

Dr. V. P.S.S.M's Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon, Sangli

Student Information Manual (SIM) 2024-25 SEM-I

First Year B. Tech



Dr.V. P. Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon -416304

STUDENT'S INFORMATION MANUAL

(Academic Year:2024-25) Semester-I Teaching and Evaluation Scheme

for

First Year B.Tech.

Group A



Department of First Year Engineering

Department of First Year Engineering

The Department of **First Year Engineering** is established in the year 1983 with the establishment of institute. The department has a good intermingle of experienced and young faculty which works as a team to strengthen the department.

VISION OF DEPARTMENT

To orient, educate and develop students in applying fundamentals of sciences to Engineering leading to smooth and successful transfer to an undergraduate degree engineering program.

MISSION OF DEPARTMENT

- 1. To create an environment where students can ascertain that career in engineering matches their interests and abilities.
- 2. To impart strong fundamental and technical knowledge in the basic science subjects to enable them to prepare themselves for successful career.
- 3. To inculcate habbit of innovation and entrepreneurship.

GOALS

- 1. To achieve 100 % results in academics.
- 2. To inculcate competitive attitude by supporting and guiding them to participate in national competition.
- 3. To develop basic skills and human values required to undertake further studies

STRUCTURE OF FIRST YEAR ENGINEERING

(With effective from Academic Year 2024-25)



- **3** Chemical Engineering
- **4** Civil Engineering
- 5 Instrumentation & Control Engineering
- 3 Electronics & Telecommunication Engineering (E&Tc)
- 4 Electrical and Computer Engineering (ECE)

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THE ROLE OF STUDENTS

As our society/ nation grows and becomes technologically more strong/ complex, it needs more trained Engineers. Students can contribute to this professional growth by playing an effective and disciplined role during their studies.

Responsibilities:

- 1. 100% Attendance and active participation in all academic activities.
- 2. Self-discipline and good relations with other students, teaching and support staff.
- 3. Positive attitude, motivation and technical thinking.
- 4. Participation in Co-Curricular and Extra-Curricular activities.
- 5. Carrying Identity Card and following the College Dress Code.
- 6. Pursuing all-round personality development with good generic skills.
- 7. Following the Code-of-Conduct laid down by the Department, Institute and University.

Code-of-Conduct: Students Shall

- > Attend all Lecture's and Practical's in time.
- > Not take common off, Leave without permission.
- Roaming in the campus premises during academic work or disturbing the campus activities through shouting/ misconduct is strictly not allowed.
- Use of personal unauthorized electronic gadgets without permission in department premises is not allowed.
- Attendance should be 100 % otherwise you will be ineligible for Exams.
- Not include themselves into any form of violence, ragging, use of tobacco, alcohol or drugs in campus.
- Let us all- Society, parents, teachers and students join hands and put our best efforts to imbibe the above mentioned behavior in our students.
- Maintain silence in class rooms
- > Don't write anything on seating bench and walls of classroom
- ➤ Keep their mobiles switched off in classroom.
- Your reason of absence should be timely informed to your class teacher with written application.
- ▶ Help to conserve energy, Switch off fans and tubes before leaving the classroom.
- ➤ Keep the Classrooms clean.

Laboratory Instructions

Laboratory Instructions

- ✤ Read all the instructions carefully.
- ✤ Always keep silence in the laboratory.
- Keep your mobiles switched off in the laboratory.
- Always wear an apron before starting your laboratory work.
- ✤ Handle hazardous chemicals and concentrated chemicals carefully.
- ✤ Handle all electronics Devices/Equipment's carefully.
- Follow safety procedures and avoid damage to self and equipment.
- Be aware with what you are doing and why you are doing it.
- Except in emergency, don't run in laboratory.
- Inform the lab assistant or lab in-charge when any fault arises during the performance of an experiment.
- Report any not working equipment to the lab instructor; don't open/ remove the cover/ attempt to repair any equipment.
- ✤ Keep the working table always neat and clean.
- Be aware with the place of fire extinguisher and the method of using it.
- ✤ If any accident occurs, report it at once to the person concerned (Lab In charge).
- Use laboratory first aid box for any minor accident.
- Help to conserve energy, Switch off the equipment's tubes and fans before leaving the laboratory.
- ✤ Do not move the instruments from one laboratory to another, without permission.

First Year B.Tech. Teaching and Evaluation Scheme

Group A	A	Semester	I
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			Semester	·I							
Sm	Course			Te S	eachi chem	ng 1e	ŀ	Evaluati	on Sche	me	
Sr. No.	Category	Course Code	Course Title	L	Т	Р	CA	MSE	ESE	Total	Credit
1	BSC	24AF1000BS101	Engineering Mathematics – I	3	0	0	20	20	60	100	3
2	BSC	24AF1CHEBS102	Engineering Chemistry	3	0	0	20	20	60	100	3
3	BSC	24AF1CHEBS103L	Engineering Chemistry Lab	0	0	2	60		40	100	1
4	ESC	24AF1EMES104	Engineering Mechanics	3	0	0	20	20	60	100	3
5	ESC	24AF1EMES105L	Engineering Mechanics Lab	0	0	2	60		40	100	1
6	ESC	24AF1000ES106	Programming for Problem Solving	2	0	0	20	20	60	100	2
7	ESC	24AF1000ES107L	Programming for Problem Solving Lab	0	0	2	60		40	100	1
8	VSEC	24AF1000VS108L	Workshop Practices	0	0	4	60		40	100	2
9	AEC-01	24AF1000VS109	Communication Skills	2	0	0	20	20	60	100	2
10	AEC-01	24AF1000VS110L	Communication Skills Lab	0	0	2	60		40	100	1
		24AF1000CC111A	A. Yoga								
11	CC	24AF1000CC111B	B. NSS-I	1	0	2	60		40	100	2
		24AF1000CC111C	C. NCC								
		Total		14	0	14	460	100	540	1100	21

COURSE CO-ORDINATOR

Sr. No.	Course	Course Code	Course Coordinator	Email id	ContactNo.
1	Engineering Mathematics-I	BS101	Mr. P. S. Patil	pramodpatilrut@gmail.com	9764713256
2	Engineering Chemistry	BS102	Mrs. D.A.Lawate	dalavate.ge@pvpitsangli.edu.in	8788009691
3	Engineering Mechanics	ES104	Mr. AA.Kusnale	aakusanale.civil@pvpitsangli.edu.in	8888978808
4	Programming for Problem Solving	ES106	Ms. R.N. Mulla	ruksarmulla333@gmail.com	8668777621
5	Workshop Practice	VS108L	Mr. N.D. Patil	ndpatilmech@pvpitsangli.edu.in	7218420242
6	Communication Skills	VS109	Mr. S.E. Narwade	senarwade.ge@pvpitsangli.edu.in	9527057048
7	NSS-I	CC111B	Mr. P.P. Shinde	ppshinde@pvpitsangli.edu.in	8600732033

NOTE: Any query or suggestion in above subject should contact with respective Subject Coordinator

CLASS TEACHERS

Sr.	Class/	Class Teachers	Denartment	Email id	Contact
No.	Div		Department		No.
01	Π	Dr. D. A. Lavate	Chemistry	dalavate.ge@pvpitsangli.edu.in	8788009691
02	IV	Ms. A. B. Aawate	Chemistry	amrutaaawate02@gmail.com	8956664201
03	VI	Ms. R. N. Mulla	Prog. for Prob. Sol.	ruksarmulla333@gmail.com	8668777621
04	VIII	Ms. A. K. Patil	Mathematics	akpatil.ge@pvpitsangli.edu.in	9623653978
05	X	Dr. P. N. Shelake	Commu. Skills	poonamnshelake@gmail.com	9970171119

COURSE TEACHERS

SEM-I

Division Class → Course	Ш	IV	VI	VIII	X
Engineering Mathematics-I	Dr.Mrs.A.A.Patil	Mr.P.S.Patil	Mrs. A. V. Patil	Mrs. A. K. Patil	Mrs. S. P.Mandale
Engineering Chemistry	Mrs.D.A.Lavate	Ms.A.B.Aawate	Mrs.D.A.Lavate	Ms.A.B.Aawate	Ms. P. B. Patil
Engineering Mechanics	Mr.A.A.Kusnale	Ms.S.M.Patil	Mrs. U. S. Kasbekar	Mrs. P. A. Patil	Mr. N. S. Bembade
Programming for Problem Solving	Mrs. P. Chougule	Mrs. P. Chougule	Ms.R.N.Mulla	Ms.P.R.Mhetre	Ms.R.N.Mulla
Communication Skills	Mr.S.E.Narwade	Mr.A.K.Chavan	Mrs. K. V. Chougule	Mrs. P. N.Shelake	Mrs.P.N.Shelake
NSS-I	Mr.P.P.Shinde	Mr.N.P.Ambole	Mr. P. V. Kadam	Mr. P. V. Kadam	Mr.P.P.Shinde

ACADEMICCALENDAR 2024-25 SEM-I

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ogram :- 2	26	27	28	29	23	24	25	26	27	28	29
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WED	THUR	FRI	SAT	SUN	MON	TUE	WED	THUR	FRI	SAT	SUN
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Dr. Vasantraodada Patil Shetkari Shikshan Mandal's Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli) FIRST YEAR ENGINEERING DEPARTMENT TIME TABLE 2024-25 SEM-I

With Effect From 17/09/2024

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CI	ass	: FE-	II	Branch: - (com	put	er Scie	ence & Engg.(O	CSE)		GI	ROUP(A)	CL-05	
ör. Io.	TIM	E IN HI	RS	MONDAY	т	UES	DAY	WEDNESDAY	THURS	DAY		FRIDAY	SATURDAY	
1	10:0	0 TO 11:	00	B1- ES107L	ES	5104	- AAK	B1- BS103L	BS102-	- DA	L VS	6109- SEN	# M-M / Counselor	
2	11:0	0 TO 12:	00	B2- VS110L B3- VS108L	BS	6101	- AAP	B2- ES105L B3- VS108L	VS109	SE	N BS	6101- AAP	Counselor Interaction	
	12:0	0 TO 12.4	45			LOI	VG	RECESS						
3	12.4	5 TO 13:4	45	BS102- DAL	B	1- CC 2- BS	111B	BS102- DAL	BS101-	- AA	P B	1- VS108L	I VH/IITST	
4	13:4	5 TO 14:	45	ES104- AAK	В	3- ES	105L	ES106-RNM	ES104-	AA	K B	3- VS110L	Liimiitoi	
	14:4	5 TO 15:	00			SHC	RT	RECESS					ř.	
5	15:0	0 TO 16:	00	B1- VS108L	В	1- VS	5110L	*BS101- AAP	B1- ES	105L	ES	6106- PRM	LVH-Library Visit Hou	
6	16:0	0 TO 17:	00	B2- CC111B B3- BS103L	B	2- VS 3- CC	108L 111B	LVH/IITST	B2- VS B3- ES	108L 107L	CC	111B- PPS	IITST- IIT Spoken Tutorial	
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	SrN	Course Code		Name of the Course		SrN	Course Code	Name of the C	ourse	SrN	Course Code	Name of t	he Course	
	1	BS101	Eng	ineering Mathematics-I		5	ES105L	Engineering Mechanics I	.aboratory	9	VS109	Communication Skills		
	2	BS102	Eng	ineering Chemistry		6	ES106	Programing For Problem	Solving	10	VS110L	OL Communication Skills Laboratory		
	3	BS103L ES104	Eng	ineering Chemistry Labora	tory	7	ES107L	Programing For Problem	Solving Lab	11	CCITIB	11B NSS-I		

(Dr. S. L. Patil) TT- Coordinator, (F. Y. B. Tech.)

(Dr. Mrs. A. A. Patil) HOD, (F. Y. B. Tech.) (Dr. K. K. Pandyaji) Academic Dean

Dr. VasantraodadaPatilShetkariShikshanMandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli as per NEP-2020 FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech) TIME TABLE 2024-25 SEM-I

Curriculum

W.E.F. 23/09/2024

Cla	uss: FE	-IV	Branch: Co	omp	ute	r Scier	nce & Engg.(CSE)			GROUI	P(A)	CL-06
Sr. No.	TIME IN	HRS	MONDAY	Т	UESI	DAY	WEDNESDAY	THURSDA	Υ	FRI	DAY	SAT	URDAY
1	10:00 TO 1	1:00	VS109- AKC	D1	- ES	107L	BS102- ABA	D1- BS103	3L	ES10	6- RNM	# M-M /	Counselor
2	11:00 TO 1	2:00	BS102- ABA	ABA D3-		110L 108L	ES104- SMP	D2- ES105L D3- VS108L		BS101-PSP		Int.Mentee –Mentor of Counselor Interaction	
	12:00 TO 1	2.45		13	LON	IG	RECESS						
3	12.45 TO 1	3:45	D1- VS108L	BS	101	- PSP	D1- CC111B	BS101- P	SP	BS10	2- ABA		UNTOT
4	13:45 TO 1	4:45	D3- VS110L	ES	104	- SSM	D2- BS103L D3- ES105L	VS109- A	кс	CC11	B-NPA	LVIIIIISI	
	14:45 TO 1	5:00		5	бно	RT	RECESS						
5	15:00 TO 1	6:00	ES106- RNM	D1	- VS	108L	D1- VS110L	ES104- s	SM	D1-E	S105L	LVH-Libra	ary Visit Hou
6	16:00 TO 1	7:00	*BS101- PSP	D2 D3	- CC	111B 103L	D2- VS108L D3- CC111B	LVH/IITS	ST .	D2- V D3- E	S108L S107L	IITST-	IT Spoken Itorial
PS NP/	SP-PSPatil A-NPAmbole	,	ABA-/ABAwate	s	SMP-/	SMPatil	RNM-/R	NMulla	AK	C-AKCha *-Extra	ivan	#-Al	ternate
Sr	N Course Code		Name of the Course		SrN	Course Code	Name of the	e Course	SrN	Course Code	Nan	ne of the Co	ourse
1	BS101	Engi	neering Mathematics-I		5	ES105L	Engineering Mechani	ics Laboratory	9	VS109	Communic	ation Skills	
2	2 BS102	Engi	neering Chemistry		6	ES106	Programing For Prob	lem Solving	10	VS110L	OL Communication Skills Laboratory		
3	BS103L	Engi	neering Chemistry Labora	atory	7	ES107L	Programing For Prob	lem Solving Lab	11	CC111B	NSS-I		16
4	ES104	Engi	neering Mechanics		8	VS108L	Workshop Practices	100 C					

(Dr. S. L. Patil) TT- Coordinator, (F. Y. B. Tech.)

(Dr. Mrs. A. A. Patil) HOD, (F. Y. B. Tech.)

(Dr. K. K. Pandyaji) Academic Dean

Dr. VasantraodadaPatilShetkariShikshanMandal's Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli as per NEP-2020

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech) TIME TABLE 2024-25 SEM-I

Curriculum

W.E.F. 23/09/2024

Cla	ss: FE-VI	Branch: (CSE+(CSE-AID	S)+CIVIL+Ins	strumentation	GROUP(A)	CL-07
Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	ES106- RNM	BS101- AVP	F1- ES107L	ES106- RNM	F1- BS103L	# M-M / Counselor
2	11:00 TO 12:00	ES104- USK	BS102- DAL	F2- VS110L F3- VS108L	BS101- AVP	F2- ES105L F3- VS108L	Int.Mentee –Mentor or Counselor Interaction
	12:00 TO 12.45		LONG	RECESS			
3	12.45 TO 13:45	BS101- AVP	F1- VS108L F2- ES107L	VS109- кvc	F1- CC111B F2- BS103L	VS109- кvc	I VH/IITST
4	13:45 TO 14:45	BS102-DAL	F3- VS110L	BS102-DAL	F3- ES105L	ES104- USK	
	14:45 TO 15:00		SHORT	RECESS	L		
5	15:00 TO 16:00	F1- ES105L	ES104- USK	F1- VS108L	F1- VS110L	СС111В-рук	LVH-Library Visit Hour IITST- IIT Spoken Tutoria
6	16:00 TO 17:00	F3- ES107L	*BS101- AVP	F3- BS103L	F3- CC111B	LVH/IITST	
I	AVP-/AVPatil PVK-PVKadam	DAL-/DALavate	USK-/USKasbeka	ar RNM-/RN	Mulla *-	Extra #-	Alternate
	SrN Course	Name of the Course	SrN Course	Name of the	Course SrN	Course Name o	of the Course

SrN	Code	Name of the Course	SrN	Code	Name of the Course	SrN	Code	Name of the Course
1	BS101	Engineering Mathematics-I	5	ES105L	Engineering Mechanics Laboratory	9	VS109	Communication Skills
2	BS102	Engineering Chemistry	6	ES106	Programing For Problem Solving	10	VS110L	Communication Skills Laboratory
3	BS103L	Engineering Chemistry Laboratory	7	ES107L	Programing For Problem Solving Lab	11	CC111B	NSS-I
4	ES104	Engineering Mechanics	8	VS108L	Workshop Practices			

(Dr. S. L. Patil) TT- Coordinator, (F. Y. B. Tech.)

(Dr. Mrs. A. A. Patil) HOD, (F. Y. B. Tech.)

(Dr. K. K. Pandyaji) Academic Dean

Dr. VasantraodadaPatilShetkariShikshanMandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli as per NEP-2020 FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech) TIME TABLE 2024-25 SEM-I

Curriculum

W.E.F. 23/09/2024

Cl	ass:	FE-	711	I Branch:	(CSE	E-AII	DS)+(CIVIL+Cher	mic	al+Instru	mer	ntation	GR	DUP(A) CL-08	
Sr. No.	TIN	IE IN HR	s	MONDAY	π	JESDA	NY	WEDNESDA	Y	THURSDA	Y	FRI	DAY	SATURDAY	
1	10:0	0 TO 11:0	00	H1- BS103L	ES1	06-	PRM	ES104- PAP		H1- ES107	L	BS10	1- AKP	# M-M / Counselor	
2	11:0	0 TO 12:0	00	H2- ES105L H3- VS108L	VS1	09-	PNS	BS102- AE	BA	H2- VS110 H3- VS108	L	ES104	4- PAP	Int.Mentee –Mentor or Counselor Interaction	
	12:0	0 TO 12.4	15		L	ONC	3	RECESS				-		-	
3	12.4	5 TO 13:4	15	BS102- ABA	CC1	11B	-PVK	H1- VS108L H2- ES107L		BS101-A	KP	H1- C0	C111B S103L	LVH/IITST	
4	13:4	5 TO 14:4	15	VS109- PNS	ES1	04-	PAP	H3- VS110L		BS102- A	BA	H3- E	S105L		
	14:4	5 TO 15:0	00		S	HOR	T	RECESS							
5	15:0	0 TO 16:0	00	BS101- AKP	H1-	ES10	05L	ES106- PR	М	H1- VS108	L	H1- V	S110L	I VH-I ibrary Visit Hour	
6	16:0	0 TO 17:0	00	LVH/IITST	H2- H3-	· VS10 · ES10	08L	*BS101- A	٢P	H2- CC111 H3- BS103	B	H2- V3 H3- C0	S108L C111B	IITST- IIT Spoken Tutoria	
	AKP PVK-	-/AKPatil PVKadam	í.	ABA-ABAwat	e	P	AP-/PAF	Patil F	PRM	/PRMhetre	1	PNS-PNS *-Extra	helke	#-Alternate	
	SrN	Course Code		Name of the Cours	e	SrN	Cours	e Name	of th	e Course	SrN	Course Code	Na	me of the Course	
	1	BS101	En	gineering Mathematics-I		5	ES105	Engineering M	echan	ics Laboratory	9	VS109	Communi	cation Skills	
	2	BS102	En	gineering Chemistry		6	ES106	Programing Fo	r Prot	lem Solving	10	VS110L	Communi	cation Skills Laboratory	
	3	BS103L	En	gineering Chemistry Lab	oratory	7	ES107	Programing Fo	r Prob	lem Solving Lab	11	CC111B	NSS-I	3 3	
	4	E\$104	En	eineering Mechanics		8	V\$108	Workshon Prac	tices						

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Curriculum

W.E.F. 23/09/2024

Sr. No	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	BS101-SPM	J1- BS103L	BS102-PBP	VS109- PNS	J1- ES107L	# M-M / Counselor
2	11:00 TO 12:00	ES104-NSB	J3- VS108L	BS101- SPM	ES104- NSB	J3- VS108L	Counselor Interaction
	12:00 TO 12.45		LONG	RECESS			
3	12.45 TO 13:45	J1- CC111B J2- BS103L	BS101 - SPM	ES106-RNM	J1- VS108L J2- ES107L	BS102-PBP	LVH/IITST
4	13:45 TO 14:45	J3- ES105L	BS102-PBP	ES104-NSB	J3- VS110L	VS109- PNS	
	14:45 TO 15:00		SHORT	RECESS			
5	15:00 TO 16:00	J1- VS110L	ES106- RNM	J1- ES105L	CC111B-PPS	J1- VS108L	I VH-I ibrary Visit Hour
6	16:00 TO 17:00	J2- VS108L J3- CC111B	LVH/IITST	J2- VS108L J3- ES107L	*ВS101- SPM	J2- CC111B J3- BS103L	IITST- IIT Spoken Tutoria
SPM PPS	-/SPMandale PPShinde	PBP- /PBPatil	NSB-NSBembade	RNM-/RNMulla	PNS-/PNShe *-Extra	elke #-Alte	ernate

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS101	Engineering Mathematics-I	5	ES105L	Engineering Mechanics Laboratory	9	VS109	Communication Skills
2	BS102	Engineering Chemistry	6	ES106	Programing For Problem Solving	10	V\$110L	Communication Skills Laboratory
3	BS103L	Engineering Chemistry Laboratory	7	ES107L	Programing For Problem Solving Lab	11	CC111B	NSS-I
4	ES104	Engineering Mechanics	8	VS108L	Workshop Practices			

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DEPARTMENTAL ACTIVITY 1) <u>MENTORING ACTIVITY:</u>

Each faculty from respective branch has been **assigned some students for mentoring.** Mentoring Forms (Student Information Form) are maintained by mentor (faculty), which involves **details of students** such as Date of Birth, Blood Group, Mail –ID, Parents information, academic information, his/her involvement in different activities. At least once in a week interaction with the concerned students is done by respective mentor.

Through interaction their difficulties from department, hostel and amenities are known. The suggestions and difficulties from the interaction are conveyed to higher authorities on whom corrective actions are taken. Personal difficulties during the interaction are also shared by the students. On which appropriate guidance and help is provided. The mentoring batch allotted is continued till the student completes his/her graduation.

Professional guidance is provided by arranging lectures of eminent personalities from Academic, Industry and Social spheres. Lectures of faculty from other institutions are organized. Mentoring includes **professional guidance**, carrier advancement/ course work specific/ lab specific/ total development.

Note:

- i. Student should collect Mentoring Forms (Student Information Form) from Respective Mentors and fill this form within one week from the Commencement of Term and classes.
- ii. Student should attend Mentoring Lectures as per Time Table Schedule.
- **iii.** At least once in a week interaction with the concerned Mentor is done by respective student.

COUNSELING ACTIVITY

- Encourage students to discuss their ideas.
- Help to lower stress and build confidence.
- Increases personal knowledge and organizational awareness.
- Gives wisdom, advice, help and encouragement.
- Develops an environment that supports constructive criticism.
- Experiencing greater self-esteem and motivation to succeed.
- Improving interpersonal relationship such as with teacher and family.
- Receiving assistance in choosing a carrier path.

Counselor expert: Mrs. Archana Muley (Mobile: 9823787214)

Internal expert may be Dean, Head of department, Coordinators, Class Teachers, Mentors etc. whereas external expert may be related to medical field. **Counselor** as a mentor has been **assigned for each student.** Counseling sheets are maintained by **Counselor** (Mentor), at least once in each week interaction with the concerned class is done by respective counselor.

CLASS TEACHER

- Receiving assistance with academic endeavors.
- Constructive interaction with a class teacher and participation in collective activities he or she arranges engagement in the field.
- Receiving encouragement to stay in college.
- Receiving assistance in the understanding of subject.
- It supports their advancement in research activity, conference, presentation, publication, pedagogical skill etc.
- Student should collect Leave Application Form from Class Teacher
- Defaulter Student should contact with their Class Teacher /<u>Mentor/ Head of First Year</u> <u>Engg. Dept. (/Dr. Mrs. Anushka A. Patil</u>) within 2-3 days after displaying Defaulter List onnotice board as well as on college web site.

REMEDIAL LECTURES

Extra lectures are arranged for those students who are either weak in particular subject or failed in previous semester.

Note: 1) Student should attend Remedial Lectures as per Time Table Schedule.

2) Time Table Schedule for Remedial Lectures will be display after completion of Mid/End Term Test.

CO/EXTRA CURRICULAR ACTIVITIES:

Paper/PPT Presentation, Nirmiti, Vasantostav Sports activity benefits the student to participate in extracurricular activities.

Date	Activity Name	Participation level	Outcome

REMARKS: Student should submit Xerox copy of certificates obtained from Co/Extra Curricular Activities to <u>Class Teacher.</u>

ANTI-RAGGING ACTIVITY

ANTI-RAGGING RULES AND REGULATIONS

Ragging is a criminal offense as per act no.1098 (113/98) WISHI-3, 27-5-99. What Constitutes Ragging?

Ragging constitutes one or more of any of the following acts:

- Any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student.
- Asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student.
- Any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher.
- Exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.
- Any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students.
- Any act of physical abuse including all variants of it: sexual abuse, homosexual assaults, and stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health or person.

ADIMINISTRATIVE ACTION IN THE EVENT OF RAGGING:

The institution shall punish a student found guilty of ragging after following the procedure and in the manner prescribed here in under

- a) Suspension from attending classes and academic privileges.
- b) Withholding/ withdrawing scholarship/ fellowship and other benefits.
- c) Debarring from appearing in any test/ examination or other evaluation process.
- d) Withholding results.
- e) Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc.
- f) Suspension/ expulsion from the hostel.
- g) Cancellation of admission.
- h) Rustication from the institution for period ranging from one to four semesters.
- i) Expulsion from the institution and consequent debarring from admission to any other institution for a specified period.

Library: Late Shri Vishnuanna Patil Technical Library – This specious Library of the Institute is enriched with more than 59000 Volumes of books with more than 78 Indian, 30 International Journals, 538 online journals and

periodicals are subscribed per month. Total nontechnical journal are 09, 1800 digital books and 400 Videos.



Gymkhana and N.S.S.

PVPIT has been keen in providing sufficient time and facilities for sports and Gymnasium. The Gymkhana is equipped with the cardio and strength machines. The facilities for outdoor and indoor games like table-tenis, Volleyball, basketball, badminton courts as well as cricket, kho-kho and kabaddi are available. PVPIT shares the athletics track and indoor multipurpose hall with its neighboring sport complex.

The National Service Scheme (NSS) is an Indian government-sponsored flagship for Public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. Popularly known as NSS, it provides opportunity to the student youth of Technical Institution, Graduate and Post Graduate at colleges and University level of India to take part in various government led community service activities and programmes. Under this program we always serve/ help community various social activities arrange by NSS. e.g. Blood Donation and Health Checkup camp, Swachh Bharat Abhiyaan and vari National activities as per the directions receive from UGC and ussocialand

Hostel



The institute has multi storey hostel building inside the institute campus, which Accommodates about 450 boys. There is separate girl's hostel where 225 girls can live comfortably with all amenities. Guest housefacility is available for visiting parents. The hostels have all necessary facilitiessuch as water purification plant, water coolers, T.V.

Medical First aid center, Water heating plant, News Paper, Reading Room, Indoor games, Canteen, Mess, Laundry, Xerox Center, Public Telephone booth are available inside the campus.

Training and Placement Office (TPO)

Placement @PVPIT Sangli: All students those who are interested for industrial

placement, are groomed and prepared to face the interview process. Efforts are made by all means to provide maximum opportunities to each and every student, so that every eligible and interested student get at least one offer



Objectives of Training and Placement

The **Training and Placement (TandP)** cell at PVPITguide and counsel every students to choose their proper career path, make them eligible and employable. Here we groom future Technocrats as per their interest and make them industry-ready. The objective is to

- Provide opportunities for industrial placements
- ✤ Motivate them for other placement opportunities *
- ✤ Motivate them to become future entrepreneur
- ♦ Motivatethem to opt for Higher Education and research.

At PVPIT students can have their choice of placement other than job in industry. Accordingly we provide with the source of appropriate knowledge and skill which would be resourceful them. Training is given to improve their aptitude and soft skillthrough expert agencies.

We provide proper platform for *other placements like teaching as a profession, competitive exams, higher education, education abroad, jobs in government or semi government, defence services and research sector. We encourage and empower student to become an entrepreneur and provide them necessary awareness and orientation about it.

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Our Recruiters



Dr. Vasantraodada Patil Shetkari Shikshan Mandal's Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli) FIRST YEAR ENGINEERING DEPARTMENT SYLLABUS 2024-25 SEM-I

With Effect From 17/09/2024

Subject- Engineering Mathematics- I(4Credits)BTBS101				
Teaching Scheme	Evaluation Scheme			
Lecture: 3hrs/week	Continuous Assessment:-20Marks			
	Mid Term Test:-20 Marks			
	End Semester Exam:-60Marks			

Course Objectives:

- 1. To know the application of the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problems.
- 2. To know and apply the concept partial derivatives and their applications to Maxima/ Minima, series expansion of multi valued functions.
- 3. To understand Computation of Jacobian of functions of several variables and their applications to engineering problems.

Course Outcomes:

After completion of this course, students will be able to

- **CO1:** Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problems.
- **CO2:** Demonstrate the concept partial derivatives and their applications to Maxima/Minima, series expansion of multi valued functions.
- **CO3:** Compute Jacobian of functions of several variables and their applications to engineering problems. **CO4:** Identify and sketch of curves in various coordinate system.

CO5: Evaluate multiple integrals and their applications to area and volume.

Course Contents:

UNIT-I: Linear Algebra- Matrices

Inverse of a matrix by Gauss-Jordan method; Rank of a matrix; Normal form of a matrix; Consistency of nonhomogeneous and homogeneous system of linear equations; Eigen values and eigen vectors; Properties of eigen values and eigen vectors (without proofs); Cayley- Hamilton's theorem (without proof) and its applications.

UNIT-II: Partial Differentiation

Partial derivatives of first and higher orders; Homogeneous functions – Euler's Theorem for functions containing two and three variables (with proofs); Total derivatives; Change of variables.

UNIT-III: Applications of Partial differentiation

Jacobians-properties; Taylor's and Maclaurin's theorems (without proofs) for functions of two variables; Maxima and minima of functions of two variables; Lagrange's method of undetermined multipliers.

UNIT-IV: Reduction Formulae and Tracing of Curves

Reduction formulae for $\int_{0}^{\frac{\pi}{2}} sin^{n} x \, dx$, $\int_{0}^{\frac{\pi}{2}} cos^{n} x \, dx$, $\int_{0}^{\frac{\pi}{2}} sin^{m} x cos^{n} x \, dx$, tracing of standard Curves given in

Cartesian, parametric and polar forms.

UNIT-V: Multiple Integral

Double integration in Cartesian and polar co-ordinates; Evaluation of double integrals by changing the order of integration and changing to polar form; Triple integral; Applications of multiple integrals to find area as double integral, volume as triple integral and surface area.

Text Books:

- 1. Higher Engineering Mathematics by B. S. Grewal, Khanna Publishers, NewDelhi.
- 2. Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley & Sons, NewYork.
- 3. A Course in Engineering Mathematics (Vol I) by Dr. B. B. Singh, Synergy Knowledgeware, Mumbai.
- 4. A Text Book of Applied Mathematics (Vol I & II) by P. N. Wartikar and J. N. Wartikar, Pune Vidyarthi Griha Prakashan, Pune.
- 5. Higher Engineering Mathematics by H. K. Das and Er. Rajnish Verma, S. Chand & CO. Pvt. Ltd., New Delhi.

ReferenceBooks

- 1. Higher Engineering Mathematics by B. V. Ramana, Tata McGraw-Hill Publications, New Delhi.
- 2. A Text Book of Engineering Mathematics by Peter O" Neil, Thomson Asia Pte Ltd., Singapore.
- 3. Advanced Engineering Mathematics by C. R. Wylie & L. C. Barrett, Tata Mcgraw-Hill Publishing Company Ltd., New Delhi.

Subject- Engineering Chemistry BTBS102				
Teaching Scheme	Evaluation Scheme			
Lecture: 3hrs/week	Continuous Assessment:-20Marks			
	Mid Term Test:-20 Marks			
	End Semester Exam:-60Marks			

Course Objectives:

- 1. To impart the knowledge of Chemistry in the area of Engineering and Technology.
- 2. To capable the student to explain the importance of chemistry in various fields of Engineering.
- 3. To identify the concept of Chemistry to lay the ground work for subsequent studies.

Course Outcomes:

- It is expected that by the end semester, student will develop the following competencies.
- CO1: Students should be able to understand and explain the basic concepts of Water treatment and capable to explain softening processes and water characteristics.
- CO2: Students should be able to explain analysis, Calorific value of fuel and explain lubricants, its properties and industrial importance.
- CO3: Students should know the concepts of Electrochemistry and its importance.
- CO4: Student should be able to understand and explain various instrumental methods of Analysis.

CO5: Student should be able to understand and explain properties and uses of engineering materials such as Cement, Gypsum plaster, Rubber etc

Course Contents:

UNIT-I: Water Treatment

Introduction, Hard and Softwater, Disadvantages of hardwater, Softening of water

: Ion exchange process, Hot lime –soda process, Reverse Osmosis (RO), Hardness and its determination by EDTA method, Dissolved oxygen (DO) and its determination by Winkler's method, Numerical based on hardness, Treatment of water for domestic purpose- aeration, sedimentation and disinfection.

UNIT-II: Fuels and Lubricants

Fuels: Introduction, Classification of fuel, Calorific value of a fuel, Characteristics of a good fuel, Calorific value by- Bomb Calorimeter, Boy's Calorimeter and its numerical. Analysis of coal: Proximate and Ultimate analysis, Liquid fuel- Refining of petroleum.

Lubricant: Introduction, classification of lubricant - Solid, Semi –solid and Liquid lubricant, Properties of lubricant: Physical and Chemical properties of lubricant – viscosity surface tension, Flash point and Fire point, Acid value, Saponification value.

UNIT-III: Electrochemistry:

Introduction, Electrical conductance, Conductance measurement by Wheatstone bridge method, Cell constant, Conductometric titrations, Glass electrode and its application for pH measurement, Ostwald's theory of acid- base indicator, Fuel cell ,working of H₂-O₂ fuel cell and its applications, Rechargeable Batteries: Lithium ion batteries and Lithium batteries.

UNIT-IV: Instrumental Methods of Analysis

UV-Visible spectroscopy: Introduction, Laws of absorption: Lambert's- Beer's law, Instrumentation and working of double beam spectrophotometer.

Flame Photometry Introduction, Principle and working

Chromatography: Introduction, Classification, Thin layer chromatography (TLC).

IR spectroscopy: Introduction, Principle, Range of IR radiations, Double beam IR Spectrophotometer and applications of IR Spectroscopy.

UNIT-V: Engineering Materials

Cement: Introduction, Portland cement, Chemical Composition of Cement

Gypsum: Plaster of Paris, Properties and Uses

High polymers: Introduction. Types of Polymerization, Thermoplastic and Thermosetting resin, Constituent of Plastic, Synthesis of Urea formaldehyde and its Properties and Uses, Brief discussion on Natural Rubber, Synthesis of Styrene - butadiene rubber and its Properties and uses.

Text Books:

- 1. Jain P.C & Jain Monica, Engineering Chemistry, Dhanpat Rai& Sons, Delhi, 1992.
- 2. Bhal &Tuli, Text book of Physical Chemistry, S. Chand & Company, New Delhi.
- 3. Shikha Agarwal, Engineering Chemistry- Fundamentals and applications, Cambridge Publishers 2015.
- 4. Gurudeep Chatwal and Sham Anand, Instrumental methods of Chemical Analysis, Himalaya Publishing House, New Delhi
- 5. V. R. Gowarikar, Polymer Science, New Age International Publication

Reference Books:

- 1. Barrow G.M., Physical Chemistry, McGraw-Hill Publication, New Delhi.
- 2. O. G. Palanna, Engineering Chemistry, Tata McGraw-Hill Publication, New Delhi.
- 3. WILEY, Engineering Chemistry, Wiley India, New Delhi 2014.
- 4. S. S. Dara, Engineering Chemistry, McGraw Hill Publication, New Delhi.
- 5. Willard, Hobart H.; Merritt, Lynne L., Jr.; Dean, John A. Instrumental Methods of Analysis, American Chemical Society

Subject- Engineering Chemistry LAB				
Practical Scheme	Evaluation Scheme			
Lecture:2hrs/batch	Continuous Assessment:-60Marks			
	External Exam:-40Marks			

Minimum8-10experimentsaretobeperformed based on contents from syllabus

Sample List of Experiments:

- 1. Determination of Hardness of water sample by EDTA method.
- 2. Determination of Chloride content in water sample by precipitation titration method.
- 3. Determination of Dissolve Oxygen in water by Iodometric method.
- 4. Determination of Percent purity of Bleaching Powder.
- 5. pH-metric Titration (Acid Base titration)
- 6. Conductometric Titration (Acid Base titration)
- 7. Surface tension
- 8. Viscosity
- 9. To determine Acidity of water sample.
- 10. To determine Calorific value of a fuel.
- 11. Determination of Acid value of an oil sample.
- 12. Determination of Saponification value of an oil sample.
- 13. To verify Beer's-Lambert's law.
- 14. To determine Alkalinity water sample.
- 15. To determine the maximum wavelength of absorption of a given solution by colorimeter.
- 16. Experiments on Chromatography.

Reference Books:

- 1. Systematic experiments in Chemistry, A. Sethi, New Age International Publication, New Delhi.
- 2. Practical Inorganic Chemistry, A. I. Vogel, ELBS Pub.
- 3. Practical in Engineering Chemistry, S. S. Dara

Subject- Engineering Mechanics				
Teaching Scheme	Evaluation Scheme			
Lecture: 3hrs/week	Continuous Assessment:-20Marks			
	Mid Term Test:-20 Marks			
	End Semester Exam:-60Marks			

Course Objectives:

- 1. To understand the resolving forces and moments for a given force system.
- 2. To know and apply Conditions of static equilibrium to analyze given force system.
- 3. To compute Centre of gravity and Moment of Inertia of plane surfaces.
- 4. To compute the motion characteristics of a body/particle for a Rectilinear Motion.
- 5. To know and discuss relation between force and motion characteristics.

Course Outcomes:

Students with be able to:

- 1. Apply fundamental Laws of Engineering Mechanics
- 2. Apply Conditions of static equilibrium to analyze given force system
- 3. Compute Centre of gravity and Moment of Inertia of plane surfaces
- 4. Compute the motion characteristics of a body/particle for a Rectilinear Motion
- 5. Know and discuss relation between force and motion characteristics

Module - 1 Introduction and Fundamental principles

Introduction: objectives of engineering analysis and design, idealization of engineering problems, simplification of real 3D problems to 2-D and 1-D domain, basis of assumptions, introduction to types of supports and loads, free body diagram, laws of motion.

Fundamental principles: force systems, resolution and composition of a forces, resultant, couple, moment, Lami's theorem Varignon's theorem.

Module - 2 Equilibrium

Static equilibrium: analytical and graphical conditions of equilibrium, equilibrium of coplanar concurrent forces, coplanar non concurrent forces, parallel forces. Centroid of composite shapes, moment of inertia of planer sections.

Friction: Coulomb'slaws, frictionangles, wedge friction, sliding friction.

Module - 3 Beams and Trusses

Beams: Types of beam, loads and supports, beam reactions for simply supported beams, continuous beams (with 3 supports only)

Simple trusses: Types of trusses, analysis of plane trusses bymethodof joints and method ofsections.

Module- 4 Kinematics of Particle

Kinematics of linear motion: types of motion, laws of motion, kinematics of particles, rectilinear motion, constant and variable acceleration, study of motion diagrams, motion undergravity, projectile motion, concept of relative velocity.

Module — 5Kinetics and Work, Power, Energy

Kinetics of particle: D'A1embert's principle: applications in linear motion, kinetics of rigid bodies, applications in translation.

Work done by force, potential energy, kinetic energy of linear motion androtation, work energy equation, conservation of energy, power. Collision of elastic bodies, Impulse momentum principle.

Text Books:

- 1. S. Timoshenko, D. H. Young, -Engineering Mechanics, McGraw Hill, 1995.
- 2. Tayal A. K., -Engineering Mechanics, Umesh Publications, 2010.
- 3. Bhavikatti S. S., Rajashekarappa K. G., —Engineering Mechanicsl, New Age International Publications, 2nd Edition.
- 4. Beer, Johnston, —Vector Mechanics for Engineers^{II}, Vol. 1: Statics and Vol. 2: Dynamics, McGraw Hill Company Publication, 7th edition, 1995.

Reference Books:

- 1. Irving H. Shames, —Engineering Mechanics -Statics and Dynamicsl, Pearson Educations, Fourth edition, 2003.
- 2. McLean, Nelson, —Engineering Mechanics, Schaum's outline series, McGraw Hill Book Company, N. Delhi, Publication.
- 3. Singer F. L., -Engineering Mechanics -Statics & Dynamicsl, Harper and Row Pub. York.
- 4. Junnarkar S.B., and Shah, H.J. Applied Mechanics^{II}, Charotar Publication House Anand

Alternative NPTEL/SWAYAM Course:

S. No.	NPTEL Course	Name Instructor	Host Institute
1.	Engineering Mechanics	Prof. K. Ramesh	IIT Madras

Subject- Engineering Mechanics Lab					
Practical Scheme	Evaluation Scheme				
Lecture:2hrs/batch	Continuous Assessment:-60Marks				
	External Exam:-40Marks				

Minimum8-10experimentsaretobeperformedbasedoncontentsfromsyllabus Sample

List of Experiments:

- 1. Polygon law of coplanar forces
- 2. Bell crank lever.
- 3. Support reaction for beam.
- 4. Problems on beam reaction by graphics statics method
- 5. Simple / compound pendulum.
- 6. Inclined plane (to determine coefficient of friction).
- 7. Collision of elastic bodies (Law of conservation of momentum).
- 8. Moment of Inertia of fly wheel.
- 9. Verification of law of Machine using Screw jack
- 10. Assignment based on graphics statics solutions
- 11. Any other innovative experiment relevant to Engineering Mechanics.
- 12. Centroid of irregular shaped bodies.
- 13. Verification of law of Machine using Worm and Worm Wheel
- 14. Verification of law of Machine using Single and Double Gear Crab.
- 15. Application of Spread sheet Program for concepts like law of moments, beam reactions, problems in kinematics, etc.

Subject- Programming for Problem Solving				
Teaching Scheme	Evaluation Scheme			
Lecture: 3hrs/week	Continuous Assessment:-20Marks			
	Mid Term Test:-20 Marks			
	End Semester Exam:-60Marks			

Course Objectives:

- 1. To develop logical skills and programming skills to solve basic and advanced computing problems.
- 2. To learn the c-programming language concepts for problem solving

Course Outcomes:

After completion of this course, students will be able to:

CO1. Gain a broad perspective about the uses of computers in engineering industry and C Programming. **CO 2.** Understand the use of Types, operators and expressions in programming.

- **CO 3.** Apply the knowledge of flow statements and functions for control based computational algorithms.
- CO 4. Understand the concepts of arrays ad pointers in C.

CO 5. Apply the knowledge of structure in OS file management.

Course Contents:

UNIT-I: Fundamental of the Computer and Computing Concepts

Generation of computers, Classification of computers, Basic Anatomy of Computer System, Input Devices, Processor, Output Devices, Memory Management, Types of Computer Software, Overview of Operating system, Concept of Networking.

Process of programming:

Editing, Compiling, Error Checking, executing, testing and debugging of programs. IDE commands. Eclipse for C Program development, basic of Flowcharts and Algorithms.

UNIT-II: Types, Operators and Expressions

C Tokens, Data types, sizes, initialization and declarations, arithmetic operators, relational and logical operators, increment and decrement operators, bitwise operators, assignment operators and expressions, conditional expressions precedence and order of evaluation, type conversions.

UNIT-III: Control Flow

Statements and Blocks: If-else, if-else ladder, nested if-else, switch-case, Loops: while, for, do- while, break, continue, goto and Labels.

Functions and Program Structure: Basic of functions, In build functions, user defined functions, function returning various data types, external variables scope rules.

UNIT-IV: Arrays and Pointers in C

Initializing arrays, initializing character arrays, multidimensional arrays. Pointer: Definition and uses of pointers, Pointers to integers, characters, floats, arrays.

UNIT-V: Structures in C and File Management:

Basics of structures, structures and functions arrays of structures, Pointers in structures. Introduction to File Management: Defining and Opening File, Closing File, Input/output Operations on File.

Text Books:

- 1. R. S. Bichkar, Programming with C, Orient Blackswan, 1st Edition, 2012.
- 2. Herbert Schildit, C the Complete Reference, McGraw-Hill Publication, 2000.
- 3. Balguruswamy, Programming in C, PHI.
- 4. Yashwant Kanitkar, Let Us C, PHI

Reference Books:-

- 1. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India.
- 2. R G Dromey, —How to Solve it by Computer^{II}, 1st Edition, Pearson Education, 2006.
- 3. Rajaraman V, The Fundamentals of Computer, 6th Edition, Prentice-Hall of India, 2014.
- 4. Steve Oualline, Practical C Programming, 3 Edition, O'Reilly Press, 2006.
- 5. Jeri R. Hanly, Elliot B. Koffman, Problem Solving and Program Design in C, 7th Edition, Pearson Education, 2012.
- 6. Balagurusamy E, Programming in ANSI C, 8th Edition, Tata McGraw-Hill,2019.
- 7. Gottfried, Programming with C, 3 Edition, Tata McGraw-Hill, 2018.

Programming for Problem Solving Lab

24AF1000ES107L	Programming for Problem	ESC	0L-0T -2P	1 Credits
	Solving Lab			

Minimum8-10experimentsaretobeperformed based on contents from syllabus

Sample List of Experiments:

- 1. Write a C program to declare and initialize variables of different data types and display their sizes.
- 2. Implement arithmetic, relational, and logical operations in C programs and display the results.
- 3. Write a program to demonstrate the use of conditional expressions and explain the order of evaluation.
- 4. Create a C program to perform bitwise operations on integer variables and print the results.
- 5. Develop a C program to demonstrate the use of assignment operators and evaluate expressions involving them.
- 6. Write a C program to implement various control flow statements such as if-else, switch- case, and loops, to solve a given problem.
- 7. Create a function in C to calculate the factorial of a given number and display the result.
- 8. Write a program to find the sum of digits of a number using recursion.
- 9. Implement a menu-driven program in C using switch-case statements to perform arithmetic operations.
- 10. Develop a C program to print the Fibonacci series using a loop.
- 11. Write a C program to initialize and display elements of a one-dimensional array.
- 12. Implement a program to find the largest and smallest elements in an array.
- 13. Create a C program to transpose a matrix using a two-dimensional array.
- 14. Write a program to demonstrate the use of pointers to access elements of an array.
- 15. Develop a C program to swap two numbers using pointers.
- 16. Define a structure to represent a student record with attributes like name, roll number, and marks, and write a program to display the student details.
- 17. Create an array of structures to store details of multiple students and perform operations like searching and sorting based on roll number.
- 18. Write a program to read data from a text file, perform some operations (e.g., calculation), and write the results to another file.
- 19. Implement file handling operations in C to copy the contents of one file to another.
- 20. Mini-project.

Workshop Practices

24/	AF1000VS108L	Workshop Practices	VSEC	0L-0T -4P	2 Credits			
ourse (Ohiectives							
<u>1)</u>	1) To impart knowledge and skills to use tools machines equipment and measuring							
1)	instruments	eage and skins to use tools, in	actimes, equipm	lent und meusurm	5			
2)	To develop gener	al machining skills						
3)	3) To educate about safe handling of machines and tools							
	4) To develop a skill in dignity of labour, precision, safety at workplace, team working and							
4)	To develop a skil	I III digility of labour, precision,	development of right attitude.					

Course Outcomes:

CO1	Preparesimplewooden jointsandpartsusingwoodworkingtoolsandmachines (Apply)
CO2	Apply thefittingand plumbingskillsand produce withspecified dimensions (Apply) a job
CO3	Practice sheet metal tools and machine to develop the sheet metal articles (Apply)
CO4	Practice edge preparation for simpleLap,Butt,TjointusingArc/Gas/Resistance welding equipment (Understand)
CO5	Demonstrate machining processes including turning, facing, step turning, drilling and parting (Understand)

CO–PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3				2		2		3		2	3
CO2	3				2		2		3		2	3
CO3	3				2		2		3		2	3
CO4	3				2		2		3		2	3
CO5	3				2		2		3		2	3

Course Contents

List of Practicals:

- 1. Wood sizing exercises in planning, marking, sawing, chiseling and grooving to make half lap joint, cross lap joint, and mortise tenon joint and cylindrical wooden parts.
- 2. A job involving cutting, filing to saw cut, filing all sides and faces, corner rounding, drilling and tapping on M. S. plates.
- 3. A job on use of plumbing tools and preparation of plumbing line involving fixing of water tap and use of elbow, tee, union and coupling, etc.
- 4. Making a small parts using GI sheet involving development, marking, cutting, bending, brazing and soldering operations- i)Tray ii) Funnel and similar articles.
- 5. Exercise in Arc welding (MMAW) to make a square butt joint.

- 6. Exercise in Resistance (Spot) welding to make a lap joint.
- 7. A job using power operated tools related to sheet metal work, Welding, Fitting, Plumbing, Carpentry and patternmaking.
- 8. A job on turning of a Mild Steel cylindrical job using center lathe.

Contents:

- a) **Carpentry:** Technical Terms related to wood working, Types of wood, Joining materials, Types of joints Mortise and Tenon, Dovetail, Half Lap, etc., Methods of preparation and applications, Wood working lathe, safety precautions.
- b) Welding: Arc welding welding joints, edge preparation, welding tools and equipment, Gas welding types of flames, tools and equipment, Resistance welding -Spot welding, jointpreparation, tools and equipment, safety precautions.
- c) **Fitting and Plumbing:** Fitting operation like chipping, filing, right angle, marking, drilling, tapping etc., Fitting hand tools like vices, cold chisel, etc. Drilling machine and its operation, Different types of pipes, joints, taps, fixtures and accessories used in plumbing, safety precautions.
- d) **Sheet Metal Work:** Simple development and cutting, bending, Beading, Flanging, Lancing and shearing of sheet metal, Sheet metal machines Bending Machine, Guillotine shear, Sheet metal joints, Fluxes and their use.
- e) Machine shop: Lathe machine, types of lathes, major parts, cutting tool, turning operations, safety precautions

Reference/Text Books:

- 1. K. C. John, Mechanical Workshop Practice, Prentice Hall Publication, New Delhi, 2010.
- 2. Hazra and Chaudhary, Workshop Technology-I, Media promoters & Publisher private limited.

Communication Skills

24AF1000VS109	Communication Skills	AEC-01	2L-0T -0P	2 Credits

Course Objectives:

- 1. Groom the students to use correct English
- 2. Enhance the linguistic abilities with the help of language learning skills LSRW
- 3. Revision of basic grammar units in English
- 4. Prepare the students for competitive examinations and the examinations required for higher studies in Indian and foreign universities
- 5. Ability to develop well-worded communications and resumes
- 6. Improve listening, note-taking and observational skills

Course Outcomes:

- 1. Students would be more confident while using English
- 2. Engage in analysis of speeches or discourses and several articles
- **3.** Identify and control anxiety while delivering speech
- **4.** Write appropriate communications(Academic/Business)
- 5. Prepared to take the examinations like GRE/TOFEL/IELTS
- 6. Identify and control the tone while speaking
- 7. Develop the ability to plan and deliver the well-argued presentations

Unit 1: Communication and Communication Processes

Introduction to Communication, Forms and functions of Communication, Barriers to Communication and overcoming them, Verbal and Non-verbal Communication **Reading Skills:** Introduction to Reading, Types of Readers and Reading, Barriers to Reading, Strategies for Reading, Comprehension.

Listening Skills: Importance of Listening, Types of Listening, Barriers to Listening.

Unit 2: Speaking & Verbal & Non-verbal Communication

Use of Language in Spoken Communication, Principles and Practice of Group Discussion, Public Speaking (AddressingSmall Groups and Making Presentation), Interview Techniques, Appropriate Use of Non-verbal Communication, Presentation Skills, Extempore, Elocution.

Unit 3: Study of Sounds in English

Introduction to phonetics, Study of Speech Organs, Study of Phonemic Script, Articulation of Different Sounds in English.

Unit4: English Grammar

Grammar: Forms of Tenses, Articles, Prepositions, Use of Auxiliaries and Modal Auxiliaries, Synonyms and Antonyms, Common Errors.

Unit5: Writing Skills

Features of Good Language, Writing Emails, Technical Reports: Report Writing: Format, Structure and Types. Letter Writing: Types & Layouts, Letters and Applications, Use of Different Expressions and Style, Writing Job Application Letter and Resume

Text book:

Mohd. Ashraf Rizvi, Communication Skills for Engineers, Tata McGraw Hill

Reference Books:

- 1. (Sanjay Kumar, Pushp Lata, Communication Skills, Oxford University Press, 2016
- 2. Meenakshi Raman, Sangeeta Sharma, Communication Skills, Oxford University Press, 2017
- 3. Teri Kwal Gamble, Michael Gamble, Communication Works, Tata McGraw Hill Education, 2010
- 4. Anderson, Kenneth. Joan Maclean and Tossny Lynch. Study Speaking: A Course in Spoken English for Academic Purposes. Cambridge: CUP, 2004.
- 5. Aswathappa, K. Organisational Behaviour, Himalayan Publication, Mumbai (1991).
- 6. Atreya N and Guha, Effective Credit Management, MMC School of Management, Mumbai (1994).
- 7. Balan,K.R. and Rayudu C.S., Effective Communication, Beacon New Delhi (1996).
- 8. Bellare, Nirmala. Reading Strategies. Vols. 1 and 2. New Delhi. Oxford University Press, 1998.
- 9. Bhaskar, W. W. S & Prabhu, N. S.: English through Reading, Vols. 1 and 2. Macmillan, 1975.
- 10. Black, Sam. Practical Public Relations, E.L.B.S. London (1972).
- 11. Blass, Laurie, Kathy Block and Hannah Friesan. Creating Meaning. Oxford: OUP, 2007.
- 12.Bovee Courtland, L and Thrill, John V. Business Communication, Today McGraw Hill, New York, Taxman Publication 1989).

Communication Skills Lab

24AF1000VS110	Communication Skills Lab	AEC	0L-0T - 2P	1 Credit
1				

List of Practicals:

List of Practical (Any10 PR sessions can be conducted)

- 1. How to introduce oneself? (02 hrs)
- 2. Know your friend (02 hrs)
- 3. Introduction to Phonemic symbols (02 hrs)
- 4. Articulation of sounds in English with proper manner (02 hrs)
- 5. Practice and exercises on articulation of sounds (02 hrs)
- 6. Read Pronunciations/transcriptions from the dictionary (02 hrs)
- 7. Practice and exercises on pronunciations of words (02 hrs)
- 8. Introduction to stress and intonation (02 hrs)
- 9. Rapid reading sessions (02 hrs)
- 10. Extempore (02 hrs)
- 11. Group discussion (02 hrs)
- 12. Participating in a debate (02 hrs)
- 13. Presentation techniques (02 hrs)
- 14. Interview techniques (02 hrs)

Credit Framework under Four-Years UG Engineering Programme with Multiple Entry and Multiple Exit options:

- The Four-year Bachelor's Multidisciplinary Engineering Degree Programme allows the students to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per their choices and the feasibility of exploring learning from different institutions.
- The minimum and maximum credit structure for different levels under the Four- year Bachelor's Multidisciplinary Engineering UG Programme with multiple entry and multiple exit options are as given below:

Lovals	Qualification	Credit Ree	quirements	Somoston	
Levels	Title	Minimum	Maximum	Semester	Year
4.5	One Year UG	40	44	2	1
	Certificate in				
	Engg./ Tech.				
5.0	Two Years UG	80	88	4	2
	Diploma in Engg./				
	Tech.				
5.5	Three Years	120	132	6	3
	Bachelor's Degree				
	in Vocation (B.				
	Voc.) or B. Sc.				
	(Engg./ Tech.)				
	4-Years				
	Bachelor's degree				

Credit Framework

Tarrata	Qualification	Credit Re	quirements	Someter	
6.0	Title	Minimum	Maximum	Semester	Year
6.0	(B.E./ B.Tech. or Equivalent) in Engg./ Tech. with Multidisciplinary Minor	160	176	8	4
6.0	4-Years Bachelor's degree (B.E./ B.Tech. or Equivalent) in Engg./ Tech Honors and Multidisciplinary Minor	180	194	8	4
6.0	4-Years Bachelor's degree (B.E./ B.Tech. or Equivalent) in Engg./ Tech Honors with Research and Multidisciplinary Minor	180	194	8	4
6.0	4-Years Bachelor's degree (B.E./ B.Tech. or Equivalent) in Engg./ Tech Major Engg. Discipline with Double Minors (Multidisciplinary and Specialization Minors)	180	194	8	4

• There are multiple exit options at each level. Student will be given a specific Qualification mentioned in the table depending on the level at which he/she decide to have an exit. Ex. If a student decides to exit after completion of two years (level 5.0) of the program, he will be given a Diploma in Engineering with specific exit condition mentioned in the syllabus of the specific branch. He/she can rejoin the program with the multiple entry option at the level next where he/she chose to exit previously. (Student can join at level 5.5 if successfully completed level 5.0 previously at the time of exit).

- Minimum credit requirements of each level are mentioned in the credit framework table.
- Thereare4distinctoptionsavailableatlevel6.0.
- First one is basic level 6.0 option where minimum 160-maximum 176 credits are mandatory which can be completed as per the Semester-wise Credit distribution structure mentioned in the table given below.

Here, the Bachelor's Engineering Degree in chosen Engg./ Tech. Disciplinewith multidisciplinary minor (min.160-max.176 Credits) i.e. —**B. Tech in Electronics and Telecommunication Engineering with Computer Engineering** (160-176 credits) enables students to take up five-six or required additional courses of 14 credits in the discipline other than Electronics and Telecommunication Engineering distributed over semesters IIIto VIII. Here in the case of —**B. Tech in Electronics and Telecommunication Engineering** (160-176 credits)student issupposed to takeup50%ormorecoursesto completethe50%or more credits (from assigned 14 credits) from **Computer Engineering minor bucket**. The remaining courses to complete the assigned 14 credits can be covered from other discipline's minor buckets.

- Remaining three level 6.0 options are the advanced options where the student is given an opportunity to get extra qualification by earning some extra credits(18-20 extra credits). These three options are given below:
- Level 6.0:The **Bachelor's Engineering Degree with Honours** in chosen Major Engg./ Tech. Discipline i.e. in Electronics and Telecommunication Engineering with Honours with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up five-six additional courses of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters III to VIII. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, which are over and abovethemin.160-max.176 Credits prescribed for the duration of four years will be taken by Academic Authorities of University. **Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option**.
- Level 6.0: The **Bachelor's Engineering Degree with Research** in i.e. in Electronics and Telecommunication Engineering with Research with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up a research project of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters VII to VIII. **Student must have CGPA equal to or greater than 7.5 at the end of sixth semester to go for this option**.

- Level 6.0: The **Bachelor's Engineering Degree with Research** in i.e. in Electronics and Telecommunication Engineering with Research with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up a research project of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters VII to VIII. **Student must have CGPA equal to or greater than 7.5 at the end of sixth semester to go for this option**.
- Level 6.0: The Bachelor's Engineering Degree in chosen Engg./ Tech. Discipline with Double Minor (Multidisciplinary and Specialization Minor, 180- 194 credits), i.e. —B. Tech in Electronics and Telecommunication Engineering with other selected discipline in Engineering (as MDM) with Specialization Minor in Computer Engineering (180-194 credits) enables students to take up five-six additional courses of 14 credits in the discipline other than Electronics and Telecommunication Engineering(for completion of multidisciplinary minor) and 18 to 20 extra credits in the Computer Engineering discipline distributed over
- semesters III to VIII. Here, the *other selected discipline* in Engineering should be different from Specialization Minor i.e. Computer Engineering. This enables students to take up five-six or required additional courses of 18 to 20 credits in the Computer Engineering discipline distributed over semesters III to VIII, which are

over and above the min.160-max.176 Credits. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, prescribed for the duration of four years will be taken by Academic Authorities of University. **Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option**.

General Rules and Regulations

- 1. The normal duration of the course leading to B.Tech degree will be EIGHT semesters.
- 2. The normal duration of the course leading to M.Tech. degree will be FOUR semesters.
- 3. Each academic year shall be divided into 2 semesters, each of 20 weeks duration, including evaluation and grade finalization, etc. The Academic Session in each semester shall provide for at least 90 Teaching Days, with at least 40 hours of teaching contact periods in a five to six days session per week. The semester that is typically from Mid- July to November is called the ODD SEMESTER, and the one that is from January to Mid-May is called the EVEN SEMESTER. Academic Session may be scheduled for the Summer Session/Semester as well. For 1st year B. Tech and M. Tech the schedule will be decided as per the admission schedule declared by Government of Maharashtra.
- 4. The schedule of academic activities for a Semester, including the dates of registration, mid-semester examination, end-semester examination, inter-semester vacation, etc. shall be referred to as the Academic Calendar of the Semester, which shall be prepared by the Dean (Academic), and announced at least TWO weeks before the Closing Date of the previous Semester.
- 5. The Academic Calendar must be strictly adhered to, and all other activities including co- curricular and/or extra -curricular activities must be scheduled so as not to interfere with the Curricular Activities as stipulated in the Academic Calendar.

Registration:

1. Lower and Upper Limits for Course Credits Registered in a Semester, by a Full- Time Student of a UG/PG Programme:

A full time student of a particular UG/PG programme shall register for the appropriate number of course credits in each semester/session that is within the minimum and maximum limits specific to that UG/PG programme as stipulated in the specific Regulations pertaining to that UG/PG programme.

- 2. Mandatory Pre-Registration for higher semesters: In order to facilitate proper planning of the academic activities of a semester, it is essential for the every institute to inform to Dean (Academics) and COE regarding details of total no. of electives offered (Course-wise) along with the number of students opted for the same. This information should be submitted within two weeks from the date of
- 3. commencement of the semester as per academic calendar.
- 4. PhD students can register for any of PG/PhD courses and the corresponding rulesof evaluation will apply.
- 5. Under Graduate students may be permitted to register for a few selected Post Graduate courses, in exceptionally rare circumstances, only if the DUGC/DPGC is convinced of the level of the academic achievement and the potential in a student.

Course Pre-Requisites:

- 1. In order to register for some courses, it may be required either to have exposure in, or to have completed satisfactorily, or to have prior earned credits in, some specified courses.
- 2. Students who do not register on the day announced for the purpose may be permitted LATE REGISTRATION up to the notified day in academic calendar on payment of late fee.
- 3. REGISTRATION IN ABSENTIA will be allowed only in exceptional cases with the approval of the Dean (Academic) / Principal.
- 4. A student will be permitted to register in the next semester only if he fulfills the following conditions:
 - i. Satisfied all the Academic Requirements to continue with the programme of Studies without termination
 - ii. Cleared all Institute, Hostel and Library dues and fines (if any) of the previous semesters;
 - iii. Paid all required advance payments of the Institute and hostel for the current semester;
 - iv. Not been debarred from registering on any specific ground by the Institute.

Evaluation System:

1. Absolutegradingsystembasedonabsolutemarksasindicatedbelowwillbeimplemented from academic year 2023-24, from I year B. Tech.

Percentage of marks	Letter Grade	Grade Point
91-100	EX	10.0
86-90	AA	9.0
81-85	AB	8.5
76-80	BB	8.0
71-75	BC	7.5
66-70	CC	7.0
61-65	CD	6.5
56-60	DD	6.0
51-55	DE	5.5
40-50	EE	5.0

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<40		EF	0.0	
1.	Continuous	Assessment Mar	ks	40
2.	End Semester Ex	amination(ESE)	Marks	60

Class is awarded based on CGPA of all eighth semester of B.Tech Program.

CGPA for pass is minimum 5.0					
CGPA upto <5.50	Pass class				
CGPA≥5.50&<6.00	Second Class				
CGPA≥6.00&<7.5	First Class				
CGPA >7.50 Distinction					
[Percentage of Marks=CGPA*10.0]					

3. A total of100 Marks for each theory course are distributed as follows:

Mid Semester Exam(MSE)Marks	20
Continuous Assessment Marks	20
End Semester Examination(ESE)Marks	60

4. Atotalof100Marksfor each practical course are distributed as follows

- It is mandatory for every student of B. Tech to score a minimum of 40 marks out of • 100, M. Tech to score a minimum of 45 marks out of 100 with a minimum of 20 marks out of 60 marks in End Semester Examination for theory course.
- This will be implemented from the first year of B. Tech starting from Academic Year 2023-24

Description of Grades 6.

EX Grade: An _EX' grade stands for outstanding achievement. EE GradeT: he _EE' grade stands for minimum passing grade.

The students may appear for the remedial examination for the subjects he/she failed for the current semester of admission only and his/her performance will be awarded with EE grade only.

If any of the students remain absent for the regular examination due to genuine reason and the same will be verified and tested by the Dean (Academics) or committee constituted by the University Authority.

FF Grade: The _FF' grade denotes very poor performance, i.e. failure in a course due to poor performance .The students who have been awarded _FF' grade in a course in any

semester must repeat the subject in next semester.

2.

7.Evaluation of Performance

a. Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by Semester Grade Point Average (SGPA) which is a weighted average of the grade points obtained in all the courses taken by the student in the semester and scaled to a maximum of 10. (SGPI is to be calculated up to two decimal places). A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA = \frac{\left[\sum_{i=1}^{n} c_{i} g_{i}\right]}{\left[\sum_{i=1}^{n} c_{i}\right]}$$

Where

'n' is the number of subjects for the semester,

'c,' is the number of credits allotted to a particular subject, and

'g' is the grade-points awarded to the student for the subject based on his performance as per the above table.

SGPA will be rounded off to the second place of decimal and recorded as such.

b. Cumulative Grade Point Average (CGPA):

An up to date assessment of the overall performance of a student from the time he entered the Institute is obtained by calculating Cumulative Grade Point Average (CGPA) of a student. The CGPA is weighted average of the grade points obtained in all the courses registered by the student since s/he entered the Institute. CGPA is also calculated at the end of every semester (upto two decimal places). Starting from the first semester at the end of each semester (S), a Cumulative Grade Point Average (CGPA) will be computed as follows:

$$CGPA = \frac{\left[\sum_{i=1}^{m} c_i g_i\right]}{\left[\sum_{i=1}^{m} c_i\right]}$$

Where,

'm' is the total number of subjects from the first semester onwards up to and including the semester S,

'ci' is the number of credits allotted to a particular subject, and

'gi' is the grade-points awarded to the student for the subject based on his/her performance as per the above table.

CGPA will be rounded off to the second place of decimal and recorded as such.

8. Attendance Requirements:

- a. All students must attend every lecture, tutorial and practical classes.
- b. To account for approved leave of absence (eg. representing the Institute in sports, games or athletics; placement activities; NCC/NSS activities; etc.) and/or any other such contingencies like medical emergencies, etc., the attendance requirement shall be a minimum of 75% of the classes actually conducted. If the student failed to maintain 75% attendance, he/she will be detained for appearing the successive examination. The Dean (Academics)/ Principal is permitted to give 10% concession for the genuine reasons as such the case may be. In any case the student will not be permitted for appearing the examination if the attendance is less than 65%.
- c. The course instructor handling a course must finalize the attendance 3 calendar days before the last day of classes in the current semester and communicate clearly to the students by displaying prominently in the department and also in report writing to the head of the department concerned.
- d. The attendance records are to be maintained by the course instructor and he shall show it to the student, if and when required.

9. Transfer of Credits:

The courses credited elsewhere, in Indian or foreign University/Institutions/ Colleges/Swayam Courses by students during their study period at DBATU may count towards the credit requirements for the award of degree. The guidelines for such transfer of credits are as follows:

- a. 20 % of the total credit will be considered for respective calculations.
- b. Credits transferred will be considered for overall credits requirements of the programme.
- c. Credits transfer can be considered only for the course at same level i.e UG, PG etc.
- d. A student must provide all details (original or attested authentic copies) such as course contents, number of contact hours, course instructor /project guide and evaluation system for the course for which he is requesting a credits transfer. He shall also provide the approval or acceptance letter from the other side. These details will be evaluated by the concerned Board of Studies before giving approval. The Board of Studies will then decide the number of equivalent credits the student will get for such course(s) in DBATU. The complete details will then be forwarded to Dean for approval.
- e. A student has to get minimum passing grades/ marks for such courses for which the credits transfers are to be made.
- f. Credits transfers availed by a student shall be properly recorded on academic record(s) of the student.
- g. In exceptional cases, the students may opt for higher credits than the prescribe.