



# STUDENT HAND

School of Engineering

Academic Year

2018-19

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### School of Engineering

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### About the University

An Ordinary Teacher Lectures, A Good Teacher Teaches, A Great Teacher Inspires...

We, at P P Savani Group, have been the source of Educational Inspiration for the generations of students for the last 30 years.

Launched in 1987, P P Savani Education Trust was initiated with a school. Today, the trust has expanded itself over the years with a group of schools in not only Surat district but also across Gujarat with student strength of more than 45,000. In 2016, the Trust expanded its horizons with the launch of P P Savani Knowledge City – an initiative in higher education to align with global standards of excellence. Through this immersive educational endeavor, the Governing Body aims to ignite a new era in higher education and create a talent pool of professionally sensitized industry-ready professionals in South Gujarat. A world class 100 acre campus has been developed consisting of Hi-tech infrastructure facilitating undergraduate, postgraduate, research, certificate and skill-development programmes.

Presently, P P Savani University offers several Academic Programmes under 06 Schools – Sciences, Engineering, Management, Architecture & Design, Physiotherapy and Nursing. The university fosters an aspiration to attract the best not only from Gujarat but also Nationwide. We aspire to be the ideal place where the students channelize their energy in developing competence to utilize knowledge and skills in the chosen field. Today, in the hyper-competitive world of survival of the fittest, we assure to equip the students with the apt tools to build a solid foundation for their careers.

The university desires to establish an environment wherein the students assimilate knowledge and develop critical thinking through state-of-art laboratories, industrial exposure, interactive sessions industry experts, scientists and business tycoons. The tie ups with industries in various sectors are aimed at providing placement support to the students and also to leverage the Industry Academia Interface to promote research and consulting projects. The process of developing strategic partnerships with Indian and International Universities of repute is in pipeline.

The university also believes in strong conviction in the holistic development of the students through sports, cultural and recreation activities in the campus. Moreover, idyllic stroll by the lakeside makes the academic experience more joyful and peaceful. Also, celebration of the National Holidays as well as other diverse events like Yoga Day, Rose Party or Guru Purnima among the staff members and students strengthens a connection to the community and the desire of giving back to the society. The University is nestled in the outskirts of the city and the ambience proves to be an inspiration to inquisitive minds.

Come, visit and experience the vibes...!

## Blessings from the President...



t is an immense pleasure to welcome all the students to the Academic World of P P Savani University. We are desirous preparing leaders who can contribute in the national and global economy and as a result, the civilization. We desire to provide environment at the campus where students can be prepared to take up challenges of 21st century.

Technical education is the backbone of every Nation. Our aim is not only to give good technocrats to the Nation but also to contribute to the society by molding students into good human beings by imparting values and ethics which are embedded for life.

Our vision is to develop the professionals concerned for social values. We seek to provide to the students quality education of Soft skills and Technical skills. To match up the current corporate world and their expectations, we have developed well equipped workshops, laboratories, library, and hi-tech infrastructure to help students to attain highest standards in Academics. We focus on empowering students with sound knowledge, wisdom, experience and training both at academic level of engineering and highly competitive industrial market.

We assure you that you will be proud of yourself as a confident, successful and skilled engineer after four years at the P P Savani University.

**Vallabhbhai P Savani** President P P Savani University

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# From the Desk of the Provost...



oday, Engineering Education is in a phase of extraordinary transition. Due to this, it has become the responsibility for every academic institution to keep the curriculum, infrastructure and human resource updated and upgraded in the rapidly changing world. We, the P P Savani University, foster an aspiration to grow in terms of student strength and subsequently Faculty strength to serve the academic need of the students better and to accommodate maximum of the talented aspirants to join P P Savani School of Engineering. Our vision for School of Engineering is to establish it as the preeminent center for teaching, research and entrepreneurship in the world of Engineering.

Today, the Engineers must address and dedicate themselves to the most urgent problems faced by society, challenges regarding energy, water, food, health, and the environment, and to resolve them in a sustainable, ethical, and human way. We wish to expand our research enterprise to address our Nation's most difficult and pressing technological problems. The engineering education imparted at P P Savani University will focus on creating industry ready professionals as well as Entrepreneurs.

I believe, today's teaching of engineering has ample opportunities and need for transformation in terms of teaching tools and methodology. We desire equip the latest technologies to our classrooms to shape the career of the students. We have designed our engineering curricula integrated with the best of the world class resources coping with industrial needs.

I am very excited and hopeful about the future of School of Engineering, and looking forward to deal with our students, faculty and friends to lead our school to new heights.

I wish you all the best for an effort to shape your career at P P Savani University.

**Dr Parag Sanghani** Provost P P Savani University



# Inspirations from the Dean...



"Knowledge brings humility, from humility comes courtliness, with courtliness one attains wealth, with wealth one is able to perform his duties in a better way; and in performing his duties one attains happiness."

Dear students,

Welcome to the world of Engineering!

In today's era of cut through competition, it is very important to be equipped with contemporary knowledge and apt skill sets. To be successful in life one must have ambition, defined goals, discipline, positive attitude & habits, hard work and concentrated efforts to achieve success.

At P P Savani School of Engineering, we groom our students for successful academic, professional and eventually social life. Along with teaching, we nurture students with creativity, excellence, critical thinking, entrepreneurial skills, organizational interpersonal and communication skills and life values. There is also ample scope in extracurricular and co-curricular activities at the campus to encourage students to showcase their talent.

As world is becoming more complex day by day, it is tough to survive through conventional academic approach. P P Savani School of Engineering has pioneered new approaches to the teaching learning process which will provide comfortable, enjoyable and easy learning environment to the students. We offer the key to uncover knowledge through interdisciplinary studies and research. We are equipped with hi-tech tools which were unimaginable a decade ago in a form of learning technologies. We also facilitate to discover new insights in how brain functions and develops, which together would change the nature of teaching and learning.

Students, I wish you to become an active beneficiary of the academic and academic support facilities provided by the University through which you will get rewarding career.

Good Luck...!

XPERIENCE

**Dr Niraj Shah** Dean, School of Engineering P P Savani University

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### Schools and Programmes @ University

are offered under various schools:					
School	Programmes Offered				
School of Sciences	Bachelor of Science in				
	Biotechnology				
	Micro-biology				
	Environmental Sciences				
	• Chemistry				
	Information Technology				
	Master of Science in				
	Biotechnology				
	Micro-biology				
	Integrated Course of Master of Science in				
	Biotechnology				
	Micro-biology				
School of Architecture & Design	Bachelor in Interior Design				
	Bachelor in Architecture				
School of Physiotherapy	Bachelor of Physiotherapy				
School of Nursing	• B Sc. Nursing				
	• GNM				
School of Engineering	Bachelor of Technology in				
	Civil Engineering				
	Mechanical Engineering				
	Computer Science Engineering				
	Information Technology				
	Chemical Engineering				
School of Management	Bachelor of Business Administration				
	Integrated Course of Management in				
	Master of Business Admission				
School of Liberal Arts	Bachelor of Arts				
School of Design	Bachelor of Design in				
	Fashion & Textile Design				
	Graphics & Communication Design				
	Interior & Space Design				

### At present, under ambit of P P Savani University following programmes are offered under various schools:



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ANT ANT	Experience	4 Years

-	NAME	Ms. Nafisa D Shaikh
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	NAME	Ms Sofia A Ahmed
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	NAME	Mr. Jigesh P Mehta
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100 C	NAME	Ms. Meera Y Patel
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	Experience	6 Years

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	NAME	Ms AAshna A Varma
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### Academic Rules & Regulations

### 1. Important Terms

- a. Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.
- b. Semester: Each semester will consist of 15-18 weeks of academic work equivalent to 90actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.
- c. Programme: An educational programme leading to award of a Degree, diploma or certificate.
- d. Course: Usually referred to, as 'paper/subject' is a component of a programme. All courses need not carry the same weight. A course may be designed to comprise lectures/ tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/term papers/assignments/ presentations/ self-study etc. or a combination of some of these. The courses should define learning objectives and learning outcomes and prerequisite if any.
- e. Choice Based Credit System (CBCS): The CBCS provides choice for students to select from the prescribed courses (foundation, core, elective or skill courses). The Choice Based Semester System will be followed across P P Savani University both at Undergraduate and Post Graduate levels. Each enrolled student will be required to take a minimum specified load of course work in the chosen subject of specialization and also complete a project/dissertation if any. Once registered at the start of semester, any student will not be allowed to withdraw the subject at any point of time during the semester.
- f. Credit Based Semester System (CBSS): Under the CBSS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.
- g. Credit: A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week. In general, 1 credit is equivalent to 15 hours of teaching (lecture or tutorial) or 30 hours of practical work/field work.
- Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+,
   B, C, P and F.
- i. Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.
- j. Credit Point: It is the product of grade point and number of credits for a course.
- k. Semester Grade Point Average (SGPA): It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.
- Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
- m. Transcript or Grade Card or Certificate: Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

### 2. Admissions

- a. Admission under various courses will be done as per prescribed guidelines of the government of Gujarat and P P Savani University.
- b. A candidate to be eligible for Lateral Entry Admission (Admissions into second year of Programme) should have passed eligibility examination in the relevant discipline conducted by a recognized University.
- c. A candidate from other university is allowed to join P P Savani University after transfer of grades, scored in the earlier university, as suggested by Equivalence Committee of the University provided the student has to undertake at-least 50 per cent of the courses at P P Savani University.

#### 3. Programme Duration

The minimum and maximum duration of various programmes offered at P P Savani University are as under:

School of	Specialization	Minimum No	Maximum No
		of	of
		Semesters	Semesters
Science	B Sc in Biotechnology	5	12
	B Sc in Micro-biology	5	12
	B Sc in Environmental Sciences	5	12
	B Sc in Chemistry	5	12
	B Sc in Information Technology	5	12
	M Sc in Biotechnology	3	8
	M Sc in Micro-biology	3	8
	Integrated M Sc in Biotechnology	9	20
	Integrated M Sc in Micro-biology	9	20
Architecture &	Bachelor in Interior Design	9	20
Design	Bachelor in Architecture	7	16
Physiotherapy	Bachelor of Physiotherapy	8	18
Nursing	B Sc Nursing	8	16
	GNM	6	12
Engineering	B Tech in Civil Engineering	7	16
	B Tech in Mechanical Engineering	7	16
	B Tech in Computer Science Engineering	7	16
	B Tech in Information Technology	7	16
	B Tech in Textile Engineering	7	16
	B Tech in Chemical Engineering	7	16
Management	Bachelor of Business Administration	5	12
	Integrated Master of Business Administration	9	20
Liberal Arts	Bachelor of Arts	5	12
Design	Bachelor of Design in Fashion & Textile	7	16
	Bachelor of Design in Graphics & Communication	7	16
	Bachelor of Design in Interior & Space	7	16

### 4. Enrolment Number

Each student securing admission under P P Savani University will be issued a unique Enrolment Number which follow pattern as:

Year of A	dmission	Initials o	ls of School Type of Course		Specialization Code		Roll No			
1	7	S	S	0	2	С	V	0	0	1

School	Initials	Туре	Number
Science	SS	Diploma	01
Architecture & Design	SA	UG	02
Physiotherapy	SP	PG	03
Nursing	SN	Ph D	04
Engineering	SE	Certificate	05
Management	SM	Integrated	06
Liberal Arts	SL	Dual Degree	07
Design	SD	Migrated/Transferred	08
		D to D	09

School of	Specialization	Code
Science	B Sc in Biotechnology	BT
	B Sc in Micro-biology	MB
	B Sc in Environmental Sciences	ES
	B Sc in Chemistry	СН
	B Sc in Information Technology	IT
Architecture & Design	Bachelor in Interior Design	ID
	Bachelor in Architecture	AR
Physiotherapy	Bachelor of Physiotherapy	PH
Nursing	B Sc Nursing	NR
	GNM	GN
Engineering	B Tech in Civil Engineering	CV
	B Tech in Mechanical Engineering	ME
	B Tech in Computer Science Engineering	CE
	B Tech in Information Technology	IT
	B Tech in Textile Engineering	TE
	B Tech in Chemical Engineering	СН
Management	Bachelor of Business Administration	BA
	Bachelor of Commerce	BC
	Master of Business Administration	MA
Liberal Arts	Bachelor of Arts	AT
Design	Bachelor of Design in Fashion & Textile	FT
	Bachelor of Design in Graphics & Communication	GC
	Bachelor of Design in Interior & Space	IS

### 5. Course Nomenclature

All Courses/Subjects offered for the **Under Graduate Programmes** are broadly classified & offered as:

Type of Course	Percentage Courses	To be offered at Year
Foundation Courses	15-20%	1, 2
Core Courses	50%	2, 3, 4
Elective Courses	20%	2, 3, 4
Skill Enhancement Courses	15-10%	1, 2, 3, 4

Each Course/Subject offered at P P Savani University will have a unique Course Code which follows pattern as:

Initia	als of	Specializa	tion Code	Maximum Level at Which the	Sub	ject	No of Prerequisite Subjects
Sch	nool			Course can be Offered	Co	ode	to be Passed
S	S	В	Т	2	2	1	2

School	Initials	Level	Number
Science	SS	First Year	1
Architecture & Design	SA	Second Year	2
Physiotherapy	SP	Third Year	3
Nursing	SN	Fourth Year	4
Engineering	SE	Fifth Year	5
Management	SM	Master 1 <sup>st</sup> Year	7
		Master 2 <sup>nd</sup> Year	8



### 6. Course Evaluation

All Courses/Subjects offered at P P Savani University shall be evaluated under two heads:

- a. Continuous Evaluation (CE) component which is under sole discretion of the course coordinator. It is expected that the continuous evaluation should consist of Unit Test/Weekly Test/Fortnightly Test/Class Test/Presentations/Project Work/Assignment/Group Discussion/Quiz/Seminar/Debate etc. The maximum mark of Continuous Evaluation (CE) component is 40 percent. The marks of CE component should be submitted by course coordinator to University Exam Section in the format prescribed by the University.
- End Semester Examination, conducted by University through written paper or practical test or oral test or presentation by the student or a combination of any one, two or more of these. The maximum mark of End Semester Examination is 60 percent.
- c. The End Semester Examination will be evaluated by appointing two subject experts, One from outside University and another from within University, for all courses offered under University.
- d. The total of the Continuous Evaluation Component and End Semester Examination marks in each course will be converted to a letter grade on a ten-point scale as per the following scheme:

Percentage of Marks	Grade	Grade Point
90% and above( $\ge$ 90% , $\le$ 100% )	0	10
Below 90% but not less than $80\%$ ( $\ge 80\%$ , < 90% )	A+	9
Below 80% but not less than 70% ( $\geq$ 70% , < 80% )	А	8
Below 70% but not less than $60\% ( \ge 60\%, < 70\%)$	B+	7
Below 60% but not less than $50\% ( \ge 50\%, < 60\%)$	В	6
Below 50% but not less than $45\% ( \ge 45\% , < 50\% )$	С	5
Below 45% but not less than $40\%$ ( $\ge 40\%$ , $< 45\%$ )	Р	4
Below 40%( < 40% )	F	0

e. In order to earn the credit in a course a student has to obtain grade other than F.

- f. A student, who obtains F grade, has to repeat the university examination till he/she obtains grade other than F.
- g. No student is allowed to upgrade the grade, if he/she scored grade other than F.
- h. The student's performance in any semester will be assessed by the Semester Grade Point Average (SGPA). Similarly, his/her performance at the end of two or more consecutive semesters will be denoted by the Cumulative Grade Point Average (CGPA). The SGPA and CGPA are calculated as per guidelines of UGC.
- i. In a semester, the SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

SGPA (Si) =  $\Sigma$ (Ci x Gi) /  $\Sigma$ Ci

Where, Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

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

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

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

k. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the grade-card& transcript.

### 7. Attendance

- a. Attendance is compulsory in all subject. The minimum attendance under each course is 80%. Any student failing to fulfil attendance requirements, will not be allowed to appear for University Examination. In case of genuine medical reasons like serious personal illness or accident or family calamity, the maximum permissible attendance relaxation can be up to 10% maximum, subject to approval from Dean of respective school.
- b. A student, who fails to fulfil attendance requirements under one or more subjects, the grade awarded will be TN and the student has to register and study, the course once again.

### 8. Promotion Rules

- a. All the students of odd semester are allowed to move to even semester irrespective of their results.
- b. At the end of a year, a student is not allowed to move to odd semester in case of his/her CGPA is less than 3.00.
- c. Over and above, the school has to follow the guidelines laid down by the statutory body time to time.

### 9. Programme Credit

The minimum and maximum credits per semester along with total programme credits for various Programmes are as under:

School of	Specialization	Course Duration Semesters	Minimum No of Semesters	Maximum No of Semesters	Maximum Contact Hours/Wk	Total Credits
Science	B Sc in Biotechnology (Honors)	6	5	12	35	140
	B Sc in Micro-biology (Honors)	6	5	12	35	140
	B Sc in Environmental Sciences (Honors)	6	5	12	35	140
Architecture &	Bachelor in Architecture	10	9	20	35	230
Design	Bachelor in Interior Design	8	7	16	35	180
Physiotherapy	Bachelor of Physiotherapy	9	8	18	42	220
Nursing	B Sc Nursing	8	7	16	42	270
	GNM	6	-	-	-	-
Engineering	B Tech in Civil Engineering	8	7	16	35	200
	B Tech in Mechanical Engineering	8	7	16	35	200
	B Tech in Computer Science Engineering	8	7	16	35	200
	B Tech in Information Technology	8	7	16	35	200
	B Tech in Chemical Engineering	8	7	16	35	200
Management	Bachelor of Business Administration	6	5	12	35	140



### 10. Courses to be offered

All Courses/Subjects offered for the Under Graduate Programmes are broadly classified & offered as:

Type of Course	Percentage Courses	To be Decided by
Foundation Courses	15-20%	Director of School
Core Courses	50%	Director of School
Elective Courses	20%	Refer Section 11
Skill Enhancement Courses	15-10%	Refer Page No. 26

### 11. Guidelines for Offering Elective Courses

- a. The director of the school will offer School/Department specific elective courses to the school & department students.
- b. The director of the school will offer **two to five open elective courses** to the students of other schools.

### List of Foundation Courses

Course	Course Name	Droforrad Voor	Credite	Teac	ning Sc	heme
Code	Course ivane	Treferred Tear	Creans	L	Р	Т
SECV1030	Engineering Mechanics	1/2	4	3	2	0
SECV1050	Global Environmental Challenges & Management	1/2	2	2	0	0
SECV1060	Basics of Engineering Sciences	1/2	4	3	2	0
SECV1070	Solid Mechanics	1/2	4	3	2	0
SEME1010	Engineering Graphics	1/2	5	3	4	0
SEME1020	Engineering Workshop	1/2	1	0	2	0
SEME1040	Concepts of Engineering Drawing	1/2	3	2	2	0
SECE1010	Basics of Computer & Programming	1/2	4	3	2	0
SECE1020	Introduction to Computer Programming	1/2	5	3	4	0
SECE1030	Programming with Python	1/2	5	3	4	0
SEIT1010	Introduction to Web Designing	1/2	2	0	4	0
SEIT1020	Logic Building & Problem Solving	1/2	1	0	2	0
SESH1010	Elementary Mathematics for Engineers	1/2	5	3	0	2
SESH1020	Linear Algebra & Vector Calculus	1/2	5	3	0	2
SESH1030	Electronics Workshop	1/2	1	0	2	0
SESH1210	Applied Physics	1/2	4	3	2	0
SESH1220	Chemistry	1/2	4	3	2	0
SESH1050	Solution to Societal Problems: A Community Service Approach	1/2	1	0	2	0

### List of Skill Enhancement Courses

Course	Course Name	Preferred Semester	Credits	Teac	hing Sc	heme
Code	Course runne	Treferred beniester	orcans	L	Р	Т
SEPD1010	Academic English & Technical Writing	1	3	2	2	0
SEPD1020	Communication Skills	2	3	2	2	0
SEPD2010	Critical Thinking, Creativity & Decision Making	3	2	2	0	0
SEPD2020	Values and Ethics	4	2	2	0	0
SEPD3010	Professional Communication & Soft Skills	5	2	1	2	0
SEPD3020	Corporate Grooming & Etiquette	6	2	1	2	0
SEPD3030	Foreign Language (French / German / Chinese / Spanish)	7	2	2	0	0
SEPD3040	Innovation & Entrepreneurship	5/6	3	3	0	0

## Academic Calendar 2018 19 (Odd Semester)

				ΡP	SA	VA	NI	SCI	HOOL OF ENGINEERING
				Ac	ade	mic	Cale	enda	ar (2018-19) - ODD SEMESTER
Week No	Month	М	т	w	т	F	S	S	Activity
1	July	16	17	18	19	20	21	22	Semester 3 Teaching Starts / Registration & Fees Payment (July 16-18, 2018)
2		23	24	25	26	27	28	29	Semester 1 Teaching Starts / Registration & Fees Payment (July 23-25, 2018) Semester 1 Orientation Programme & Bridge Course (July 23-25, 2018)
3	July-August	30	31	1	2	3	4	5	
4	August	6	7	8	9	10	11	12	
5		13	14	15	16	17	18	19	15.08.2018HolidayIndependance Day / Classes of August 15 on August 18 / Visit to Adani Port by Civil, Mech & Chemical Students during August 13-15
6		20	21	22	23	24	25	26	22.08.2018HolidayBakri-Id / Classes of August 22 on August 25
7	August- September	27	28	29	30	31	1	2	August 31, 2018Janmashtami Celebration
8	September	3	4	5	6	7	8	9	03.09.2018HolidayJanmashtami / Classes of September 03 on September 08
9		10	11	12	13	14	15	16	13.09.2018HolidaySamvatsari / Classes of September 13 on September 15
10		17	18	19	20	21	22	23	21.09.2018HolidayMuharram / Classes of September 21 on September 22
11		24	25	26	27	28	29	30	
12	October	1	2	3	4	5	6	7	02.10.2018HolidayGandhi Jayanti / Classes of October 02 on October 13
13		8	9	10	11	12	13	14	
14	-	15	16	17	18	19	20	21	17.10.2018Navratri Celebration / 18.10.2018HolidayDusshera / Classes of October 18 on October 20
15		22	23	24	25	26	27	28	
16	October- November	29	30	31	1	2	3	4	
17	November	5	6	7	8	9	10	11	Diwali Break
18		12	13	14	15	16	17	18	Diwali Break
19		19	20	21	22	23	24	25	
20	November- December	26	27	28	29	30	1	2	
21	December	3	4	5	6	7	8	9	1st/3rd Sem University Practical Exam (03/12/2018 to 08/12/2018)
22		10	11	12	13	14	15	16	Preparation Leaves (10/12/2018 to 14/12/2018) 1st/2nd/3rd Sem University Theory Exam (15/12/2018 Onwards)
23		17	18	19	20	21	22	23	1st/2nd/3rd Sem University Theory Exam (15/12/2018 Onwards)
24		24	25	26	27	28	29	30	25.12.2018HolidayChristmas / 1st/2nd/3rd Sem University Theory Exam (15/12/2018 Onwards)
25	December- January	31	1	2	3	4	5	6	Semester 1 & 3 Re-Test Registration & Fees Payment (January 03-05, 2019) / Semester 2 & 4 Registration & Fees Payment (Jan 03-05, 2019) / Semester 2 & 4 Teaching Starts (From 03/01/2019)
All Tea	iching Staff M	lembe	rs are	entitle	ed for	2 Wee deper	eks of I nding o	Diwali on Aca	Vacation. Vacation Allocation is in sole discretion of the Principal/Management idemic Requirements of the School

## First Year Teaching Scheme (Computer & I.T.)

				ΡF	SAVANI UN	VIVERSITY	κ.								
				SCH	<b>IOOL OF EN</b>	GINEERIN	G								
		TEACHING & ]	EXAMINAT	<b>LION SCH</b>	EME FOR FI	RST YEAR	<b>B</b> TECH	PROGRA	MME (	CE & IT	(				
			Offaire		Teach	iing Scheme	A				Examin	lation S	cheme		
Sem	Course	<b>Course Title</b>	Duering		Contact I	Hours		C	The	ory	Pract	tical	Tut	orial	Tatal
	2000		חומות	Theory	Practical	Tutorial	Total	Create	CE	ESE	CE	ESE	CE	ESE	10141
	SESH1010	Elementary Mathematics for Engineers	HS	3	0	2	5	5	40	60	0	0	50	0	150
	SECV1060	Basics of Engineering Sciences	CV	3	2	0	5	4	40	60	20	30	0	0	150
	SECE1020	Introduction to Computer Programming	CE	3	4	0	7	5	40	60	40	60	0	0	200
	SESH1030	Electronics Workshop	HS	0	2	0	2	1	0	0	50	0	0	0	50
-	SECV1050	Global Environmental Challenges & Management	CV	7	0	0	7	7	40	60	0	0	0	0	100
	SEPD1010	Academic English & Technical Writing	SEPD	2	2	0	4	3	40	60	20	30	0	0	150
	SEIT1020	Logic Building & Problem Solving	ΤΊ	0	2	0	2	1	0	0	50	0	0	0	50
						Total	27	21							850
	SESH1020	Linear Algebra & Vector Calculus	HS	3	0	2	5	5	40	60	0	0	50	0	150
	SEME1040	Concepts of Engineering Drawing	ME	2	2	0	4	3	40	60	20	30	0	0	150
	SECE1030	Programming with Python	CE	3	4	0	Ĺ	5	40	60	40	60	0	0	200
7	SEIT1010	Introduction to Web Designing	IT	0	4	0	4	2	0	0	40	60	0	0	100
	SESH1210	Applied Physics	HS	3	2	0	5	4	40	60	20	30	0	0	150
	SEPD1020	Communication Skills	SEPD	2	2	0	4	3	40	60	20	30	0	0	150
	SESH1050	Solution to Societal Problems: A Community Service Approach	HS	0	2	0	2	1	0	0	50	0	0	0	50
						Total	31	23							950

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XPLORE XPERIENCE MPOWER

# First Year Teaching Scheme (Civil, Mechanical & Chemical)

			H	P SAVA	NI UNIVER	SITY									
			SC	O TOOHC	F ENGINEE	RING									
		TEACHING & EXAMINATION	SCHEME F	OR FIRST	YEAR B TF	CH PROG	RAMMH	E (CV, MF	ß CH	) AY: 2	018:19	6			
					Teach	ing Schem	a)			Ι	amin	nation	Schem	le	
Sem	Course Code	Course Title	Offering Branch		Contact ]	Hours		Caro dit	The	ory	Pract	tical	Tuto	rial	Leto F
				Theory	Practical	Tutorial	Total	Creatt	CE	ESE	CE	ESE	CE	ESE	1 01a1
	SESH1010	Elementary Mathematics for Engineers	HS	3	0	2	5	5	40	60	0	0	50	0	150
	SECV1030	Engineering Mechanics	CV	3	2	0	5	4	40	60	20	30	0	0	150
	SEME1020	Engineering Workshop	ME	0	2	0	2	1	0	0	50	0	0	0	50
•	SECE1010	Basics of Computer & Programming	CE	3	2	0	5	4	40	60	20	30	0	0	150
-	SESH1210/ 1220	Applied Physics/Chemistry	HS	3	2	0	5	4	40	60	20	30	0	0	150
	SEPD1010	Academic English & Technical Writing	SEPD	2	2	0	4	3	40	60	20	30	0	0	150
	SESH1050	Solution to Societal Problems: A Community Service Approach	SH	0	2	0	2	1	0	0	50	0	0	0	50
						Total	28	22							850
	SESH1020	Linear Algebra & Vector Calculus	HS	3	0	2	5	5	40	60	0	0	50	0	150
	SEME1010	Engineering Graphics	ME	3	4	0	7	5	40	60	40	60	0	0	200
	SECV1060	Basics of Engineering Sciences	CV	3	2	0	5	4	40	60	20	30	0	0	150
7	SECV1050	Global Environmental Challenges & Management	CV	2	0	0	2	2	40	60	0	0	0	0	100
	SECV1070	Solid Mechanics	CV	3	2	0	5	4	40	60	20	30	0	0	150
	SEPD1020	Communication Skills	SEPD	2	2	0	4	3	40	60	20	30	0	0	150
						Total	28	23							006

XPLORE XPERIENCE MPOWER

## Department of Civil Engineering

Course Code: SECV1030

Course Name: Engineering Mechanics

Prerequisite Course/s: -

### **Teaching & Examination Scheme:**

Т	eaching Scheme	e (Hours/Week)				Examinat	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prac	ctical	Tut	orial	Total
Theory	Tactical	i utoriai	Cicuit	CE	ESE	CE	ESE	CE	ESE	TOtal
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

### **Objective of the Course:**

- To understand different types of forces, systematic evaluation of effect of these forces, behavior of rigid and deformable bodies subjected to various types of forces, at the state of rest or motion of the particles.
- To understand the fundamental principles, concepts and techniques, both theoretical and practical, with emphasis on the application of these to the solution of mechanics based suitable problems in all engineering.
- To provide a strong foundation and formwork for more advanced study at every higher semester as the subject of engineering mechanics cuts broadly across all branches of engineering profession.

### **Course Content:**

	Section I		
Module	Content	Hours	Weightage
1.	<b>INTRODUCTION:</b> Definition of rigid body, Deformable body, Scalar and Vector quantities, Fundamental principles of mechanics: Principle of transmissibility, Principle of superposition, Law of parallelogram of forces.	02	6%
2.	<ul> <li>FUNDAMENTAL OF STATIC:</li> <li>Force, types of forces, Characteristics of a force, System of forces, Composition and resolution of forces.</li> <li>Concurrent Forces: Resultant of coplanar concurrent force system by analytical and graphical method, Law of triangle of forces, Law of polygon of forces, Equilibrium conditions for coplanar concurrent forces.</li> <li>Non-Concurrent Forces: Moments &amp; couples, Characteristics of moment and couple, Varignon's theorem, Resultant of non-concurrent forces by analytical method, Equilibrium conditions of coplanar non-concurrent force system.</li> </ul>	10	20%
3.	<b>FRICTION:</b> Theory of friction, Types of friction, Cone of friction, Angle of repose, Coefficient of friction, Friction on inclined plane, ladder friction, wedge friction, belt and rope friction.	06	14%
4.	<b>BEAMS AND SUPPORT REACTION:</b> Types of loads, Types of supports, Types of beams, Determination of support reactions for different types of beam.	04	10%
	Section II		
Module	Content	Hours	Weightage
5.	<b>TRUSS:</b> Classification of Truss, Perfect and Imperfect truss Analysis of pin-jointed perfect truss using method of joints and Method of section	06	14%
6.	<b>CENTROID AND CENTRE OF GRAVITY:</b> Centroid of lines, plane areas and volumes, Examples related to centroid of composite geometry, Pappus – Guldinus theorems.	06	14%
7.	<b>MOMENT OF INERTIA:</b> Parallel and Perpendicular axis theorems, Polar moment of inertia, Radius of gyration of areas, Examples related to moment of inertia of composite geometry.	11	22%

### List of Practical:

Sr. No	Name of Practical	Hours
1.	Equilibrium of coplanar concurrent forces	04
2.	To verify the law of parallelogram of forces	04
3.	To verify the law of polygon of forces	02
4.	To verify the lami's theorem	02
5.	To study effect of friction on flat surface	02
6.	To study effect of friction on angular surface	02
7.	Equilibrium of parallel force system – simply supported beam	02
8.	Solve tutorial on Truss, C.G & M.I	10
9.	Draw sketches for different type of trusses	02



### **Text Book:**

Title	Author/s	Publication
Engineering Mechanics (Statics & Dynamics)	Beer and Johnston	Tata McGraw Hill Education
Mechanics of Structure Vol. I & II	S. B. Junnarkar & H. J. Shah	Charotar Publication
Applied Mechanics	S. B. Junnarkar & H. J. Shah	Charotar Publication

#### **Reference Book:**

Title	Author/s	Publication
Engineering Mechanics,	Meriam and Karaige,	Wiley-India
Engineering Mechanics: Statics and Dynamics	S Rajsekaran	Vikas Publication
Engineering Mechanics of Solids	Popov E.P	Prentice Hall of India
Engineering Mechanics Statics	J. L. Meriam, L. G. Kraige.	John wiley & Son
Engineering Mechanics	S.S. Bhavikatti & K.G. Rajeshkarappa	New Age Publication
Engineering Mechanics	U.G. Jindal	Made easy Publication
Engineering Mechanics	K.L. Kumar	Tata McGraw Hill
Engineering Mechanics	R.C. Hibbeller	Pearson

### Web Material Links:

- <u>http://nptel.ac.in/courses/122104014/</u>
- http://nptel.ac.in/courses/112103108/

### **Course Evaluation:**

#### Theory:

- Continuous evaluation consists of two tests each of 15 marks and 1 hour of duration.
- Submission of assignment which consists of solving 20 numerical and it carried 10 marks of evaluation.
- End semester examination will consist of 60 marks exam.

#### Practical/Tutorial:

- Continuous evaluation consist of performance of practical/tutorial which should be evaluated out of 10 for each practical/tutorial in the next turn and average of the same will be converted to 10 marks.
- Internal viva component of 10 marks.
- Practical performance/quiz/drawing/test of 15 marks during end semester exam.
- Viva/Oral performance of 15 marks during end semester exam.

### **Course Outcome:**

After learning the course the students should be able to understand:

- Fundamental principles of mechanics, equilibrium, statics reactions and internal forces in statically determinate beams.
- Apply principles of statics for determine C.G and M.I of a different geometrical shape and Understand basics of friction and its importance.

## Department of Civil Engineering

Course Code: SECV1050

Course Name : Global Environmental Challenges & Management

Prerequisite Courses:

#### **Teaching & Examination Scheme:**

Т	eaching Scheme	e (Hours/Week)				Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prac	ctical	Tut	orial	Total
Theory	Tractical	Tutoriai	Cicuit	CE	ESE	CE	ESE	CE	ESE	TOtal
2	0	0	2	40	60	0	0	0	0	100

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

- Imparting basic knowledge about environment and thereby developing an attitude of concern for environment.
- Creating awareness on various environmental pollution aspects and issues.
- To give a comprehensive insight into natural resources, ecosystem and biodiversity.
- To educate the ways and means to protect the environment from various types of pollution.



#### **Course Content:**

	Section I		
Module	Content	Hours	Weightage
1.	<b>INTRODUCTION TO ENVIRONMENT AND ENVIRONMENTAL</b> <b>STUDIES:</b> Terms related to environment, Necessity of Public awareness, Components of Environment, Relationship between the different components of Environment, Man and Environment relationship, Impact of technology on Environment, Objective, Principles, Importance, Scope of Environmental Education,	02	4%
2.	<b>ECOLOGY AND ECOSYSTEMS:</b> Introduction: Ecology- Objectives and Classification, Concept of an ecosystem- structure and functions of ecosystem Components of ecosystem-Producers, Consumers, Decomposers Bio-Geo- Chemical Cycles- Hydrologic Cycle, Energy Flow in Ecosystem, Food Chains, Food webs, Ecological Pyramids	04	12%
3.	<ul> <li>NATURAL RESOURCES:</li> <li>Energy Recourses: Renewable and Nonrenewable resources, exploitation and conservation, Role of individual in conservation of natural resources.</li> <li>Water resources: Water sources- Surface and Ground watersources, Indian and global scenario.</li> <li>Forest resources: Definition, Ecological and Economic importance and benefits of forest, Indian scenario, Deforestation: causes and effects, remedial measures.</li> <li>Food resources: Sources of food, Global and Indian food demand scenario, Limits of food production, Environmental effects of Agriculture.</li> </ul>	06	22%
4.	<b>GLOBAL ENVIRONMENTAL CHALLENGES:</b> Climate change, Global warming and Greenhouse effect, Greenhouse gases, Acid rain, Depletion of ozone layer, Nuclear accidents and holocaust.	03	12%
	Section II		
Module	Content	Hours	Weightage
5.	<ul> <li>ENVIRONMENTAL POLLUTION: Environmental degradation, Pollution, Sources of pollution, Types of environmental pollution.</li> <li>Water Pollution: Water quality standards, Sources of water pollution: Industrial, Agricultural, Municipal, Classification of water pollutants, Effects of water pollutants, Eutrophication. Air Pollution: Ambient air quality standards, Classification of air pollutants, Sources of common air pollutants, Natural and Anthropogenic sources, Effects of common air pollutants. Land Pollution: Land uses, Land degradation: causes, effects and control, soil erosion. Noise Pollution: Sound and Noise, Causes and Effects. Role of individual in the prevention of pollution.</li> </ul>	05	16%
6.	Effect of Human population on Environment Human Population and Environment: Population Growth, World and Indian scenario, Population and Environmental Degradation, Malthusian theory, Optimum theory, Population explosion – Causes, Effects and Control. Urbanization: Urban population growth and Environmental Problems.	04	12%
7.	Environment Management: Disaster management, Solid waste management, Environment Impact assessment & ISO 14001 standards.	06	22%

#### **Text Book:**

Title	Author/s	Publication
Environmental Studies	Anindita Basak	Pearson Publications

#### **Reference Book:**

Title	Author/s	Publication
Basics of Environmental Studies	Prof. N.S. Varandani	LAP -Lambert Academic
		Publishing
Basics of Environmental Studies	Dr. J. P. Sharma	University Science Press
Basics of Environmental Studies	U. K .Khare	Tata McGraw Hill Publications
Environmental Studies	Anindita Basak	Pearson (India)Pvt. Ltd
Environmental Sciences	Daniel B Botkin & Edward A Keller	John Wiley & Sons Publications
Environmental Studies	Dr. Suresh K Dhameja	K Kataria & Sons Publications
Environmental Studies for Undergraduate Courses	Erach Bharucha	Universities Press (India)
Introduction to Environmental Engineering and	Gilbert Masters	Prentice-Hall Publication
Science		
Basics of Environmental Studies	S.G. Shah, Gopal N. Shah	Superior
		Publications

### Web Material Links:

- <u>http://nptel.ac.in/courses/122102006/</u>
- <u>http://nptel.ac.in/courses/105104099/</u>
- <u>http://nptel.ac.in/courses/122102006/</u>
- http://nptel.ac.in/courses/120108004/
- <u>http://nptel.ac.in/courses/105102089/</u>
- <u>http://nopr.niscair.res.in</u>
- <u>http://www.indiaenvironmentportal.org.in</u>

#### **Course Evaluation:**

#### Theory:

- Continuous evaluation consists of two tests each of 15 marks and 1 hour of duration.
- Preparation of presentation/chart by the students in a group of 3 and it carried 10 marks of evaluation.
- End semester examination will consist of 60 marks exam.

### **Course Outcome:**

After learning the course the students should be able to understand:

- Multi-disciplinary nature of the environment, its components, and inter-relationship between man and environment.
- Relevance and importance of the natural resources in the sustenance of life on earth and living standard.
- Importance of ecosystem, biodiversity and natural bio geo chemical cycle.

### Department of Civil Engineering

Course Code: SECV1060

Course Name: Basics of Engineering Sciences

#### **Teaching & Examination Scheme:**

Т	leaching Scheme	e (Hours/Week)				Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prac	ctical	Tut	orial	Total
Theory	Flactical	i utoriai	Cieun	CE	ESE	CE	ESE	CE	ESE	TOtal
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

### **Objective of the Course:**

- To study the fundamentals of mechanical systems.
- To study and appreciate significance of mechanical engineering in different fields of engineering.
- To carry out simple land survey and recent trends in civil engineering.
- To understand components of building, building terminology and construction materials.
- To understand the basic electrical components and safety measures.
- To understand the working principle of rectifiers and LDR.
| Section I  |  |  |   |  |  |  |  |
|--|--|--|---|--|--|--|--|
| Module   | Content  | Hours  | Weightage   |  |  |  |  |
| 1.   | MECHANICAL ENGINEERING: AN OVERVIEW  |  |   |  |  |  |  |
|  | Prime Movers - Meaning and Classification; Concepts of   | 07   | 09%   |  |  |  |  |
|  | Thermodynamics: Definitions, systems and, Laws; Fuels Classification:  | 07   | 0970  |  |  |  |  |
|  | Solid, liquid and gaseous their application.   |  |   |  |  |  |  |
| 2.   | <b>BASICS OF STEAM GENERATORS :</b>  | IAB  | 08%   |  |  |  |  |
|  | Boilers as per IBR, Classification, Functions of Mountings and Accessories.  | END  | 0070  |  |  |  |  |
| 3.   | CIVIL ENGINEERING: AN OVERVIEW   |  |   |  |  |  |  |
|  | Introduction, Branches, Scope, Impact, Role of Civil Engineer.   |  |   |  |  |  |  |
|  | <b>BUILDING MATERIALS AND CONSTRUCTION:</b>  |  |   |  |  |  |  |
|  | Introduction (types and properties) to construction materials like Stone,  | 07   | 16%   |  |  |  |  |
|  | Bricks, Cement, Sand, Aggregates, Concrete, Steel. Classification of   | 07   | 1070  |  |  |  |  |
|  | buildings, Types of loads acting on buildings, Building components and   |  |   |  |  |  |  |
|  | their functions, Type of foundation and importance, Symbols used in  |  |   |  |  |  |  |
|  | electrical layout, Symbols used for water supply, plumbing and sanitation.   |  |   |  |  |  |  |
| 4.   | BASIC UNDERSTANDING OF DOMESTIC WIRING: Service mains,   |  |   |  |  |  |  |
|  | meter board and distribution board. Elementary discussion on Circuit   |  |   |  |  |  |  |
|  | protective devices: fuse and Miniature Circuit Breaker (MCB's). Electric   |  |   |  |  |  |  |
|  | shock, precautions against shock, Objectives of earthing, types of earthing;   |  |   |  |  |  |  |
|  | pipe and plate earthing, Residual current circuit breaker (RCCB  | 08   | 17%   |  |  |  |  |
|  | ELECTROMAGNETIC INDUCTION: Definition Faradays Laws,   | 00   | 1770  |  |  |  |  |
|  | Fleming's right hand rule, Lenz's Law, Statically and dynamically induced  |  |   |  |  |  |  |
|  | emf. Self-inductance, mutual inductance and coefficient of coupling.   |  |   |  |  |  |  |
|  | Energy stored in magnetic field. Force on current carrying conductor   |  |   |  |  |  |  |
|  |  |  |   |  |  |  |  |
|  | placed in a magnetic field, Fleming's left hand rule.  |  |   |  |  |  |  |
|  | placed in a magnetic field, Fleming's left hand rule.<br>Section II  |  |   |  |  |  |  |
| Module   | placed in a magnetic field, Fleming's left hand rule. Section II Content   | Hours  | Weightage   |  |  |  |  |
| Module<br>5.   | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:   | Hours  | Weightage   |  |  |  |  |
| Module<br>5.   | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Define the theory of the first section of the fir | Hours<br>08  | Weightage<br>09%  |  |  |  |  |
| Module<br>5.   | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences   | Hours<br>08  | Weightage<br>09%  |  |  |  |  |
| <b>Module</b><br>5.<br>6.                                  | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences<br>BASICS OF I.C ENGINES:   | Hours<br>08  | Weightage<br>09%  |  |  |  |  |
| Module           5.           6.                           | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences<br>BASICS OF I.C ENGINES:<br>Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,<br>DI   | Hours<br>08<br>LAB   | <b>Weightage</b><br>09%<br>08%                                    |  |  |  |  |
| Module           5.           6.                           | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences<br>BASICS OF I.C ENGINES:<br>Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,<br>Difference between 2-stroke -4 stroke engine & petrol-diesel engine.   | Hours<br>08<br>LAB   | <b>Weightage</b><br>09%<br>08%                                    |  |  |  |  |
| Module           5.           6.           7.              | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences<br>BASICS OF I.C ENGINES:<br>Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,<br>Difference between 2-stroke -4 stroke engine & petrol-diesel engine.<br>INTRODUCTION TO SURVEYING AND LEVELLING:   | Hours<br>08<br>LAB   | <b>Weightage</b><br>09%<br>08%                                    |  |  |  |  |
| Module           5.           6.           7.              | placed in a magnetic field, Fleming's left hand rule.         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.  | Hours<br>08<br>LAB   | Weightage<br>09%<br>08%   |  |  |  |  |
| Module           5.           6.           7.              | gection II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.  | Hours<br>08<br>LAB   | <b>Weightage</b><br>09%<br>08%                                    |  |  |  |  |
| Module           5.           6.           7.              | placed in a magnetic field, Fleming's left hand rule.<br>Section II<br>Content<br>MOTION AND POWER TRANSMISSION DEVICES:<br>Coupling, Clutch and Brakes: Classification Applications and differences,<br>Drives: Classification Applications and differences<br>BASICS OF I.C ENGINES:<br>Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,<br>Difference between 2-stroke -4 stroke engine & petrol-diesel engine.<br>INTRODUCTION TO SURVEYING AND LEVELLING:<br>Introduction, Fundamental principles, Classification.<br>Linear measurement: Instrument used, Chaining on plane ground.<br>Angular measurement: Instrument used, Bearing, and Local attraction.  | Hours<br>08<br>LAB<br>08                                   | Weightage<br>09%<br>08%   |  |  |  |  |
| Module           5.           6.           7.              | placed in a magnetic field, Fleming's left hand rule.         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and   | Hours<br>08<br>LAB<br>08                                   | <b>Weightage</b><br>09%<br>08%<br>17%                             |  |  |  |  |
| Module           5.           6.           7.              | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.  | Hours<br>08<br>LAB<br>08                                   | Weightage<br>09%<br>08%<br>17%                                    |  |  |  |  |
| Module           5.           6.           7.              | placed in a magnetic field, Fleming's left hand rule.         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, CDE   | Hours<br>08<br>LAB<br>08                                   | <b>Weightage</b><br>09%<br>08%                                    |  |  |  |  |
| Module           5.           6.           7.              | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS  | Hours<br>08<br>LAB<br>08                                   | Weightage<br>09%<br>08%<br>17%                                    |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS         ELECTRICAL CIRCUITS         Three phases Necessity and advantages of three phase systems convertion  | Hours<br>08<br>LAB<br>08                                   | Weightage           09%           08%           17%               |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS         ELECTRICAL CIRCUITS         Three phase: Necessity and advantages of three phase systems, generation         of three phase nower Definition of Phase sequence halos ed works or definition  | Hours<br>08<br>LAB<br>08                                   | Weightage           09%           08%           17%               |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS         ELECTRICAL CIRCUITS         Three phase: Necessity and advantages of three phase systems, generation of three phase power. Definition of Phase sequence, balanced supply and balanced lead Balationship between line and abaas and and a place and abaas and and a place and pl  | Hours<br>08<br>LAB<br>08                                   | Weightage<br>09%<br>08%<br>17%                                    |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         Content         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS         ELECTRICAL CIRCUITS         Three phase: Necessity and advantages of three phase systems, generation of three phase power. Definition of Phase sequence, balanced supply and balanced load. Relationship between line and phase values of balanced star  | Hours           08           LAB           08              | Weightage           09%           08%           17%           16% |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Chaining on plane ground.         Angular measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS,         GPS         ELECTRICAL CIRCUITS         Three phase: Necessity and advantages of three phase systems, generation of three phase power. Definition of Phase sequence, balanced supply and balanced load. Relationship between line and phase values of balanced star and delta connections. Power in balanced three-phase circuits,   | Hours           08           LAB           08              | Weightage           09%           08%           17%           16% |  |  |  |  |
| Module           5.           6.           7.           8. | Section II         Section II         MOTION AND POWER TRANSMISSION DEVICES:         Coupling, Clutch and Brakes: Classification Applications and differences,         Drives: Classification Applications and differences         BASICS OF I.C ENGINES:         Construction and working of 2 stroke & 4 stroke Petrol& Diesel engine,         Difference between 2-stroke -4 stroke engine & petrol-diesel engine.         INTRODUCTION TO SURVEYING AND LEVELLING:         Introduction, Fundamental principles, Classification.         Linear measurement: Instrument used, Bearing, and Local attraction.         Leveling: Instrument used, Basic Terminologies, Types of leveling, and         Method of leveling.         Introduction to Modern Surveying Equipment's: Total Station, GIS, GPS         ELECTRICAL CIRCUITS         Three phase: Necessity and advantages of three phase systems, generation of three phase power. Definition of Phase sequence, balanced supply and balanced load. Relationship between line and phase values of balanced star and delta connections. Power in balanced three-phase circuits, measurement of power by two-wattmeter method. Determination power   | Hours           08           LAB           08           07 | Weightage           09%           08%           17%           16% |  |  |  |  |

## List of Practical:

Sr. No	Name of Practical	Hours
1.	To understand the concepts of steam generators.	06
2.	To understand construction and working 2 -stroke & 4 -stroke Petrol Engines.	02
3.	To understand construction and working 2 -stroke & 4 -stroke Diesel Engines.	02
4.	Rectifier	02
5.	Electrical safety demonstrations	02
6.	Electrical wiring system	02
7.	Verifying ohms law	02
8.	LDR	02
9.	Unit Conversation exercise	02
10.	Linear Measurement	02
11.	Angular Measurement	02
12.	Determine R.L of given point by Dumpy level without change point.	02
13.	Determine R.L of given point by Dumpy level with change point.	02

## **Text Book:**

Title	Author/s	Publication	
Floments of Machanical Engineering	S.B.Mathur,	Dhannat Dai & Sona Dublications	
Elements of Mechanical Engineering	S. Domkundwar	Dhanpat Kar & Sons Publications	
Elements of Mechanical Engineering	Sadhu Singh	S. Chand Publications	
Elements of civil engineering	Anurag A. Kandya	Charotar Publication	
Surveying Vol. I & II	Dr. B. C. Punamia	Laxmi Publication	
Basic Electrical Engineering	V. N. Mittal and A. Mittal	Tata McGraw Hill	

## **Reference Book:**

Title	Author/s	Publication
Thermal Engineering	R. K. Rajput	Laxmi Publications
Basic Mechanical Engineering	T.S. Rajan	Wiley Eastern Ltd., 1996.
Surveying and Leveling	N. N. Basak	Tata McGraw Hill
Surveying Vol. I	S. K. Duggal	Tata McGraw Hill
Surveying and Leveling	R. Subramanian	Oxford University
Building Construction and Construction Material	G. S. Birdie and T. D. Ahuja	Dhanpat Rai Publishing
Engineering Material	S.C. Rangwala	Charotar Publication
Electrical Safety, Fire Safety Engineering	S. Rao	Khanna Publications
Electrical Estimating & costing	Surjit Singh	Dhanpat Rai & Co

## Web Material Links:

- <u>http://nptel.ac.in/course.php</u>
- <u>http://nptel.ac.in/courses/105107157/</u>
- <u>http://nptel.ac.in/courses/105101087/</u>
- <u>http://nptel.ac.in/courses/105107121/</u>
- <u>http://nptel.ac.in/courses/105104100/</u>
- <u>http://nptel.ac.in/courses/108105053/</u>

### **Course Evaluation:**

#### Theory:

- Continuous evaluation consists of two tests each of 15 marks and 1 hour of duration.
- Submission of assignment which consists charts to be prepared by the students in a group of 3 students and it carried 10 marks of evaluation.
- End semester examination will consist of 60 marks.

#### Practical:

- Continuous evaluation consist of performance of practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 marks.
- Internal viva component of 10 marks.
- Practical performance/quiz/drawing/test of 15marks during end semester exam.
- Viva/Oral performance of 15marks during end semester exam.

## **Course Outcome:**

After learning the course the students should be able:

- To know the principles and working of basic mechanical systems.
- To comprehend importance of mechanical engineering in various fields of engineering.
- To know about different civil engineering fields with an overview of building material, building construction and knowledge of surveying equipment in civil engineering.
- To understand the importance of safety and the precaution to be taken while working with electrical equipment and accessories.
- To understand concepts of three phase circuit.



# Department of Civil Engineering

Course Code: SECV1070 Course Name: Solid Mechanics Prerequisite Course/s: SECV1030.

# **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)					Examinat	tion Schem	e (Marks)					
Theory	Dractical Tutorial		Practical Tutorial Cru		itorial Credit		eory	Prac	ctical	Tut	orial	Total
Theory	Tactical	Tutoriai		Crean	CE	ESE	CE	ESE	CE	ESE	TOtal	
3	2	0	4	40	60	20	30	0	0	150		

CE: Continuous Evaluation, ESE: End Semester Exam

## **Objective of the Course:**

- To understand the stresses developed under the application of force.
- To understand the physical and mechanical properties of materials. •
- To understand behavior of structural element under the influence of various loads.

XPLORE

XPERIENCE MPOWER

	Section I							
Module	Content	Hours	Weightage					
1.	INTRODUCTION: PHYSICAL AND MECHANICAL PROPERTIES OF MATERIAL: Introduction,Classification of materials,Properties related to axial, bending, and torsional & shear loading, Toughness, hardness, Ductility, Brittleness.Proof	04	8%					
	stress, Factor of safety, Working stress, Load factor.							
2.	SIMPLE STRESS AND STRAIN:							
	Definition of stress and strain, Tensile &compressive Stresses: Shear and complementary shear Strains, Linear, shear, lateral, thermal and volumetric.Hooke's law, Stresses and strain in bars of Varying, Tapering & Composite section,Principle of Superposition, Elastic Constants:Modulus of elasticity, Poisson's ratio, Bulk modulus, Shear modulus (Modulus of rigidity), Modulus of rigidity.	06	12%					
3.	BENDING STRESS AND STRAIN:							
	Theory of simple bending, assumptions, derivation of flexural formula, second moment of area of common cross sections( rectangular, I,T,C ) with respective centroid& parallel axes, bending stress distribution diagrams, moment of resistance & section modulus calculations.Concept, derivation of shear stress distribution formula, shear stress distribution diagrams for common symmetrical sections, maximum and average shears stresses, shear connection between flange & web.	08	20%					
4.	PRINCIPLE STRESS AND STRAIN:							
	Two dimensional system, stress at a point on a plane, principal stresses and principal planes, Mohr's circle of stress	04	10%					
	Section II		•					
Module	Content	Hours	Weightage					
5.	SHEAR FORCE AND BENDING MOMENT: Introduction, Types of loads, supports and beams, Shear force, Bending Moment, Sign conventions for shear force & Bending moment. Statically determinate beam, support reactions, SFD and BMD for concentrated load and uniformly distributed load, Uniformly varying load, Point of contra-flexure.	7	20%					
6.	<b>COLUMN AND STRUT:</b> Introduction, Failure of a column and strut, Euler's column theory, Types of end conditions of columns, Columns with both ends hinged, Columns with one end fixed and the other hinged, Euler's formula and Equivalent length of a column, Slenderness Ratio, Limitations of Euler's Formula.	10	18%					
7.	<b>TORSION:</b> Derivation of equation of torsion, Assumptions, application of theory of torsion equation to solid & hollow circular shaft, torsional rigidity, Power Transmitted by shaft, Polar moment of Inertia.	06	12%					

## List of Practical:

Sr. No	Name of Practical	Hours
1.	Tensile test on Ductile materials (Mild steel, Copper, Wood)	04
2.	Tensile test on Brittle Materials (Cast iron, Concrete)	04
3.	Compression test on Ductile materials (Mild steel, Copper, Wood)	04
4.	Compression test on Brittle Materials (Cast iron, Concrete)	04
5.	Determination of hardness of metals (Brinell hardness test)	02
6.	Determination of impact of metals (Izod/Charpy impact test)	02
7.	Tutorials on Principle stress & Principle strain.	04
8.	Tutorials on SFD & BMD.	04
9.	Tutorials on Column & Strut.	02

## **Text Book:**

Title	Author/s	Publication
Strength of Materials (SI Units)	R S Khurmi, N Khurmi	S.Chand& Company Pvt. Ltd.

## **Reference Book:**

Title	Author/s	Publication
Strength of Materials (SI Units)	Er. R . K. Rajput	S. Chand & Company Pvt. Ltd.
Mechanics of Structure-Vol.I	Dr. H.J. Shah & S. B. Junarkar	Charotar Publishing House Pvt. Ltd.
Strength of materials	R. Subramanian	Oxford Publications
Strength of materials	S. Ramamrutham	DhanpatRai Publishing Company

## **Course Evaluation:**

Theory:

- Continuous Evaluation Consist of Two Test Each of 30 Marks and 1 Hour of duration and average of the same will be converted to 30 Marks.
- Submission of assignment which consists of solving numerical and it carried 10 marks of evaluation.
- End semester examination will consist of 60 marks exam.

#### Practical/Tutorial:

- Continuous evaluation consist of performance of practical/tutorial which should be evaluated out of 10 for each practical/tutorial in the next turn and average of the same will be converted to 10 marks.
- Internal viva component of 10 marks.
- Practical performance/quiz/drawing/test of 15 marks during end semester exam.
- Viva/Oral performance of 15 marks during end semester exam.

## **Course Outcome:**

After learning the course the students should be able to:

- Apply mathematical knowledge to calculate the deformation behavior of simple structure.
- Critically analyze problem and solve the problem related to mechanical elements and analyze the deformation behavior for different types of loads.
- •Understand the different types of stresses and strains developed in the member subjected to axial, bending, shear & torsional effects.
- •Understand the physical properties of materials.

# Department of Mechanical Engineering

Course Code: SEME1010

Course Name: ENGINEERING GRAPHICS

Teaching & Examination Scheme:

## **Teaching & Examination Scheme:**

Т	Feaching Scheme	e (Hours/Week)				Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prae	ctical	Tut	orial	Total
				CE	ESE	CE	ESE	CE	ESE	
3	4	0	5	40	60	40	60	0	0	200

CE: Continuous Evaluation, ESE: End Semester Exam

- To know conventions and the methods of engineering drawing.
- How to interpret engineering drawings using fundamental technical mathematics?
- How to construct basic and intermediate geometry?
- To improve their visualization skills so that they can apply these skills in developing new products.
- To improve their technical communication skill in the form of communicative drawings.
- To comprehend the theory of projection.

	Section I		
Module	Content	Hours	Weightage
1.	INTRODUCTION:		
	Importance of subject; Use of Drawing Instruments and accessories; BIS - SP - 46;	03	0504
	Lettering , Dimensioning and lines; Representative Fraction; Types of Scales (Plain	03	03%
	and Diagonal Scales); Construction of Polygons.		
2.	ENGINEERING CURVES:		
	Classification and Application of Engineering Curves; Construction of Conics,	06	15%
	Cycloidal Curves, Involutes and Spiral along with normal and tangent to Each.		
3.	PRINCIPLES OF PROJECTIONS :		
	Types of Projections; Introduction of Principle Planes of Projections.		
	Projection of Points & Line: Projection of Points in all four Quadrants; Projection		
	of Lines with its inclination to one referral plane and two referral planes.	14	30%
	Projection of Plane:		
	Projection of Planes (Circular and Polygonal) with inclination to one referral		
	plane and two referral planes; Concept of Auxiliary Projection Method.		
	Section II		
Module	Content	Hours	Weightage
4.	<b>PROJECTION AND SECTION OF SOLIDS :</b>		
	Projection of solids: polyhedral, prisms, pyramids, cylinder, cone, auxiliary		
	projection method, one view, two view and three view drawings. Missing view,	08	20%
	rules for selection of views; Sectional view, section plane perpendicular to the HP		
	& VP and other various positions, true shape of sections.		
5.	<b>ORTHOGRAPHIC PROJECTION :</b>		
	Types of Projections: Principle of first and third angle projection -applications &	07	1.00/
	Difference; Projection from Pictorial view of Object, View from Front, Top and	07	10 %
	Sides; Full Section View.		
6.	ISOMETRIC PROJECTIONS AND ISOMETRIC DRAWING:		
	Isometric Scale, Conversion of orthographic views into isometric projection,	07	12%
	isometric view or drawing.		

# List of Practical:

Sr No	Name of Practical	Hours
1	Introduction sheet (dimensioning methods, different types of line, construction of different	08
1.	polygon, divide the line and angle in parts, use of stencil, lettering)	00
2.	Plane scale and diagonal scale	04
3.	Engineering curves	08
4.	Projection of Points & Lines	06
5.	Projection of Planes	08
6.	Projection of solid & Section of solid	10
7.	Orthographic projection	08
8.	Isometric projection	08

## **Text Book:**

Title	Author/s	Publication
A Text Book of Engineering Graphics	P J Shah	S. Chand & Company Ltd., New Delhi
Engineering Drawing	N D Bhatt	Charotar Publishing House, Anand

#### **Reference Book:**

Title	Author/s	Publication
Engineering Drawing	P.S.Gill	S. K. Kataria & sons, Delhi
Engineering Drawing	B. Agrawal & C M Agrawal	Tata McGraw Hill, New Delhi
Engineering Drawing made Easy	K. Venugopal	Wiley Eastern Ltd

## Web Material Links:

#### http://nptel.ac.in/courses/105104148/

#### **Course Evaluation:**

#### Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### Practical/Tutorial:

- Continuous Evaluation Consist of Performance of Practical/Tutorial which should be evaluated out of 10 for each practical/Tutorial in the next turn and average of the same will be converted to 20 Marks.
- Internal Viva component of 20 Marks.
- Practical performance/quiz/drawing/test of 30 Marks during End Semester Exam.
- Viva/Oral performance of 30 Marks during End Semester Exam.

#### **Course Outcome:**

After learning the course the students should be able:

- To know and understand "Drawing is a language of Engineers."
- To interpret general assembly technical drawing.
- To create traditions and the strategies for Engineering Drawing.
- To evaluate basic and intermediate geometry.
- To apply the knowledge of principles of projections.
- To develop their hallucination/imagination skills.
- To enhance their technical communication skill in the form of talkative drawings.

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# Department of Mechanical Engineering

Course Code: SEME1020

Course Name: ENGINEERING WORKSHOP

Prerequisite Course/s: -

## **Teaching & Examination Scheme:**

T	Feaching Scheme	e (Hours/Week)				Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prae	ctical	Tut	orial	Total
				CE	ESE	CE	ESE	CE	ESE	
0	2	0	1	0	0	50	0	0	0	50

CE: Continuous Evaluation, ESE: End Semester Exam

- To learn about the safety measures required to be taken while using working in workshop.
- To learn about how to select the appropriate tools required for specific operation.
- To learn about different manufacturing technique for production out of the given raw material.
- To understand applications of machine tools, hand tools, power tools and welding process.

	Section I		
Module	Content	Hours	Weightage
1.	INTRODUCTION:		
	Introduction to various shops / sections and workshop layouts, Safety norms to be	-	-
	followed in a workshop		
2.	FITTING SHOP :		
	Introduction of Fitting Shop; Safety; Making a Job As per Drawing including	-	-
	Marking and other Performing Operations.		
3.	CARPENTRY AND DRILLING SHOP:		
	Introduction of Carpentry Shop; Preparation of Job as per Drawing including	-	-
	Marking and other Performing Operations.		
4.	SHEET METAL SHOP :		
	Introduction of Sheet Metal Shop; Preparation of Job as per Drawing including	-	-
	Marking and other Performing Operations		
5.	SMITHY SHOP:		
	Introduction of Sheet Metal Shop; Preparation of Job as per Drawing including	-	-
	Marking and other Performing Operations		
6.	INTRODUCTION TO MACHINE TOOLS:		
	Introduction and Demonstration of various machine tools like Lathe, Drilling,	-	-
	Grinding, Hack saw Cutting etc.		
7.	INTRODUCTION TO WELDING & PLUMBING:		
	Introduction and Demonstration of Welding process.	-	-
	Introduction and Demonstration of Plumbing Shop.		

# **List of Practicals:**

Sr No	Name of Practical	Hours
1.	Introduction and Demonstration of Safety Norms. Different Measuring Instruments.	02
2.	To Perform a Job of Fitting Shop.	06
3.	To Perform a Job of Carpentry Shop.	06
4.	To Perform a Job of Sheet metal Shop.	06
5.	To Perform a Job of Black Smithy Shop.	04
6.	Introduction and Demonstration of Grinding & Hacksaw Cutting Machine.	02
7.	Introduction and Demonstration of Plumbing Shop & welding process.	04

# Text Book:

Title	Author/s	Publication
Elements of Workshop Technology Vol. I	Hajra Chaudhary S.K	Media promoters & Publishers
Workshop Technology Vol. I and II	Raghuvanshi B.S.	Dhanpat Rai & Sons

# **Reference Book:**

Title	Author/s	Publication
Workshop Technology Vol. I	W.A.J. Chapman	Edward Donald Publication
Workshop Practices	H S Bawa	Tata McGraw-Hill
Basic Machine Shop Practice Vol. I, II	Tejwani V.K	Tata McGraw-Hill

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## Web Material Links:

## http://nptel.ac.in/course.php

#### **Course Evaluation:**

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical/Tutorial in the next turn and average of the same will be converted to 30 Marks.
- Internal Viva component of 20 Marks.

### **Course Outcome:**

After learning the course the students should be able:

- To use various measuring instruments.
- To know the importance of safety norms required in workshop.
- To understand the application of various tools required for different operation.
- To understand how to manufacture product from given raw material.
- To come to know the use of machine tools, hand tools and power tools.

# Department of Mechanical Engineering

Course Code: SEME1040

Course Name: Concepts of Engineering Drawing

## **Teaching & Examination Scheme:**

]	Feaching Scheme	e (Hours/Week)				Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prae	ctical	Tut	orial	Total
				CE	ESE	CE	ESE	CE	ESE	
2	2	0	3	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

- To know conventions and the methods of engineering drawing.
- How to interpret engineering drawings using fundamental technical mathematics?
- How to construct basic and intermediate geometry?
- To improve their visualization skills so that they can apply these skills in developing new products.
- To improve their technical communication skill in the form of communicative drawings.
- To comprehend the theory of projection.



	Section I		
Module	Content	Hours	Weightage
1.	INTRODUCTION:		
	Importance of subject; Use of Drawing Instruments and accessories; BIS - SP - 46;	07	25%
	Lettering , Dimensioning and lines; Representative Fraction; Types of Scales (Plain		
	and Diagonal Scales); Construction of Polygons.		
2.	ENGINEERING CURVES:		
	Classification and Application of Engineering Curves; Construction of Conics,	08	25%
	Cycloidal Curves, Involutes and Spiral along with normal and tangent to Each.		
	Section II		
Module	Content	Hours	Weightage
3.	ORTHOGRAPHIC PROJECTION :		
	Types of Projections: Principle of first and third angle projection -applications &	08	25%
	Difference; Projection from Pictorial view of Object, View from Front, Top and	00	2370
	Sides.		
4.	ISOMETRIC PROJECTIONS AND ISOMETRIC DRAWING:		
	Isometric Scale, Conversion of orthographic views into isometric projection,	07	25%
	isometric view or drawing.		

## **List of Practicals:**

Sr No	Name of Practical	Hours
1.	Introduction sheet (dimensioning methods, different types of line, construction of different	10
	polygon, divide the line and angle in parts, use of stencil, lettering, Plane scale and diagonal scale)	10
2.	Engineering curves	07
3.	Orthographic projection	07
4.	Isometric projection	06

## **Text Book:**

Title	Author/s	Publication
A Text Book of Engineering Graphics	P J Shah	S. Chand & Company Ltd., New Delhi
Engineering Drawing	N D Bhatt	Charotar Publishing House, Anand

## **Reference Book:**

Title	Author/s	Publication
Engineering Drawing	P.S.Gill	S. K. Kataria & sons, Delhi
Engineering Drawing	B. Agrawal & C M Agrawal	Tata McGraw Hill, New Delhi
Engineering Drawing made Easy	K. Venugopal	Wiley Eastern Ltd

#### Web Material Links: http://nptel.ac.in/courses/105104148/

#### **Course Evaluation:**

#### Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### Practical/Tutorial:

- Continuous Evaluation Consist of Performance of Practical/Tutorial which should be evaluated out of 10 for each practical/Tutorial in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 15 Marks during End Semester Exam.
- Viva/Oral performance of 15 Marks during End Semester Exam.

## **Course Outcome:**

After learning the course the students should be able:

- To know and understand "Drawing is a language of Engineers."
- To interpret general assembly technical drawing.
- To create traditions and the strategies for Engineering Drawing.
- To evaluate basic and intermediate geometry.
- To apply the knowledge of principles of projections.
- To develop their hallucination/imagination skills.
- To enhance their technical communication skill in the form of talkative drawings.

# Department of **Computer Engineering**

Course Code :SECE1010

Course Name: Basics of Computer and Programming

Prerequisite Course/s: Requires Basic Knowledge of Computer

#### **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)			Examination Scheme (Marks)							
Theory	Practical	Tutorial	Cradit	The	eory	Practical		Tutorial		Total
Theory	Plactical	Tutofial	Credit	CE	ESE	CE	ESE	CE	ESE	TOtal
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

- To understand basic components of computer system.
- To identify appropriate approach to computational problems.
- To develop logic building and problem solving skill. ٠

MPOWER

	Section I		
Module	Content	Hours	Weightage
1.	Introduction to computer and its architecture :		
	Introduction and Characteristics, Generation, Classification, Applications, Central	05	10%
	Processing Unit and Memory, Communication between various units, processor	05	1070
	speed, multiprocessor system		
2.	Memory and various Input and Output devices :		
	Introduction to Memory, Memory hierarchy, Primary memory and its type,	05	10%
	Secondary memory, Classification of Secondary memory, Various secondary	05	1070
	storage devices and their functioning, their merits and demerits		
3.	Operating Systems and Computer Languages:		
	Evolution of Operating System, types and functions of operating systems,	04	08%
	Evolution and classification of programming language, Selection of a	01	0070
	programming language		
4.	Introduction to C Programming:		
	Features of C language, structure of C Program, Development of program,		
	Algorithm and flowchart, Types of errors, debugging, tracing/stepwise execution	04	10%
	of program, watching variables values in memory		
5.	Constants, Variables and data Types:		
	Character Set, C tokens, Keyword, Constants and Variables, Data types -	04	12%
	Declaration and initialization, User define type declarations typedef, enum, basic		
	input and output operations, symbolic constants		
26.1.1	Section II		X47 · 1 /
Module		Hours	Weightage
6.	Operators and Expression and Managing I/O operations:		
	introduction to Operators and its types, Evaluation of expressions, Precedence of		
	arithmetic operators, Type conversions in expressions, Operator precedence and	05	10%
	associatively.		
	introduction, reading a character, writing a character, formatted input, formatted		
7	Output.		
7.	Decision Making & branching: Decision making with If & If Else statements If		
	Else statements (Nested Ladder) The Switch & go to statements The turnery (2)	07	16%
	Operator Looping: The while statement. The break statement & The Do. While	07	1070
	loop The FOR loop Jump within loops - Programs		
8	Arrays and Strings.		
0.	Introduction to array. One dimensional array. Two dimensional arrays Declaring		
	and initializing string variables. Arithmetic operations on Characters, Putting	06	12%
	strings together Comparison of two strings Basic String Handling Functions		
9	User-Defined Functions Structure and Unions:		
).	Concepts of user defined functions prototypes definition of function parameters		
	parameter passing calling a function recursive function	05	1204
	Introduction Structure definition declaring and initializing Structure variables	05	12/0
	Accessing Structure members, Unions		
	Accessing Structure members, Unions		

#### List of Practical/Tutorial:

Sr No	Name of Practical/Tutorial	Hours
1.	Introduction to Unix Commands	04
2.	Word Processing, Spreadsheets and Presentation Exercises	06
3.	Basic C Programs	04
4.	Implementation in C for conditional statement and branching	06
5.	Implementation in C for Array and Strings	06
6.	Implementation in C for Functions, Structures and Unions	04

## **Text Book:**

Title	Author/s	Publication
Programming in ANSI C	E. Balagurusamy	Tata McGraw Hill
Introduction to Computer Science	ITL Education Solutions Limited	Pearson Education

### **Reference Book:**

Title	Author/s	Publication
Programming in C	Ashok Kamthane	Pearson
Let Us C	Yashavant P. Kanetkar	Tata McGraw Hill
Introduction to C Programming	Reema Thareja	Oxford Higher Education
Programming with C	Byron Gottfried	Tata McGraw Hill

#### **Course Evaluation:**

Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/test of 15 Marks during End Semester Exam.
- Viva/Oral performance of 15 Marks during End Semester Exam.

## **Course Outcome:**

- Students will learn the fundamentals of programming.
- Students will develop efficient programs with their own logic & capabilities.
- Understand the syntax and semantics of the 'C' language.

# Department of Computer Engineering

Course Code: SECE1020

Course Name: Introduction to Computer Programming

Prerequisite Course/s: Requires Basic Knowledge of Computer

## **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)			Examination Scheme (Marks)							
Theory Breatical		Tutorial Cradit	Credit	The	'heory Prac		ctical	Tutorial		Total
Theory	Plactical	i utorial	Credit	CE	ESE	CE	ESE	CE	ESE	TOtal
3	4	0	5	40	60	40	60	0	0	200

CE: Continuous Evaluation, ESE: End Semester Exam

- To understand basic components of computer system.
- To identify appropriate approach to computational problems.
- To develop logic building and problem solving skills.



Section I								
Module	Content	Hours	Weightage					
1.	Introduction to Computers							
	Introduction, Central Processing Unit, Main Memory Unit, Interconnection of							
	units, Communication between units of a computer system.							
	Memory representation and hierarchy, Random Access Memory, Read-only	04	10%					
	Memory, Classification of secondary storage devices, types of I/O devices.							
	Classification of programming languages, generations of programming languages-							
	Machine Language, Assembly Language, High-level Language, 4GL.							
2.	Introduction to C, Constants, Variables and data Types:							
	Features of C language, structure of C Program, Flow Charts and Algorithms							
	Types of errors, debugging, tracing/stepwise execution of program, watching							
	variables values in memory.	06	150/					
	Character Set, C tokens, Keyword and Identifiers, Constants and Variables, Data	06	15%					
	types - Declaration and initialization, User define type declarations - typedef,							
	enum, basic input and output operations, symbolic constants, Overflow and							
	underflow of Data.							
3.	Operators ,Expressions, and Managing I/O operations:							
	Introduction to Operators and its types, Evaluation of expressions, Precedence of							
	arithmetic operators, Type conversions in expressions, Operator precedence and	0.5	100/					
	associatively.	05	10%					
	Introduction, reading a character, writing a character, formatted input formatted							
	output.							
4.	Conditional statements:							
	Decision Making & branching: Decision making with If and If Else statements,							
	Nesting of If Else statements, The Switch and go-to statements, The turnery (?:)	07	150/					
	Operator	07	15%					
	Looping: The while statement, The break statement & The Do. While loop, The							
	FOR loop, Jump within loops - Programs.							
	Section II		I					
Module	Content	Hours	Weightage					
5.	Arrays:							
	Introduction, One-dimensional arrays, Two-dimensional arrays, Concept of	05	12%					
	Multidimensional arrays, Dynamic arrays							
6.	Strings:							
	Declaring and initializing string variables, Arithmetic operations on Characters,	04	10%					
	Putting strings together, Comparison of two strings, String Handling Functions							
7.	User-Defined Functions:							
	Concepts of user defined functions, prototypes, definition of function, parameters,	04	10%					
	parameter passing, calling a function, recursive function							
8.	Structure and Unions:							
	Introduction, Structure definition, declaring and initializing Structure variables,							
	Accessing Structure members, Copying & Comparison of structures, Arrays of	04	08%					
	structures, Arrays within structures, Structures within Structures, Structures and							
0	tunctions, Unions							
9.	Pointers and File management: Basics of pointers, chain of pointers, pointer and array. Pointer to array array of							
	pointers	06	10%					
	Introduction to file management and its functions							

### List of Practical/Tutorial:

Sr No	Name of Practical/Tutorial	Hours
1.	Introduction to Unix Commands.	08
2.	Basics C Programs.	04
3.	Implementation in C for Control statements.	16
4.	Implementation in C for Array and Functions.	16
5.	Implementation in C for structure and pointer.	10
6.	Implementation in C for file handling operations.	06

#### # Use of different libraries will be covered in Practical Assignments.

#### **Text Book:**

Title	Author/s	Publication
Programming in ANSI C	E. Balagurusamy	Tata McGraw Hill
Introduction to Computer Science	ITL Education Solutions Limited	Pearson Education

#### **Reference Book:**

Title	Author/s	Publication
Programming in C	Ashok Kamthane	Pearson
Let Us C	Yashavant P. Kanetkar	Tata McGraw Hill
Introduction to C Programming	ReemaThareja	Oxford Higher Education
Programming with C	Byron Gottfried	Tata McGraw Hill

### **Course Evaluation:**

Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 30 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/test of 50 Marks during End Semester Exam.
- Viva/Oral performance of 10 Marks during End Semester Exam.

### **Course Outcome:**

- Students will learn the fundamentals of programming.
- Students will develop efficient programs with their own logic & capabilities.
- Understand the syntax and semantics of the 'C' language.

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# Department of Computer Engineering

Course Code: SECE1030

Course Name: Programming with Python

Prerequisite Course/s:Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)					Examina	tion Schem	e (Marks)			
Theory	Theory Practical Tutorial		Tutorial Credit		Theory Prac		ctical	Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
3	4	0	5	40	60	40	60	0	0	200

CE: Continuous Evaluation, ESE: End Semester Exam

- To understand basics of object oriented programming.
- To identify appropriate approach to computational problems.
- To develop logic building and problem solving skills.

Section I								
Module	Content	Hours	Weightage					
1.	Introduction							
	Basic computer architecture, how a program works, including the concepts of stored	03	5%					
	instructions, and fetch-decode execute cycle, and multi-tasking, Compare and							
	contrast machine language, assembly language, and high-level languages, Data							
	encoding techniques: binary/decimal conversion and the ASCII table, Hello World							
	program.							
2.	Input, Processing and Output:							
	Designing a program, Input and output functions, Python2 v. Python3, Variable	06	15%					
	types and assignment, Using mathematical operators, Documenting a program.							
3.	Decision Structures and Boolean Logic:							
	The Java Environment: Java Program Development, Java Source File Structure,							
	Compilation Executions, Basic Language Elements: Lexical Tokens, Identifiers,	05	10%					
	Keywords, Literals, Comments, Primitive Data-types, Operators, Introduction to							
	repetition structures, The while loop, The for loop, Calculating a running total,							
	Sentinels, Nested Loops.							
4.	Functions, Lists and Tuples:							
	Introduction to functions, Designing custom functions ,Local variables, scope of	09	20%					
	variables, Passing Arguments to functions, and returning values, Local variables,							
	global variables and global constants, Libraries, Sequences, Lists and list slicing ,List							
	methods and built-in functions, Copying and processing lists, Two-dimensional							
	Lists, Tuples.							
	Section II							
Module	Content	Hours	Weightage					
5.	Array and Strings:							
	Arrays, Basic strings, String slicing, Testing, searching and manipulating strings.							
		04	10%					
6.	Dictionary and Sets:							
	Dictionaries, Sets, Problem Solving Techniques, Top down design, Bottom Up							
	implementation	05	15%					
7.	Object -Oriented Programming Concepts:							
	Procedural and Object -Oriented programming, Classes Working with instances,	06	15%					
	Designing classes.							
8.	Files:							
	Introduction to file input and output, Using loops to process files, Processing	02	10%					
	records, Exceptions.							

# List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Introduction to Python Environment and Idles.	02
2.	Class and Functions in Python.	08
3.	Dictionaries, Sets, Tuples and Lists in python.	04
4.	Arrays and Strings in Python	04
5.	File Handling in Python.	06

# Use of different libraries will be covered in Practical Assignments.



## **Text Book:**

Title	Author/s	Publication
Learning to Program with Python	Richard L. Halter man	Pearson

# **Course Evaluation:**

## Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 30 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/test of 50 Marks during End Semester Exam.
- Viva/Oral performance of 10 Marks during End Semester Exam.

## **Course Outcomes:**

- Students will learn the fundamentals of object oriented programming.
- Students will develop efficient programs with their own logic & capabilities.
- Students will understand the syntax and semantics of the 'Python' language.

# Department of Information Technology

Course Code: SEIT1010

Course Name: Introduction to Web Designing

Prerequisite Course/s: Nil

## **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory Practical		Tutorial Credit		Credit		Practical		Tutorial		Total
Theory	Tactical	i utoriai	Cicuit	CE	ESE	CE	ESE	CE	ESE	TOtal
0	4	0	2	0	0	50	50	0	0	100

CE: Continuous Evaluation, ESE: End Semester Exam

- To understand basic components of internet.
- To learn basic web technologies such as HTML, JavaScript and CSS.
- To develop basic knowledge of website designing.



Module	Content	Hours	Weightage
1.	Introduction to World Wide Web, Web Server, Website, Website design principles, planning the website, navigation, Introduction to HTML, CSS, Bootstrap CSS	60	100%

## List of Practical/Tutorial:

Sr No	Name of Practical/Tutorial	Hours
1.	Implementation of HTML tags	20
2.	Designing Websites with basic CSS	5
3.	Designing of Responsive Website Designs using Bootstrap CSS	5
4.	Development of mini project based on HTML, CSS and Bootstrap CSS	30

#### **Reference Book:**

Title	Author/s	Publication
HTML Black Book	Steven Holzner	Dreamtech press

### Web Material Links:

https://www.w3schools.com/

## **Course Evaluation:**

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 50 Marks.
- Prepared Project during practical hours will be evaluated as a part of end semester evaluation which carries 50 Marks weightage.

#### **Course Outcomes:**

- Students will learn the fundamentals of Website designing.
- Students can apply knowledge of HTML, CSS, and JavaScript to build static and dynamic websites.



# Department of Information Technology

Course Code: SEIT1020

Course Name: Logic Building & Problem Solving

Prerequisite Course/s: Nil

## **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)						Examina	tion Schem	e (Marks)		
Theory	Practical	Tutorial	Credit	The	eory	Prac	ctical	Tut	orial	Total
Theory	Flactical	i utoriai	Credit	CE	ESE	CE	ESE	CE	ESE	TOLAI
1	0	1	2	50	50	0	0	50	50	200

CE: Continuous Evaluation, ESE: End Semester Exam

- To understand basic components of logic building.
- To learn and analyze various logical reasoning techniques.
- To develop basic problem solving skills.



Module	Content	Hours	Weightage
1.	Orientation Formal Deductive Logic, Categorical Propositions Informal Logic,	30	100%
	Basic Concepts, meaning and definition, Categorical Syllogisms, Informal		
	fallacies Inductive Logic, Analogy and Legal and moral Reasoning, Propositional		
	Logic Unit, Causality and Mill's Methods, Probability Unit, Natural Deduction in		
	propositional logic, Statistical reasoning, Hypothetical/Scientific reasoning,		
	Science and superstition, Predicate logic.		

#### Web Material Links:

https://www.coursera.org/learn/logic-introduction#syllabus

#### **Course Evaluation:**

#### Practical:

- Continuous Evaluation consists of performance of tutorial, which should be evaluated out of 10 per each tutorial. At the end of the semester, average of the entire tutorial will be converted to 50 Marks.
- Prepared Problem based Case Study/Assignments during Lecture/Tutorial hours will be evaluated as a part of end semester evaluation which carries 50 Marks weightage.

#### **Course Outcomes:**

- Students will learn the fundamentals of logical reasoning.
- Students can apply knowledge of logical reasoning in solving basic real-world issues.

# Department of Science & Humanities

Course Code: SESH1010

Course Name: Elementary Mathematics for Engineers

Prerequisite Course/s: Algebra, Geometry, Trigonometry & Pre- calculus till 12th Standard level

## **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)			Examination Scheme (Marks)							
Theorem Drugetical Testavial		Cradit	Theory		Practical		Tutorial		Total	
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Total
3	0	2	5	40	60	-	-	50	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

- To summarize concepts of calculus to enhance ability of analyzing mathematical problems.
- To acquire knowledge and ability to work with differentiation and integration for applications of mathematical techniques in engineering.
- To make use of multiple integration for finding area, volume and mass of solid objects.

Section I							
Module	Content	Hours	Weightage				
1.	Introduction to Limit, Continuity & Differentiation Limits, Continuity, Discontinuity, Types of discontinuity, Successive Differentiation, Rolle's Theorem, Lagrange's Mean Value Theorem, Cauchy's Mean Value Theorem	6	15 %				
2.	Sequence and Infinite Series Convergence, Divergence of sequence, Divergence of infinite series, Tests for convergence of series (Comparison, Integral, Ratio and Root), Alternating series, Absolute and Conditional convergence, Power series with applications, Taylor's and Maclaurin's series, Indeterminate forms $(0/0, \infty/\infty, \infty.0, \infty-\infty, 0^{\infty}, \infty^{0} \& 1^{\infty})$ .	10	20 %				
3.	<b>Curve tracing</b> Tracing of Cartesian Curves, Polar coordinates, Polar and Parametric form of standard curves, Areas and Lengths in polar coordinates	7	15 %				
Section II							
Module	Content	Hours	Weightage				
4.	<b>Partial Derivatives</b> Function of several variables, Partial differentiation, Applications, Chain rule, Tangent planes and Linear approximations, Maxima and Minima, Euler's theorem, Lagrange multiplier, Total differentiation.	8	18 %				
5.	<b>Beta Gama function</b> Improper Integrals, Beta and Gamma function with their properties and duplications formula without proof.	4	12 %				
6.	<b>Multiple Integrals</b> Double integral (in Cartesian and Polar coordinates), Triple integral (in Cartesian, Cylindrical and Spherical coordinates), Change order of integration, Change of variables, Applications of double and triple integrals for evaluation of Area, Volume and Mass.	10	20 %				

# List of Tutorial:

Sr. No.	Name of Tutorial	Hours			
1.	Limit, Continuity & Differentiation	4			
2.	Sequence and Infinite Series -1				
3.	Sequence and Infinite Series-2				
4.	Curve Tracing-1	3			
5.	Curve Tracing-2	2			
6.	Partial Derivatives-1	3			
7.	Partial Derivatives-2	3			
8.	Beta Gama Function	2			
9	Multiple Integrals-1	4			
10.	Multiple Integrals-2	3			

# **Text Book:**

Title	Author/s	Publication
Thomas' Calculus	George B. Thomas Maurice D. Weir Joel Hass	Pearson

# **Reference Book:**

Title	Author/s	Publication
Advanced Engineering Mathematics	Erwin Kreyszig	Wiley India Edition
Calculus with Early Transcendental Functions	James Stewart	Cengage Learning
Calculus	Robert T. Smith Roland B. Minton	Tata McGraw Hill
Engineering Mathematics-1(Calculus)	H. K. Dass Dr. Rama Verma	S. Chand

# Web Material Links:

- http://nptel.ac.in/courses/111104085/
- http://nptel.ac.in/courses/111104095/
- http://nptel.ac.in/courses/111105069/

# **Course Evaluation:**

## Theory:

- Continuous evaluation consists of two tests each of 15 Marks and 1 Hour of duration.
- Submission of assignments which consists of 10 Questions to be answered under each module and it carried of 10 Marks of continuous evaluation.
- End Semester Examination will consist of 60 Marks

# Tutorial:

- Continuous evaluation consists of performance of tutorial which should be evaluated out of 10 Marks for each tutorial in the next turn and average of the same will be converted to 30 Marks.
- MCQ based examination of 10 Marks.
- Internal Viva component of 10 Marks.

# **Course Outcome:**

By the end of the course, the students will be able to:

- Make use of concepts of limit, continuity and differentiability for analyzing mathematical problems.
- Examine series for its convergence and divergence.
- Formulate differential and integral operations.
- Evaluate functions like Gamma, Beta functions & their relation which is helpful to evaluate some definite integral arising in various branch of engineering.
- Applications of Limit, Derivatives and Integrals.

# Department of Science & Humanities

Course Code: SESH1020

Course Name: Linear Algebra & Vector Calculus

Prerequisite Course: Algebra, Geometry, Trigonometry & Pre- calculus till 12th Standard level

# **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)					Examinat	ion Schem	e (Marks)			
	Testorial		The	eory	Prac	ctical	Tuto	orial	Tatal	
Theory	Practical	I Iutorial Credit	Credit	CE	ESE	CE	ESE	CE	ESE	Iotai
3	0	2	5	40	60	-	-	50	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

- To analyze and solve system of linear equations and understand characteristics of Matrices.
- To learn about and work with vector space, linear transformation and inner product space.
- Apply concepts of linear algebra and vector calculus for solving science and engineering problems.

Section I							
Module	Content	Hours	Weightage				
1.	Matrix Algebra Elementary row and column operations, Inverse of matrix, Rank of matrix, System of linear equations (Homogeneous and Non-homogeneous), Characteristic equation, Eigenvalues, Eigenvector, Diagonalization, Caley-Hamilton theorem,.	9	20 %				
2.	<b>Vector Space</b> Vector spaces, Subspaces, Linear Combination, Linear Dependence, Linear Independence, Span, Basis and Dimension, Row space, Column space and Null space, Rank and Nullity.	8	18 %				
3.	<b>Linear Transformation</b> Introduction Linear Transformation, Kernel and Range, Inverse Linear Transformation , Matrix representation of Linear Transformation.	6	12 %				
	Section II						
Module	Content	Hours	Weightage				
4.	<b>Inner Product Space</b> Inner products, Angle and Orthogonality, Orthogonal projection, Orthonormal bases (Gram-Schmidt Process, QR-Decomposition), Least Square Approximation, Change of basis.	8	18 %				
5.	<b>Vector Calculus and its Applications</b> Vector & Scalar functions and Fields, Curve, Arc length, Curvature & Torsion gradient of scalar field, Directional derivative divergence of a vector field, Curl of a vector field	7	16 %				
6.	Integral Calculus Line integrals, Path Independence of line integrals, Green's theorem in the plane, Surface integrals, Divergence theorem of Gauss, Stokes's theorem	7	16 %				

# List of Tutorial:

Sr. No.	Name of Tutorial	Hours
1.	Matrix Algebra-1	04
2.	Matrix Algebra-2	04
3.	Vector Space-1	03
4.	Vector Space-2	02
5.	Vector Space-3	02
6.	Inner Product Space-1	04
7.	Vector Calculus-1	02
8.	Vector Calculus-2	03
9	Integral Calculus-1	03
10.	Integral Calculus-2	03

# **Text Book:**

Title	Author/s	Publication
Elementary Linear Algebra Applications Version	Howard Anton Charis Rorres	Wiley India Edition
Thomas' Calculus	George B. Thomas Maurice D. Weir Joel Hass	Pearson

# **Reference Book:**

Title	Author/s	Publication
Advanced Engineering Mathematics	Erwin Kreyszig	Wiley India Edition
Higher Engineering Mathematics	B. V. Ramana	Tata McGraw Hill
Linear Algebra and its Applications	David C. Lay	Pearson
Introduction to Linear Algebra with Application	Jim Defranza Daniel Gagliardi	Tata McGraw Hill
Elementary Linear Algebra	Ron Larson	Cengage Learning

# Web Material Links:

- http://nptel.ac.in/courses/111106051/
- http://nptel.ac.in/courses/111108066/
- http://nptel.ac.in/downloads/111102011/
- http://epgp.inflibnet.ac.in/view\_f.php?category=1564

# **Course Evaluation:**

## Theory:

- Continuous evaluation consists of two test each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 10 Questions to be answered under each module and it carried of 10 Marks of continuous Evaluation.
- End Semester Examination will consist of 60 Marks.

# **Tutorial:**

- Continuous evaluation consists of performance of tutorial which should be evaluated out of 10 Marks for each tutorial in the next turn and average of the same will be converted to 30 Marks.
- MCQ based examination of 10 Marks.
- Internal Viva component of 10 Marks.

# **Course Outcome:**

By the end of the course, the students will be able:

- To solve linear system using matrices.
- To understand the concepts of Vector Space, Linear Transformation and inner product space.
- Summarize vector functions, their derivatives, integrals, arc length and curl of vector field.
- Apply the fundamental concepts of calculus to understand integrals calculus.

# Department of Science & Humanities

Course Code: SESH1210

Course Name: APPLIED PHYSICS

Prerequisite Course/s: Concept of Physics and Mathematics up to 12th Science

# **Teaching & Examination Scheme:**

Te	aching Schen	ne (Hours/W	eek)	Examination Scheme (Marks)						
		Theory Practica		ctical	Tutorial		T. (.)			
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	lotai
3	2	0	4	40	60	20	30	0	0	150

CE: Continuous Evaluation, ESE: End Semester Exam

- To prepare students for careers in engineering where physics principles can be applied to the advancement of technology.
- To think in core concept of engineering application by studying various topics involed in branch specific application.



Section I						
Module	Content	Hours	Weightage			
1.	<b>QUANTUM MECHANICS:</b> Wave-Particle duality, de-Broglie matter wave, phase and group velocity, Heisenberg uncertainty principle and its applications, wave function and its significance, Schrodinger's wave equation, particle in one dimensional box.	08	20%			
2.	ACOUSTIC and ULTRASONIC: Introduction, classification and characterization of sound, Absorption Coefficients, Sound Absorbing materials, Sound Insulation, Ultrasonic, Properties of Ultrasonic, Generation of Ultrasonic, Applications of Ultrasonic.	06	15%			
3.	<b>SOLID STATE PHYSICS</b> Introduction, Lattice Points and space lattice, unit cells and lattice parameters, Primitive cell, Crystal systems. The Bravais space lattices. Miller indices, X-Ray properties, Diffraction and Bragg's law, Bragg's X-Ray spectrum	07	15%			
Section II						
Module	Hours	Weightage				
4.	<b>NON LINEAR OPTICS :</b> LASER, Spontaneous and Stimulated emission of light, applications of LASER. Fundamental ideas about Optical fibre, Advantages of Optical fibre of optical Fibre, Applications of optical fibre.	06	12%			
5.	D.C. AND AC CIRCUITS FUNDAMENTALS Introduction of Electrical Current, Voltage, Power and Energy; Sources of Electrical Energy Inductor and Capacitor, Fundamental laws of electric circuits – Ohm's Law and Kirchhoff's Laws; Analysis of series, parallel and series-parallel circuits. Alternating voltages and currents and their vector and time domain representations, average and RMS values, from factor, phase difference, power and power factor, purely resistive inductive and capacitive circuits, R-L, R-C, R-L-C series circuits, impedance and admittance, circuits in parallel, series and parallel resonance.	12	25%			
6.	<b>ELECTRONICS:</b> Semiconductors, Interinsic and Extringic Semiconductor Advantages of Semiconductor Devices, Diodes, Transistors, Types of Bipolar Junction Transistor, Unijunction Junction Transistor, FET and MOSFETS.	06	13%			

# List of Practical:

Sr. No.	Name of Practical	Hours
1.	To understand some basic aspects of error analysis and graph drawing.	02
2.	To determine NA and AA of an optical fiber.	04
3.	To determine value of Planck's constant (h) using a photovoltaic cell.	02
4.	To determine the Hall coefficient (R) and carrier concentration of a given material (Ge) using Hall effect.	04
5.	To study the Capacitors in series and parallel DC circuit.	04
6.	To study hysteresis loop for a magnetic materials on CRO.	02
7.	To determine velocity of sound in liquid using Ultrasonic Interferometer	04
8.	To study LCR Series Resonance and determine Q Factor.	02
9	Young's modulus.	02
10.	Volt-Ampere Characteristics of Zener Diode.	02
11.	To study the VI Characteristics of LED.	02

XPLORE XPERIENCE MPOWER
#### **Text Book:**

Title	Author/s	Publication
Concept of the Modern Physics	A. Beiser	Tata McGraw-Hill Education
Basic electrical engineering	Kothari and Nagrath	Tata McGraw-Hill Education
Quantum Mechanics	P.M. Mathew K. Venkatesan	Tata McGraw-Hill Education
Lasers and Nonlinear Optics	G.D. Baruah	Pragati Prakashan
Solid State Physics: Basic Electronics:	S.O. Pillai	New Age Internation Publishers
Basic Electronics for Scientists and Engineers	Dennis L. Eggleston	Cambridge University Press

#### Web Material Links:

• http:/nptel.ac.in/course.php

#### **Course Evaluation:**

#### Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carried of 10 Marks of Evaluation.
- End Semester Examination will consists of 60 Marks Exam.

#### **Practical:**

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 20 Marks during End Semester Exam.
- Viva/Oral performance of 10 Marks during End Semester Exam.

#### **Course Outcome:**

After learning the course the students should be able to:

- To use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physics & electrical.
- To perform a literature search, to make use of appropriate computational of laboratory skill, and to make an effective written or oral presentation of the results of the project.



# Department of Science & Humanities

Course Code: SESH1220

Course Name: Chemistry

Prerequisite Course/s: -

### **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)			Examination Scheme (Marks)								
The second				1	The	eory	Prac	ctical	Tute	orial	Tatal
Theory Practical Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	lotai			
3	2	0	4	40	60	20	30	-	-	150	

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

- To present sound knowledge of chemistry fundamentals, enriching students to understand the role of Chemistry in the field of science and engineering.
- To inculcate habit of scientific reasoning to do the task rationally.

# **Course Content:**

	Section I		
Module	Content	Hours	Weightage
1.	<ul> <li>Chemical Bonding and Structure of Molecules</li> <li>General terms: Chemical bond, valence, valence electrons, Bonding and Non bonding electrons, Lewis symbols, Octet rule.</li> <li>Ionic bond: Definition, Condition for formation of ionic bond, Factors governing formation of ionic bond, examples (NaCl, MgCl2, CaO, Al2O3), Characteristics of ionic compounds.</li> <li>Covalent bond: Definition, conditions for covalent bond formation, examples [(single covalent bond: H2, Cl2, H2O, NH3, CH4) (multiple covalent bond: O2, N2, CO2)], General characteristics of covalent compounds, valence bond approach, formation of H2 molecule, Concept of hybridization, Hybridization and shape of molecules, Shape of water, ammonia, PCL5 and SF6, Limitations of Valence bond theory, VSEPR theory, Fajan's rules.</li> <li>Co-ordinate covalent bond: Definition, conditions for H-bond formation, examples (HF, H2O, NH3, 2-nitrophenol), Types of H-bonds, Characteristics of H-bonded compounds.</li> <li>Metallic bond: Definition, The Electron sea model, explanation to the physical characteristics of metal based on the electron sea model.</li> </ul>	09	20%
2.	<b>Electrochemistry</b> Introduction, Arrhenius ionic theory, De-bye Huckel theory of strong electrolytes, activity and activity co-efficient, Conductivity of electrolytes, Kohlrausch's law of independent migration of ions, Ostwald's dilution law, Acids and bases, Concept of pH and pOH, Buffer solutions, Solubility product, common-ion effect, hydrolysis of salts, conductometric titration, transport number.	04	09%
3.	<b>Thermodynamics</b> Introduction, terminology of thermodynamics, Zeroth law of thermodynamics, First law of thermodynamics, Limitations, Enthalpy, Reversible and isothermal expansion of an ideal gas, Thermochemical definitions, Hess's law of constant heat summation, Heat capacity, Relation between Cp and Cv, Joule Thomson effect, Entropy, Free energy, Second law of thermodynamics, Limitations.	09	20%
	Section II		
Module	Content	Hours	Weightage
4.	<b>Metals and alloys</b> Introduction, Physical properties of metals, Metallurgy, Thermodynamics of reduction process, Nickel, Chromium, Titanium, Vanadium, Tungsten, Zirconium, Uranium, Thorium, Heat treatment of steel, Powder metallurgy, Alloy steels, Applications of alloy steels, Non-ferrous alloys.	09	20%
5.	Water Treatment Introduction, Characteristics imparted by impurities in water, Hardness of water, equivalents of calcium carbonate, units of hardness, disadvantages of hard water, scale and sludge formation in boilers, caustic Embrittlement, boiler corrosion, Priming and Foaming, Softening methods, Drinking or Municipal water, Desalination of Brackish water.	09	20%
6.	<b>Colloids</b> Lyophilic and Lyophobic colloids, Characteristics of lyophilic and lyophobic sols, preparation of sols, Dispersion methods, Aggregation methods, Purification of sols, Dialysis, optical properties of sols :Tyndall effect, kinetic properties of sols, Brownian movement, Electrical properties of sols: Electrophersis, Stability of sols, associated colloids, cleansing action of soaps and detergents, emulsions, gels, applications of colloids, determination of molecular weight of macromolecules.	05	11%



### List of Practical/Tutorial:

Sr. No.	Name of Practical/Tutorial	Hours
1.	Introduction to chemistry laboratory – Molarity, Normality, Primary, Secondary standard solutions, Volumetric titrations, Quantitative analysis, Quantitative analysis etc.	02
2.	Demonstration: Preparation of solutions of different concentrations	02
3.	Determination of alkalinity in the given water sample.	02
4.	Determination of temporary and permanent hardness in water sample using EDTA as standard solution.	02
5.	Conduct metric titration of strong acid vs. strong base.	02
6.	Determination of critical micelle concentration of a surfactant using conductometry.	02
7.	Determination of concentration of unknown solution spectrophotometrically	02
8.	Determining the strength of ferrous ammonium sulfate with the help of K2Cr2O7.	02
9	Determination of dissociation constant of strong acid by pH metric method	02
10.	To determine the critical micelle concentration of a surfactant using surface tension method	02
11.	Determination of molecular weight of a polymer by using viscometer	02
12.	To determine $\lambda$ max of the solution of (a) KMnO4. (b) K2Cr2O7	02
13.	Determination of cloud point of a surfactant in the presence of salts.	02
14.	To determine the viscosity of given solvents using viscometer	02
15.	Revision	02

### **Text Book:**

Title	Author/s	Publication
Engineering Chemistry (16th Edition)	P.C. Jain and Monika Jain	Dhanpat Rai publishing company

# **Reference Book:**

Title	Author/s	Publication
Textbook ofEngineering Chemistry (4th Edition)	R. Gopalan, D. Venkappaya, S. Nagarajan	Vikas Publishing house Ltd.
A textbook of Chemical technology (Volume-1)	G. N. Pandey	Vikas Publishing house Ltd.
Essentials of Physical Chemistry	A.Bahl, B.S. Bahl and G.d. Tuli	S. Chand Publishing
Concise Inorganic Chemistry	J. D. Lee	Wiley India

#### Web Material Links:

 https://books.google.co.in/books?id=Z3033BGuMBEC&printsec=frontcover&dq=engineering+chemistry+ ebook&hl=en&sa=X&ved=0ahUKEwj9xoiNv3UAhVEL48KHYg7Ak0Q6AEIITAA#v=onepage&q&f=false

### **Course Evaluation:**

#### Theory:

- Assessment consists of two class tests of 15 marks each. The first class test is to be conducted when approx. 40% syllabus is completed and second class test when additional 35% syllabus is completed. Duration of each test shall be one hour.
- Submission of assignment which consists of numerical from the studied modules and it carried of 10 Marks of evaluation.
- End Semester Examination will consist of 60 Marks Exam.

### **Practical:**

- Continuous Evaluation consist of performance of practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance of 20 Marks during End Semester Exam.
- Viva performance of 10 Marks during End Semester Exam.

### **Course Outcome:**

After successful completion of the course, students will be...

- Able to understand the relevance of fundamental and applications of chemical sciences and chemistry in the field of engineering.
- Able to apply the knowledge of types of hardness of water and its estimation.
- Able to apply the knowledge of thermodynamics in studying different chemical systems.
- Able to apply the knowledge of Colloids, metals and alloys, their types and their properties.
- Able to have sound knowledge on Electrochemistry.

# Department of Science & Humanities

Course Code: SESH1030

Course Name: Electronics Workshop

Prerequisite Course/s:-NA

#### **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)		Examination Scheme (Marks)								
Theory	Practical	Tutorial	l Cradit	Theory		Practical		Tutorial		Total
Theory Practical	Tutoriai	Crean	CE	ESE	CE	ESE	CE	ESE	TOtal	
0	2	0	1	0	0	40	60	0	0	100

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

- Identify basic fundamental electronic component in circuit.
- To learn to use common electronic component.
- To understand the principle of component on bread board.

#### List of Practical:

Sr No	Name of Practical	Hours
1.	Understanding of electronic component with specification.	2
2.	Basic Circuit Diagram.	2
3.	Study of CRO & Measurement of Voltage Amplitude & Frequency	2
4.	Basic understanding of multimeter, Series and Parallel connection &	6
	bread board connections.	
5.	Introduction to Electronic Virtual Laboratory	4
6.	KVL & KCL	2
7.	Transistor identification and characteristics.	4
8.	Faraday's Law	2
9.	Lenz Law	2
10.	Transformer	4

#### **Text Book:**

Title	Author/s	Publication
Electronic Principles	Albert Malvino and David J Bates	Mc Graw Hill(7th Edition)

#### **Reference Book:**

Title	Author/s	Publication
Electronic Devices	Thomas L. Floyd	Pearson (7th Edition)
Electronic Devices and Circuits	David A. Bell	Oxford Press (5th Edition)
Integrated Electronics	Jacob Millman, Christos	Tata McGraw Hill (2nd Edition)

#### **Course Evaluation:**

#### Practical:

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal viva consists of 10 marks.
- Practical performance/quiz/test of 15 Marks during End Semester Exam.
- Viva/Oral performance of 15 Marks during End Semester Exam.

#### **Course Outcome:**

• Students will be able to design and identify basic electronics component and perform simple electronic circuits experiment.

# Department of Science & Humanities

Course Code: SESH1050

Course Name: Solution to Societal Problems: A Community Service Approach

Prerequisite Course/s: NIL

#### **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)					Examina	tion Schem	e (Marks)				
Theory	Practical	Tutorial	Tutorial Cradit		Cradit Theory		Practical		Tutorial		Total
Theory Practical Tutorial	Crean	CE	ESE	CE	ESE	CE	ESE	TOtal			
0	2	0	1	0	0	50	0	0	0	50	

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

At the end of the course, the students will be able to

- Identify the societal problems at ground level
- Understand the concerns and seriousness of the reality at first hand experiences
- Try to find out the solutions and apply them as much as possible
- Comprehend the concept of Community Service while being a professional



#### **Outline of the Project:**

Sr. No.	Project Guidelines
1.	Identification of Societal Problem
2.	Data Collection
3.	Literature Review
4.	Progress of Project
5.	Report Writing
6.	Presentation & Question-Answer

#### **Detailed Guidelines:**

Module	Content	Hours	Weightage
1.	Identification of Societal Problem		
	Outline of identified issue of society shall be prepared by the student/ group of	3	10 %
	students (Maximum 3).		
2.	Data Collection		
	Collection of data for the respective societal issue, societal impact and remedies	3	10 %
	shall be covered.		
3.	Literature Review		
	Mapping of the efforts carried out by the other	3	10 %
	candidates/authorities/organizations.		
4.	Progress of Project		
	The students must report the progress/status of their work every fortnight to their	12	40 %
	respective supervisor.		
5.	Report Writing		
	The report must be prepared as per suggested guidelines consisting of Preamble,	6	10.0%
	Objectives, Scope, Survey Methodology, Data Collection, Data Analysis, Design	0	10 70
	(if any), Conclusions, Recommendations and Annexure.		
6.	Presentation & Question-Answer		
	At the end of the semester the student/group of students shall give presentation of	3	10 %
	their work followed by viva-voce examination.		

#### Instructional Method and Pedagogy:

- The student/group of students (Maximum 3) will identify any societal issue based on their inclination/willingness/interest/experience.
- The project will include visits as per demand of the project, where student/group of students can avail an opportunity to develop understanding based on their first-hand experience of actual scenario of society and its problems.
- Work progress of the project will be assessed and evaluated regularly by the mentor as per the evaluation guidelines.
- The mentor will visit the site of the project carried out by students under him, if need be.
- At the end of the semester, students have to submit the final project report followed by the presentation and Question-Answer. The submission of the project shall be done as per the guidance of the supervisor.
- At the end of the semester, the projects (certified by the supervisor/principal only) will be evaluated as per suggested evaluation criteria.

#### **Course Evaluation:**

Sr. No.	Evaluation criteria	Marks
1.	Identification of the problem related field work (Within first 30 Days of commencement of semester)	20
2.	Presentation of problem & proposed solution (Within 31 to 40 Days of commencement of semester)	20
3.	Actual work carried out & impact of solution (Within 41 to 60 Days of commencement of semester)	20
4.	Report writing as per guidelines	20
5.	Final Presentation & Question-Answer session	20
	Grand Total:	100

#### The entire evaluation will be converted equivalent to 50 Marks.

#### **Course Outcome:**

By the end of the course, the students will be able to:

- Learn to analyze the societal problems by the methods of survey, observation, statistics, interview and so on. •
- Examine the identified issued in order to find best possible solutions ٠
- Formulate and apply the methods to apply the solution ٠
- Study the applications of their respective field for Community Service. ٠

#### **Report Writing Guidelines**

#### A. Report Format:

1. Title Page (to be provided by the respective supervisor)

The title page of the project shall give the following information in the order listed:

- Full title of the project as approved by the Mentor;
- The full name of the student/Group of students with enrollment number;
- The qualification for which the project is submitted;
- The name of the institution to which the project is submitted;
- The month and year of submission.
- 2. Project Certification Form
  - [The form should be duly filled signed by the supervisors.]
- Acknowledgements
   [All persons (e.g. supervisor, technician, friends, and relatives) and organization/authorities who/which have helped in
  the preparation of the report shall be acknowledged.]
- 4. Table of Contents/Index with page numbering
- 5. List of Tables, Figures, Schemes
- 6. Summary/abstract of the report.
- 7. Introduction/Objectives of the identified problem
- 8. Data Analysis and Finding of Solution
- 9. Application of the identified solution
- 10. Future Scope of enhancement of the Project and Conclusion
- 11. "Learning during Project Work", i.e. "Experience of Journey during Project Duration"
- 12. References(must)
- 13. Bibliography
- 14. Annexures (if any)

#### **B. Guideline for Report Formatting:**

- Use A4 size page with 1" margin all sides
- Header should include Project title and footer should contain page number and enrollment numbers
- Chapter Name should be of Cambria font, 20 points, Bold
- Main Heading should be of Cambria font, 14 points, Bold
- Sub Heading should be of Cambria font, 12 points, Bold
- Sub Heading of sub heading should be of Cambria font, 12 points, Bold, Italic
- Paragraph should be of Cambria font, 12 points, no margin at the start of the paragraph
- Line spacing for all content 1.15, before 0, after 0
- No chapter number for references
- Before chapter 1, give page numbers in roman letter

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# Centre for Skill Enhancement & Professional Development

Course Code: SEPD1010

Course Name: Academic English and Technical Writing

Prerequisite Course/s: -

#### **Teaching & Examination Scheme:**

Те	Feaching Scheme (Hours/Week)     Examination Scheme (Marks)									
The second	Due eties1	Testorial	Credit	The	eory	Prac	ctical	Tute	orial	Tatal
Ineory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	lotai
02	02	00	03	40	60	20	30			150

CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

To help learners to:

- Improve speaking, listening, reading and writing skills in an academic environment
- Write academic texts effectively, as well as improve grammar and vocabulary
- Express ideas clearly and accurately with accurate writing
- Form and practice strategies for reading in the academic contexts quickly and effectively
- Gain confidence in speaking English in an academic context and also analyze and improve pronunciation.

# **Course Content:**

Section I – Theory					
Module	Content	Hours	Weightage		
1.	<ul> <li>Introduction to Academic English</li> <li>General English Vs Academic English</li> <li>Academic Vocabulary</li> <li>Grammar for Academic Purposes</li> </ul>	04	10 %		
2.	Academic Reading • Introduction to Reading • Types of Reading • Techniques of Reading	06	20 %		
3.	Academic Listening • Introduction to Listening • Types of Listening • Techniques of Listening	06	20 %		
4.	Academic Speaking • Introduction to Speech and Its importance • Phonetics and Transcription to effective pronunciation • Speaking in various contexts	06	20 %		
5.	Technical Writing • Understanding clauses and Syntax • Cohesion and Coherence/ Building Paragraphs • Flow/ structure of Writing • Punctuations • Application/ Letter Writing • Review/ Report Writing • E-mail etiquettes	08	30 %		
	Section II – Practical	1	<b>F</b>		
Module	Content	Hours	Weightage		
1.	<ul> <li>Introduction to Academic English</li> <li>Ice Breakers</li> <li>Role Plays</li> <li>Grammar and Vocabulary Activities</li> </ul>	04	15 %		
2.	Academic Reading (Computer Assisted) • Reading for summarizing/ paraphrasing • Critical Reading • Reading for presentation • Utilizing web resources	04	15 %		
3.	Academic Listening (Computer Assisted) • Listening for Note Taking/ Note making • Critical Listening • Comprehensive Listening	06	20 %		
4.	Academic Speaking <ul> <li>Speaking and pronunciation activities</li> <li>Extempore and Impromptu speech/ presentation</li> </ul>	08	25 %		
5.	Technical Writing (Computer Assisted) <ul> <li>Letter/ Application</li> <li>Book Review/ Movie Review</li> <li>Email</li> <li>Analytical Writing (Paragraph)</li> <li>Review Writing</li> <li>Article Writing</li> </ul>	08	25 %		



### List of Practical/Tutorial:

Sr. No.	Name of Practical/Tutorial	Hours
1.	Introduction to Academic English – Ice Breaker	02
2.	Introduction to Academic English – Vocabulary Games and Grammar Activity	02
3.	Reading for Summarizing and Paraphrasing	02
4.	Reading for review writing/ Skimming and Scanning Web Resources	02
5.	Comprehensive Listening: Note Taking and Note Making	02
6.	Comprehensive Listening: Summarizing and Paraphrasing	02
7.	Critical Listening: An analysis	02
8.	Speech for Pronunciation	02
9	Speech for Presentation	02
10.	Speech for Fluency	02
11.	Conversational Skills	02
12.	Academic Writing: Paragraph Building	02
13.	Academic Writing: Critical Review Writing	02
14.	Leave Application/ Request Letter/Business Letter	02
15.	Notice/Memo/Agenda/ Minutes	02

### **Text Book:**

Title	Author/s	Publication
Practical Techniques to Develop Communication Skills	ParulPopat& Kaushal Kotadia	PothiPrakashan, 2015

### **Reference Book:**

Title	Author/s	Publication
English for Academic Purposes: A Guide and Resource Book for Teachers	R. R. Jordan	Cambridge University Press, 1997
English for Academic Purposes: An Advanced Resource Book	Ken Hyland	Routledge, 2006
Engineers' Guide to Technical Writing	Kenneth G. Budinski	ASM International, 2001
Communication Skills	ParulPopat& Kaushal Kotadia	Pearson, 2015



#### Web Material Links:

- https://msu.edu/course/be/485/bewritingguideV2.0.pdf
- https://www.khanacademy.org
- http://www.kantakji.com/media/6494/t121.pdf

#### **Course Evaluation:**

#### Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carries 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### **Practical:**

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 15 Marks during End Semester Exam.
- Viva/Oral performance of 15 Marks during End Semester Exam.

# **Course Outcome:**

Students will be able to

- Effectively use LSRW skills in English in an academic environment.
- Write Academic English effectively with improved grammar and vocabulary.
- Practice strategies for comprehensive reading in English.
- Speak English in an academic context fluently and efficiently.

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# Centre for Skill Enhancement & Professional Development

Course Code: SEPD1020

Course Name: Communication Skills

Prerequisite Course/s: -

### **Teaching & Examination Scheme:**

Те	Teaching Scheme (Hours/Week)Examination Scheme (Marks)									
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Ineory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Iotai
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CE: Continuous Evaluation, ESE: End Semester Exam

#### **Objective of the Course:**

To help learners to:

- Hone basic communication skills of the students by exposing them to the key communication techniques, and thereby
- Improvise comprehension and expressional skills of the students required for personal. Social, academic and professional environment
- Sharpen Communication Skills of the students with reference to Organizational Structure,
- Expose them to the modern modes of communication,
- Show the students importance of team work and give practice in Group Communication with reference to Group Dynamics.

### **Course Content:**

Section I – Theory					
Module	Content	Hours	Weightage		
1.	Introduction to Communication Skills <ul> <li>Concept and Process of Communication</li> <li>Types of Communication</li> <li>Principles of Effective Communication</li> <li>Barriers to Communication</li> </ul>	06	20 %		
2.	Interpersonal Organizational Communication <ul> <li>Styles of Communication</li> <li>Flows of Communication</li> <li>Essentials of Organizational Communication</li> <li>Kinesics, Proxemics and Chronemics</li> <li>Cross cultural Communication</li> </ul>	06	20 %		
3.	<ul> <li>Team/ Group Dynamics and Leadership</li> <li>Introduction to Group Work and Group Dynamics</li> <li>Types of Groups and Essentials of Group Work and networking</li> <li>Concept and Types of Leadership</li> <li>Traits of an Effective Leader</li> </ul>	06	20 %		
4.	<ul> <li>Presentation Skills</li> <li>Introduction to presentation and its importance</li> <li>Modes, means and purposes of presentation</li> <li>Defining purpose, analyzing audience and organizing the contents</li> <li>Visual aids and nuances of delivery</li> <li>Body language and effective presentation</li> </ul>	06	20 %		
5.	<ul> <li>Communication and Contemporary World</li> <li>Introduction to Contemporary personal, social and professional set ups</li> <li>Modern Day Communication tools and their efficacy</li> <li>Effective usage of Modern Day Communication tools for personal and professional growth</li> </ul>	06	20 %		
	Section II – Practical				
Module	Content	Hours	Weightage		
1.	<ul> <li>Introduction to Communication Skills</li> <li>Role Plays</li> <li>Communication Games and Activities</li> </ul>	06	20 %		
2.	Interpersonal Organizational Communication <ul> <li>Group Tasks</li> <li>Flip Classroom Activity</li> <li>Role plays</li> <li>Other Relevant Activities and Games</li> </ul>	06	20 %		
3.	Team/ Group Dynamics and Leadership • Group Activities • Case Studies • Team Building Games	06	20 %		
4.	<ul> <li>Presentation Skills</li> <li>Individual Presentation practicing various modes</li> <li>Reading and Preparing for Presentation</li> <li>Self-Peer-teacher assessment of the Presentation</li> </ul>	06	20 %		
5.	Communication and Contemporary World • Exploring various Communication tools • Assigning Group Individual Tasks	06	20 %		



# List of Practical:

Sr. No.	Name of Practical	Hours
1.	Introduction to Communication: An Ice Breaker	02
2.	Verbal/ Non Verbal Communication Pros and Cons	02
3.	Principles of Communication	02
4.	Interpersonal Communication	02
5.	Organizational Communication	02
6.	Assertive Vs Aggressive Communication	02
7.	Group Dynamics: A Decision Making Activity	02
8.	Group Dynamics Working together to achieve organizational vision	02
9	Leadership: Holding a diverse Group Together	02
10.	Presentation Skills; Video Session	02
11.	Presentations by the Students: Self-Peer-teacher assessment	02
12.	Presentations by the Students: Self-Peer-teacher assessment	02
13.	Discussion on Modern Day Communication	02
14.	Modern Day Communication and Contemporary Society	02
15.	Exploring Innovative Communication Tools for effective communication	02

### **Text Book:**

Title	Author/s	Publication
Practical Techniques to Develop Communication Skills	ParulPopat& Kaushal Kotadia	PothiPrakashan, 2015

# **Reference Book:**

Title	Author/s	Publication	
Communication Skills	Parul Popat& Kaushal Kotadia	Pearson, 2015	
Communication Skills, Second Edition	Sanjay Kumar, PushpLata	Oxford University Press,2015	
Communication Skills for Engineers	Sunita Mishra	Pearson, 2011	
Effective Interpersonal and Team Communication Skills for Engineers	Clifford Whitcomb, Leslie E. Whitcomb	John Wiley & Sons, 2012	



#### Web Material Links:

- http://www.mindtools.com/page8.html
- http://techpreparation.com/soft-skills.htm?gclid=CJf34fyQv5wCFdMtpAodjjX\_tA
- http://lorien.ncl.ac.uk/ming/Dept/Tips/present/comms.htm

#### **Course Evaluation:**

#### Theory:

- Continuous Evaluation Consist of Two Test Each of 15 Marks and 1 Hour of duration.
- Submission of assignment which consists of 5 Questions to be answered under each module and it carries 10 Marks of Evaluation.
- End Semester Examination will consist of 60 Marks Exam.

#### **Practical:**

- Continuous Evaluation Consist of Performance of Practical which should be evaluated out of 10 for each practical in the next turn and average of the same will be converted to 10 Marks.
- Internal Viva component of 10 Marks.
- Practical performance/quiz/drawing/test of 15 Marks during End Semester Exam.
- Viva/Oral performance of 15 Marks during End Semester Exam.

### **Course Outcome:**

Students will be able to

- Follow the process of communication and its components in organizational context.
- Express themselves and to participate in the classroom discussions and other such academic or academic support activities.
- Comprehend whatever they receive from Informal Interactions with the family, teachers. and friends; and from Formal Communications taking Place in Lectures, Laboratories and the like.
- Communicate effectively using suitable styles and techniques.
- Express themselves through the modern modes of communication and to participate in the group discussions and other such academic or academic support activities.
- Use language effectively with reference to communication in groups and group behavior.
- Understand and use latest and innovative communication tools to enhance their communication efficacy.



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# Course Coordinators & Details

Course Code	Course Name	Course Coordinator
SESH1010	Elementary Mathematics for Engineers	Ms. Pratiksha Mishra +91 97236 36678 <u>pratiksha.mishra@ppsu.ac.in</u>
SECV1030	Engineering Mechanics	Mr. Annirudha Tangarila +91 82176 53918 <u>annirudh.tangarila@ppsu.ac.in</u>
SEME1020	Engineering Workshop	Mr. Amir Patel +91 96018 27788 <u>amir.patel@ppsu.ac.in</u>
SECE1010	Basics of Computer & Programming	Ms. Reshma Lakhani +91 94268 81286 <u>reshma.lakhani@ppsu.ac.in</u>
SESH1210	Applied Physics	Mr. Vishwas Patel +91 94289 71593 <u>vishwas.patel@ppsu.ac.in</u>
SESH1220	Chemistry	Ms. Sofia A. Ahmed +91 94087 65220 <u>sofia.ahmed@ppsu.ac.in</u>
SECV1060	Basics of Engineering Sciences	Mr. Paresh Mistry +91 97247 79722 paresh.mistry@ppsu.ac.in
SECE1020	Introduction to Computer Programming	Mr. Raviraj Chauhan +91 74054 19415 <u>raviraj.chauhan@ppsu.ac.in</u>
SESH1030	Electronics Workshop	Dr. Vinaykumar Singh +91 94476 09458 <u>vinay.singh@ppsu.ac.in</u>
SECV1050	Global Environmental Challenges & Management	Mr. Abhishek Sevwala +91 97264 65609 <u>abhishek.sevwala@ppsu.ac.in</u>
SEIT1020	Logic Building & Problem Solving	Mr. Mitul Patel +91 99985 80268 <u>mitul.patel@ppsu.ac.in</u>
SEPD1010	Academic English & Technical Writing	Ms. Aasshna Verma +91 99098 52932 <u>aasshna.verma@ppsu.ac.in</u>
SESH1050	Solution to Societal Problems: A Community Service Approach	Dr. Gaurav Thakarar +91 96627 62841 gaurav.thakarar@ppsu.ac.in

# 1st Internal Exam Schedule

# P P Savani School of Engineering

**First Semester** 

1<sup>st</sup> Internal Exam

11:00 a.m. to 12:00 Noon

Date & Day	Civil Engineering	Mechanical	Chemical	Computer	Information
	SECU1010	CECHIOIO	CECH1010	SECH1010	SECH1010
17/00/2010	52511010		51	52511010	
1//08/2018	Elementary	Elementary	Elementary	Elementary	Elementary
Friday	Mathematics for	Mathematics for	Mathematics for	Mathematics for	Mathematics for
	Engineers	Engineers	Engineers	Engineers	Engineers
20/08/2018	SECV1030	SECV1030	SECV1030	SECV1060	SECV1060
20/00/2010 Monday	Engineering	Engineering	Engineering	Basics of Engineering	Basics of Engineering
wonday	Mechanics	Mechanics	Mechanics	Sciences	Sciences
				SECV1050	SECV1050
24/08/2018	CECU1210	CECUIDIO	CECULI220	Global	Global
24/08/2018	SESH1210	SESH1210	SESH1220	Environmental	Environmental
Friday	Applied Physics	Applied Physics	Chemistry	Challenges &	Challenges &
				Management	Management
	SECE1010	SECE1010	SECE1010	SECE1020	SECE1020
27/08/2018	Basics of	Basics of	Basics of	Introduction to	Introduction to
Monday	Computer &	Computer &	Computer &	Computer	Computer
	Programming	Programming	Programming	Programming	Programming
	SEPD1010	SEPD1010	SEPD1010	SEDD1010	CEDD1010
31/08/2018	Academic English	Academic English	Academic English	SEPDIOIO	SEPDIOIO
Friday	& Technical	& Technical	& Technical	Technic English &	Teal at a 1 Muit
Thaty	Writing	Writing	Writing	i ecnnical writing	recnnical writing



# 2nd Internal Exam Schedule

# P P Savani School of Engineering

**First Semester** 

2<sup>nd</sup> Internal Exam

11:00 a.m. to 12:00 Noon

Date & Dav	Civil Engineering	Mechanical	Chemical	Computer	Information
	8 8	Engineering	Engineering	Engineering	Technology
	SESH1010	SESH1010	SESH1010	SESH1010	SESH1010
24/09/2018	Elementary	Elementary	Elementary	Elementary	Elementary
Monday	Mathematics for	Mathematics for	Mathematics for	Mathematics for	Mathematics for
	Engineers	Engineers	Engineers	Engineers	Engineers
28/00/2018	SECV1030	SECV1030	SECV1030	SECV1060	SECV1060
20/09/2010 Eriday	Engineering	Engineering	Engineering	Basics of Engineering	Basics of Engineering
rituay	Mechanics	Mechanics	Mechanics	Sciences	Sciences
				SECV1050	SECV1050
01/10/2018	SESU1210	SESU1210	SESU1220	Global	Global
01/10/2018 Mandau	SESTI210	SESTI210	SEST1220	Environmental	Environmental
Monday	Applied Physics	Applied Physics	Chemistry	Challenges &	Challenges &
				Management	Management
	SECE1010	SECE1010	SECE1010	SECE1020	SECE1020
05/10/2018	Basics of	Basics of	Basics of	Introduction to	Introduction to
Friday	Computer &	Computer &	Computer &	Computer	Computer
	Programming	Programming	Programming	Programming	Programming
	SEPD1010	SEPD1010	SEPD1010	CEDD1010	CEDD1010
08/10/2018	Academic English	Academic English	Academic English	Acadomic English 9-	Acadomic English 9-
Monday	& Technical	& Technical	& Technical	Tashriash Writing	Tashriaal Writing
	Writing	Writing	Writing	rechnical writing	rechnical writing

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# University Exam Schedule

# P P Savani School of Engineering

**First Semester** 

University Theory Exam 01:30 p.m. to 04:00 p.m.

Date &	Civil Engineering	Mechanical	Chemical	Computer	Information
Day	Civil Engineering	Engineering	Engineering	Engineering	Technology
	SESH1010	SESH1010	SESH1010	SESH1010	SESH1010
18/12/2018	Elementary	Elementary	Elementary	Elementary	Elementary
Tuesday	Mathematics for	Mathematics for	Mathematics for	Mathematics for	Mathematics for
	Engineers	Engineers	Engineers	Engineers	Engineers
20/12/2019	SECV1030	SECV1030	SECV1030	SECV1060	SECV1060
20/12/2018	Engineering	Engineering	Engineering	Basics of Engineering	Basics of Engineering
Thursday	Mechanics	Mechanics	Mechanics	Sciences	Sciences
				SECV1050	SECV1050
22/12/2019	CECILI210	CECU1210	CECII 1220	Global	Global
22/12/2018 Saturday	Applied Drusice	SEST1210	SEST1220	Environmental	Environmental
Saturday	Applied Physics	Applied Physics	Chemistry	Challenges &	Challenges &
				Management	Management
	SECE1010	SECE1010	SECE1010	SECE1020	SECE1020
24/12/2018	Basics of	Basics of	Basics of	Introduction to	Introduction to
Monday	Computer &	Computer &	Computer &	Computer	Computer
	Programming	Programming	Programming	Programming	Programming
	SEPD1010	SEPD1010	SEPD1010	CEDD1010	CEDD1010
26/12/2018	Academic English	Academic English	Academic English	SEPDIUIU	SEPDIUIU
Wednesday	& Technical	& Technical	& Technical	Technical Writing	Tochnical Writing
	Writing	Writing	Writing		



# Women Development Cell

#### **Objective:**

Women Development Cell shall create opportunities and environs to facilitate women to reach to the peak of their naturally endowed potential, and thereby enriching organizational and social life.

#### **Committee Constitution & Nominee**

Constitution	Name of Member	Contact No
Coordinator	Ms. Reshma Lakhani	9426881286
Faculty Representative (Female)	Ms. Nafisa Shaikh	7621875977
Faculty Representative (Female)	Ms. Meera Patel	9558098710
Faculty Representative (Female)	Ms. Chandni Patel Counsellor, P P Savani University	9998770219
Representative of Non-Teaching Staff	Ms. Anjali Vishwakarma HR Executive, P P Savani University	9512035608

#### **Objectives of Women Development Cell**

- To promote intellectual and cultural activities for overall personality development of students.
- To enhance the self-esteem and self-confidence of women student, faculty and staff in the college.
- To create social awareness about the problems of women and in particular regarding gender discrimination.
- To develop critical thinking ability of girl students such that it enhances decision-making ability.
- To provide proper guidance to girl students about physical appearance, behavior, physical and mental strength.
- To create legal awareness on specific issues concerning girl students and women.
- To enable women to make informed choices in areas like education, employment and health especially reproductive health.
- To organize various types of training programs and create awareness about self-employment schemes for the encouragement among girl students and women.

# Anti-Ragging Cell & Declaration Forms

# 1) Anti-ragging Committee

Constitution	Name of Member	Contact No
The Head of Institution	Niraj Shah	9099063010
Faculty Representative (Male)	Amir Patel	9601827788
Faculty Representative (Male)	Mitul Raj	8140965363
Faculty Representative (Female)	Nafisa Shaikh	7621875977
Representative of Non-Teaching Staff	Deepak Hotta	9512035610

# 2) Anti-Ragging Squad

Name	Designation	Contact No
Faculty Representative (Male)	Palak Patel	9909502820
	Faculty Member,	
	Mechanical Engineering	
Faculty Representative (Female)	Chandni Patel	9998770219
	Counsellor, P P Savani University	<i>yyyon</i> (021)
Representative of Non-Teaching Staff	Anjali Vishwakarma	9512035608
	HR Executive, P P Savani University	9312033008



# AFFIDAVIT BY THE STUDENT

1) I, \_\_\_\_\_

#### (full name of student with admission/registration/enrolment number)

S/o or D/o Mr./Mrs./Ms.

having been admitted to P P Savani School of Engineering, have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the "Regulations") carefully read and fully understood the provisions contained in the said Regulations.

- 2) I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
- 3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
- 4) I hereby solemnly aver and undertake that
  - a. I will not indulge in any behaviour or act that may be constituted as ragging under clause 3 of the Regulations.
  - b. I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.
- 5) I hereby affirm that, if found guilty of ragging, I am liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.
- 6) I hereby declare that I have not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, I am aware that my admission is liable to be cancelled.

Declared this \_\_\_\_\_ day of \_\_\_\_\_\_ month of \_\_\_\_\_ year. Sign: \_\_\_\_\_\_

Name:

#### VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at P P Savani University on this \_\_\_\_\_ day of \_\_\_\_\_ month of \_\_\_\_\_ year.

Sign of Deponent : \_\_\_\_\_

Solemnly affirmed and signed in my presence on this \_\_\_\_\_ day of \_\_\_\_\_ month of \_\_\_\_\_ year, after reading the contents of this affidavit.

OATH COMMISSIONER

# AFFIDAVIT BY PARENT/GUARDIAN

- >		12.0	
1)	I, Mr	:/Mrs.	./Ms.

(full name of parent/guardian)

father/mother/guardian of

(full name of student with admission/registration/enrolment number)

having been admitted to P P Savani School of Engineering, have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the "Regulations") carefully read and fully understood the provisions contained in the said Regulations.

- 2) I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
- 3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
- 4) I hereby solemnly aver and undertake that
  - a. My ward will not indulge in any behaviour or act that may be constituted as ragging under clause 3 of the Regulations.
  - b. My ward will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.
- 5) I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.
- 6) I hereby declare that my ward has not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this	day of	month of	year.	Sign of Depon	ent:	
		Name: _				
		Address:				
		Telephor	ne/ Mobile N	No.:		
		VERIFICATIO	ON			
Verified that the c has been conceale	ontents of this affidavit are t d or misstated therein.	rue to the best of my kr	10wledge an	d no part of the	e affidavit is false ar	1d nothing
Verified at P P Sav	vani University on this	day of		month of	year.	
			Sign o	of Deponent :		
Solemnly affirmed after reading the c	d and signed in my presence contents of this affidavit.	e on this day of			_ month of	year,

OATH COMMISSIONER



# **Contact Details**

For What	Contact Details
Admission Counselling	Chandni Patel
	9998770219
Fees Payment	Shabnam Mansuri
	9723216313
Ragging Complaint	Anti-Ragging Committee
	Details on page no. 101
Any Complaint by Girl Student/Staff	Women Development Cell
	Details on page no. 100
Any Complaint by Boy Student	Amir Patel
	96018 27788
Computer & IT infrastructure related Query	Renish Mansuri
	9512035609
Transport In-charge	Bharatbhai
	9824143272
Hostel Administration	Jigisha Desai
	9512035613
Canteen In-charge	Anil Gadhvi
	9512035612
Technical Activity In-charge	Hardik Majiwala
	96014 88898
	Abhishek Sevwala
	97264 65609
	Ms. Neha Shah
	98241 84008
Sports Activity In-charge	Amir Patel
	96018 27788
	Aasshna Verma
	99098 52932
	Raviraj Chauhan
	74054 19415
Cultural Activity In-charge	Palak Patel
	99095 02820
	Mitul Raj
	81409 65363
	Meera Patel
	9662762841
Subject Related Query	Subject Coordinator
	Details on page no. 96







볞봌롲왴휭쒆췓먥뵁볢컿꿭볉킖뒇뙳겯걢

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