.
TADEPALLIGUDEM-53410

Course Structure of Mechanical Engineering – V20 Regulation
(For 2020 – 2021 Admitted Batch)
I SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20MEL01	Engineering Graphics	1	0	4	3
5	V20CST01	Programming in C for problem solving	3	0	0	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
`7	V20PHL01	Engineering Physics Lab	0	0	3	1.5
8	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours: 26   Total Credits: 19.5

II SEMESTER

S.No	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20MET01	Engineering Mechanics	3	0	0	3
4	V20EET02	Basic Electrical and Electronics Engineering	3	0	0	3
5	V20MEL02	Engineering Workshop	1	0	4	3
6	V20EEL02	Basic Electrical and Electronics Engineering Lab	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5

Total Contact Hours: 28   Total Credits: 19.5

Syllabi for the Mechanical Engineering courses offered in I & II semesters B. Tech under V20 Regulation

Semester	I/ II SEM	L	T	P	C	COURSE CODE
Regulation	V20	1	-	4	3	**V20MEL01**
Name of the Course	**ENGINEERING GRAPHICS**					
Branches	**Common to All Branches**					

Course Outcomes: After successful completion of the course, the student will be able to:

CO No.	Course Outcome	Knowledge Level
CO1	Understand the basic commands in CAD Software and draw the conic sections	K3
CO2	Construct different types of scales and special curves	K3
CO3	Draw the projections of the points and lines	K3
CO4	Develop the projections of planes and surfaces of regular solids	K3
CO5	Draw the Isometric projections and conversion of views	K3

PART – A

UNIT1:

Introduction to CAD Software: CAD Software Mechanical Desktop, Draw, Modify, Dimension tool bars, Annotations, Layers, ISI conventions in drawing.

CONIC SECTIONS – Ellipse, Parabola and Hyperbola

UNIT 2: SPECIAL CURVES & SCALES: Special Curves – cycloid, epicycloids, hypocycloid; Scales – Plain, Diagonal and Vernier Scales.

UNIT 3: ORTHOGRAPHIC PROJECTIONS: Introduction to Orthographic Projections- Projections of Points, Projection of lines inclined to both the planes.

UNIT 4: PROJECTION OF PLANES: Inclined to both the Planes.

PROJECTION OF REGULAR SOLIDS: Prisms, Pyramids, Cones and Cylinders with the axis inclined to one of the planes, Development of Surfaces of regular solids.

PART – B

UNIT 5: ISOMETRIC PROJECTIONS: Principles of Isometric projection – Isometric Scale, Isometric Views, Conventions; Isometric Views of lines, Planes, Simple solids.

UNIT 6: Conversion of Isometric Views to Orthographic Views and Vice-versa.

Text Books:

1. Engineering Drawing by N.D. Bhat, Chariot Publications, 53rd Edition-2014

2. Engineering Drawing by Agarwal & Agarwal, Tata McGraw Hill Publishers, 2nd Edition-2016

Reference Books:

1. Engineering Drawing by K.L.Narayana & P. Kannaiah, Scitech Publishers, 2nd Edition-2014

2. Engineering Graphics for Degree by K.C. John, PHI Publishers-2014

3. Engineering Graphics by PI Varghese, McGrawHill Publishers-2013

4. Engineering Drawing AutoCad – K Venugopal, V. Prabhu Raja, New Age, 5th Edition-2015

Course Evaluation:
Continuous Internal Evaluation (30M):
1. Day to Day Evaluation (20M): CAD Practice (Minimum of 20 Exercises)
2. Mid Examination (10M):

MID-I (10M) - Answer all 3 questions, each question carries 10 Marks with a total of 30M and scaled down to 10M.
  i.   Question -1 ---CO1
  ii.   Question -2 ---CO2
  iii.   Question -3 ---CO3
MID-II (10M) - Answer all 3 questions, each question carries 10 Marks with a total of 30M and scaled down to 10M.
  i.   Question -1 ---CO4
  ii.   Question -2 ---CO5
  iii.   Question -3 ---CO5
10Marks will be allocated as, 80% of best and 20% of least of the mid examinations.
Semester External Examination (70M):
1. Part A (48M): Answer four questions (Each question carry 12 marks)
2. Part B (22M) : Answer any one question
Part-A:
  i.   Question-1 or Question-2 --- CO1 (12M)
  ii.   Question-3 or Question-4 --- CO2 (12M)
  iii.   Question-5 or Question-6 --- CO3 (12M)
  iv.   Question-7 or Question-8 --- CO4 (12M)

PART-B:
  i.   Question-9 or Question-10 --- CO5 (22M)

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	**V20MET01**
Name of the Course	**ENGINEERING MECHANICS**					
Branches	**Common to CE & ME**					

Course Outcomes: After successful completion of the course, the student will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Compute the resultant force of a given system of forces and understanding of concepts on friction.	K3
CO2	Calculate the forces in the different types of plane trusses	K3
CO3	Find the Centroid, Center of Gravity and Moment of Inertia for plane figures and bodies	K3
CO4	Illustrate the different types of plane motions of a particle to compute its velocity, acceleration and force.	K3
CO5	Illustrate the concept of Work and Energy	K3
CO6	Apply the principle of Virtual Work to stability of equilibrium of Ladder	K3

Unit I: Introduction to Engineering Mechanics – Basic Concepts.
Systems of Forces: Coplanar Concurrent Forces – Resultant – Moment of Force and its Application – Couples and Resultant of Force Systems.
Equilibrium of Systems of Forces: Free Body Diagrams, Equations of Equilibrium of Coplanar Systems for concurrent forces. Lami's Theorem, Graphical method for the equilibrium of coplanar forces, Converse of the law of Triangle of forces, converse of the law of polygon of forces condition of equilibrium.
Friction : Introduction, Limiting friction and impending friction, ladder and wedge friction.

Unit II: Analysis of Trusses by Method of Joints: Types of Trusses - Assumptions for forces in members of a perfect truss, Force table, Cantilever Trusses, Structures with one end hinged and the other freely supported on rollers carrying horizontal or inclined loads.

Unit III: Centroid: Centroid of simple figures (from basic principles) – Centroid of Composite Figures Centre of Gravity: Centre of gravity body (from basic principles), centre of gravity of composite bodies, Pappus theorems.
Moment of inertia of plane figures: I-section, T-section, Channel section, Z-section and L-section.

Unit IV: Kinematics: Rectilinear and Curvilinear motions – Velocity and Acceleration – Motion of Rigid Body – Types and their Analysis in Planar Motion.

Kinetics: Analysis as a Particle and Analysis as a Rigid Body in Translation – Central Force Motion – Equations of Plane Motion – Fixed Axis Rotation – Rolling Bodies.

Unit V: Work – Energy Method: Equations for Translation, Work-Energy Applications to Particle Motion, Connected System-Fixed Axis Rotation and Plane Motion. Impulse momentum method.

Unit VI: Principle of Virtual Work: Principle of virtual work, advantages of principle of virtual work, principle of virtual applied to stability of equilibrium. Application of principle of virtual work limited to ladder problems.

Text Books:

1. Engineering Mechanics by A.K.Tayal , Umesh Publications.

2. Engineering Mechanics, Fedinand . L. Singer, Harper – Collins.

3. Engineering Mechanics, S.S Bhavikatti, K. G. Rajashekarappa. New Age International publication.

Reference Books:

1. Engg.Mechanics - S.Timoshenko & D.H.Young., 4th Edn - , McGraw Hill publications.

2. Theory & Problems of engineering mechanics, statics & dynamics – E.W.Nelson, C.L.Best& W.G. McLean, 5th Edn – Schaum's outline series - McGraw Hill Publ.

3. Meriam J. L., Kraige L. G., "Engineering Mechanics – Dynamics", Wiley Student Edition, (Sixth Edition) reprint 2011.

4. Beer F. P., Johnston E. R., "Vector Mechanics for Engineers Statics and Dynamics", Tata, McGraw Hill Publishing company Ltd., New Delhi (Eighth Edition) reprint 2009

5. Shames Irving H., "Engineering Mechanics", Prentice Hall, New Delhi (Fourth edition) reprint 2009.

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	1	-	4	3	**V20MEL02**
Name of the Course	**ENGINEERING WORKSHOP**					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of the course, the student will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Prepare different models in the carpentry trade and understand basic concepts of carpentry	K3
CO2	Develop various basic prototypes in the trade of Tin smithy and understand basic concepts of Tin smithy.	K3
CO3	Prepare various basic prototypes in the trade of fitting and understand basic concepts of fitting.	K3
CO4	Prepare different models in the Black smithy and understand basic concepts of Black smithy.	K3
CO5	Develop various basic House Wiring techniques, Electrical wiring circuits	K3
CO6	Develop various basic prototype models in Welding and Foundry shop.	K3

Module-I
General safety Considerations during operation of:
Bench Tools, Hammers, Screw Drivers, Punches, Chisels, Scrapers, Scribers, Files, Pliers and Cutters, Wrenches, Hacksaw, Bench Vise, Hand drill, Taps and Dies, Hand Shears, Rules, Tapes and Squares, Soldering Iron, Rivets.
Hand Working Operations:
Sawing, Filing, Threading, Scribing, Shearing, Soldering, Sharpening of hand tools.
Measuring and Gauging:
Calipers, depth Gauge, Feeler Gauge, Micrometers, Vernier Calipers, Vernier Height Gauge, Snap Gauge, Hole Gauge, Bevel Protractor, Dial Indicator, Gauge Blocks and Surface Plate

Module-II
Carpentry:
Introduction, Carpentry Tools, Marking and Layout, Operations.
Sheet Metal Works :
Introduction, Sheet Metal Tools, Marking and Layout, Operations – Bending, Cutting, Rolling.
Fitting :
Introduction, Fitting Tools, Marking and Layout, Operations.

Forging :
Introduction , Forging Tools ,Operations – Upsetting, Drawing, Cutting, Bending, Punching ,Forging Presses and Hammers.

House wiring:
Introduction, House wiring Tools and accessories, Connections, Circuit diagrams.

Metal Joining:
Safety Considerations, Introduction, Soldering, Brazing, Welding – Gas Welding, Arc Welding,

Foundry:
Introduction, Pattern Making, Foundry Tools, Core Making, Melting Furnace – Cupola, Sand Casting   Process.

Module-III
Note: At least two exercises to be done from each.

Carpentry
1. T-Lap Joint
2. Cross Lap Joint
3. Dovetail Joint
4. Mortise and Tenon Joint

Tin Smithy
1. Taper Tray
2. Square Box without lid
3. Open Scoop
4. Funnel

Fitting shop
1. V- Fit
2. Square Fit
3. Half Round Fit
4. Dovetail Fit

Black smithy
1. Round rod to Square
2. S-Hook
3. Round Rod to Flat Ring
4. Round Rod to Square headed bolt

House wiring
1. Parallel / Series Connection of three bulbs
2. Stair Case wiring
3. Florescent Lamp Fitting
4. Measurement of Earth Resistance

<u>Welding shop (Arc welding)</u>

1. Butt Joint
2. Lap Joint

<u>Foundry Practice</u>

Preparation of sand mould using split piece pattern and cast the component.

Text Books:

1. A Course in Work shop Technology, Vol.1, Raghuwanshi,Dhanpat Rai &Co.
2. Elements of Workshop Technology, Vol.1, S.K.Hajra Choudary, Asia Publishing House.
3. Production Technology, Vol.1, R.K.Jain and S.C Gupta, Khanna Publications.
4. Workshop Practice Manual,K.Venkata Reddy, B.S.Publications.
5. Workshop Manual, P.Kannaiah, KL.Narayana, Scitech Publications.

Annexure-V

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade & NBA,)
Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**
Department of Electronics and Communication Engineering

Dt: 28-12-2020

Fourth meeting of BOS in ECE department along with external members was held on 28/12/2020 at 2.00 PM in online mode through Zoom meeting app with the link https://us02web.zoom.us/j/83813811675.

The following members are present:

S. No	Name of the BOS Members
1.	Dr. I. Shanthi Prabha, Prof, JNTUK,Kakinada
2.	Prof. NVSN. Sarma, Director, IIIT, Trichy
3.	Dr. M. Venugopala Rao, Professor, KL University, Vijayawada
4.	Sri S.Siva Kumar, Senior Engineer, Qualcomm, Bangalore.
5.	Dr. GVNSR. Ratnakar Rao, Principal, Sri Vasavi Engineering College
6.	Dr. E. Kusuma Kumari, Chairman & HOD, SVEC
7.	All the Internal BOS members

The following members are absent:

1. Dr.J.V.R.Sagar, Director ANURAG, Hyderbad.

Minutes of 4th BOS Meeting

Item No 1: **Welcome Note by the Chairperson BOS**.
The Chairperson welcomed all the BOS members and introduced to all the BOS- internal members.

Item No.2: Review and approval of course structure of I & II semesters of B. Tech (ECE & ECT) under V20 Regulations.

Reviewed the Course structure of I & II Semesters for UG (B. Tech – ECE & ECT) Programme of V 20 Regulation and the approved course structure is attached in **Annexure-V(a).**

Item No.3: Approval of syllabi for the courses offered by the department in I & II semesters B. Tech under V20 Regulation.

Members Approved the syllabi for the courses by the department in I & II semesters B. Tech under V20 Regulation and details are attached in **Annexure-V(b).**

CHAIRPERSON OF BOS

_____

Vision
- To develop the department into a centre of excellence and produce high quality, technically competent and responsible Electronics and communication engineers

Mission
- To create a learner centric environment that promotes the intellectual growth of the students..
- To develop linkages with R & D organizations and educational institutions for excellence in teaching, learning and consultancy practices..
- To build the student community with high ethical standards.

COURSE STRUCURE FOR FIRST YEAR B.TECH ECE & ECT
(FOR 2020-21 ADMITTED BATCH) I Semester
I Semester

Sl.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	0	0	3
2	V20PHT01	Engineering Physics	3	0	0	3
3	V20ENT01	English for Professional Enhancement	3	0	0	3
4	V20EET01	Basic Electrical Engineering	3	0	0	3
5	V20MEL01	Engineering Graphics	1	0	4	3
6	V20ENL01	Hone Your Communications Skills Lab-I	0	0	3	1.5
7	V20PHL01	Engineering Physics Lab	0	0	3	1.5
8	V20EEL01	Basic Electrical Engineering Lab	0	0	3	1.5
9	V20CHT02	Environmental Studies	2	0	0	0

Total Contact Hours: 28   Total Credits: 19.5

II Semester

Sl.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	0	0	3
2	V20CHT01	Engineering Chemistry	3	0	0	3
3	V20CST01	Programming in C for problem solving	3	0	0	3
4	V20MEL02	Engineering Workshop	1	0	4	3
5	V20ECT01	Switching Theory and Logic Design	3	0	0	3
6	V20CSL01	Programming lab in C for problem solving	0	0	3	1.5
7	V20CHL01	Engineering Chemistry Lab	0	0	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	0	0	3	1.5

Total Contact Hours: 26   Total Credits: 19.5

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	**V20ECT01**
Name of the Course	**Switching Theory and Logic Design**					
Branches	**Common to EEE, ECE, ECT, CSE & CST**					

Course Outcomes (CO's) (Along with Knowledge Level (K)):
After going through this course the student will be able to

CO No.	Course Outcome	Knowledge Level
CO-1	**Explain** the different types of number Systems, number conversions, codes and logic Gates.	K_2
CO-2	**Apply** the concepts of Boolean algebra and use the knowledge of K-maps and tabular method for minimization of Boolean expressions.	K_3
CO -3	**Construct** the higher order modules from their lower order structures of various combinational logic circuits.	K_3
CO-4	**Explain** the concept of various flip flops	K_2
CO-5	**Develop** various sequential circuits like registers, counters by using basic flip flops.	K_3
CO-6	**Develop** the various Finite State Machine Models	K_3

Unit – I: **Number Systems & Codes:**

i) Representation of numbers of different radix, conversation from one radix to another radix, r-1's compliments and r's compliments of signed members, problem solving. ii) 4 bit codes, BCD, Excess-3, 2421, 84-2-1 9's compliment code etc., iii) Logic operations and error detection & correction codes; Basic logic operations -NOT, OR, AND, Universal building blocks, EX-OR, EX-NOR - Gates, Gray code, error detection, error correction codes (parity checking, even parity, odd parity, Hamming code).

Unit – II : **Minimization Techniques**

Boolean theorems, principle of complementation & duality, De-morgan theorems, minimization of logic functions using Boolean theorems, Standard SOP and POS, Forms, NAND-NAND and NOR-NOR realizations, minimization of switching functions using K-Map up to 5 variables, tabular minimization, problem solving (code-converters using K-Map etc..).

Unit – III : **Combinational Logic Circuits Design**

Design of Half adder, full adder, half subtractor, full subtractor, applications of full adders, 4-bit binary subtractor, adder-subtractor circuit, BCD adder circuit, Excess 3 adder circuit, look-a-head adder circuit, Design of decoder, demultiplexer, 7 segment decoder, higher order demultiplexing, encoder, multiplexer, higher order multiplexing, realization of Boolean functions using decoders and multiplexers, priority encoder, 4-bit digital comparator.

Unit – IV : **Sequential Circuits –I**

Classification of sequential circuits (synchronous and asynchronous); basic flip-flops, truth tables and excitation tables (Nand RS latch, nor RS latch, RS flip-flop, JK flip-flop, T flip-flop, D flip-flop with reset and clear terminals). Asynchronous Inputs (Preset and Clear), Race around condition, Master Slave JK Flip flop, Conversion from one flip-flop to another flip-flop.

Unit – V : **Sequential Circuits -II**

Design of ripple counters, design of synchronous counters, Johnson counter, ring counter. Design of registers - Buffer register, control buffer register, shift register, bi-directional shift register, universal shift register.

Unit – VI : **Finite State Machines**

Finite State machine; Analysis of Clocked sequential circuits, state Diagrams, state Tables, Reduction of State Tables and State assignments, design Procedures. Realization of Circuits using various Flip Flops. Meelay to Moore Conversion and Vice-versa.

Text Books

1. Digital Design by M. Morris Mano, Michael D. Ciletti, PEA.
2. Switching & Finite Automata Theory, 2nd Edition, Zvi Kohavi, TMH,1978
3. Fundamentals of Logic Design, 5/e Roth, Cengage.

Reference Books

1. Modern Digital Electronics by RP Jain, TMH
2. An Engineering Approach to Digital Design, William I. Fletcher, Pearson edition.
3. Switching Theory and Logic Design by A. Anand Kumar

Annexure-VI

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade & NBA,)
Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**
Department of Computer Science & Engineering

Dt: 29.12.2020

The fourth meeting of Board of Studies of the Department of Computer Science and Engineering was held at 11.30 AM on 31-05-2020 through online mode using,

https://us02web.zoom.us/j/86038326979

The following members attended the meeting:

S.No.	Name of the Member	Designation	Role
1.	Dr. D Jaya Kumari	Professor, HoD-CSE, SVEC	Chairperson
2.	Dr.Krishna Mohan Ankala	Professor, UCEK, Kakinada	University Nominee
3.	Dr. R.B.V. Subramanyam	Professor, Department of CSE, NIT Warangal	Academic Expert
4.	Sri. Srinivasa Raju Vuppalapati	Senior Consultant, MSR IT Services LLP, Hitech City, Hyderabad.	Industry Expert
5.	Mr.EEdala Rambabu	microfocus, Bangalore	Alumni
6.	Dr. V. Venkateswara Rao	Professor	Member
7.	Dr. G Loshma	Associate Professor	Member
8.	Ch. Raja Ramesh	Associate Professor	Member
9.	Dr. V S Naresh	Associate Professor	Member
10.	Dr.K. ShirinBhanu	Associate Professor	Member
11.	A. Leelavathi	Assistant Professor	Member
12.	R. LeelaPhani Kumar	Assistant Professor	Member
13.	G. Nataraj	Assistant Professor	Member
14.	B.SriRamya	Assistant Professor	Member
15.	G.Sriram Ganesh	Assistant Professor	Member
16.	N.V.Murali Krishna Raja	Assistant Professor	Member
17.	N. Hiranmayee	Assistant Professor	Member
18.	Y.DivyaVani	Assistant Professor	Member
19.	M NageswaraRao	Assistant Professor	Member

20.	B Kiran Kumar	Assistant Professor	Member
21.	Y. Ravi Raju	Assistant Professor	Member
22.	D.S L Manikanteswari	Assistant Professor	Member
23.	M. Anantha Lakshmi	Assistant Professor	Member
24.	M. Satyanarayana Reddy	Assistant Professor	Member
25.	J.N. Chandra Sekhar	Assistant Professor	Member
26.	P. Bhavani Shankar	Assistant Professor	Member
27.	David Raju. K	Assistant Professor	Member
28.	P Rajesh	Assistant Professor	Member
29.	P Suneetha	Assistant Professor	Member
30.	P Laxmi kanth	Assistant Professor	Member
31.	K Satyanarayana	Assistant Professor	Member
32.	M Sree Radha Mangamani	Assistant Professor	Member
33.	S K Shabuddin	Assistant Professor	Member
34.	G Ramanjaneya Raju	Assistant Professor	Member
35.	G V Lakshmi Narayana	Assistant Professor	Member
36.	A Nageswara Rao	Assistant Professor	Member
37.	Mr. L Balaji	Lecturer	Member

The following members are absent:

> 1. Prof. S.Pallam Setty, Prof. Computer Science and Systems Engineering, AU College of Engineering.

The following are the Minutes of the Meeting

Item No.1: Welcome note by the Chairman BOS.

The HOD extended a formal welcome and introduced the members.

Item No.2: Review & Approval of the Course Structure for I and II SEM -B.Tech (CSE) and B.Tech (CST) Programme under V20 Regulation.

Reviewed the Course Structure of I & II semesters for B.Tech (CSE) and B.Tech (CST) Programme of V20 Regulation. The approved Syllabus is given in **Annexure-VI(a).**

Item No.3: Approval of Syllabi for the proposed courses offered in B.Tech I and II SEM by the CSE Department under V20 Regulation.

Approved the syllabi for the courses offered in B.Tech I & II semesters by the CSE Department of V20 Regulation. The approved Syllabus is given in **Annexure-VI(b).**

Dr.D Jaya Kumari

Chairperson of BOS

COURSE STRUCTURE OF FIRST YEAR B.TECH(CSE & CST)

I SEMESTER

S.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT01	Linear Algebra and Differential Equations	3	-	-	3
2	V20CHT01	Engineering Chemistry	3	-	-	3
3	V20ENT01	English for Professional Enhancement	3	-	-	3
4	V20MEL02	Engineering Workshop	**1**	-	4	**3**
5	V20CST01	Programming in 'C' for problem Solving	3	-	-	3
6	V20ENL01	Hone Your Communications Skills Lab-I	-	-	3	1.5
7	V20CHL01	Engineering Chemistry Lab	-	-	3	1.5
8	V20CSL01	Programming Lab in 'C' for problem Solving	-	-	3	1.5

Total Contact Hours: 26   Total Credits: 19.5

II SEMESTER

S.No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	V20MAT02	Numerical Methods and Vector Calculus	3	-	-	3
2	V20PHT01	Engineering Physics	3	-	-	3
3	V20ECT01	Switching Theory and Logic Design	3	-	-	3
4	V20CST02	Python Programming	3	-	-	3
5	V20MEL01	Engineering Graphics	**1**	-	4	**3**
6	V20PHL01	Engineering Physics Lab	-	-	3	1.5
7	V20CSL02	Python Programming Lab	-	-	3	1.5
8	V20ENL02	Hone Your Communications Skills Lab-II	-	-	3	1.5
9	V20CHT02	Environmental Studies	2	-	-	0

Total Contact Hours: 28   Total Credits: 19.5

Semester	I /II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20CST01
Name of the Course	Programming in 'C' for problem Solving					
Branches	Common to All					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Describe various problem solving strategies such as Algorithms and Flowcharts	K2
CO2	Develop various programming constructs using Control Structures	K3
CO3	Construct Programs using modular programming approach	K3
CO4	Illustrate the usage of Arrays, String and pointers	K3
CO5	Construct Programs using Structures and Unions	K3
CO6	Distinguish between Sequential files and Random access files	K4

UNIT-I: Problem solving concepts: Algorithms, Flow-charts, Types of Programming Languages, Compiler, Assembler and Linker, Testing and Debugging a program. **Introduction to C Programming:** Overview and importance of C, C Program Structure, Creation and Compilation of C Programs, Identifiers, Variables, Data types, Constants, Declarations, **Input and output statements:** Input and output functions..

UNIT-II: Operators: Arithmetic, relational and logical operators, increment and decrement operators, conditional operator, assignment operator, bitwise operators, special operators, expressions, Precedence, Associatively, Order of evaluation, Type conversion, Programming Examples. **Control Structures:** Conditional statements - If-else, Switch-case constructs, Loops - while, do-while, for.

UNIT-III: Functions: Top down approach of problem solving, standard library functions, user defined functions, parameter passing - call by value, call by reference, return statement, passing arrays as parameters to functions, recursion. **Storage Classes:** Scope and extent, Storage Classes - auto, extern, static and register.

Understanding pointers: Accessing the address of a variable, declaring pointer variables, initialization of pointer variables, accessing a variable through its pointer, pointer arithmetic.

UNIT-IV: Arrays: Single-Dimensional Arrays, multi-Dimensional Arrays, initialization and accessing individual elements. **Strings** in C- Concepts, string handling functions. Pointer and arrays, pointers and character strings, array of pointers. **Dynamic Memory Allocation**: calloc(), malloc() and free()

UNIT-V: Structures: Defining, declaring, initialization, accessing, comparing, operations on individual members, array of structures, structures within structures, structures and functions, bit fields, Programming Examples. **Unions:** Definition – difference between structures and unions – declaring and accessing unions.– pointers and structures – self-referential structures.

UNIT-VI: File Processing: Creating and Opening a file, file opening modes, closing a file, input/output operations on files, error handling during I/O operations, random access to files, Command line arguments. Programming Examples.

TEXT BOOKS:
1. Programming in ANSI C by E Balagursamy, McGraw Hill, 8th Edition.

REFERENCE BOOKS:
1. Let Us C, YashavantKanetkar, BPB Publications, 15th Edition
2. Programming in C, ReemaThareja, Oxford.
3. Programming with C, Second edition, Byron S Gottfried, Tata McGrawhill
4. Problem Solving and Programm design in C, Hanly J R &Koffman E.B, Pearson Education, 2009.
5. Programming in C, PradipDey, ManasGhosh, Oxford University Press, 2007.
6. Problem Solving Using C: Structured Programming Techniques, YukselUckan.
7. C Programming, A Problem Solving Approach, Forouzan, Gilberg, Prasad, CENGAGE.
8. Computer Programming in C – Kerninghan& Ritchie, PHI
9. C: The Complete Reference: Herbert Schildt, Osborne/Mcgraw Hill, Inc.

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20CSL01
Name of the Course	Programming Lab in 'C' for problem Solving					
Branches	Common to All					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Demonstrate problem solving techniques using Control Structures	K3
CO2	Construct Programmes using the concepts of Arrays, Strings and Pointers	K3
CO3	Apply the concepts of Functions, Structures and Unions	K3
CO4	Use various file processing operations to develop real-time applications	K4

LIST OF EXPERIMENTS

Tutorial 1: Problem solving using computers.

Lab1: Familiarization with programming environment.

Tutorial 2: Variable types and type conversions.

Lab 2: Simple computational problems using arithmetic expressions.

Tutorial 3: Branching and logical expressions.

Lab 3: Problems involving if-then-else structures switch – case.

Tutorial 4: Loops, while and for loops.

Lab 4: Iterative problems e.g. sum of series.

Tutorial 5: Functions call by value, call by reference

 Lab 5: Simple functions.

Tutorial 6: Recursion, structure of recursive calls.

 Lab 6: Recursive functions.

Tutorial 7: Pointers.

 Lab 7: Programming with pointers.

Tutorial 8: 1D Arrays: searching, sorting.

 Lab 8: 1D Array manipulation.

Tutorial 9: 2D arrays.

 Lab 9: Matrix problems.

Tutorial 10: String handling.

 Lab 10: String handling functions.

Tutorial 11: Structures, unions and dynamic memory allocation.

 Lab 11: Structures & unions.

Tutorial 12: File handling, command line arguments.

 Lab 12: File operations.

TEXT BOOKS:
1. Programming in Ansi C by E Balagursamy, McGraw Hill, Eight Edition.

Reference Books:

1. Mastering C, K.R. Venugopal and S.R. Prasad, TMH Publishers.
2. Computer Programming in C, V. Rajaraman, PHI.
3. Programming in C, Stephen G. Kochan, Fourth Edition, Pearson Education.
4. C- The Complete Reference, Herbert Schildt, Osborne/Mcgraw Hill, Inc.
5. Programming with C, Byron S Gottfried, Second edition, Tata McGrawhill.
6. Programming in C, ReemaThareja, Oxford.
7. Problem Solving and Program design in C, Hanly J R &Koffman E.B, Pearson Education, 2009
8. Programming and Problem Solving Using C, ISRD Group, Tata McGraw Hill,2008

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20CST02
Name of the Course	**PYTHON PROGRAMMING**					
Branches	**Common to CSE & CST**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Illustrate basic concepts of Python Programming	K2
CO2	Describe control structures in python	K2
CO3	Construct python programs using structured data types	K3
CO4	Demonstrate functions and packages	K3
CO5	Compare TextFiles and Binary Files	K4
CO6	Apply OOPs concepts to Develop Test cases	K3

Syllabus

UNIT-I: Introduction to Python, Data Types & Operators: Basics of python programming: Features of python – History of Python - Python installation and execution - Data types – Identifiers - variables – type conversions- Literals, Constants – Numbers – Strings. I/O statements.Operators and expressions, operator precedence – expression evaluation.

UNIT-II: Control Structures: Decision Control statements: conditional (if), alternative (if-else), chained conditional (if-elif-else); **Iteration:** while loop, for loop, nested for loop, range function, break, continue and pass statements.

UNIT-III: Structured Data Types: Lists: list operations, list slices, list methods, cloning lists, list parameters. **Tuples**: tuple assignment, tuple as return value. **Set:** Set Creation, Set Operations. **Dictionaries**: Creation, operations; comprehension, operations on strings.

UNIT-IV:Functions& modules: Introduction - Function Declaration &Definition - Function Call – Variable Scope and Lifetime - The return statement-More on Defining Functions - Lambda Functions or Anonymous Functions - Documentation Strings- Modules – Packages.

UNIT-V: Files & Exception Handling: Introduction - Types of files - Text files - reading and writing files; Errors and exceptions handling.

UNIT-VI:OOPS concepts Classes, Methods, Constructor, Inheritance, Overriding Methods, Data hiding, TKINTER.

Text Books:
1. "Python Programming using problem solving Approach" ReemaThareja, Oxford University Press – 2017.
2. Python with Machine Learning by "A.Krishna Mohan, Karunakar&T.Murali Mohan" by S. Chand Publisher-2018.

Reference Books:
1. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd edition, Updated for Python 3, Shroff /O'Reilly Publishers, 2016 (http://greenteapress.com/wp/think- python)
2. Guido van Rossum and Fred L. Drake Jr, ―An Introduction to Python – Revised and updated for Python 3.2, Network Theory Ltd., 2011.
3. John V Guttag, ―Introduction to Computation and Programming Using Python", Revised and expanded Edition, MIT Press , 2013

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20CSL02
Name of the Course	**PYTHON PROGRAMMING LAB**					
Branches	**Common to CSE & CST**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Demonstrate Basic Python Programs	K3
CO2	Construct control structures in python	K3
CO3	Demonstrate functions and packages	K3
CO4	Construct python programs using structured data types	K3
CO5	Demonstrate Text Files and exception handling	K3
CO6	Test Rock – paper – Scissors game	K4

Syllabus

Exercise 1 - Basics

a) A sample Python Script using command prompt, Python Command Line andIDLE

b) A program to purposefully raise an Indentation Error and correct it

Exercise 2 - Operations

a) A program to compute distance between two points taking input from the user (Pythagorean Theorem)

b) A program on add.py that takes 2 numbers as command line arguments and prints its sum.

Exercise - 3 Control Flow

a) A Program to implement for checking whether the given number is a even number or not.

b) A program to construct reverse the digits of a given number and add it to the original, If the sum is not a palindrome repeat this procedure.

c) A program using a while loop that asks the user for a number, and prints a countdown from that number to zero.

Exercise 4 - Control Flow – Continued

a) A program to construct the following pattern, using a nested for loop.
```
*
*                                                                              *
*                                              *                               *
*                              *                              *                *
*              *                              *                              * *
*                              *                              *                *
*                                              *                               *
*                                                                              *
*
```

b) By considering the terms in the Fibonacci sequence whose values do not exceed four million,find the sum of the even-valued terms.

Exercise - 5 Structured Data types

a) A program to count the number of strings where the string length is 2 or more and the first and last
character are same from a given list of strings.
b) a program to develop unzip a list of tuples into individual lists and convert them into dictionary.

Exercise – 6Structured Data types Continued

a) A program to count the numbers of characters in the string and store them in a dictionary data structure
b) A program to use split and join methods in the string and trace a birthday with a dictionary data structure.

Exercise - 7 – Problem Solving using Functions

a) Find mean, median, mode for the given set of numbers passed as arguments to a function
b) Develop a function nearly_equal to test whether two strings are nearly equal. Two strings a and b are
nearly equal when a can be generated by a single mutation on b.
c) Develop a Recursive Function to find the Factorial of a given number.
d) Develop function to compute gcd, lcm of two numbers. Each function shouldn't exceed one line.

Exercise - 8– Modules

a) Install packages requests, flask and explore themusing (pip)
b) A program to implement a script that imports requests and fetch content from the page. Eg. (Wiki)
c) Develop a simple script that serves a simple HTTPResponse and a simple HTML Page

Exercise - 9 Files

a) A program to count frequency of characters in a given file. Can you use character frequency to tell whether the given file is a Python program file, C program file or a text file?
b) A program to compute the number of characters, words and lines in a file.

Exercise - 10 OOP

a) Class variables and instance variable and illustration of self variable
    i) Robot
    ii) ATM Machine

Exercise - 11 GUI, Graphics

1. Develop a GUI for an Expression
2. A program to implement the following figures using turtle
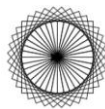
Text Books:

1. "Python Programming using problem solving Approach" ReemaThareja, Oxford University Press – 2017.
2. Python with Machine Learning by "A.Krishna Mohan, Karunakar&T.Murali Mohan" by S. Chand Publisher-2018.

Annexure-VII

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)

(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)

(Accredited by NAAC with 'A' Grade & NBA,)

Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**

Department of BS&H, Mathematics Section

Date: 31/12/2020

Minutes of the 4th Meeting of Board of Studies in Mathematics was held on 31-12-2020 at 10:30 AM through online zoom meeting in the Srinivasa Ramanujan Hall of Learning (E-block) BS&H Department.

Members present:

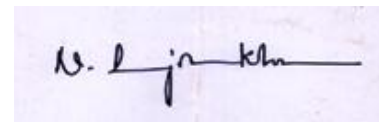**The following items are discussed in the meeting:**

S.No	Name of the	Designation & Address	Designation on
1	Sri. N Raja Sekhar	Assoc. Professor & HOD	Chairman
2	Prof. G.V.S.R.Deekshitulu	Professor, Department of Mathematics,	University Nominee
3	Dr. K.K.M. Sarma	Professor, Department of Mathematics,	Council Nominee
4	Prof. Y.N.Reddy	Professor, Department of Mathematics,	Council Nominee
5	Dr. T.S.R Murthy	Professor of Mathematics, Sri Vishnu Engineering College for Women,	Academician
6	Smt.B.Adi Lakshmi	Assistant.Professor of Mathematics	Member
7	Smt.G S Prasanthi	Assistant.Professor of Mathematics	Member
8	Sri S K Dhana Prasad	Assistant.Professor of Mathematics	Member
9	Sri.A Kiran Kumar	Assistant.Professor of Mathematics	Member
10	Sri.D.N.V.Rama	Assistant.Professor of Mathematics	Member
11	Smt.B.V.D. Santhi	Assistant.Professor of Mathematics	Member
12	Sri.V.Srinivas Rao	Assistant.Professor of Mathematics	Member
13	Sri.T.D.Rama	Assistant.Professor of Mathematics	Member

Item No-1:Introducing the members of BOS by Chairman.

The chairman of BOS extended a formal welcome and introduced the members.

Item No.2: Syllabi for the courses offered in I and II semesters of B.Tech Programme.

The detailed syllabi for the courses "Linear Algebra and Differential Equations" and "Numerical Methods and Vector Calculus" along withprescribed text books have been presented. With minor changes, the syllabi for the courses mentioned above have been approved. The approved syllabi for the courses are given in Annexure-VII(a)

Chairman

Board of Studies, Mathematics

ANNEXURE – VII(a)

Semester	I SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20MAT01
Name of the Course	Linear Algebra and Differential Equations					
Branches	Common to All Branches					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Apply matrix technique to solve system of linear equations	K3
CO2	Find Eigenvalues and Eigen vectors	K3
CO3	Solve the ordinary differential equations of first order & first degree	K3
CO4	Solve the linear differential equations of higher order with constant coefficients	K3
CO5	Apply Laplace Transformation to given function	K3
CO6	Find maxima and minima of functions of two variables	K3

UNIT I: System of linear equations:

Rank-Echelon form-Normal form – Solution of linear systems – Gauss elimination – Gauss Jordon- Gauss Jacobi and Gauss Seidal methods.

UNIT II: Eigenvalues, Eigen vectors and Cayley-Hamilton theorem:

Eigenvalues - Eigen vectors– Properties – Cayley-Hamilton theorem (without proof) - Inverse and powers of a matrix by using Cayley-Hamilton theorem.

UNIT-III: Differential equations of first order and first degree:

Linear-Bernoulli-Exact-Reducible to exact differential equations -Newton's Law of cooling-Law of natural growth and decay-Orthogonal Trajectories.

UNIT IV: Linear differential equations of higher order:

Linear non homogeneous differential equations of higher order with constant coefficients involving RHS term of the type e ^{ax}, sinax, cosax, polynomials in x, e ^{ax}V(x), xV(x)- method of variation of parameters.

UNIT V: Laplace Transformation:

Laplace transforms of standard functions, properties(without proof), transforms of tf(t), f(t)/t, transforms of derivatives and integrals, transforms of unit step function, Dirac delta function, Inverse Laplace transforms, convolution theorem (without proof)

Application: Solving ordinary differential equations with initial conditions using Laplace transforms.

UNIT VI: Partial Differentiation:

Introduction to partial differentiation -Total derivative - Functional dependence - Jacobian.- maxima and minima of functions of two variables (without constraints) and Lagrange's method (with constraints).

Text Books:

1. B.S.Grewal, Higher Engineering Mathematics, 43rd Edition, Khanna Publishers.

2. N.P.Bali, Engineering Mathematics, Lakshmi Publications.

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 10th Edition, Wiley-India

2. Dean G. Duffy, Advanced engineering mathematics with MATLAB, CRC Press

3. Srimanta Pal, Subodh C.Bhunia, Engineering Mathematics, Oxford University Press.

4. Dass H.K., Rajnish Verma. Er., Higher Engineering Mathematics, S. Chand Co. Pvt. Ltd, Delhi.

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20MAT02
Name of the Course	Numerical Methods and Vector Calculus					
Branches	Common to All Branches					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Compute approximate roots of algebraic and transcendental equations and interpolating polynomial for the given data	K3
CO2	Solve ordinary differential equations with initial conditions using numerical methods	K3
CO3	Find multiple integrals and improper integrals	K3
CO4	Calculate gradient of a scalar function, divergence and curl of a vector function	K3
CO5	Apply the knowledge of vector integral concepts to find characteristics of vector fields	K3
CO6	Find Fourier series of a periodic functions	K3

UNIT I:Solutionof Algebraic and Transcendental Equations and Interpolation:

Introduction- Bisection method – Method of false position– Newton-Raphson method (One variable) - finite differences- forward differences, backward differences – simple relations on forward, backward, central, average and shifting operators - Newton's formulae for interpolation - Lagrange's interpolation formula.

UNIT II: Numerical Integration and solution of Ordinary Differential equations:

Trapezoidal rule- Simpson's 1/3rd and 3/8th rule-Solution of ordinary differential equations by Taylor's series- Picard's Method - Euler's method- Euler's modified Method – Runge-Kutta method (fourth order).

UNIT III: Multiple Integrals:

Definition of Improper integrals - Double and triple integrals – Change of variables – Change of order of integration.

UNIT IV: Vector Differentiation:

Vector differential operator - Gradient- Divergence- Curl - Laplacian and second order operators -Vector identities.

UNIT V: Vector Integration:

Line integral: Work done – Potential function – Surface and volume integrals - Vector integral theorems: Greens, Stokes and Gauss Divergence theorems (without proof) and related problems.

UNIT VI: Fourier series:

Fourier series -Introduction, Periodic functions, Fourier series of a periodic function, Dirichlet's conditions, Even and odd functions, Change of interval, Half-range sine and cosine series.

Text Books:

1. B.S.Grewal, Higher Engineering Mathematics, 43rd Edition, Khanna Publishers.

2. N.P.Bali, Engineering Mathematics, Lakshmi Publications.

Reference Books:

1. Erwin Kreyszig, Advanced Engineering Mathematics, 10th Edition, Wiley-

2. Dean G. Duffy, Advanced engineering mathematics with MATLAB, CRC Press

3. V.Ravindranath and P.Vijayalakshmi, Mathematical Methods, Himalaya Publishing House. India

4. Srimanta Pal, Subodh C.Bhunia, Engineering Mathematics, Oxford University Press.

5. Dass H.K., Rajnish Verma. Er., Higher Engineering Mathematics, S. Chand Co. Pvt. Ltd, Delhi.

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)

(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)

(Accredited by NAAC with 'A' Grade & NBA,)

Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**

Department of BS&H, Physics Section

Date:28-12-2020

Minutes of the Physics Board of studies second meeting was held on 28-12-2020 at 12:15 PM through online zoom meeting in the Physics Laboratory

Members present:

S.No	Name of the Member	Designation & Address	Designation on BOS
1	Sri. P. Sita Rama Raju	Assoc. Professor of Physics Sri Vasavi Engineering College	Chairman
2	Prof. G. Padmaja Rani	Professor Dept of UCEK, Kakinada	University Nominee
3	Prof. S.V.S.R. Reddy	Professor Dept of Physics, NIT Warangal	Council Nominee
4	Dr. P. S. V. Subba Rao	Asst. Prof. Department of Physics Andhra University Visakhapatnam	Council Nominee
5	Dr. Ch. V. Srinivas	Dept of Physics, SVCE W, BVRM	Academician
6	Dr. K. Jagadeesh	Sr. Assistant. Professor of physics	Member
7	Sri. B. Sasi Bhushan	Assistant Professor of physics	Member
8	Ms. G. Rama Devi	Assistant Professor of physics	Member
9	Sri. R. Sarath Babu	Assistant Professor of physics	Member
10	Sri. P. Ravi	Assistant Professor of physics	Member

The following items are discussed in the meeting:

Item No-1: Introducing the members of BOS by chairman.
  ➢ The chairman of BOS extended a formal welcome and introduced the members.

Item No-2: Syllabi for the courses offered in I and II semesters of   B Tech programme.
  ➢ The detailed syllabi for the Engineering Physics theory and Engineering Physics Laboratory along with prescribed text books have been presented. With minor changes, the syllabi for the above courses have been approved. The approved syllabi for the courses are given in Annexure-VIII(a).

Chairman
Board of Studies,
Physics section

<div align="right">**ANNEXURE-VIII(a)**</div>

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20PHT01
Name of the Course	ENGINEERING PHYSICS					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Grasp the basic principles of structure of materials, crystallography and X-ray diffraction.	K2
CO2	Expose the students to the basic concepts of Lasers and their applications in optical fiber communication link	K3
CO3	Classify the applications of sound waves in various fields.	K2
CO4	Interpret wavelike behavior of matter and motivates the need of fundamental physical laws for better understanding of materials.	K3
CO5	Describe the properties of semiconducting materials	K2
CO6	Illustrate the fundamental concepts of dielectrics and Superconductors.	K4

UNIT-I

CRYSTALLOGRAPHY : Introduction – Space lattice – Basis – Unit Cell – Lattice parameters –Crystal systems- Bravais lattices– Structures and packing fractions of SC,BCC and FCC

X-RAY DIFFRACTION: Directions and planes in crystals – Miller indices – Separation between successive [h k l] planes – Bragg's law-Bragg's x-ray spectrometer.

UNIT-II

LASERS: Introduction –Characteristics of lasers – Spontaneous and Stimulated emission of radiation – Einstein's coefficients –Pumping schemes– Population inversion– Ruby laser- Helium Neon laser- Applications of LASER.

FIBER OPTICS: Introduction –Structure of an optical fiber- Principle of Optical Fiber – Acceptance angle and acceptance cone – Numerical aperture- Basic optical communication system-Advantages of optical fibers over conventional transmission lines.

UNIT – III

ACOUSTICS: Introduction - Sound absorption- Absorption coefficient-Reverberation- Reverberation Time –Basic requirements for constructing an acoustically good hall - Sabine's formula-Factors affecting acoustics of buildings and their remedial measures.

ULTRASONICS: Introduction- Production of Ultrasonic Waves Using Piezoelectric Effect and Magnetostriction Method- Non-Destructive Testing - Pulse Echo Technique –Applications of ultrasonics.

UNIT – IV

QUANTUM MECHANICS: Introduction-de-Broglie's concept of matter waves – Schrodinger's Time Independent& time dependent wave equations –Physical significance of the wave function- Particle in a one dimensional potential box.

FREE ELECTRON THEORY: Classical free electron theory (qualitative) – Assumptions and failures-Quantum free electron theory – Equation for electrical conductivity based on quantum free electron theory-Density of states (3D) - Fermi energy-Fermi – Dirac distribution.

UNIT – V

BAND THEORY OF SOLIDS: Bloch's function (qualitative) – Kronig – Penney model (qualitative)–formation of energy bands in crystalline solids based on Kronig Penny model –E vs K diagram- v vs K diagram- effective mass of an electron-Classification of crystalline solids-concept of hole.

SEMICONDUCTOR PHYSICS: Introduction - Types of Semiconductors-Intrinsic Semiconductors- Carrier concentration– Expression for Conductivity-Extrinsic semiconductors-Carrier concentrations-Dependence of Fermi energy on carrier concentration and temperature-Drift and diffusion currents-Einstein's Equation-Hall Effect-Hall coefficient-Applications of Hall Effect.

UNIT-VI

SUPERCONDUCTIVITY: Introduction- General properties – Meissner effect - Type I and Type II Superconductors- BCS Theory – Josephson effects (AC and DC) -Applications of superconductors.

DIELECTRIC PROPERTIES: Introduction- Types of polarizations-Electronic, Ionic and Orientation polarizations (qualitative) – Internal electric field – Clausius- Mossoti Equation.

Text Books:

1. A Text book of Engineering Physics, M.N. Avadhanulu and P.G.Kshirasagar,S.Chand Publications.
2. Engineering Physics DK Bhattacharya, Poonam and Tandom Publications.

Reference books:

1. Solid state Physics, A.J. Dekker by Mc Millan India Ltd.
2. Introduction to Solid state Physics, Charles Kittle, Willey India Pvt. Ltd.
3. Solid state Physics, S.O. Pillai by New Academic Science.
4. Basic Engineering Physics,Dr.P. Sreenivasa Rao, Himalaya Publishers.
5. Engineering Physics, V. Rajendran, Mc Graw Hill.
6. Engineering Physics, Sanjay D Jain and Girish G Sahasrabudhe., University Press.
7. Engineering Physics, Gaur and Guptha, Dhanpat Rai Publications.
8. Engineering Physics, P.K. Palanisamy, Sci Tech Publishers.

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20PHL01
Name of the Course	ENGINEERING PHYSICS LAB					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Analyze the physical principle involved in the various instruments; also relate the principle to new application.	K4
CO2	Demonstrate the various experiments in the areas of optics, mechanics and Electronics in all branches of engineering.	K3
CO3	Think innovatively and also apply the creative skills that are essential for engineering.	K4

List of Experiments:
(Any eight of the following to be done)

1. Determination of Rigidity modulus of a material – Torsional Pendulum
2. Determination of acceleration due to gravity – Compound Pendulum
3. Verification of laws of vibrations in stretched strings – Sonometer
4. Determination of velocity of sound – Volume Resonator
5. Verification of Magnetic field Induction along the axis of current carrying coil – Stewart and Gee's apparatus.
6. Determination of Planck's constant using photocell.
7. Determination of wave length of laser source using diffraction grating.
8. Determination of frequency of electrically driven tuning fork - Melde's experiment – Transverse and longitudinal modes.
9. Study of V/I Characteristics of Zener diode.
10. Draw the frequency responsive curves of L-C-R Series Resonance Circuit.
11. Determination of Energy band gap of a Semiconductor p-n junction.

12. Characteristics of Thermistor – Negative Temperature Coefficient of resistivity.

<u>Virtual labs:</u>
   (Any two of the following to be done)

1. Crystal Structure.
2. Numerical Aperture of an Optical Fiber.
3. Photo-Electric Effect.
4. Hall Effect.

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)

(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)

(Accredited by NAAC with 'A' Grade & NBA,)

Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**

Department of BS&H, Chemistry Section

Minutes of the Second meeting of Board of Studies, Chemistry was conducted on 28-12-2020 at 12.30 PM through online Zoom meeting.

Members present:

S. No.	Name of the member	Designation in BOS
1	Sri A. Vamsi Subbarayan	Chairman
2	Dr. K. Anji Reddy	University Nominee
3	Dr. A. Ratnakar	Subject Expert
4	Dr. G. Rambabu	Subject Expert
5	Sri J. Chandra Rao	Member
6	Sri M. Durga Prasad	Member
7	Smt. P. Durga Devi	Member
8	Smt. SSV. Sumalatha	Member
9	Sri J. Suresh Kumar	Member

Members absent:

Dr.P.Nageswara Rao	Prof., Dept of Chemistry, NIT Warangal.

The following are the conclusions of the meeting:

Item 1:

• The Chairman welcomed all the external members and introduced them to members of the college.

Item 2:

• Changes brought to the present course structure from previous regulation were shown. Members approved the course structure.

• Thorough discussion took place on syllabi, members appreciated Engineering Chemistry laboratory syllabus and proposed some changes to Engineering Chemistry and Environmental Studies. The prescribed textbooks and syllabus were approved with minor changes and it is given in Annexure-IX(a).

• External members suggested balance between online and offline mode of teaching if the need arises.

Cloud Recording Link:

https://us02web.zoom.us/rec/share/zW1KIWg4IwNzI3o9ztI6aUKFSHSee gsPZIzfQP24836XuimRil2m-ESEEaG3R8O3.fD3qWb0nujTHGrTk

Chairman
Board of Studies, Chemistry

Vision

To be a premier technological institute striving for excellence with global perspective and commitment to the nation.

Mission

1.   To produce Engineering graduates of professional quality and global perspective through learner-centriceducation.

2.   To establish linkages with government, industry and Research laboratories to promote R&D activities and to disseminate innovations.

3.   To create an eco-system in the institute that leads to holistic development and ability for life-longlearning.

Annexure-IX(a)

Semester	I/II SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20CHT01
Name of the Course	ENGINEERING CHEMISTRY					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Solve boiler troubles originated due to poor water quality and suggest suitable water treatment methods.	K3
CO2	Choose plastics and rubbers for engineering applications	K3
CO3	Associate concepts of Electro Chemistry in designing electrochemical energy systems	K2
CO4	Assess the quality of fuels	K3
CO5	Apply corrosion principles for protection of metallic structures	K3
CO6	Interpret important applications of engineering materials	K2

UNIT I: WATER TECHNOLOGY

Sources of water; Impurities in water, Hardness of water, Types of Hardness, Units of hardness, Determination of hardness of water, Numerical problems on temporary and permanent hardness.

Boiler troubles: Priming and Foaming, Sludge and Scale formation, Boiler corrosion, Caustic embrittlement. Softening of hard water- Zeolite process and Ion exchange process; Water for drinking purpose, BSI standards of drinking water, Disinfection: Chlorination, Break point chlorination. Desalination - Reverse Osmosis and Electro dialysis.

UNIT II: POLYMER TECHNOLOGY

Introduction, Polymerization, Mechanism of Free radical addition polymerization; Plastics as engineering materials; Advantages and limitations, Thermoplastics and Thermosetting plastics, Fabrication of plastics (Compression, Injection, Transfer, and Extrusion Moulding) - Preparation,properties and applications of Polythene (HDPE and LDPE), PVC, Bakelite.

Elastomers: Disadvantages of natural rubber, Vulcanization of rubber, Advantages of vulcanized rubber, Preparation, properties and applications of Buna -S and Buna-N.

UNIT III: ELECTROCHEMISTRY

Galvanic cell, Electrode potential and EMF - Reference electrodes (Calomel and Glass electrodes), Determination of pH of a solution using glass electrode, Conductometric titration (Strong Acid – Strong Base).

Batteries: Types, Primary battery - $Li-MnO_2$ battery, Secondary batteries - Lead acid battery,Lithium ion battery.

Fuel cells: Definition, H_2 - O_2 fuel cell

UNIT IV: FUEL TECHNOLOGY

Fuels – Characteristics of a good fuel, Classification of fuels, Calorific value (HCV and LCV), Dulong's formula, Numerical problems on HCV and LCV.

Solid fuels: Coal – Proximate and ultimate analysis, Significance of the analyses.

Liquid fuels: Petroleum composition, Classification, Synthetic petrol (Fischer Tropsch and Bergius process), Knocking, Anti knocking agents, Octane and Cetane ratings.

Gaseous fuels – Natural gas, LPG and CNG

Biofuels - Biogas, Biodiesel.

UNIT V: CORROSION AND ITS PREVENTION

Definition, Theories of Corrosion (Chemical & Electrochemical), Pilling-Bedworth Rule, Types of electrochemical corrosion (Galvanic corrosion, Concentration cell corrosion, Stress corrosion and

Pitting corrosion), Galvanic series, Factors which influence the rate of corrosion. Protection from corrosion - Design & Selection of metals, Cathodic protection, Protective coatings – Metallic coatings (Anodic and cathodic coatings), Methods of application of coatings on metals (Galvanizing, Tinning, and Electroplating).

UNIT VI: CHEMISTRY OF ENGINEERING MATERIALS

Nano materials: Introduction, Carbon nanotubes - Types, preparation (Arc discharge, Laser ablation and CVD Method) - Properties and applications of carbon nanotubes.

Cement: Composition, Manufacture of cement (Wet process), Setting and hardening of cement.

Biodegradable polymers: PHBV, Poly Lactic Acid - Applications

Conducting polymers: Types, Conduction mechanism in Polyacetylene, Applications.

Text Books:
1. Engineering Chemistry by Jain and Jain; Dhanpat Rai Publications & Co.
2. A Text book of Engineering Chemistry by S. S. Dara; S. Chand &Co Ltd.

Reference Books:
1. Engineering Chemistry by Vajiram and others. Wiley India Pvt. Ltd.,
2. Engineering Chemistry by Prasanth Rath, Cengage Learning.
3. Engineering Chemistry by Shikha Agarwal; Cambridge University Press.
4. Engineering Chemistry, by B. Sivasankar, McGraw-Hill.

Semester	I SEM & II SEM	L	T	P	C	COURSE CODE
Regulation	V20	2	-	-	0	V20CHT02
Name of the Course	ENVIRONMENTAL STUDIES					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Recognise the importance of environment and ecosystem services	K2
CO2	Identify the characteristic features, uses and impact of overutilization of natural resources	K2
CO3	Explain biodiversity, biodiversity services and conservation of biodiversity	K2
CO4	Report the causes and impacts of various pollutions	K2
CO5	Illustrate social and global environmental issues; sustainable development practices	K2
CO6	Describe environmental management and environmental legislations in India	K2

UNIT 1: MULTIDISCIPLINARY NATURE OF ENVIRONMENT & ECOSYSTEM

Definition, Scope and importance of environment, Typesof environment, Multidisciplinary nature of Environmental Studies, Components of environment.

Ecosystem - Concept of an Ecosystem, Structure and function of an Ecosystem, Food chain & food web, Ecological Pyramids, Structure and function of Forest, Desert, Pond and Marine ecosystem.

UNIT 2: NATURAL RESOURCES

Forest Resources: Uses, Overexploitation, Deforestation.

Water resources: Aquifers, Dams and benefits, Conflicts over water.

Mineral resources: Uses, Overexploitation, Environmental impact of extraction and use of mineral resources.

Land resources: Degradation, Soil erosion and desertification, Landslides.

Renewable Energy resources: Solar energy, Geo thermal energy, Tidal Energy.

UNIT 3: BIODIVERSITY AND ITS CONSERVATION

Definition,LevelsofBiodiversity,ValuesofBiodiversity,HotspotsofBiodiversity,ThreatstoBiodiversity, Endangered and Endemic species of India, In-situ and Ex-situConservation.

UNIT 4: ENVIRONMENTAL POLLUTION

Definition of pollution, Air pollution- Types of Air pollutants, Effects and control measures; Water pollution- Causes, Effects and control measures; Soil pollution;

Biomedical waste; Industrial waste- Process of waste management, Sanitary land fill, Incineration, 3R strategy; E- Waste and its management.

UNIT 5: SOCIAL AND GLOBAL ENVIRONMENTAL ISSUES

Family welfare - Women Education, Value education, Role of information technology on environment and human health, Acid rains, Global warming, Ozone layer depletion and Population growth.

UNIT 6: ENVIRONMENTAL MOVEMENTS, LEGISLATIONS AND MANAGEMENT

Chipko movement, Tehri dam conflict, and Silent Valley Project.

Importance of environmental legislation, Environmental Protection Act, Wildlife Protection Act, Air Act (Prevention and control of pollution), Water Act; Environmental management- EIA.

Text books:
1. Environmental Studies, Fourth Edition, ANubha Kaushik, C P Kaushik, New Age International Pubishers.
2. A Textbook of Environmental Studies, Shashi Chawla, TMH, New Delhi.
3. Fundamentals of Environmental Studies, DD Mishra, S Chand & Co. Ltd.
4. Textbook of Environmental Science, DR M. Anjireddy, B.S Publications, Hyderabad.

Semester	I / II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20CHL02
Name of the Course	ENGINEERING CHEMISTRY LABORATORY					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Analyze quantitatively a variety of samples using volumetric methods and instrumental methods	K4
CO2	Apply volumetric and instrumental methods for the determination of water quality parameters namely Alkalinity, Hardness and pH	K3
CO3	Prepare polymeric materials, nanoparticles and analyze the given coal samples	K3

List of Experiments:
1. Introduction to chemistry laboratory – Molarity, Normality, Primary, Secondary standard solutions,
   Volumetric titrations, Quantitative analysis, Qualitative analysis etc.,
2. Estimation of HCl using standard Na_2CO_3 solution.
3. Estimation of $KMnO_4$ using standard oxalic acid solution.
4. Determination of alkalinity of a sample of water.
5. Determination of total hardness of water using standard EDTA solution.
6. Estimation of copper using standard EDTA solution.
7. Estimation of ferrous iron using standard $K_2Cr_2O_7$ solution.
8. Estimation of pH of the given sample solution using pH meter.
9. Conductometric titration between strong acid and strong base.
10. Proximate analysis of coal.
11. Preparation of phenol – formaldehyde resin.
12. Preparation of ZnO_2 Nanoparticles by sol-gel method.

Text Book:

1. Lab manual prepared by Department of Chemistry, Sri Vasavi Engineering College.

Reference Books:

1. Practical Engineering Chemistry by K. Mukkanti, B.S. Publications.

2. Vogel's Quantitative Chemical Analysis – 5th Edition, Longman.

3. A Text Book on experiments and Calculations Engineering by S.S.Dara, S.Chand & Co Ltd.

<div align="right">**Annexure-X**</div>

SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)
(Approved by AICTE, New Delhi & Permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with 'A' Grade & NBA,)
Pedatadepalli, **TADEPALLIGUDEM–534 101.**W.G.Dist**. (A.P)**
Department of BS&H, English Section

MINUTES OF THE IV BOS OF ENGLISH ON 31-12-2020.

The IV BOS Meeting of English was held online at 11am on 31-12-2020 using the Zoom link : http://us02web.zoom.us/j/86829486188.

AGENDA OF THE MEETING

Item No.1: Opening Remarks by BOS Chairperson.

Item No.2: To discuss the syllabi of "English for professional Enhancement and Hone Your communication Skills Lab-I" for I Semester of B.Tech.,

Item No.3: To discuss and finalize the syllabus of "Hone Your Communication Skills Lab-II" for II semester of B.Tech.,

MINUTES of MEETING:

Item No 1:

The Chairman welcomed all the external members and introduced them to members of the college.

Item No 2:

The syllabi of "English for Professional Enhancement" (V20ENT01) and "Hone Your Communication Skills Lab-I" (V20ENL01) for Semester-I of B.Tech., have been approved by the members of BOS.

Item No 3:

The syllabus of "Hone Your Communication Skills Lab-II" (V20ENL02) for Semester-II of B.Tech., has been approved by the members of BOS of English.

The approved syllabus of English for Professional Enhancement, Hone Your Communication Skills Lab-I and Hone Your Communication Skills Lab-II given in Annexure-X(a)

Members Present

Dr.G.V.N.S.R.Ratnakar Rao, Principal, Sri Vasavi Engineering College

English BOS Members Present:

1. Chairperson of BOS: Dr. T Sujani, Assoc. Professor of English Sri Vasavi Engineering College

 2. Dr.D.KesavaRao (Council Nominee) Professor of English, NIT Warangal

3. Prof.K.Sree Ramesh (Council Nominee) Professor of English and Principal, College of Arts and Commerce Adikavi Nannaya University Rajamahendravarm

4. Dr.Purna Chandra Rao (University Nominee) Assoc.Professor of English, PVP Siddhartha Institute of Technology,Vijayawada .

Faculty Present:

1. Dr.K. Venkata Rao, Assistant Professor

2. B.AnandaRao, Assistant Professor

3. K.V.Rama Rao, Assistant Professor

4. K.Radha Madhavi, Assistant Professor

5. Tanuja .Ch, Assistant Professor

6. Aparanjani.U, Assistant Professor

Annexure-X(a)

Semester	I SEM	L	T	P	C	COURSE CODE
Regulation	V20	3	-	-	3	V20ENT01
Name of the Course	English for Professional Enhancement					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Identify the central theme of the text, use cohesive items for coherence in a paragraph, recognize nouns and basic sentence structures.	K2
CO2	Restate the central idea of the letter by using appropriate vocabulary. Gain mastery over articles and prepositions	K2
CO3	Find the success formula after reading the text in detail to answer questions. Use appropriate tense and concord, find suitable vocabulary and format to draft letters and e-mails.	K3
CO4	Employ reading skills to comprehend the given biography. Interpret visual information .Use quantifiers appropriately and get acquainted with writing for media and statement of purpose	K3
CO5	Appraise the delivered lecture and text, recognize the contextual vocabulary, write error free academic proposals and prepare poster presentations.	K4
CO6	Infer the real meaning of the text, listen for global comprehension and identify foreign phrases, use active and passive voice, practise note making.	K4

Syllabus

UNIT-I

A DRAWER FULL OF HAPPINESS (From Infotech English, Maruthi Publications).

Vocabulary: Technical vocabulary, GRE Vocabulary , Antonyms and Synonyms, Word Applications, Verbal Reasoning and Sequencing of Words.

Grammar: Word forms and Function words; Nouns: singular and plural, Countable and uncountable, Basic Sentence Structure and Word Order, yes/no questions, Wh-questions.

Listening: Listening to short audio texts and identifying the topic, context and specific pieces of information to answer a series of questions both in speaking and writing.

Speaking: Self- Introduction and Introducing others. Asking and answering general questions on topics such as home, family, work, studies and interests.

Reading: Skimming text to get the main idea. Scanning to look for specific pieces of information.

Writing: Mechanics of Writing, Punctuation, Paragraph Writing

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

UNIT-II

NEHRU'S LETTER TO HIS DAUGHTER INDIRA ON HER BIRTHDAY (From Infotech English, Maruthi Publications).

Vocabulary: Technical Vocabulary, GRE Vocabulary, Analogies, Antonyms and Synonyms, Word Applications.

Grammar: Articles, Prepositions

Listening: Answering a series of questions about main idea and supporting ideas after listening to audio texts both in speaking and writing.

Speaking: Discussion in pairs/ small groups on specific topics. Functional English: Greeting and Leave Taking.

Reading: Identifying sequence of ideas; Recognizing verbal techniques that help to link the ideas in a paragraph together.

Writing: Identifying the main ideas, Rephrasing and Summarizing them, Paraphrasing.

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

UNIT-III
STEPHEN HAWKING - POSITIVITY 'BENCHMARK' (From Infotech English, Maruthi Publications).

Vocabulary: Technical Vocabulary, GRE Vocabulary, Verbal Reasoning, Using Equivalents.

Grammar: Verbs, Tenses, Concord: Subject - Verb Agreement.

Listening: Listening for global comprehension and summarizing what is listened to both in speaking and writing

Speaking: Discussing specific topics in pairs or small groups and reporting what is discussed. Functional English: Complaining and Apologizing.

Reading: Reading a text in detail by making basic inferences –recognizing, and interpreting specific context clues; strategies to use text clues for comprehension, critical reading.

Writing: Letter writing- types, format and principles of letter writing, E-mail Etiquette, Writing a Resume/CV and Covering Letter.

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

UNIT-IV

LIKE A TREE, UNBOWED : WANGARI MAATHAI - BIOGRAPHY (From Infotech English, Maruthi Publications).

Vocabulary: Technical Vocabulary, GRE Vocabulary, Antonyms and Synonyms, Word Applications, Cloze Encounters, Phrasal Verbs, Verbal Reasoning.

Grammar: Quantifying Expressions - Adjectives and Adverbs: comparing and contrasting; Degrees of comparison

Listening: Making predictions while listening to conversations/ transactional dialogues without video (only audio), listening to audio-visual texts.

Speaking: Role plays for practice of conversational English in academic contexts (formal and informal) - Asking for and Giving Information/Directions. Functional English: Asking for Permissions, Requesting, Inviting.

Reading: Studying the use of graphic elements in text to convey information.

Writing: Interpreting Visual Information, Statement of Purpose, Writing for Media, Writing for Clarity.

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

UNIT-V

STAY HUNGRY,   STAY FOOLISH (From Infotech English, Maruthi Publications).

Vocabulary: Technical Vocabulary, GRE Vocabulary, Antonyms and Synonyms, Word Applications, Phrasal Verbs, Verbal Reasoning.

Grammar: Identifying and Correcting Common Errors in Grammar and Usage (articles, prepositions, tenses, subject-verb agreement), Reported Speech.

Listening: Identifying key Terms, Understanding Concepts and Interpreting the Concepts both in speaking and writing.

Speaking: Formal oral presentations on topics from academic contexts. Functional English: Suggesting/Opinion giving.

Writing: Writing Academic Proposals - Writing Research Articles, Poster Presentation.

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

UNIT-VI
ON SAYING PLEASE – A.G.Gardiner

Vocabulary: Technical Vocabulary, GRE Vocabulary, Antonyms and Synonyms, Foreign phrases.

Grammar: Active and Passive Voice.

Listening: Understanding Concepts, Global Comprehension from a TED talk.

Speaking: Giving Commands/instructions.

Readin : Reading Comprehension Practice for IELTS.

Writing: Note making, Blog writing.

Non- Detailed : The Post Office by Rabindranath Tagore (Macmillan India)

Books Prescribed

"Infotech English", Maruthi Publications. (Detailed)

"The post Office" by Rabindranath   Tagore, Macmillan India(Non - Detailed)

Reference books:

1. Bailey,Stephen. Academic writing: A handbook for international students. Routledge,2014.
2. Chase, Becky Tarver. Pathwasys: Listening,Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Skillful Level 2 Reading and Writing Student's Book Pack (B1) Macmillan Educational.
4. The Official Cambridge Guide to IELTS, for Academic and General Training.(2015)

Practical English Usuage, Michael Swan, OUP ,1995.

Semester	I SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20ENL01
Name of the Course	Hone your Communication Skills, Lab-I					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Identify suitable expressions to greet people, say good bye to them, introduce one another, listen to consonants	K2
CO2	Select suitable words to invite someone, accept or decline invitations, listen to..., identify and produce vowel sounds	K2
CO3	Choose suitable expressions to seek/refuse permissions, to apologize and listen to word accent	K3
CO4	Find apt expressions to give suggestions, express opinions and identify tone groups.	K3
CO5	Use appropriate words to give commands, requests and identify pauses and prominent syllables	K3
CO6	Practise listening to dialogues, role-plays using common vocabulary used in dialogues	K3

Syllabus

Unit-1   Hello, I'm

- Greeting people
- Saying goodbye to people
- Introducing yourself to someone/someone to someone else
- Listening and Identifying Consonants

Unit-2   I Would Love to…. but,

- Inviting someone
- Accepting or declining invitations
- Complaining about something
- Listening to, Identifying and Producing Vowel Sounds

Unit-3 With Your Permission I would like to.....

- Seeking Permission
- Granting/refusing permissions
- Apologising
- Listening to syllables and Word Accent and practise.

Unit-4 Why don't we....?

- Making Suggestions
- Agreeing/disagreeing with a suggestion
- Expressing Opinions
- Using Weak Forms
- Identifying Tone Groups

Unit-5 Could you Please....

- Giving Commands/instructions
- Requesting someone for something
- Identifying pauses and prominent syllables
- Identifying and using different tones

Unit-6 Dialogues

- The norms of dialogues
- Common vocabulary used in dialogues
- Carrying on a dialogue
- Listening to dialogue.

Book Prescribed

Strengthen Your Steps - A multimodal course in communication skills (Maruthi Publications)

Books for Further Reference

1. Better English Pronunciation (J.D.O'Connor), Cambridge University.

2. English Conversation Practice (A Practical Guide to improve Conversational Skills), Sterling Publishers.

3. Exercise in spoken English, Parts-I-III.CIFEL, Hyderabad, Oxford University Press.

Semester	II SEM	L	T	P	C	COURSE CODE
Regulation	V20	-	-	3	1.5	V20ENL02
Name of the Course	Hone your Communication Skills, Lab-II					
Branches	**Common to All Branches**					

Course Outcomes:

After successful completion of this course, the students will be able to

CO No.	Course Outcome	Knowledge Level
CO1	Collect suitable expressions and vocabulary to participate in JAM.	K1
CO2	Prepare, face and perform well in interviews with required etiquette.	K3
CO3	Use appropriate telephone etiquette to succeed in telephonic interviews.	K3
CO4	Show team spirit and communicative skills in group discussion.	K3
CO5	Arrange ideas and prepare to give presentations in a professional manner.	K4
CO6	Debate rationally and cogently while putting forth the ideas.	K4

Syllabus

Unit-1   JAM Session

- Preparation for JAM Session
- Participation in JAM

Unit-2   Interviews

- Guidelines for facing interviews
- Three R's of interviews
- Practice Activity (Mock Interviews)

Unit-3 Effective Telephone Interviews

- Telephone Etiquette
- Preparing for telephonic interviews
- Acing interviews
- Practice Activity (Mock Interviews)

Unit-4 Group Discussions

- Tips to participate in Group Discussion
- Practice Activity

Unit-5 Presentation and Public Speaking

- Three P's of Presentation
- Do's and Don'ts in a Power-point Presentation
- Oral Presentations
- Introduction to Public Speaking
- Strategies for successful Public Speaking
- Practice Activity

Unit-6 Debate

- Introduction to Debate
- Parts of a Debate
- Guidelines to participate in a Debate
- Practice Activity

Book Prescribed

Strengthen Your Steps - A multimodal course in communication skills (Maruthi Publications)

Books for further reference

1. English Language Communication Skills, Lab Manual cum Workbook (with CD),Cengage Learning.

2. The Students Companion –Wilfred D. Best (New Edition) – Harper,CollinsPublishers,2012.

3. Hewings, Martin. Cambridge Academic English (B2).CUP, 2012.

Annexure XI

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)
NAME OF THE EXAM: M.Tech I Semester Regular.January – 2019

S.No.	Specialization	Appeared	Passed	Fail	Pass %
1.	STE	7	6	1	85.71
2.	PSCA	3	3	0	100
3.	MD	9	7	2	77.77
4.	VLSI&ES	1	1	0	100
5.	CSE	5	5	0	100
6.	Overall	25	22	3	88.00

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)
NAME OF THE EXAM: M.Tech II Semester Regular.June – 2019

S.No.	Specialization	Appeared	Passed	Fail	Pass %
1.	STE	7	5	2	71.43
2.	PSCA	3	3	0	100
3.	MD	9	5	4	55.56
4.	VLSI&ES	1	1	0	100
5.	CSE	5	5	0	100
6.	Overall	25	19	6	76.00

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)
NAME OF THE EXAM: M.Tech III Semester Regular. November – 2019

S. No.	Branch & Specialization	Appeared	Passed	Fail	Pass %
1	CE-STE	7	4	3	57.14
2	EEE- PSC&A	3	3	0	100
3	ME – MD	9	4	5	44.44
4	ECE – VLSI & ES	1	1	0	100
5	CSE – CSE	5	5	0	100
6	Overall	25	17	8	68.00

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)
NAME OF THE EXAM: M.Tech IV Semester Regular. September – 2020

S. No.	Branch & Specialization	Appeared	Passed	Fail	Pass %
1	CE-STE	7	7	0	100
2	EEE- PSC&A	3	3	0	100
3	ME – MD	6	5	1	83.33
4	ECE – VLSI & ES	1	1	0	100
5	CSE – CSE	5	5	0	100
6	Overall	22	21	1	95.46

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM: **MBA I Semester Regular.December – 2018**

S.No.	Programme	Appeared	Passed	Fail	Pass %
1.	MBA	58	43	15	74.14

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM: **MBA II Semester Regular.May – 2019**

S.No.	Programme	Appeared	Passed	Fail	Pass %
1.	MBA	57	46	11	**80.70**

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM: **MBA III Semester Regular.December – 2019**

S.No.	Programme	Appeared	Passed	Fail	Pass %
1.	MBA	54	45	9	**83.33**

PROGRAMME WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM: **MBA IV Semester(V18) Regular.September – 2020**

S.No.	Programme	Appeared	Passed	Fail	Pass %
1.	MBA	54	48	6	88.89

Annexure-XII

Existing Members to be Replaced

BOS, Chemistry

Existing Member	New Member
Dr.P.Nageswara Rao Prof., Dept of Chemistry, NIT Warangal.	Dr.Amarendar Reddy Asst. Prof., School of Science, NIT-AP.

Extension of Subject Experts as Members on Boards of Studies

Department: Civil Engineering

S.No.	Name of the Member	Designation
1	Dr.C.B.Kameswar Rao	Prof., Dept of Civil Engg., NIT Warangal.
2	Dr.M.Kumar	Prof., Dept of Civil Engg., Osmania University College of Engg., Hyderbad.

Department: Electrical and Electronics Engineering

S.No.	Name of the Member	Designation
1	Dr.M.Sydulu	Prof., Dept of Electrical & Electronics Engg., NIT Warangal.
2	Dr.Y.P.Obulesu	Prof., Dept of Electrical & Electronics Engg., VIT Vellore.

Department: Mechanical Engineering

S.No.	Name of the Member	Designation
1	Dr.R.V.Chalam	Prof., Dept of Mechanical Engg., NIT Warangal.
2	Dr.A.Krishnaiah	Prof., Dept of Civil Engg., Osmania University College of Engg., Hyderbad.

Department: Electronics and Communication Engineering

S.No.	Name of the Member	Designation
1	Dr.N.V.S.N.Sarma	Prof., Dept of Electrical & Communication Engg., NIT Warangal.
2	Dr.M.Venugopala Rao	Prof., Dept of Electrical & Communication Engg., KL Deemed University, Vijayawada.

Department: Computer Science and Engineering

S.No.	Name of the Member	Designation
1	Dr.R.B.V.Subrahmanyam	Prof., Dept of Computer Science and Engg., NIT Warangal.
2	Dr.S.Pallam Setty	Prof., Dept of Computer Science and Systems Engg., AU College of Engineering, Visakapatnam.

Department: BSH (English)

S.No.	Name of the Member	Designation
1	Dr.D.Kesava Rao	Prof., Dept of English, NIT Warangal.
2	Dr.K.Sree Ramesh	Special Officer Adikavi Nannaya University PG Center, Tadepalligudem.

Department: BSH (Physics)

S.No.	Name of the Member	Designation
1	Dr.S.V.S.R.Reddy	Prof., Dept of Physics, NIT Warangal.
2	Dr.P.S.V.Subbarao	Asst. Prof., Dept of Physics, Andhra University, Visakhapatnam.

Department: BSH (Chemistry)

S.No.	Name of the Member	Designation
1	Dr.G.Rambabu	Asst. Prof., Dept of Chemistry, Sri Vidyaniketan Engineering College(A), Tirupathi.

Department: BSH (Mathematics)

S.No.	Name of the Member	Designation
1	Dr.Y.N.Reddy	Prof., Dept of Mathematics, NIT Warangal..
2	Dr.K.K.M.Sarma	Prof., Dept of Mathematics, Andhra University, Visakhapatnam.

Department: Management Studies

S.No.	Name of the Member	Designation
1	Dr.B.Amarnath	Professor , Sri Venkateswara University, Tirupathi
2	Dr.J.N.V.Raghu Ram	Associate Prof., Dept of Technology Management, VIT, Vellore.

Annexure-XIII

BRANCH WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM : B.Tech IV Semester Regular, November – 2020

S.No.	Branch	Appeared	Passed	Fail	Pass %
1	CE	62	27	35	43.55
2	EEE	119	85	34	71.43
3	ME	125	69	56	55.2
4	ECE	197	115	82	58.38
5	CSE	253	167	86	66.01
	Overall	756	463	293	**61.24**

BRANCH WISE PERFORMANCE ANALYSIS (EXTERNAL)

NAME OF THE EXAM : B.Tech II Semester Regular, November – 2020

S.No.	Branch	Appeared	Passed	Fail	Pass %
1	CE	28	22	06	78.57
2	EEE	48	28	20	58.33
3	ME	60	31	29	51.67
4	ECE	179	150	29	83.8
5	CSE	253	192	61	75.89
6	CST	59	39	20	66.1
7	ECT	52	46	06	88.46
	Overall	679	508	171	**74.82**