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

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

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-II

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 youngfaculty 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

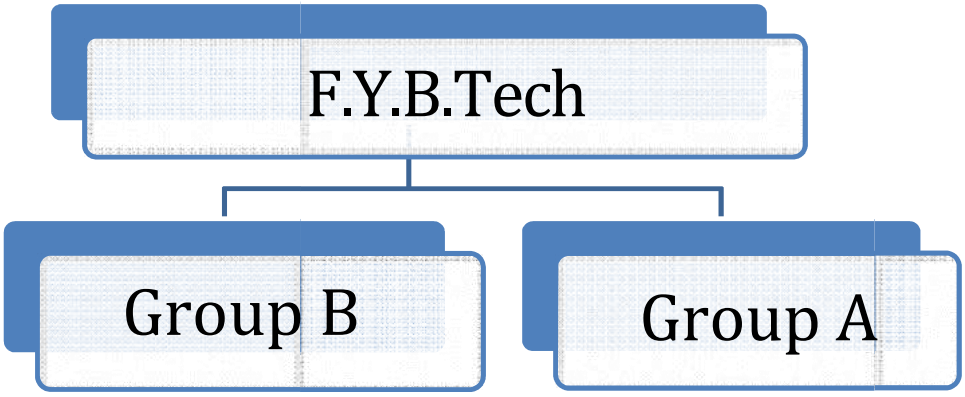
1. To create an environment where students can ascertain that career in engineering matchestheir interests and abilities.
2. To impart strong fundamental and technical knowledge in the basic science subjects toenable them to prepare themselves for successful career.
3. To inculcate habit of innovation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

GOALS

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

STRUCTURE OF FIRST YEAR ENGINEERING

(With effective from Academic Year 2024-25)



Group B

1. **Computer Science and Engineering**
2. **Computer Science and Engineering(AI&DS)**
3. **Chemical Engineering**
4. **Civil Engineering**
5. **Instrumentation & Control Engineering**

Group A

1. **Mechanical Engineering**
2. **Electronics and Computer Science Engineering (ECS)**
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 andUniversity.

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 campusactivities through shouting/ misconduct is strictly not allowed.
- Use of personal unauthorized electronic gadgets without permission in departmentpremises 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 bestefforts 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 withwritten application.
- Help to conserve energy, Switch off fans and tubes before leaving the classroom.
- Keep the Classrooms clean.

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 thecover/ 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 beforeleaving the laboratory.
- Do not move the instruments from one laboratory to another, without permission.

First Year B.Tech.

Teaching and Evaluation Scheme

Group B Semester II

Semester II											
Sr. No.	**Course Category**	**Course Code**	**Course Title**	**Teaching Scheme**			**Evaluation Scheme**				**Credit**
				L	**T**	**P**	**CA**	**MSE**	**ESE**	**Total**	
1	BSC	BS201	Engineering Mathematic– II	3	0	0	20	20	60	100	3
2	BSC	BS202	Engineering Chemistry	3	0	0	20	20	60	100	3
3	BSC	BS203L	Engineering Chemistry Lab	0	0	2	60	--	40*	100	1
4	ESC	ES204	Engineering Mechanics	3	0	0	20	20	60	100	3
5	ESC	ES205L	Engineering Mechanics LaB	0	0	2	60	--	40*	100	1
6	ESC	ES206	Programming for Problem Solving	2	0	0	20	20	60	100	2
7	ESC	ES207L	Programming for Problem Solving Lab	0	0	2	60	--	40*	100	1
8	VSEC	VS208L	Workshop Practices	0	0	4	60	--	40*	100	2
9	AEC-01	VS209	Communication Skills	2	0	0	20	20	60	100	2
10	AEC-01	VS210L	Communication Skills Lab	0	0	2	60	--	40*	100	1
11	CC	CC211B	A. Yoga Education B. NSS-I C. NCC	1	0	2	60	--	40†	100	2
	Total			**14**	**0**	**14**	**460**	**100**	**540**	**1100**	**21**

COURSE CO-ORDINATOR

Sr. No.	Course	Course Code	Course Coordinator	Email id	Contact No.
1	Engineering Mathematics-II	**BS201**	Ms. S.S. Kadam	Saraswatikadam0249@gmail.com	9370558123
2	Engineering Chemistry	**BS202**	Mrs. D.A. Lawate	dalavate.ge@pvpitsangli.edu.in	8788009691
3	Engineering Mechanics	**ES204**	Mr. A.A. Kusnale	aakusanale.civil@pvpitsangli.edu.in	8888978808
4	Programming for Problem Solving	**ES206**	Ms. R.N. Mulla	ruksarmulla333@gmail.com	8668777621
5	Workshop Practice	**VS208L**	Mr. N.D. Patil	ndpatilmech@pvpitsangli.edu.in	7218420242
6	Communication Skills	**VS209**	Mr. S.E. Narwade	senarwade.ge@pvpitsangli.edu.in	9527057048
7	NSS-I	**CC211B**	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. No.	Class/ Div	Class Teachers	Department	Email id	Contact No.
01	**I**	Ms. S.S. Kadam	Mathematics	saraswatikadam0249@gmail.com	9370558123
02	**III**	Ms. A. B. Gavade	Prog. for Prob. Sol.	ahilyagavade2002@gmail.com	7249793595
03	**V**	Ms. R. N. Mulla	Prog. for Prob. Sol.	ruksarmulla333@gmail.com	8668777621
04	**VII**	Ms. M. F. Mujawar	English	07muskanmujawar@gmail.com	8459704046
05	**IX**	Mr. P. S. Patil	Mathematics	pramod.patilrut@gmail.com	9764713256

COURSE TEACHERS

SEM-I

Division Class → / Course ↓	I	III	V	VII	IX
Engineering Mathematics-II	Ms. S. S. Kadam	Mrs. R.V.Kabadge	Mrs. A. K. Patil	Mrs. R.V.Kabadge	Mr. P. S. Patil
Engineering Chemistry	Dr. D.A.Lavate	Ms.A.B.Aawate	Ms. S.A.Jagtap	Ms.A.B.Aawate	Dr. D.A.Lavate
Engineering Mechanics	Mr.A.A.Kusnale	Mr. N. S. Bembade	Mrs.S.M.Patl	Mr. S. P. Patil	Ms. U. S.Kasbekar
Programming for Problem Solving	Ms. A.B. Gavade	Ms. A.B. Gavade	Ms.R.N.Mulla	Ms.R.N.Mulla	Ms.R.N.Mulla
Communication Skills	Mr.A.K.Chavan	Mr. S.E. Narwade	Mr. D.S. Bharsakale	Ms.M.F.Mujawar	Mr.A.K.Chavan
NSS-I	Mr.S.S. Mane	Mr.S.S. Mane	Mr.P.P.Shinde	Mr. P. V. Kadam	Mr.P.P.Shinde

ACADEMIC CALENDAR 2024-25 SEM-II

Dr V P S S M's

Padmabhooshan Vasantraodada Patil Institute of Technology,

Budhgaon , (Sangli)

First Year Engineering Department

Academic Calendar 2024-25 (SEM II)

March 2025 - Academic Days: 22

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Late Vasantdada Punyatithi	1st Mar 2025
Commencement of Classes	3rd Mar 2025
Science Day Celebration	5th Mar 2025
Women's Day	8th Mar 2025
Dhulivandan	14th Mar 2025
Rangpanchmi	19th Mar 2025
Industrial Visit	21th -22th Mar.2025
Gudi Padwa	30th Mar 2025
Ramzan Id	31st Mar 2025
1st Defaulter List	31st Mar 2025

April 2025 - Academic Days: 21

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Shri Ram Navami	6th Apr 2025
Mahavir Jayanti	10th Apr 2025
CA -I	8th - 12th Apr 2025
Dr.Babasaheb Ambedkar Jayanti	14th Apr 2025
Good Friday	18th Apr 2025
Annual Socal Gathering	
2nd Defaulter List	30th Apr 2025

May 2025 - Academic Days: 23

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Maharashtra Day	1st May 2025
Buddha Pournima	12th May 2025
Mid Semester Exam	2nd - 7th May 2025
Parents Meeting	24th May 2025
Sports Week	
3rd Defaulter List	31st May, 2025

June 2025 - Academic Days: - 16

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

CA – II	10th -14th June 2025
End of Classes	20th June 2025
Final Defaulter List	20th June 2025
Practical Examination	23th - 28th June 2025
End Semester Exam	24th – 3rd July 2025
Bakri Id	7th June 2025

Dr. Anushka A. Patil	Dr. K. K. Pandyaji	Dr. B. S. Patil
HoD, First Year Engg.	Dean Academic	Principal

Academic Activity Activity Exam Holidays

	Dr. Vasantraodada Patil Shetkari Shikshan Mandal's **Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)** **FIRST YEAR ENGINEERING DEPARTMENT** **TIME TABLE 2024-25 SEM-II**	**With Effect From 03/03/2025**

Dr. Vasantraodada Patil Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli

Curriculum as per NEP-2020

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)

TIME TABLE 2024-25 SEM-II

W.E.F. 03/03/2025

Class: FE-I **Branch:-** Electronics & Comp. Science(ECS) **GROUP (B)** **CL-03**

SrN	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	A1- VS210L A2- VS208L A3- VS208L	BS202- DAL	A1- ES205L A2- ES207L A3- BS203L	BS201- SSK	CC111B- SSM	*LVH/IITST*
2	11:00 TO 12:00		ES204- AAK		VS209- AKC	ES204- AAK	*LVH/IITST*
	12:00 TO 12.45		*LONG*	*RECESS*			
3	12.45 TO 13:45	BS201- SSK	A1- ES207L A2- BS203L A3- ES205L	BS202- DAL	BS201- SSK	A1- CC211B A2- VS208L A3- VS210L	# M-M / Counselor Int. Mentee –Mentor or Counselor Interaction
4	13:45 TO 14:45	ES206- ABG		VS209- AKC	BS202- DAL		
	14:45 TO 15:00		*SHORT*	*RECESS*			
5	15:00 TO 16:00	A1- BS203L A2- ES205L A3- VS207L	A1-VS208L A2- CC211B A3- VS208L	ES204- AAK	A1- VS208L A2- VS210L A3- CC211B	ES206- ABG	LVH-Library Visit Hour IITST- IIT Spoken Tutorial
6	16:00 TO 17:00			*BS201- SSK		*LVH/IITST*	

SSK-/SSKadam DAL-/ DALavate AAK- AAKusnale ABG-/ABGavade *-Extra

AKC-AKChavan SSM-SSMane #-Alternate

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS201	Engineering Mathematics-II	5	ES205L	Engineering Mechanics Laboratory	9	VS209	Communication Skills
2	BS202	Engineering Chemistry	6	ES206	Programming For Problem Solving	10	VS210L	Communication Skills Laboratory
3	BS203L	Engineering Chemistry Laboratory	7	ES207L	Programming For Problem Solving Lab	11	CC211B	NSS-I
4	ES204	Engineering Mechanics	8	VS208L	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. B. S. Patil) **Principal**

Dr. Vasantraodada Patil Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)

TIME TABLE 2024-25 SEM-II

Curriculum as per NEP-2020

W.E.F. 03/03/2025

Class: FE-**III** **Branch:-** Electronics & Comp. Science(ECS) **GROUP(B)** **CL-04**

SrN	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	ES206- **ABG**	**C1- VS210L** **C2- VS208L** **C3- VS208L**	BS202- **ABA**	**C1- ES205L** **C2- ES207L** **C3- BS203L**	VS209- **SEN**	***LVH/IITST***
2	11:00 TO 12:00	ES204- **NSB**		BS201- **DST**		ES206- **ABG**	***LVH/IITST***
	12:00 TO 12.45		***LONG***	***RECESS***			
3	12.45 TO 13:45	**C1- CC211B** **C2- VS208L** **C3- VS210L**	BS202- **ABA**	**C1- ES207L** **C2- BS203L** **C3- ES205L**	BS201- **DST**	BS201- **DST**	**# M-M / Counselor Int.** Mentee –Mentor or Counselor Interaction
4	13:45 TO 14:45		ES204- **NSB**		VS209- **SEN**	BS202- **ABA**	
	14:45 TO 15:00		***SHORT***	***RECESS***			
5	15:00 TO 16:00	CC111B- **SSM**	**C1- BS203L** **C2- ES205L** **C3- VS207L**	**C1-VS208L** **C2- CC211B** **C3- VS208L**	ES204- **NSB**	**C1- VS208L** **C2- VS210L** **C3- CC211B**	**LVH-Library Visit Hour** **IITST- IIT Spoken Tutorial**
6	16:00 TO 17:00	*BS201- **DST**			***LVH/IITST***		

DST-/DSThorat **ABA-/ABAwate** **NSB-NSBembade** **ABG-/ABGavade** ***-Extra**

SEN-SENarwade **SSM-SSMane** **#-Alternate**

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS201	Engineering Mathematics-II	5	ES205L	Engineering Mechanics Laboratory	9	VS209	Communication Skills
2	BS202	Engineering Chemistry	6	ES206	Programming For Problem Solving	10	VS210L	Communication Skills Laboratory
3	BS203L	Engineering Chemistry Laboratory	7	ES207L	Programming For Problem Solving Lab	11	CC211B	NSS-I
4	ES204	Engineering Mechanics	8	VS208L	Workshop Practices			

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Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)

TIME TABLE 2024-25 SEM-II

Curriculum as per NEP-2020

W.E.F. 03/03/2025

Class: FE-**V** **Branch:-** Electrical & Comp. Engg.(ECE) **GROUP(B)** **CL-03/04**

SrN	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	(3)BS202- **PBP**	(4)ES206- **RNM**	**E1- VS210L** **E2- VS208L**	(4)BS202- **PBP**	**E1- ES205L** **E2- ES207L**	***LVH/IITST***
2	11:00 TO 12:00	(3)BS201- **AKP**	(4)ES204- **SMP**	**E3- VS208L**	(4)BS201- **AKP**	**E3- BS203L**	***LVH/IITST***
	12:00 TO 12.45		***LONG***	***RECESS***			
3	12.45 TO 13:45	(4)ES204- **SMP**	**E1- CC211B** **E2- VS208L**	(4)BS202- **PBP**	**E1- ES207L** **E2- BS203L**	(3)BS201- **AKP**	**# M-M / Counselor Int.** Mentee –Mentor or Counselor Interaction
4	13:45 TO 14:45	(4)VS209- **DSB**	**E3- VS210L**	(4)ES206- **RNM**	**E3- ES205L**	(3)VS209- **DSB**	
	14:45 TO 15:00		***SHORT***	***RECESS***			
5	15:00 TO 16:00	**E1- VS208L** **E2- VS210L**	(3)CC111B- **PPS**	**E1- BS203L** **E2- ES205L**	**E1-VS208L** **E2- CC211B**	(4)ES204- **SMP**	**LVH-Library Visit Hour** **IITST- IIT Spoken Tutorial**
6	16:00 TO 17:00	**E3- CC211B**	(3)*BS201- **AKP**	**E3- VS207L**	**E3- VS208L**	***LVH/IITST***	

AKP-/AKPatil **PBP- /PBPatil** **SMP-/SMPatil** **RNM-/RNMulla** ***-Extra**

DSB-DSBharsakale **PPS-PPShinde** **#-Alternate**

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS201	Engineering Mathematics-II	5	ES205L	Engineering Mechanics Laboratory	9	VS209	Communication Skills
2	BS202	Engineering Chemistry	6	ES206	Programming For Problem Solving	10	VS210L	Communication Skills Laboratory
3	BS203L	Engineering Chemistry Laboratory	7	ES207L	Programming For Problem Solving Lab	11	CC211B	NSS-I
4	ES204	Engineering Mechanics	8	VS208L	Workshop Practices			

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(Dr. B. S. Patil)
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Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)

TIME TABLE 2024-25 SEM-II

Curriculum as per NEP-2020

W.E.F. 03/03/2025

Class:- FE-**VII** **Branch:** Electro. & Telecomm. (ETC) + Mechanical Engg. **GROUP(B)** **CL-3/9**

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	G1- ES205L G2- ES207L G3- BS203L	(9)BS201- **DST**	(3)VS209- **ABC**	G1- VS210L G2- VS208L G3- VS208L	(9)BS202- **ABA**	***LVH/IITST***
2	11:00 TO 12:00		(9)ES206- **RNM**	(3)ES204- **SPP**		(9)BS201- **DST**	***LVH/IITST***
	12:00 TO 12.45		***LONG***	***RECESS***			
3	12.45 TO 13:45	(9)BS201- **DST**	(3)ES204- **SPP**	G1- CC211B G2- VS208L G3- VS210L	(9)BS202- **ABA**	G1- ES207L G2- BS203L G3- ES205L	# M-M / Counselor Int. Mentee –Mentor or Counselor Interaction
4	13:45 TO 14:45	(9)VS209- **ABC**	(3)CC111B- **PVK**		(9)*BS201- **DST**		
	14:45 TO 15:00		***SHORT***	***RECESS***			
5	15:00 TO 16:00	(9)ES204- **SPP**	G1- VS208L G2- VS210L G3- CC211B	(9)BS202- **ABA**	G1- BS203L G2- ES205L G3- VS207L	G1-VS208L G2- CC211B G3- VS208L	LVH-Library Visit Hour IITST- IIT Spoken Tutorial
6	16:00 TO 17:00	(9) ES206- **RNM**		***LVH/IITST***			

DST-/DSThorat **ABA-ABAwate** **SPP-SPPatil** **RNM-/RNMulla** ***-Extra**

ABC **PVK-PVKadam** **#-Alternate**

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS201	Engineering Mathematics-II	5	ES205L	Engineering Mechanics Laboratory	9	VS209	Communication Skills
2	BS202	Engineering Chemistry	6	ES206	Programming For Problem Solving	10	VS210L	Communication Skills Laboratory
3	BS203L	Engineering Chemistry Laboratory	7	ES207L	Programming For Problem Solving Lab	11	CC211B	NSS-I
4	ES204	Engineering Mechanics	8	VS208L	Workshop Practices			

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Dr. Vasantraodada Patil Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli

FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)

TIME TABLE 2024-25 SEM-II

Curriculum as per NEP-2020

W.E.F. 03/03/2025

Class:- FE-**IX** **Branch:** Electro. & Telecomm. (ETC) + Mechanical Engg. **GROUP(B) CL-09**

SrN	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	BS201- **PSP**	**I1- ES205L** **I2- ES207L**	BS201- **PSP**	ES206- **RNM**	**I1- VS210L** **I2- VS208L**	***LVH/IITST***
2	11:00 TO 12:00	BS202- **DAL**	**I3- BS203L**	VS209- **AKC**	ES204- **USK**	**I3- VS208L**	
	12:00 TO 12.45		***LONG***	***RECESS***			
3	12.45 TO 13:45	**I1- ES207L** **I2- BS203L** **I3- ES205L**	BS201- **PSP**	ES204- **USK**	**I1- CC211B** **I2- VS208L** **I3- VS210L**	BS202- **DAL**	**# M-M / Counselor Int.** Mentee –Mentor or Counselor Interaction
4	13:45 TO 14:45		BS202- **DAL**	*BS201- **PSP**		ES206- **RNM**	
	14:45 TO 15:00		***SHORT***	***RECESS***			
5	15:00 TO 16:00	**I1-VS208L** **I2- CC211B** **I3- VS208L**	ES204- **USK**	**I1- VS208L** **I2- VS210L** **I3- CC211B**	CC111B- **PPS**	**I1- BS203L** **I2- ES205L** **I3- VS207L**	**LVH-Library Visit Hour** **IITST- IIT Spoken Tutorial**
6	16:00 TO 17:00		VS209- **AKC**		***LVH/IITST***		

PSP-PSPatil **DAL-/DALavate** **USK-/USKasbekar** **RNM-/RNMulla** ***-Extra**

AKC-AKChavan **PPS-PPShinde** **#-Alternate**

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS201	Engineering Mathematics-II	5	ES205L	Engineering Mechanics Laboratory	9	VS209	Communication Skills
2	BS202	Engineering Chemistry	6	ES206	Programming For Problem Solving	10	VS210L	Communication Skills Laboratory
3	BS203L	Engineering Chemistry Laboratory	7	ES207L	Programming For Problem Solving Lab	11	CC211B	NSS-I
4	ES204	Engineering Mechanics	8	VS208L	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. B. S. Patil)
Principal

DEPARTMENTAL ACTIVITY

1) MENTORING ACTIVITY:

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 fromAcademic, Industry and Social spheres. Lectures of faculty from other institutions are organized. Mentoring includes **professional guidance, carrier advancement/ course workspecific/ 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 respectivestudent.

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 isdone by respective counselor.**

CLASS TEACHER

- Receiving assistance with academic endeavors.
- Constructive interaction with a class teacher and participation in collective activities heor 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 /Mentor/ Head of First YearEngg. Dept. (/Dr. Mrs. Anushka A. Patil) 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 orfailed 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 toparticipate in extracurricular activities.

Date	Activity Name	Participation level	Outcome

REMARKS: Student should submit Xerox copy of certificates obtained from Co/ExtraCurricular Activities to Class Teacher.

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 doand 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 orany other danger to health or person.

ADMINISTRATIVE ACTION IN THE EVENT OF RAGGING:

The institution shall punish a student found guilty of ragging after following the procedureand 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 internationalmeet, 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 otherinstitution 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 booksand 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 facilitiesfor 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 variNational activities as per the directions receive from UGC and University

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 house facility is available for visiting parents. The hostels have all necessary facilities such 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 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 (T&P)** cell at PVPIT guide 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. Theobjective is to

- Provide opportunities for industrial placements
- Motivate them for other placement opportunities
- Motivate them to become future entrepreneur
- Motivate them 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 beresourceful them. Training is given to improve their aptitude and soft skill through 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, defense services and research sector. We encourage and empower student to become an entrepreneur and provide them necessary awareness and orientation about it.

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-II**	**With Effect From 03/03/2025**

Subject- Engineering Mathematics– II (4Credits) BTBS201	
Teaching Scheme	**Evaluation Scheme**
Lecture:3hrs/week	Continuous Assessment:-20Marks
	Mid Term Test:-20 Marks
	End Semester Exam:-60Marks

Course Objectives:

1. To know and discuss the need and use of complex variables to find roots, to separate complex quantities, and to establish a relation between circular and hyperbolic functions.
2. To understand and solve first and higher-order differential equations and apply them as a mathematical modeling in electric and mechanical systems.
3. To determine Fourier series representation of periodic functions over different intervals.
4. To demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence &curl in various engineering streams.
5. To know and apply the principles of vector integration to transform line integral to surface integral, surface to volume integral & vice versa using Gree's, Stoke's and Gauss divergence theorems.

Course Outcomes:

After completion of this course, students will be able to

CO1: Discuss the need and use of complex variables to find roots, separate complex quantities, and to establish relation between circular and hyperbolic functions.

CO2: Solve first and higher order differential equations and apply them as mathematical modeling in electric and mechanical systems.

CO3: Determine Fourier series representation of periodic functions over different intervals.

CO4: Demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence & curl in various engineering streams.

CO5: Apply the principles of vector integration to transform line integral to surface integral, surface to volume integral &vice versa using Green's, Stoke's and Gauss divergence theorems.

Course Contents:

UNIT-I: Complex Numbers

Definition and geometrical representation; De-Moivre's theorem (without proof); Roots of complex numbers by using De-Moivre's theorem; Circular functions of complex variable – definition; Hyperbolic functions; Relations between circular and hyperbolic functions; Real and imaginary parts of circular and hyperbolic functions; Logarithm of Complex quantities.

UNIT-II: Ordinary Differential Equations of First Order and First Degree and Their Applications

Linear equations; Reducible to linear equations (Bernoulli's equation); Exact differential equations; Equations reducible to exact equations ; Applications to orthogonal trajectories, mechanical systems and electrical systems.

UNIT-III: Linear Differential Equations with Constant Coefficients

Introductory remarks - complementary function, particular integral; Rules for finding complementary functions and particular integrals; Method of variation of parameters; Cauchy's homogeneous and Legendre's linear equations.

UNIT-IV: Fourier series

Introductory remarks- Euler's formulae ; Conditions for Fourier series expansion – Dirichlet's conditions ; Functions having points of discontinuity; Change of interval; Odd and even functions expansions of odd and even periodic functions; Half-range series.

UNIT-V: Vector Calculus

Scalar and vector fields: Gradient, divergence and curl; Solenoidal and irrotational vector fields;

Vector identities (statement without proofs); Green‘slemma, Gauss‘s divergence theorem and Stokes‟ theorem (without proofs).

Text Books

1. Higher Engineering Mathematics by B.S. Grewal, Khanna Publishers, New Delhi.
2. Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley & Sons,NewYork.
3. A Course in Engineering Mathematics (VolII) by Dr.B.B.Singh, Synergy Knowledge ware, Mumbai.
4. A Text Book of Applied Mathematics (VolI&II) by P.N.Wartikarand J. N. Wartikar, Pune Vidyarthi Griha Prakashan, Pune.
5. Higher Engineering Mathematics by H.K. Dasand Er.RajnishVerma, S. Chand & CO. Pvt. Ltd., New Delhi.

Reference Books

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 BTBS202	
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 Soft water, Disadvantages of hard water, 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 H_2-O_2 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

Previous Question Paper

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/ Winter Examination – 2024

Course: F.Y. B.Tech **Branch : All Branches** **Semester : I**

Subject Code & Name: 24AF1CHEBS102 (Engineering Chemistry)

Max Marks: 60 **Date:** 08/02/2025 **Duration: 3 Hr.**

Instructions to the Students:

1. Each question carries 12 marks.
2. Question No. 1 will be compulsory and include objective-type questions.
3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
5. Use of non-programmable scientific calculators is allowed.
6. Assume suitable data wherever necessary and mention it clearly.

					(CO)	Marks
Q. 1	**Objective type questions. (Compulsory Question)**					**12**
1	---------- Indicator is used in Winkler's method of DO determination.				1	1
	a. Methanol	b. Starch	c. Cathol	d. Naphthol		
2	EBT makes ---------- dentate complex with Ca metal				1	1
	a. Bi	b. mono	c. tri	d. tetra		
3	Calorific value measured in -------				2	1
	a. ppm	b. ppb	c. mg/l	d. kcal/kg		
4	Boys Calorimeter is used to determine calorific value of ------- fuel.				2	1
	a. Gas	b. solid	c. wood	d. liquid		
5	Which of the following is an example of semi-solid lubricant?				2	1
	a. paint	b. alcohol	c. grease	d. diesel		
6	Cell constant is measured in ---------				3	1
	a. DO	b. MO	c. CO	d. none		
7	Specific conductance of KCl at 25 °C is ----------				3	1
	a.0.033	b. 0.0288	c. 0.273	d. 0.002765		
8	Color of Methyl Orange in alkali is -------				3	1
	a. green	b. yellow	c. red	d. orange		
9	Wavelength range of UV radiation is ---------				4	1
	a.700-800nm	b. 600-700nm	c. 600-400nm	d. 200-380nm		
10	Flame Photometer is based on ---------- of radiation.				4	1
	a. Substitution	b. Addition	c. Emission	d. refraction		

11	Which of the following is not an example of thermoplastic resin?				5	1
	a. Poly ethylene	b. Poly propylene	c. Poly styrene	d. Urea formaldehyde		
12	The Chemical formula of Gypsum is -----				5	1
	a. $MgSO_4$	b. $AgSO_4$	c. $CaSO_4.2H_2O$	d. FeSO4.2H2O		
Q. 2	**Solve the following.**					**12**
A)	Explain in detail Hot Lime-soda process of softening of water.				1	**6**
B)	Discuss aeration, sedimentation and disinfection process used in domestic water treatment.				1	**6**
Q.3	**Solve the following.**					**12**
A)	What is Calorific value? Explain in detail Bomb calorimeter.				2	**6**
B)	Describe any three Physical Properties of lubricants.				2	**6**
Q. 4	**Solve Any Two of the following.**					**12**
A)	Explain Ostwald's theory of Acid-base indicator.				3	**6**
B)	Write a note on Conductometric titration with suitable examples.				3	**6**
C)	What is rechargeable battery? Explain in detail Lithium-ion battery.				3	**6**
Q.5	**Solve Any Two of the following.**					**12**
A)	Explain in detail Laws of absorption of UV-visible spectroscopy.				4	**6**
B)	What is Chromatography? Discuss the classification of Chromatography				4	**6**
C)	Discuss instrumentation, working and applications of Flame Photometry.				4	**6**
Q. 6	**Solve Any Two of the following.**					**12**
A)	Write a note on Portland Cement.				5	**6**
B)	Explain with suitable examples any two types of polymerization.				5	**6**
C)	Discuss the synthesis of Urea Formaldehyde resin, its properties and uses.				5	**6**
	***** End *****					

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‘s laws, friction angles, 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 by method of joints and method of sections.

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 under gravity, projectile motion, concept of relative velocity.

Module -5 **Kinetics and Work, Power, Energy**

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

Work done bya 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 Mechanics‖, New Age International Publications, 2nd Edition.
4. Beer, Johnston, ―Vector Mechanics for Engineers‖, Vol. 1: Statics and Vol. 2: Dynamics, McGraw Hill Company Publication, 7th edition, 1995.

Reference Books:

1. Irving H. Shames, ―Engineering Mechanics -Statics and Dynamics‖, 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 & Dynamics‖, Harper and Row Pub. York.
4. Junnarkar S.B., and Shah, H.J. ―Applied Mechanics‖, 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

Minimum 8-10 experiments are to be performed based on contents from syllabus 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.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Supplementary Winter Examination – 2024

Course: B. Tech **Branch: Common To All Branches** **Semester: I**

Subject Code & Name: BTES103 & Engineering Mechanics

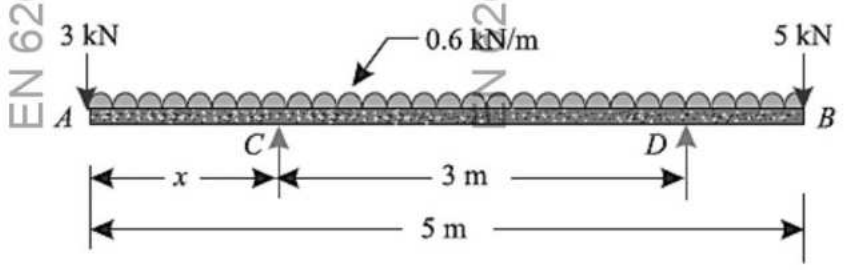
Max Marks: 60 **Date:** 11/02/2025 **Duration: 3 Hr.**

Instructions to the Students:

1. *Each question carries 12 marks.*
2. *Question No. 1 will be compulsory and include objective-type questions.*
3. *Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.*
4. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
5. *Use of non-programmable scientific calculators is allowed.*
6. *Assume suitable data wherever necessary and mention it clearly.*

		(Level /CO)	Marks
Q. 1	**Objective type questions. (Compulsory Question)**		**12**
1	A force system consists of: a) A single force acting on a body b) Two or more forces acting simultaneously on a body c) Only external forces d) Only internal forces	L1	1
2	Which of the following best represents the equilibrium condition for forces in two dimensions? a) $\Sigma Fx = 0, \Sigma Fy = 0, \Sigma Mz = 0$ b) $\Sigma Fx \neq 0, \Sigma Fy = 0, \Sigma Mz = 0$ c) $\Sigma Fx = 0, \Sigma Fy \neq 0, \Sigma Mz = 0$ d) $\Sigma Fx = 0, \Sigma Fy = 0, \Sigma Mx = 0$	L1	1
3	When two or more forces acting at a point are combined into a single force, it is called: a) Equilibrant b) Resultant force c) Couple d) Load factor	L1	1
4	The analytical conditions for equilibrium in two-dimensional force systems are: a) $\Sigma Fx = 0$ and $\Sigma Fy = 0$ b) $\Sigma Fx = 0, \Sigma Fy = 0$, and $\Sigma Mz = 0$ c) $\Sigma Fx \neq 0, \Sigma Fy = 0$ d) $\Sigma Mx = 0, \Sigma My = 0$	L1	1
5	In a force system in equilibrium, the sum of horizontal forces must be: a) Greater than vertical forces b) Equal to the sum of moments c) Equal to zero d) Less than vertical forces	L1	1
6	The force polygon method is used to: a) Find the equilibrium of parallel forces b) Determine the resultant force graphically c) Solve problems involving moments d) Find the center of gravity	L1	1

7	The equation used to determine if a truss is perfect: a) m+4=2j b) m=2j−3 c) 2m=3+j d) m=j+r		L1	1
8	When a body is just about to move, the frictional force acting on it is called: a) Sliding friction b) Rolling friction c) Limiting friction d) Dynamic friction		L1	1
9	The slope of a velocity-time graph represents: a) Displacement b) Acceleration c) Velocity d) Force		L1	1
10	When an object falls freely under gravity, its acceleration is: a) Variable b) Zero c) Constant and downward d) Constant and upward		L1	1
11	According to D'Alembert's principle, the equation of motion can be written as: a) F−ma=0 b) F+ma=0 c) F=ma d) F=m/v		L1	1
12	The kinetic energy of a moving object depends on: a) Velocity and mass b) Acceleration and mass c) Force and displacement d) Work and power		L1	1
Q. 2	**Solve the following.**			**12**
A)	State triangle law of forces and polygon law of forces. State and prove parallelogram law of forces.		L2	6
B)	What are various type of loadings? Distinguish clearly between uniformly distributed load, uniformly varying load and triangular load.		L2	6
Q.3	**Solve the following.**			**12**
A)	An I-section has the following dimensions in mm units : Bottom flange = 300 × 100, Top flange = 150 × 50, Web = 300 × 50 Determine mathematically the position of centroid of the section. Take bottom of the bottom flange as the axis of reference.		L3	6
B)	A beam AB 5 m long, supported on two intermediate supports 3 m apart, carries a uniformly distributed load of 0.6 kN/m. The beam also carries two concentrated loads of 3 kN at left hand end A, and 5 kN at the right hand end B. Determine the location of the two supports, so that both reactions are equal.		L2	6

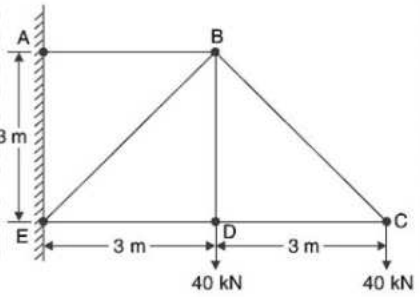


Q. 4 Solve Any Two of the following. **12**

A) Explain angle of friction, angle of repose and cone of friction with diagrams. L2 6

B) A body, resting on a rough horizontal plane, required a pull of 180 N inclined at 30° to the plane just to move it. It was found that a push of 220 N inclined at 30° to the plane just moved the body. Determine the weight of the body and the coefficient of friction. L3 6

C) Find the forces in all the members of the truss shown in figure. Tabulate the results. L2 6

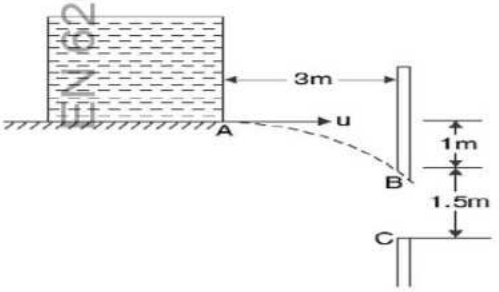


Q.5 Solve Any Two of the following. **12**

A) A stone dropped into a well is heard to strike the water in 4 seconds. Find the depth of the well, assuming the velocity of sound to be 335 m/sec. L2 6

B) Two ships leave a port at the same time. The first steams North-West at 32 kilometres per hour and the second 40° West to south at 24 kilometres per hour.
(a) What is the velocity of the second ship relative to the first in km per hour?
(b) After what time, they will be 160 km apart? L3 6

C) A pressure tank issues water at A with a horizontal velocity u as shown in figure. For what range of values of u, water will enter the opening BC. L2 6



Q. 6 Solve Any Two of the following. **12**

A) Describe a concept of mass moment of inertia. L2 6

B) A vehicle, of mass 500 kg, is moving with a velocity of 25 m/s. A force of 200 N acts on it for 2 minutes. Find the velocity of the vehicle:
(1) when the force acts in the direction of motion, and
(2) when the force acts in the opposite direction of the motion. L2 6

C) State and prove work energy principle. L3 6

***** End *****

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.

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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‖, 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.

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

Minimum 8-10 experiments are to be performed 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.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular Winter Examination – 2024

Course: B. Tech **Branch: Common to all Branches** **Semester: I**

Subject Code & Name: 24AF1000ES106 & Programming for Problem Solving

Max Marks: 60 **Date: 13/02/2025** **Duration: 3 Hr.**

Instructions to the Students:

1. *Each question carries 12 marks.*
2. *Question No. 1 will be compulsory and include objective-type questions.*
3. *Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.*
4. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
5. *Use of non-programmable scientific calculators is allowed.*
6. *Assume suitable data wherever necessary and mention it clearly.*

					(Level/CO)	Marks
Q. 1	**Objective type questions. (Compulsory Question)**					**12**
1	Which generation of computers introduced the use of integrated circuits (ICs)?				Remember	**1**
	a. First Generation	b. Second Generation	c. Third Generation	d. Fourth Generation		
2	Which of the following is a primary function of an operating system?				Understand	**1**
	a. Word processing	Understand	c. Image editing	d. File encryption		
3	Which component acts as the brain of a computer system?				Understand	**1**
	a. Input device	b. Processor	c. Output device	d. Memory		
4	Which of the following is not a valid C data type?				Remember	**1**
	a. int	b. char	c. bool	d. string		
5	What is the output of the following expression in C? int x = 10, y = 5; printf ("%d", x > y && y < 10);				Apply	**1**
	a. 0	b. 1	c. 5	d. 10		
6	Which operator is used for bitwise AND operation in C?				Remember	**1**
	a. &&	b. &	c. |	d. ||		
7	What is the correct syntax for a do-while loop in C?				Understand	**1**
	a. do {...} while(condition);	b. do { ... } while(condition)	c. while(condition) { ... } do;	d. do { while(condition); }		
8	Which statement is used to exit a loop prematurely in C?				Remember	**1**
	a. exit	b. break	c. continue	d. return		

9	What will be the output of the following code?
	int x = 5;
	if (x == 5)
	printf("Hello");
	else
	printf("World");
					Apply	**1**

	a. Hello	b. World	c. HelloWorld	d. Compilation Error		
10	What is the index of the first element in a C array?				Remember	**1**
	a. 1	b. 0	c. -1	d. Depends on the		

				array		
11	What does the following pointer declaration mean? int *ptr;				Understand	1
	a. ptr is a pointer to an integer	b. ptr is an integer	c. ptr is a pointer to a float	d. None of the above		
12	Which of the following is used to write data to a file in C?				Understand	1
	a. fread	b. fwrite	c. fprintf	d. All of the above		
Q. 2	**Solve the following.**					**12**
A)	What are the steps involved in programming? Briefly describe each step.				Understanding	**6**
B)	What is the role of memory management in a computer system? Differentiate between primary and secondary memory.				Analyze	**6**
Q.3	**Solve the following.**					**12**
A)	What is operator precedence? Write an expression and explain how it is evaluated.				Understand & Apply	**6**
B)	Describe the conditional (ternary) operator and write a program to find the maximum of two numbers using it.				Understand & Apply	**6**
Q. 4	**Solve Any Two of the following.**					**12**
A)	Differentiate between while, for, and do-while loops with example programs.				Understand & Apply	**6**
B)	Write a c program to demonstrate the use of break and continue in loops.				Apply	**6**
C)	Describe the basics of user-defined functions and write a function to calculate the factorial of a number.				Understand & Apply	**6**
Q.5	**Solve Any Two of the following.**					**12**
A)	Explain the initialization of arrays in C with examples.				Understand & Apply	**6**
B)	Write a program to create and display a 3x3 matrix using a two-dimensional array in C.				Apply	**6**
C)	Write a c program to demonstrate the use of a pointer to an array.				Understand & Apply	**6**
Q. 6	**Solve Any Two of the following.**					**12**
A)	What is an array of structures? Write a c program to store and display details of 5 students.				Understand & Apply	**6**
B)	Discuss file opening and closing in c with examples of different modes.				Understand & Apply	**6**
C)	Write a c program to read and write data to a file using fprintf() and fscanf().				Understand & Apply	**6**
	***** End *****					

Workshop Practices

24AF1000VS108L	Workshop Practices	VSEC	0L-0T -4P	2 Credits

Course Objectives:

1) To impart knowledge and skills to use tools, machines, equipment and measuring instruments
2) To develop general machining skills
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 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

Course Content:

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 (Addressing Small 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

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)

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular Examination Winter – 2024

Course: B. Tech. **Branch: Common to All Branches** **Semester: I**

Subject Code & Name: (24AF1000VS109) Communication Skills

Max. Marks: 60 **Date: 22/02/2025** **Duration: 3 Hrs.**

Instructions to the Students:

1. Each question carries 12 marks.
2. Question No. 1 will be compulsory and include objective-type questions.
3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
5. Use of non-programmable scientific calculators is allowed.
6. Assume suitable data wherever necessary and mention it clearly.

		(Level/CO)	Marks
Q. 1)	**Objective type questions. (Compulsory Question)**		**12**
i)	…….. is communication? a. The process of sending and receiving messages with proper feedback b. The process of sending messages only c. The process of receiving messages only d. The process of thinking and feeling	**L1/CO1**	**1**
ii)	……. is an example of word formation through conversion? a. Run (verb) to runner (noun) b. Unhappy (adding 'un-'to 'happy') c. Happiness (adding '-ness' to 'happy') d. Happily (adding '-ly' to 'happy')	**L1/CO1**	**1**
iii)	What should one do to prepare for common interview questions? a. Read books on the company history b. Practice answering behavioral questions c. Learn about the company's competitors d. Review your social media profiles	**L1/CO1**	**1**
iv)	…… should be done before starting a formal presentation. a. Apologize for being nervous b. Introduce yourself and establish credibility c. Start speaking immediately d. Ask the audience if they are ready	**L1/CO1**	**1**
v)	Which of the following can be called as a type of communication? a. Verbal and non-verbal b. Written and unwritten c. Formal and informal d. All of the above	**L1/CO1**	**1**

vi)	…….. is the term for combining two or more words to form a new word. a. Derivation b. Inflection c. Compounding d. Conversion	**L1/CO2**	**1**
vii)	……. is an example of precise language? a. The weather was bad b. The weather was terrible c. The weather was okay d. The weather was stormy with heavy rain and strong winds	**L1/CO2**	**1**
viii)	The term …….. is for adding a prefix or suffix to a word to form a new word. a. Inflection b. Derivation c. Compounding d. Conversion	**L1/CO2**	**1**
ix)	…….. is the primary goal of using precise language in writing? a. To impress the reader with complex vocabulary b. To convey meaning clearly and concisely c. To fill up space with unnecessary words d. To confuse the reader with ambiguous language	**L1/CO2**	**1**
x)	The number of students …… increasing every year. a. is b. are c. has been d. have been	**L1/CO2**	**1**
xi)	The term for changing a word from one part of speech to another without changing its form is called …… a. Derivation b. Inflection c. Compounding d. Conversion	**L1/CO2**	**1**
xii)	…….. is an effective way to show enthusiasm and interest in the company. a. Asking questions during the interview b. Sending a thank-you note after the interview c. Wearing formal attire d. Bringing extra copies of your resume	**L1/CO2**	**1**

Q. 2)	**Solve the following:**		**12**
A)	'Learning the word formation processes helps to strengthen the	**L3/CO5**	**6**

Q. 3)	**Solve the following:**			**12**
A)	'Proper use of punctuation marks increases the beauty of communication', illustrate.	**L3/CO4**	**6**
B)	How the principles of coherence and concise and precise writing do help for an effective research?	**L3/CO4**	**6**
Q. 4)	**Solve any TWO of the following:**			**12**
A)	Taking into consideration the existing scenario, write a 12 sentence essay on 'India in 2047'	**L3/CO4**	**6**
B)	a) Transcribe the following i) Economy ii) Gender iii) Universe b) Spell the following: i) / dɪˈgriː/ ii) /ˈɪŋglɪʃ/ iii) /jɪə/	**L2/CO1**	**6**
C)	How does the study of RP help to standardize pronunciation in English?	**L2/CO1**	**6**
Q. 5)	**Solve any TWO of the following:**			**12**
A)	Fill in the blanks: i) ……. project report on the table is yours. (a, an, the) ii) …… good administrator is hard to find. (a, an, the) iii) I think you are reading ……. book on polity. (a, an, the) iv) It's history is …… interesting fact about the city. (a, an, the) v) A beautiful sunset can be seen from …. beach. (a, an, the) vi) The students study for their exam in …. library. (a, an, the)	**L1/CO2**	**6**
B)	Rewrite using appropriate preposition: i) The new policy will come ……. effect next month. (on, in,	**L1/CO2**	**6**

into)

ii) The organization is looking for someone ….. experience in the domain of AI. (in, with, on)

iii) The dog is spotted running …… the park. (in, around, between)

iv) This university has a beautiful view ….. the ocean. (for, of, by)

v) Democracy is the government of the people, …… the people, for the people. (on, in, by)

vi) Lucknow is located ….. the north. (on, in, under)

C)	i) Suggest synonyms for: Novelty, Happiness, Enthusiasm ii) Suggest antonyms for: Success, Gorgeous, Empty	**L1/CO2**	**6**

Q. 6) Solve any ONE of the following: **12**

A)	Write an application (and compose a resume) for the post of engineer in Tata Motors, A Block, Shivasagar Estate, Dr. Annie Besant Road, Worli, Mumbai – 400 018. (The Indian Express 27 January 2025)	**L3/CO3**	**12**
B)	i) Explain the difference between formal writing and informal writing in professional domain.	**L2/CO4**	**6**
	ii) What are the ways of composing an email effectively? Elaborate in detail.	**L2/CO4**	**6**

***** End *****

NSS-1

24AF1000CC111B	NSS-1	CC	1L-0T -2P	2 Credits

Course Content:

Unit 1: Introduction and Basic Concepts of NSS History, Philosophy, Aims & objectives of NSS Organizational structure, Concept of regular activities, Special camping, Day Camps. Basis of adoption village/slums, Methodology of conducting Survey.

Unit 2: Youth and community mobilization Definition, Profile of youth, Categories of youth, Issues, Challenges and opportunities for youth, Youth as an agent of social change, Youth-adult partnership, Mapping of community stakeholders, Identifying methods of mobilization, Needs & importance of volunteerism.

Unit 3: Importance and Role of Youth Leadership Meaning and types of leadership, Qualities of good leaders; Traits of leadership, Importance and role of youth leadership

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:

1. Credit Framework

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

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
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. Discipline with 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 III to VIII. Here in the case of **—B. Tech in Electronics and Telecommunication Engineering with Computer Engineering‖** (160-176 credits) student is supposed 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**.

2. 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.

3. 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.

4. 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.

5. Evaluation System:

1. Absolute grading system based on absolute marks as indicated below will be implemented 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

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

<40	EF	0.0

1.	Continuous Assessment Marks	40
2.	End Semester Examination(ESE)Marks	60

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 of 100 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

6. Description of Grades

EX Grade: An _EX‘ grade stands for outstanding achievement.

EE Grade T: 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.

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:

$$SGPA = \frac{[\sum_{i=1}^{n} c_i g_i]}{[\sum_{i=1}^{n} c_i]}$$

Where

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

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

'g_i' 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:

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

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.

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