

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

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

First Year B. Tech





2024-25

Dr. V. P. Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology,

Budhgaon -416304

STUDENT'S INFORMATION MANUAL

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

for

First Year B.Tech

Group B



Department of First Year Engineering



Department of First Year Engineering

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

VISION OF DEPARTMENT

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

MISSION OF DEPARTMENT

- 1. To create an environment where students can ascertain that career in engineering matches their interests and abilities.
- 2. To impart strong fundamental and technical knowledge in the basic science subjects to enable them to prepare themselves for successful career.
- 3. To inculcate 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 in national competition.
- 3. To develop basic skills and human values required to undertake further studies.





INDEX

Sr.No.	Content	Page No.
	DEPARTMENTAL INFORMATION	
1	Role of Students	6
2	Laboratory Instructions	7
3	Teaching and Evaluation Scheme	8
4	Course Coordinators and Course Teachers	9
5	Class Teacher	9
6	Academic Calendar	11
7	Time Table	12
	DEPARTMENTAL ACTIVITIES	
8	Mentoring Activity	17
9	Counseling Activity	17
10	Class Teacher Activity	18
11	Remedial Lectures, Test Series (Unit Test, Open Book Test, Prelim), Co/Extra Curricular Activities	18
12	Anti-Ragging Activity	19
13	Library, Gymkhana, NSS, Hostel	20
14	Training and Placement Office	21
	SUBJECT INFORMATION	
15	Engineering Mathematics-I	22
16	Engineering Physics	24
17	Engineering Graphics	27
18	Basic Electrical and Basic electronics	30
19	Basic civil and Basic mechanical	35
20	Energy and Environment And Basic Electri	
21	IKS Bucket	33
22	Design Thinking	
23	IPR	
24	Credit System and Mode of evaluation	38



THE ROLE OF STUDENTS

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

Responsibilities:

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

Code-of-Conduct: Students Shall

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



2024-25

Laboratory Instructions

Laboratory Instructions

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



First Year B.Tech. Teaching and Evaluation Scheme

Group B Semester I

			Semes	ter I							
Sr.	Course	Course	Courses Title	Te Se	achi chem	hing Evaluation Scheme eme		Caradit			
No.	Category	Code	Course The	L	Т	Р	CA	MSE	ESE	Total	Crean
1	BSC		Engineering Mathematics-I	3	0	0	20	20	60	100	3
2	BSC		Engineering Physics	3	0	0	20	20	60	100	3
3	BSC		Engineering Physics Lab	0	0	2	60		40	100	1
4	ESC		Engineering Graphics	2	0	0	20	20	60	100	2
5	ESC		Engineering Graphics Lab	0	0	2	60		40	100	1
6	ESC		Basic Electrical and Electronics Engineering	3	0	0	20	20	60	100	3
7	ESC		Basic Electrical and Electronics Engineering Lab	0	0	2	60		40	100	1
8	ESC		Basic Civil and Mechanical Engineering	3	0	0	20	20	60	100	3
9	BSC		Energy and Environmental Engineering	2	0	0	50			50	AU
10	IKS		IKS Bucket#	2	0	0	60		40	100	2
11	VSEC		Design Thinking	2	0	0	60		40	100	2
12	СС		 A. Integrated Personality Development B. NSS-II C. Health and Wellness 	1	0	2	60		40	100	2
			Total	21	0	8	510	100	540	1150	23



2024-25

COURSE CO-ORDINATOR

Sr.	Comme	Course	Course	Email id	Contract No
No.	Course	Code	Coordinator		Contact No.
1	Engineering Mathematics-I	BS101	Mrs. S. P. Mandale	spmandale.ge@pvpitsangli.edu.in	9172035381
2	Engineering Physics	BS102	Mr. A. A. Shaikh	aashaikh.ge@pvpitsangli.edu.in	9623819950
3	Engineering Graphics	ES104	Ms. A. P. Lad	aplad@pvpitsangli.edu.in	9970741470
4	Basic Electrical & Electronics	ES106	Ms. K. S. Malidwale	karishmamulani2014@gmail.com	8806199783
	Engineering		Ms. S. G. Bharati	shreyasbharti@gmail.com	9975242128
5	Basic Civil & Mechanical	ES108	Mr. C. D. Patil	cdpatil.mech@pvpitsangli.edu.in	7507035940
	Engineering		Mr. N. S. Bembade	nikhilbembade@gmail.com	9822245672
6	Energy & Environment Engineering	ES109	Ms. A. B. Awate	amrutaaawate02@gmail.com	895664201
7	Design thinking	VS111	Mr. A. J. Pawar	ajpawar@pvpitsangli.edu.in	7769033396
8	IKS Bucket	IK110	Dr. S. L. Patil	slpatil.ge@pvpitsangli.edu.in	9423269875
9	Integrated Personality development	CC112A	Mr. A. K. Chavan	akchavan.ge@pvpitsangli.edu.in	9689043199

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



2024-25

CLASS TEACHERS

Sr.	Class/				Contact
No.	Div.	Class Teachers	Department	Email id	No.
01	Ι	Ms. S. S. Kadam	Mathematics	Saraswatikadam0249@gmail.com	9370558123
02	III	Dr. S. L. Patil	Mathematics	slpatil.ge@pvpitsangli.edu.in	7972594465
03	V	Ms. K. S. Malidwale	Electrical Engg.	karishmamulani2014@gmail.com	8806199783
04	VII	Dr. S. A. Jagadale	Physics	drsandhya.jagadale@gmail.com	8329371213
05	IX	Mr. P. S. Patil	Mathematics	pramod.patilrut@gmail.com	9764713256



COURSE TEACHERS

SEM-I

Division Class 🛶	Ţ	ш	V	VII	IX
↓ Unite	•		· ·		
Engineering Mathematics-I	Ms. S. S. Kadam	Mrs. S. P. Mandale	Ms. A. K. Patil	Mrs. A. V. Patil	Mr. P. S. Patil
Engineering Physics	Mr. A. A. Shaikh	Dr. S. L. Patil	Mr. A. A. Shaikh	Mrs. S. A. Jagaadale	Mrs. S.A.Jagaadale
Engineering Graphics	Ms. A.P.Lad	Mr. C. D. Patil	S. P. Mane	Mr. C. D. Patil	Ms. A.P.Lad
Basic Electrical & Electronics Engineering	Mr.M.V.Dongare	Ms. S. G. Bharati	Mrs. P. V. Koli	Mr.M.V.Dongare	Ms. K.S.Malidwale
Basic Civil & Mechanical Engineering	Mrs. P. A. Patil	U. S.Kasbekar	Mrs.S. P. Mane	Mrs. P. A. Patil	Mrs. U. S.Kasbekar
Energy & Environment Engineering	Ms. P. B. Patil	Dr. D. A. Lavate	Ms. A. B. Awate	Ms. A. B. Awate	Ms. P. B. Patil
Design thinking	Ms. A.P.Lad	Mr. A. J. Pawar	N. P. Ambole	N. P. Ambole	Mrs. A.P.Lad
IKS Bucket	Dr. S. L. Patil	Mr. A. A. Shaikh	Dr. S. L. Patil	Mrs. S. A. Jagadale	Mr. A. A. Shaikh
Integrated Personality development	Mr. S. E. Narwade	Mr. S. E. Narwade	Mr. A.K. Chavan	Mrs. K. V. Chougule	Dr. P. N. Shelake



ACADEMIC CALENDAR 2024-25 SEM-I

Dr V P S S M's Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon (Sangli) **First Year Engineering Department** Academic Calendar 2024-25

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U	5		_	3)
1	1	नुवागां	4	/

Septem	ber202	4	Acad	Academic Days: 07			
MON	TUE	WED	THUR	FRI	SAT	SUN	
30						1	
2	3	4	5	6	7		
9	10	11	12	13	14	15	
1.6	17	18	19	20	21	22	
23	24	25	26	27	28	29	

Induction Program :- 2nd Sept.-21Sept.2024 Teachers Day:- 05th Sept.2024 Ganesh Chaturthi:-07th Sept.2024 Foundation Day:- 12th Sept.2024 Engineer's Day:- 15th Sept.2024 Eid-e-Milad:-16th Sept.2024 Commencement of classes:-23rd Sept. 2024 List of Non Reported Students:- 30th Sept.2024

ctober	r 2024		Acad	/s: 25		
MON	TUE	WED	THUR	FRI	SAT	SUN
	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	-		

Mahatma Gandhi Jayanti:- 2nd Oct.2024 Late Vishuanna Patil Jayanti:- 4th Oct.2024 Dasara :- 12th Oct. 2024

Late Madnbhau Patil Punyatithi:-16th Oct.2024 CA1 Evaluation: - 24th Oct. -26th Oct.2024 1st Defaulter students list :- 31st Oct. 2024

ovem	ber 202	4	Academic Days: 2				
MON	TUE	WED	THUR	FRI	SAT	SUN	
_				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		
iwali(iwali adm. \ uru N	Laxmi (Bali Pr Vasantr anak Ja	Pujan):- atipada aodada yanti:-1	1 st Nov.2):-2 nd No Patil Jay: 5 th Nov.2	2024 ov.2024 anti:-13 2024	^{3th} Nov.2	024	
lid Ser	nester	Exam:- 2	27th Nov-	29 th No	v.2024		
nd De	faulter	student	s list :- 3	0 th Nov.	2024		

Dr. Anushka A.Patil HoD, First Year Engineering Dr. K. K. Pandyaji **Dean Academic**

ECEM	BER 20	24	Academic Days:				
MON	TUE	WED	THUR	FRI	SAT	SUN	
30	31					1	
2	3	4	5	6	7		
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	

Late Madan Bahu Patil Jayanti :- 2nd Dec.2024 Model Making Competition:- 6th Dec.2024 Parents Meet:- 14th Dec.2024 Christmas:- 25th Dec. 2024 CA2 Evaluation: - 26th Dec. -28th Dec.2024 3rd Defaulter students list :- 31st Dec. 2024

anuary	2025		Academic Days: 09				
MON	TUE	WED	THUR	FRI	SAT	SUN	
		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			

End of Classes:- 11th Jan.2024

Final Defaulter students list :- 11th Dec. 2024 Practical Exam:-10th Jan.2024-15th Jan.2024 End Semester Examination :- 17th Jan -28th Jan.2024 Republic Day:- 26th Jan.2024 Commencement of Classes for 2nd Sem .:- 17th Feb. 2024

Holiday Exam Activity Dr. B. S. Patil Principal

and the second s	Dr.Vasantraodada Patil Shetkari Shikshan Mandal's Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli) FIRST YEAR ENGINEERING DEPARTMENT TIME TABLE 2024-25 SEM-I								
Cla	ass:	P FE-I	admabhoosh FIRST YI Branch:- E	Dr. Vasantrao nan Vasantrac EAR ENGINEI TIME T Clectronics & 0	dadaPatilShetkariSh odada Patil In ERING DEPAI ABLE 2024-2 Comp. Science	nikshanMandal's stitute of Teo RTMENT (F. 25 SEM-I e(ECS)	chnology, Sa Y. B. Tech) GROUP(Curriculum ngli as per NEP-20, W.E.F. 23/09/2024 B) CL-03	
Sr.	TIME	IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
1	10:00 T	O 11:00	BS101- ssк	ES108- PAP	A1- BS103L	ES109- PBF	BS102- AAS	LVH/IITST	
2	11:00 T	O 12:00	ES104- APL	ES106- MVD	A2- ES105L A3- ES107L	#ES106- MVD/SGB	ES104- APL	LVH/IITST	
	12:00 T	0 12.45		LONG	RECESS				
3	12.45 T	O 13:45	BS102- AAS	A1- CC112A A2- BS103L	ES106- sgb	CC112A- SE	N IK110- SLP	# M-M / Counselor Int.MenteeMentor o	
4	13:45 T	O 14:45	ES108- SPM	A3- ES105L	VS111- APL	BS101- 55K	VS111- APL	Counselor Interaction	
	14:45 T	O 15:00		SHORT	RECESS			-	
5	15:00 T	O 16:00	A1- ES107L	BS102- AAS	IK110-SLP	A1- ES105L	BS101- SSK	LVH-Library Visit Hour	
6	16:00 T	O 17:00	A3- BS103L	*BS101- ssк	#ES108- PAP/SPM	A3- CC112A	ES109- PBP	Tutorial	
SS	K-/SSKad LP-SLPa	iam Á til S	AAS-AAShaikh EN-SENarwade	APL-/APLad SPM-/SPMane	MVD-MVDongare	SGB-SGBharati	PAP-PAPatil *-Extra	PBP-/PBPatil #-Alternate	
Sr	N Cours	e Na	me of the Course	SrN Course	Name of the Course	srN	Course Name	e of the Course	
1	BS10	Engineer	ing Mathematics-I	5 ES105L Enginee	ring Graphics Laboratory	9	ES109 Energy and Er	wironment Engineering	
3	BS10. BS103	Engineer L Engineer	ing Physics ing Physics Laboratory	6 ES106 Basic El 7 ES107L Basic El	ectrical&Electronics Engil ectrical&Electronics Engil	neering Lab 11	VS111 Design Thinki	ng	
4	ES104	Engineer	ing Graphics	8 ES108 Basic Ci	ivil & Mechanical Enginee	ring 12 0	CC112A Integrated Per	sonality Development	
IT-	(Dı Coordin	. S. L. Ρε ator, (F .	atil) Y. B. Tech.)	(Dr. Mrs. A. A. P. HOD, (F. Y. B. Te	atil) (Dr. ech.) Ac	K. K. Pandyaji) ademic Dean	(Dr. 1 Pr	B. S. Patil) incipal	



2024-25

Dr. VasantraodadaPatilShetkariShikshanMandal's	Curriculum
Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli	as per NEP-2020
FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)	W.E.F.
TIME TABLE 2024-25 SEM-I	23/09/2024

Cla	ass: FE-III	Branch:-	Electronics &	& Comp. Scier	nce(ECS)	GROUP(B) CL-04	
Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
1	10:00 TO 11:00	IK110- AAS	ES109- DAL	BS102- SLP	C1- BS103L	#ES106- KSM/SGB	LVH/IITST	
2	11:00 TO 12:00	BS101-SPM	VS111- AJP	#ES108- USK/CDP	C3- ES105E	BS102- SLP	LVH/IITST	
	12:00 TO 12.45		LONG	RECESS				
3	12.45 TO 13:45	ES104- CDP	ES108-CDP	C1- CC112A	BS102- SLP	BS101- SPM	# M-M / Counselor	
4	13:45 TO 14:45	ES106-SGB	BS101-SPM	C2- BS103L C3- ES105L	IK110- AAS	ES106- KSM	 Int.Mentee –Mentor or Counselor Interaction 	
	14:45 TO 15:00		SHORT	RECESS				
5	15:00 TO 16:00	VS111- AJP	C1- ES107L	ES104- CDP	ES109- DAL	C1- ES105L	LVH-Library Visit Hou	
6	16:00 TO 17:00	:00 TO 17:00 ES108- USK		*BS101-SPM	CC112A- SEN	C2- ES107L C3- CC112A	IITST- IIT Spoken Tutorial	
SPM-	-/SPMandale AAShaikh	SLP-SLPatil C AJP-AJPawar S	DP-CDPatil EN-SENarwade	KSM-/KSMalidwale	SGB-SGBharati	USK-USKasbekar [*-Extra	DAL-/DALavate #-Alternate	
r			0			0		

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course
1	BS101	Engineering Mathematics-I	5	ES105L	Engineering Graphics Laboratory	9	ES109	Energy and Environment Engineering
2	BS102	Engineering Physics	6	ES106	Basic Electrical&Electronics Engineering	10	IK110	IKS Bucket
3	BS103L	Engineering Physics Laboratory	7	ES107L	Basic Electrical&Electronics Engineering Lab	11	VS111	Design Thinking
4	ES104	Engineering Graphics	8	ES108	Basic Civil & Mechanical Engineering	12	CC112A	Integrated Personality Development

(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



			Padmabhoos FIRST	shan YEA	Dr. Va Vasa R EN TI	asantra antra GINE ME	odadaPatilShetkariS odada Patil In ERING DEPA TABLE 2024-2	^{hiksha} stitu RTM 25 S	nMand Ite o IENT EM-	ial's f To f (F	echi . Y.	nology, B. Tech	Sangl)	Curriculum as per NEP-2020 W.E.F. 23/09/2024
Cla	ass:	FE-	V Branch:- El	ectri	cal &	Con	np. Engg.(ECE	3)				GROU	P(B)	CL-5/6
Sr. No.	TIM	IE IN HE	RS MONDAY	Т	UESDA	Y	WEDNESDAY	ТІ	HURS	DAY	r I	FRID	AY	SATURDAY
1	10:0	0 TO 11:0	0 11:00 (5)ES106- кsм		S101-	-АКР	#(5)ES108- NSB/SPM	3- (6)CC		(6)СС112А- акс		AKC E1- BS103L E2- ES105L		LVH/IITST
2	11:00 TO 12:00 (5)ES108- SPM		(6)BS102- AAS		AAS	(5)ES104- SPM	(6)BS102- AAS		AS	AS E3- ES107L		LVH/IITST		
	12:0	0 TO 12.4	45	1	RECESS									
3	12.4	12.45 TO 13:45 (6)BS101- AKP		(5)ES104- SPM		SPM	(6)IK110- SLP	E1- CC112A E2- BS103L			#(5)ES106- KSM/SGB		# M-M / Counselor Int.Mentee –Mentor or	
4	13:4	5 TO 14:4	45 (6)IK110-SLP	(5)E	S106-	SGB	(6)VS111- NPA	E	3- ES	105L		(5)ES10	8-NSB	Counselor Interaction
	14:4	5 TO 15:0	00	SHORT RECESS										
5	15:0	0 TO 16:0	00 E1- ES105L	(5)ES109-ABA		ABA	E1- ES107L	(5)ВS101- АКР		KP	(6)BS10	2- AAS	LVH-Library Visit Hour	
6	16:0	0 TO 17:0	00 E3- CC112A	(5)V	S111-	-NPA	E3- BS103L	(5)E	S10	9-A	BA	(6)*BS10	1- AKP	Tutorial
Al AB	(P-/AK A-AB/	(Patil Awate	AAS-AAShaikh SPI SLP-SLPatil NPA	M-/SPM -NPAn	lane nbole	KSM-/H	(SMalidwale SG	B-SGB	harati		NS	B-NSBemba *-Extra	ade N	IPA-NPAmbole #-Alternate
	SrN	Course Code	Name of the Course	SrN	Course Code		Name of the Cours	e		SrN	Cou	rse le	Name of th	ne Course
	1	BS101	Engineering Mathematics-I	5	ES105L	Engin	eering Graphics Laboratory			9	ES1	09 Energy a	nd Environ	ment Engineering
	2	BS102 BS1031	Engineering Physics	6	ES106	Basic	Electrical & Electronics Engi	ineering	Lub	10	IK1 VS1	IO IKS Buc	ket	
		ESTON	Engineering Physics Laboratory 7 ES10/L Basi Engineering Craphics 8 ES108 Basi				Civil & Machanical Engine	al&Electronics Engineering Lab 11 VS Mechanical Engineering 12 CC			CCII	2A Integrate	d Personali	ty Development

(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



Class:-

Dr. VasantraodadaPatilShetkariShikshanMandal's Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli					
FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech) TIME TABLE 2024-25 SEM-I	W.E.F. 23/09/2024				
FE-VII Branch: Electro.& Telecomm. (ETC) + Mechanical Engg. GROUP(B)	CL-7/8/9				

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	G1- BS103L	(9)CC112А-кvc	(7)BS101- AVP	(8)IK110- SAJ	(7)ES104- CDP	LVH/IITST
2	11:00 TO 12:00 G3- ES105		(9)ES108-CDP	(7)BS102- saj	(8)VS111-NPA	(7)VS111-NPA	LVH/IITST
	12:00 TO 12.45		LONG	RECESS			1
3	12.45 TO 13:45	(9)ES106-SGB	(7)BS102- SAJ	(8)ES108- PAP	(7)ES109- ABA	G1- CC112A	# M-M / Counselor
4	13:45 TO 14:45	(9)ES109- ABA	(7)BS101- AVP	(8)ES104- CDP	#(7)ES106- MVD/SGB	G2- BS103L G3- ES105L	Int.Mentee –Mentor o Counselor Interaction
	14:45 TO 15:00		SHORT	RECESS			
5	15:00 TO 16:00	(7) BS102- saj	G1- ES105L	(7)BS101- AVP	G1- ES107L	(8) IK110- saj	LVH-Library Visit Ho
6 16:00 TO 17:00		TO 17:00 # (7)ES108- G: PAP/CDP G:		(9)ES106- MVD	G2- CC112A G3- BS103L	(8)*BS101-AVP	IITST- IIT Spoken Tutorial
AV AB/	P-/AVPatil SA A-ABAwate KVC	J-/SAJagdale (-/ KVChougule	CDP-CDPatil M	VD-MVDongare	SGB-SGBharati	PAP-PAPatil *-Extra	NPA- NPAmbole #-Alternate

SrN	Code	Name of the Course	SrN	Code	Name of the Course		Code	Name of the Course
1	BS101	Engineering Mathematics-I	5	ES105L	Engineering Graphics Laboratory	9	ES109	Energy and Environment Engineering
2	BS102	Engineering Physics	6	ES106	Basic Electrical & Electronics Engineering	10	IK110	IKS Bucket
3	BS103L	Engineering Physics Laboratory	7	ES107L	Basic Electrical & Electronics Engineering Lab	11	VS111	Design Thinking
4	ES104	Engineering Graphics	8	ES108	Basic Civil & Mechanical Engineering	12	CC112A	Integrated Personality Development

(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



2024-25

Dr. VasantraodadaPatilShetkariShikshanMandal's	Curriculum
Padmabhooshan Vasantraodada Patil Institute of Technology, Sangli	as per NEP-2020
FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)	W.E.F.
TIME TABLE 2024-25 SEM-I	23/09/2024

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
1	10:00 TO 11:00	ES108- USK	I1- BS103L	BS101-PSP	ES104- APL	VS111-APL	LVH/IITST	
2	11:00 TO 12:00	BS102- SAJ	I2- ES105L I3- ES107L	ES109- PBP	#ES108- PSP/SPM	#ES106- KSM/SBG		
	12:00 TO 12.45		LONG	RECESS			r	
3	12.45 TO 13:45	11- CC112A	CC112A-PNS	BS102- SAJ	ES106- sBG	BS101- PSP	# M-M / Counselor Int.Mentee –Mentor or Counselor Interaction	
4	13:45 TO 14:45	I2- BS103L I3- ES105L	ES108- SPM	ES106- KSM	VS111- APL	BS102- saj		
	14:45 TO 15:00		SHORT	RECESS				
5	15:00 TO 16:00	IK110- AAS	BS101-PSP	11- ES105L	IK110- AAS	11- ES107L	LVH-Library Visit Hour	
6 16:00 TO 17:00		:00 TO 17:00 ES109-PBP ES1		12- ES107L 13- CC112A	BS101-PSP	12- CC112A 13- BS103L	ITST- IIT Spoken Tutoria	
P	SP-PSPatil SA 3P-/PBPatil AA	J-/SAJagdale S-AAShaikh	APL-/APLad KS	M-/KSMalidwale	SGB-SGBharati	USK-/USKasbekar *-Extra	PBP-/PBPatil #-Alternate	

SrN	Course Code	Name of the Course	SrN	Course Code	Name of the Course		Course Code	Name of the Course
1	BS101	Engineering Mathematics-I	5	ES105L	Engineering Graphics Laboratory	9	ES109	Energy and Environment Engineering
2	BS102	Engineering Physics	6	ES106	Basic Electrical&Electronics Engineering	10	IK110	IKS Bucket
3	BS103L	Engineering Physics Laboratory	7	ES107L	Basic Electrical&Electronics Engineering Lab	11	VS111	Design Thinking
4	ES104	Engineering Graphics	8	ES108	Basic Civil & Mechanical Engineering	12	CC112A	Integrated Personality Development

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

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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 from Academic, Industry and Social spheres. Lectures of faculty from other institutions are organized. Mentoring includes **professional guidance**, carrier advancement/ course work specific/ lab specific/ total development.

Note:

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

COUNSELING ACTIVITY

- Encourage students to discuss their ideas
- Help to lower stress and build confidence
- Increases personal knowledge and organizational awareness
- Gives wisdom, advise, 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



2024-25

Counselor (Mentor), at least once in each week interaction with the concerned class is done by respective counselor.

CLASS TEACHER

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

REMEDIAL LECTURES

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

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

1) 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 and 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/Extra Curricular Activities to <u>Class Teacher</u>.

ANTI- RAGGING ACTIVITY

ANTI-RAGGING RULES AND REGULATIONS

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

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

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

ADIMINISTRATIVE ACTION IN THE EVENT OF RAGGING:

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

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



2024-25

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 non technical 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 facilities for outdoor and indoor games like table-tenis, Volleyball, basketball, badminton courts as well as cricket, kho-kho and kabaddi are available. PVPIT shares the athletics track and indoor multipurpose hall with its neighboring sport complex.

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

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



Objectives of Training and Placement

The **Training and Placement** (**TandP**) cell at 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. The objective 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 be resourceful 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, defence services and research sector. We encourage and empower student to become an entrepreneur and provide them necessary awareness and orientation about it.



2024-25

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TIME TABLE 2024-25 SEM-I

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

Course Objectives:

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

Course Outcomes:

After completion of this course, students will be able to

- **CO1:** Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problems.
- **CO2:** Demonstrate the concept partial derivatives and their applications to Maxima/Minima, series expansion of multi valued functions.

CO3: Compute Jacobian of functions of several variables and their applications to engineering problems.

CO4: Identify and sketch of curves in various coordinate system.

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



Course Contents:

UNIT-I: Linear Algebra- Matrices

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

UNIT-II:Partial Differentiation

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

UNIT-III: Applications of Partial differentiation

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

UNIT-IV:Reduction Formulae and Tracing of Curves

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

Cartesian, parametric and polar forms.

UNIT-V:Multiple Integral

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

Text Books:

- 1. Higher Engineering Mathematics by B.S.Grewal, Khanna Publishers, NewDelhi.
- 2. Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley&Sons, NewYork.
- 3. A Course in Engineering Mathematics (VolI) by Dr.B.B.Singh, Synergy Knowledgeware, Mumbai.
- 4. A Text Book of Applied Mathematics (VolI&II) by P.N.Wartikar and J.N. Wartikar, Pune Vidyarthi Griha Prakashan,Pune.
- Higher Engineering Mathematics by H.K.Dasand Er.Rajnish Verma, 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 physics (3Credits) BTBS102	
Teaching Scheme	Evaluation Scheme
Lecture: 3hrs/week	Continuous Assessment:-20Marks
	Mid Term Test:-20 Marks
	End Semester Exam:-60Marks

Course Objectives:

- 1. To provide a firm grounding in the basic physics principles and concept to resolve many Engineering and Technological problems.
- 2. To understand and study the Physics principles behind the developments of engineering materials.

Course Outcomes:

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

- 1. Familiar with the principles of acoustic design of a hall and also methods of production of ultrasonic and its applications in various fields and also understand the concept of dielectric and polarization types.
- 2. Acquire the basic knowledge of interference, polarization. Students are able to understand the light propagation in fibre and use of Laser in Science and Engineering.
- 3. Apply the knowledge of quantum mechanics to set Schrödinger's equations.
- 4. Understand key principle and application of nuclear physics. Identify planes in crystal and characteristics measurements of cubic system.
- 5. Assimilate wide scope of advanced materials in modern developments and its role in emerging innovating applications.



Course Contents:

Unit1: Acoustics, Ultrasonics and Dielectrics

Acoustics: Introduction, Reflection of sound (reverberation and echo), absorption coefficient, Sabine's formula, Acoustical planning of building and factors affecting architectural acoustics of building.Ultrasonic Waves: properties, Production of ultrasonics waves: Magnetostriction method and Piezoelectric method, Applications (any three in detail).

Dielectrics: Polar and non-polar dielectrics, Polarization, Types of Dielectric polarization.

UNIT-2: Engineering Optics

Interference in thin film due to reflected light, Wedge shaped film, Newton' Rings, Applications, Polarization: Introduction, types of polarization, definition of optical activity & specific rotation, Lasers: Characteristics, spontaneous emission and stimulated emission; metastable state, population inversion, types of pumping, resonant cavity, He-Ne Laser, semiconductor laser, Applications of Lasers, Optical fibre: Acceptance cone, Numerical aperture, applications of fibre optics.

UNIT-3: Quantum Mechanics

De- Broglie hypothesis of matter waves, Wave function and its physical significance, Heisenberg's uncertainty principle and its application, Schrodinger's time dependent wave equation, Schrodinger's time independent wave equation, Introduction to quantum computing (bits & qubits, difference between classical and quantum computers).

UNIT-4: Crystal Structure & Nuclear Physics

Crystal Structure: Fundamental concepts (lattice, basis, unit cell, crystal systems), Cubic structure: Number of atoms per unit cell, atomic radius, co-ordination number, packing fraction, Comparison of Aluminum (FCC) and Iron (BCC) at room temperature, Miller indices, Relation between ρ 'and a'. **Nuclear Physics**: Introduction to mass defect, Q value of nuclear reaction, properties of α , β and γ rays, GM Counter.

UNIT-5: Physics of Advanced Materials

Magnetic Materials: Types of magnetic materials, magnetic domain and hysteresis curve, **Semiconductors:** Conductivity of semiconductors, Hall Effect (derivation & Applications) **Superconductors:** Definition, critical temperature, critical magnetic field, Meissner effect, type I & II superconductors, Introduction to BCS theory.

Nanomaterials: Introduction, top-down and bottom-up approach, Introduction to XRD, FESEM, VSM and CNT, Applications of nano-materials.



Text/ Reference Books:

- 1. Introduction to Electrodynamics–David R.Griffiths.
- 2. Concept of Modern Physics Arthur Beizer. Tata McGraw-Hill Publishing Company Limited.
- 3. Optics–Ajoy Ghatak. MacGraw Hill Education (India) Pvt.Ltd.
- 4. Science of Engineering Materials-C.M.Srivastavaand C.Srinivasan. NewAge International Pvt. Ltd.
- 5. Solid State Physics –A.J.Dekker. McMillan India–Limited.
- 6. The Feynman Lectures on Physics Vol I,II,III.
- 7. Introduction to Solid State Physics–Charles Kittel. John Willey and Sons
- 8. Engineering Physics M.N. Avadhanulu and P.G. Kshirsagar. S. Chand and Company LTD.
- 9. Engineering Physics R.K. Gaur and S. L. Gupta. Dhanpat Rai Publications Pvt. Ltd.-New Delhi.
- 10. Fundamental of Physics Halliday and Resnik.Willey Eastern Limited.
- Nanotechnology: An Introduction To Synthesis, Properties And Applications of Nano materials Thomas Varghese, K. M. Balakrishna

Subject- Engineering physics Lab (1 Credits) BTBS103L	
Teaching Scheme	Evaluation Scheme
Practicle:2hrs/week	Continuous Assessment:-60Marks
	End Semester Exam:-40Marks

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

Sample List of Experiments:

- 1. Newton's rings Determination of radius of curvature of Plano convex lens / wavelength of light
- 2. Wedge Shaped film Determination of thickness of thin wire
- 3. Half shade Polarimeter Determination of specific rotation of optically active material
- 4. Laser Determination of wavelength of He-Ne laser light
- 5. G.M. Counter Determination of operating voltage of G.M. tube
- 6. Crystal Plane Study of planes with the help of models related Miller Indices
- 7. P N Junction Diode Characteristics
- 8. Hall Effect Determination of Hall Coefficient
- 9. Four Probe Method Determination of resistivity of semiconductor
- 10. Measurement of Band gas energy of semiconductors
- 11. Experiment on fibre optics
- 12. B-H Curve Experiment
- 13. Ultrasonic interferometer



Subject- Engineering Graphics (2 Credits) BTBS104	
Teaching Scheme	Evaluation Scheme
Lecture:2hrs/week	Continuous Assessment:-20 Marks
	Mid Term Test:-20 Marks
	End Semester Exam:-60 Marks

Course Objectives:

- 1. To prepare you to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- 2. To prepare you to communicate effectively
- 3. To prepare you to use the techniques, skills, and modern engineering tools necessary for

engineering practice.

Course Outcomes:

CO1	Understand the basics of engineering graphics and its applications.
CO2	Describe the common terms used in design and drawing
CO3	Construct the positions of line for given conditions
CO4	Visualize the 2D and 3D views of the object
CO5	Ability to apply orthographic, sectional, auxiliary and isometric view in engineering drawing
C06	Understand the geometries of development of engineering projects



Course Contents:

Unit 1: Introduction to Engineering Drawing

Principles of Engineering Graphics and their significance, usage of drawing instruments, line and lettering, Scales: Plain, Diagonal and Vernier Scale. Principles of Engineering Graphics; Orthographic Projection; Descriptive Geometry; Drawing Principles; Isometric Projection; Surface Development; Perspective; Readinga Drawing; Sectional Views; Dimensioning & Tolerances; True Length, Angle; intersection, Shortest Distance.

Unit 2: Projection and Points Lines

Points is situated in different quadrants, Projection of lines inclined to both the planes, True length of straight lines and its inclination with reference plane, traces of line.

Unit 3: Projection of Planes & Solids:

Projection of planes inclined to one plane & perpendicular to other plane, Auxiliary Plane, Projection of solid with axis inclined to both the planes.

Unit 4: Sections of solids & Development of Surfaces:

Sections of solids, Section planes perpendicular to one plane and parallel or inclined to other plane, Method of development, Developments of lateral surfaces of right solids.

Unit 5: Orthographic & Isometric Views:

Principal of projection, Methods of projection, Orthographic projection, Isometric axes, lines & planes, Isometric Scale, Isometric drawing or isometric View.

Reference/Text Books:

- 1. N. D. Bhatt, Engineering Drawing, Charotar Publishing House, 46th Edition, 2003.
- 2. K. V. Nataraajan, A text book of Engineering Graphic, Dhanalakshmi Publishers, Chennai, 2006.
- K. Venugopal and V. Prabhu Raja, Engineering Graphics, New Age International (P) Ltd, 2008.
- 4. Dhananjay A. Jolhe, Engineering Drawing with an Introduction to AutoCAD, Mc GrawHill Education, 2017.



Subject- Engineering Graphics	
Lab(1Credits)BTES105L	
Teaching Scheme	Evaluation Scheme
Practicle:2hrs/week	Continuous Assessment:-60 Marks
	End Semester Exam:-40 Marks

Minimum 8-10 experiments are to be performed based on contents from syllabus Sample List of Experiments:

- 1. Lines, lettering and dimensioning.
- 2. Geometrical Constructions.
- 3. Orthographic projections.
- 4. Projections of points and straight lines
- 5. Projections of planes.
- 6. Projections of solids.
- 7. Section of solids.
- 8. Isometric Projections.



Subject-Basic Electrical and Electronics Engineering (<u>3 Credits</u>)

(**BTES106**)

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

Course Objectives:

- 1.To equip the students with an understanding of the fundamental principles of DC and AC electrical circuits.
- 2. To introduce the working principles and applications of fundamental electronic devices and circuits.

3.To identify various measurement instruments and their use in electric and electronic measurements.

Course Outcomes:

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

- CO 1. Apply fundamental concepts and circuit laws to solve simple DC and AC circuits
- CO 2. Interpret the construction and working of different types of electrical machines
- CO 3. Analyze building blocks of basic dc power supply.
- **CO 4.** Outline the principle of BJT as an amplifier.
- CO 5. Apply the knowledge of measuring instruments in electronic instrumentation system.



Contents:

UNIT-I: Electrical Circuits

DC Circuits: Circuit Components: Conductor, Resistor, Inductor, Capacitor, Ohm's Law, Kirchhoff's Laws, Independent and Dependent Sources, Simple problems - Nodal Analysis, Mesh analysis with independent sources only (Steady state), Star-Delta Transformation.

AC Circuits: AC Signal Parameters, Waveforms, Average value, RMS Value, Instantaneous power, active power, reactive power and apparent power, power factor – Steady state analysis of RLC circuits (Simple problems only).

UNIT-II: Electrical Machines

Difference between Generator & motors, DC motors: Construction, working principle, types, characteristics, Back emf and Torque Equation. Working principle of Induction motor. Single Phase Transformer: Construction and working (no load & on load), EMF Equation, Losses, Efficiency, Regulation.

UNIT-III: Rectifiers and Power Supplies

PN Junction diode: Principle of operation, V-I characteristics, Diode current equation, principle of avalanche breakdown. Block diagram description of a dc power supply, Working of a full wave bridge rectifier, capacitor filter (no analysis), working of Zener diode and its application as voltage regulator. Working of linear voltage regulators – 78xx and 79xx.

UNIT-IV: BJT and Amplifiers

Bipolar Junction Transistors: PNP and NPN structures, Principle of operation, relation between current gains in CE, CB and CC, input and output characteristics of common emitter configuration, DC load line, stability factor, Biasing Techniques.

Amplifiers: Transistor as an amplifier, Operation of single stage RC coupled amplifier with its frequency response.

UNIT-V: Measurements and Instrumentation

Functional elements of an instrument, working principle of: Moving Coil and Moving Iron instruments, Ammeter, voltmeter, wattmeter, Energy meter, Block diagram & working of: Multi-meter, Function Generator and Digital Storage Oscilloscope.

Text Books:-

- 1. Kothari DP and I.J Nagrath, —Basic Electrical and Electronics Engineering^{II}, Second Edition, McGraw Hill Education, 2020
- 2. Boylstad, Electronics Devices and Circuits Theory, Pearson Education
- 3. A.K. Sawhney, Puneet Sawhney _A Course in Electrical & Electronic Measurements & Instrumentation⁴, Dhanpat Rai and Co, New Delhi, 2015



Reference Books:-

- 1. Millman Halkias: Electronic Devices and Circuits, McGraw-Hill Publication, 2000.
- 2. Donald Neaman, Electronic Circuit Analysis and Design, McGraw-Hill Publication, 3rd Edition
- 3. B. L. Theraja, Electrical Technology Volume I, S. Chand.
- 4. V. N. Mittal and Arvind Mittal, Basic Electrical Engineering, McGraw-Hill Publication.
- 5. DC Kulshreshtha, Basic Electrical Engineeringl, Tata McGraw Hill, 2010
- 6. B. L. Theraja, Fundamentals of Electrical Engineering and Electronics, S. Chand, 2006
- 7. H.S. Kalsi, Electronic Instrumentation', Tata McGraw-Hill, New Delhi, 2010



Subject-Basic Electrical and Electronics Engineering Lab (1Credits) BTES107L

Teaching Scheme	Evaluation Scheme
Practicle: 2hrs/week	Continuous Assessment:-60Marks
	End Semester Exam:-40Marks

Minimum8-10experiments are to be performed based on contents from syllabus Sample

List of Experiments:

- 1. To verify KCL and KVL.
- 2. To analyze series RLC circuit
- 3. Calculate RMS, average and peak value of the signal using multi-meter and DSO.
- 4. Study of V-I characteristics of PN Junction Diode
- 5. Study of Full Wave Rectifier using PN Junction Diode
- 6. Study of Zener diode as voltage regulator
- 7. Study of V-I Characteristics of BJT
- 8. Calculate Q point on DC load line using voltage divider biasing.
- 9. Study of BJT as an amplifier.
- 10. Frequency response of RC coupled amplifier.
- 11. Measurement and testing of various electronic components using multimeter.
- 12. Mini-project.



Subject- Basic Civil and Mechanical Engineering (3Credits)

BTES108

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

Course Objectives:

- 1. To identify various Civil Engineering materials and choose suitable material among various options.
- 2. To know and apply principles of surveying to solve engineering problem
- 3. To identify various Civil Engineering structural components and select appropriate structural system among various options
- 4. To Explain and define various properties of basic thermodynamics, materials and manufacturing processes.
- 5. To know and discuss the working principle of various power consuming and power developing devices.

Course Outcomes:

Students will be able to:

- 1. Identify various Civil Engineering materials and choose suitable material among various options.
- 2. Apply principles of surveying to solve engineering problem
- 3. Identify various Civil Engineering structural components and select appropriate structural system among various options
- 4. Explain and define various properties of basic thermodynamics, materials and manufacturing processes.
- 5. Know and discuss the working principle of various power consuming and power developing devices

Part I Basic Civil Engineering Module 1: Introduction to civil engineering

Various Branches, role of civil engineer in various construction activities, basic engineering properties and uses of materials: earth, bricks, timber, stones, sand, aggregates, cement, mortar, concrete, steel, bitumen, glass, FRP, composite materials.

Module 2: Building Components & Building Planning

Foundation and superstructure, functions of foundation, types of shallow and deep foundations, suitability in different situation, plinth, walls, lintels, beams, columns, slabs, roofs, staircases, floors, doors, windows, sills, Study of Building plans, ventilation, basics of plumbing and sanitation



Module3: Surveying

Principles of survey, elements of distance and angular measurements, plotting of area, base line and offsets, introduction to Plane table surveying, introduction to levelling, concept of bench marks, reduced level, contours.

Part II Basic Mechanical Engineering

Unit 1: Introduction to Mechanical Engineering:

Introduction to Laws of Thermodynamics with simple examples pertaining to respective branches, IC Engines: Classification, Applications, Basic terminology, 2 and 4 stroke IC engine working principle, Power Plant: Types of Power plant; Gas power plant, Thermal power plant, Nuclear power plant, Automobiles: Basic definitions and objectives.

Unit2:

Design Basics, Machine and Mechanisms, Factor of safety, Engineering Materials: types and applications, basics of Fasteners Machining and Machinability, Introduction to Lathe machine, Drilling machine, Milling machine, basics of machining processes such as turning, drilling and milling, Introduction to casting.

Text Books

- 1. Anurag Kandya, —Elements of Civil Engineering, Charotar Publishing, Anand
- 2. M. G. Shah, C. M. Kale, and S. Y. Patki, —Building Drawingl, Tata McGrawHill
- 3. Sushil Kumar, —Building Construction^{II}, Standard PublishersDistributors
- 4. M. S. Palani Gamy, —Basic Civil Engineering, Tata Mc-Graw Hill Publication
- 5. Kanetkar T. P. and Kulkarni S. V., —Surveying and Levelling, Vols. I, II and III, Vidyarthi Gruh Prakashan, Pune
- 6. Punmia, —Surveyingl, Vol.- I, Vol.-II, Vol.-III, Laxmi Publications
- 7. G. K. Hiraskar, —Basic Civil Engineering, Dhanpat RaiPublications
- 8. Gopi Satheesh, -Basic Civil Engineering, PearsonEducation
- 9. P. K. Nag Engineering Thermodynamicsl, Tata McGraw Hill, New Delhi 3rd ed.2005
- 10. Ghosh, A K Malik, —Theory of Mechanisms and Machines^{II}, Affiliated East West Press Pvt. Ltd. NewDelhi.
- 11. Serope Kalpakaji and Steven R Schimd Amanufacturing Engineering and Techology Addision Wsley Laongman India 6th Edition2009
- 12. V. B. Bhandari, Deisgn of Machine Elements^{II}, Tata McGraw Hill Publications, NewDelhi.



Subject- Energy and Environmental Engineering (Audit) BTES109

Teaching Scheme	Evaluation Scheme
Lecture:2hrs/week	Continuous Assessment:-50Marks

Course Objectives

- 1. To impart the knowledge of Environmental education to the students of Engineering and Technology.
- 2. To explain basic concepts of sources, causes, effects and control measures of environmental pollution
- 3. To impart the knowledge of energy sources and power generation
- 4. To understand the role of individual for the protection of Environment.

Course Outcomes

Student should able to:

- 1. Know and understand about components and segments of environment, ecosystem and its types.
- 2. Understand power consuming and power developing devices for the effective utilization
- 3. Understand and to explain types of Energies such as wind energy, solar energy, hydro energy etc.
- 4. Understand and explain various types of air pollution, their effects and control measures.
- 5. Know the various types of water pollution, sources, waste water treatment, effect of water pollution on health and soil pollution

Unit1: Environment

Introduction, Components of Environment, Types of Environment, Brief discussion on Segments of Environment, Environmental Pollution, Ecosystem: Types of Ecosystem, Components of Ecosystem.

Unit2: Conventional Power Generation

Gas Turbine Power Plant: Introduction, Simple Gas Turbine Plant, Open and closed cycle gas turbine plant, Fuels for Gas Turbine Plant. Hydro Power Plant: Introduction, Selection of site for hydro power station, Role of Hydroelectric station in power industry, Classification of Hydroelectric plant, General arrangement and operation. Nuclear Power Plant: Introduction, Nuclear materials, Selection of site, Main parts of nuclear reactor and their functions, Workingof Nuclear Power Plant



Unit3: Energy and Environment

Introduction, Sources of Energy, Renewable sources of Energy: Solar Energy, Hydro Energy, Tidal Energy, Wind Energy, Biomass Energy, Geothermal Energy, Non Renewable Energy Sources Coal, Petroleum, Natural Gas.

Unit4: Air Pollution

Introduction, Brief discussion on air pollutants, Sources of Air Pollution: Pollutants from Industry, Pollution by Automobiles, Effect of Air Pollutions: Acid rain, Green House Effect, Global warming; Brief discussion on Control of Air Pollution.

Unit5: Water and Soil Pollution

Introduction, Types of Water Pollutants, Sources of Water Pollution, Methods to remove impurities in water, Treatment of Industrial waste water: Activated Sludge Process, Impact of Water Pollution on Human Health, Water as a carrier for the transmission of diseases. Sources of Soil Pollution, Harmful effects of Soil Pollution, Control of Soil Pollution.

Text Books:

- A Textbook on Power System Engineering, A, Chakrabarti, M. L. Soni, P. V. Gupta, U. S. Bhatnagar, Dhanpat Rai and Co. Pvt. Ltd
- 2. Environmental Chemistry (II edition), Ane Books Pvt.Ltd. V. K. Ahluwalia
- 3. Environmental Chemistry (sixth edition), A. K. De
- 4. Essential Environmental Studies, S. P. Mishra and S. N. Pandey

Reference Books:

- 1. Environmental Science, sixteenth edition, G. Tyler Miller and S. E. Spoolman, Cengage publication.
- 2. A Textbook of Engineering Chemistry, Dr. S. S. Dara and Dr. S. S. Umare
- 3. Textbook on Experiments & Calculations In Engineering Chemistry: S. S. Dara, S Chand & Company Pvt Ltd.

Subject- Design Thinking (2Credits) B IVSIII	
Teaching Scheme	Evaluation Scheme
Lecture:2hrs/week	Continuous Assessment:-60Marks
	End Semester Exam:-40Marks

Course Objective:

The objective of this Course is to provide the new ways of creative thinking and Learn the innovation cycle of Design Thinking process for developing innovative products which useful for a student in preparing for an engineering career.

Course Outcomes (CO):

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

- **CO1.** Compare and classify the various learning styles and memory techniques and apply them in their engineering education.
- **CO2.** Analyze emotional experience and Inspect emotional expressions to better understand users while designing innovative products.
- **CO3.** Develop new ways of creative thinking and learn the innovation cycle of Design Thinking process for developing innovative products.
- **CO4.** Propose real-time innovative engineering product designs and Choose appropriate frameworks, strategies, techniques during prototype development.
- **CO5.** Perceive individual differences and its impact on everyday decisions and further create a better customer experience.

Course Contents:

UNIT-I: An Insight to Learning and Remembering:

Memory Understanding the Learning Process, Kolbs Learning Styles, Assessing and Interpreting, Understanding the Memory process, Problems in retention, Memory enhancement techniques

UNIT-II: Emotions and Basics of Design Thinking

Understanding Emotions: Experience & Expression, Assessing Empathy, Application with Peers, Definition of Design Thinking, Need for Design Thinking, Objective of Design Thinking, Concepts & Brainstorming, Stages of Design Thinking Process (explain with examples) –Empathize, Define, Ideate, Prototype, Test.



UNIT-III: Problem Fixing and Process of Product Design

Understanding Creative thinking process, Understanding Problem Solving, Testing Creative Problem Solving, Process of Engineering Product Design, Design Thinking Approach, Stages of Product Design, Examples of best product designs and functions, Assignment – Engineering Product Design.

UNIT-IV: Prototyping & Testing

What is Prototype? Why Prototype? Rapid Prototype Development process, Testing, Sample Example, Test Group Marketing.

UNIT-V: Design Thinking & Customer Centricity

Practical Examples of Customer Challenges, Use of Design Thinking to Enhance Customer Experience, Parameters of Product experience, Alignment of Customer Expectations with Product Design.

Text books:

- 1. Karmic Design Thinking by Prof. Bala Ramadurai
- 2. Muhammad Mashhood Alam, Transforming an Idea into Business with Design Thinking, First Edition, Taylor and Francis Group, 2019.
- 3. S. Balarara, Thinking Design, Sage Publications, 2011.

Reference books:

- 1. Tim Brown, Change by Design. How Design Thinking Transforms Organizations end Inspires Innovation, HarperCollins e-books, 2009.
- 2. Michael Lewrick, Patrick Link, Larry Leifer, fire Design Thinking Toolbox, John Wiley & Sons, 2020.
- 3. Michael Lewrick, Patrick Link, Larry Leifer, The Design Thinking Playbook, John Wiley & Sons, 2018.
- 4. Kristin Fontichiaro, Design Thinking, Cherry Lake Publishing, USA, 2015.
- 5. Walter Brenner, Falk Uebemickel, Design Thinking for Innovation Research and Practice, Springer Series, 2016.
- 6. Gavin Ambrose, Paul Hands, Design Thinking, AVA Publishing, 2010.

Subject- Integrated Personality Development (2Credits) BTCC112A	
Teaching Scheme	Evaluation Scheme
Lecture: 1hrs/week	Continuous Assessment:-60Marks
Practical: 2 hrs/ week	End Semester Exam:-40Marks

Course Introduction:

The Need for Values Students will learn about the need for values as part of their holistic development to become successful in their many roles - as ambitious students, reliable employees, caring family members, and considerate citizens.

Course Outcomes:

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

- **CO1.** To provide students with soft skills that complement their hard skills, making them more marketable when entering the workforce.
- **CO2.** To enhance awareness of India's glory and global values, and to create considerate citizens who strive for the betterment of their family, college, workforce, and nation.
- **CO3.** To inspire students to strive for a higher sense of character by learning from role models who have lived principled, disciplined, and value-based lives.



Course Content:

Unit		Description
1	Module:RemakingYourselfSubject : Begin with the End inMind	Students will learn to visualize there future goals and will structure their lives through smart goals to give themselves direction and ultimately take them to where they want to go.
	Module:RemakingYourselfSubjectAddiction: Free	Students will explore the detrimental effects of addictions on one's health, personal life, and family life. They will learn how to take control of their life by becoming addiction free
	Module: Selfless Service Subject : Case Study: Disaster Relief	Students will apply previous lessons of seva to analyze the case study of the Bhuj earthquake: relief work.
	Module: Soft Skills Subject : Teamwork & Harmony	Students will learn the six steps of teamwork and harmony that are essential for students': professional and daily life.
	Module: My India My Pride Subject : Present Scenario	To implement the transformation of India from a developing country into a developed country it is necessary to have a value-based citizen Students will see how the transformation to a Greater India relies on the vision and efforts of themselves as a youth.
	Module: My India My Pride Subject : An ideal Citizen -1	Students will learn that to become value-based citizens, they must first develop good values in their lives They start by exploring the values of responsibility and integrity
	Module: My India My Pride Subject : An ideal Citizen -2	Students will learn that by developing the values of loyalty, sincerity, and punctuality, they became indispensable and can leave a strong impression, They will start developing these values by trying to keep perfection in every small task and by looking at the bigger picture.

2	Module: Facing	Students will learn the role wisdom plays in finding long-term	
	Failures	stability. They will use ancient wisdom to solve their modern- day	
	Subject : Timeless Wisdom	challenges.	
	for Daily Life		
	Module: From House to	Students will understand the importance and benefits that forgiveness	
	Home	plays in their personal and professional life. They will learn to apply	
	Subject : Forgive & Forget	this knowledge in realistic situations	
	Module: Remaking		
	Yourself	Students will learn to cope with current and future causes of stress.	
	Subject : Stress		
	Management		
	Module: Remaking	A healthy body prevents disease and stress: increases positivity,	
	Yourself Subject :	productivity, and brainpower. Students will learn to	
	Better Health Setter Future	maintain good health through regular exercise, healthy eating habits,	
		and regular and sufficient sleep.	



Module: Learning from Legends Subject : Words of Wisdom	A panel of learned and experienced mentors will personally answer practical questions that students face in them daily life.
Module: Soft Skits Subject : Financial Planning	Students will develop a variety of practical financial skills that prepare them to become financially stable throughout their future careers.
Module: Remaking Yourself Subject : Impact of Company	Students will understand that the type of company that we keep, has a crucial rale in determining who we are and who we will become. They will develop the ability to create a positive environment around them.
Life After IPDC	This concluding lecture encourages students to keep practising these priceless lessons and prepares them for the next steps in their lives

COURSE MATERIAL / MAIN COURSE WORKBOOK -

There will be one workbook for each semester. Each workbook will be Presented and designed by BAPS IPDC Team. These official workbooks would be the course-material for study of IPDC. These workbooks will solve the purpose of study, submission and viva for students.

1. IPDC Workbook-2 (presented by B.A.P.S. Swaminarayan Sanstha)

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Subject- INDIAN ASTRONOMY			
Teaching Scheme	Evaluation Scheme		
Lecture:2hrs/week	Continuous Assessment:-60Marks		
	End Semester Exam:-40Marks		

Course Objective:

1. To equip the introductory knowledge of Indian astronomy from the time of the Rig-Veda all the way till the pre-modern period.

2. Participants will also be able to understand how our ancient scientists forecast eclipses and position of planets

Learning Outcome:

The study of astronomy in our culture has deep roots and provides scientific explanations for various phenomena. As it broadens their view and comprehension of the world, it is crucial to teach the younger generation about the cosmos and how it functions. Students via this course will develop a broader understanding of various viewpoints about how different cultures have observed the universe and the tools discovered for its understanding. Indian Astronomy course will also bring students closer to our culture and foster critical thinking by combining scientific and metaphysical approaches, fostering creativity and connecting subjects like mathematics, physics, and chemistry in practical ways. This course will help student to discern the facts and bust the conceptions about the beginnings of the life and universe. The course will provide ample scope to students for their own discoveries and novel scientific improvements.

<u>Syllabus</u>

- 1. Preliminaries of Indian Astronomy
- 2. Developments from the Vedic period up to the Siddhantic period
- 3. Indian Calendar
- 4. Solar and Lunar Eclipses
- 5. Tripraśna Topics (Diurnal problems)
- 6. Planetary longitudes and latitudes and Nīlakantha Somayājī's revised planetary model
- 7. Rates of motion of planets
- 8. Tripraśna
- 9. Rising times of Rāśis and finding Lagna
- 10. Eclipse calculations
- 11. The Vākya system



References:

- 1. S. N. Sen and K. S. Shukla, History of Astronomy in India, 2nd Ed., INSA, Delhi, 2001.
- 2. S. Balachandra Rao, Indian Astronomy An Introduction, Universities Press, Hyderabad, 2000
- 3. History of Astronomy: A Handbook, Edited by K. Ramasubramanian, Aniket Sule and
- Mayank Vahia, SandHI, IIT Bombay, and T.I.F.R. Mumbai, 2016.

4. B.V. Subbarayappa and K.V. Sarma, Indian Astronomy: A Source Book, Nehru Centre, Bombay, 1985.

- 5. Tantrasangraha of Nīlakantha Somayājī, Translation and Notes, K. Ramasubramanian and M.
- S. Sriram, Hindustan Book Agency, New Delhi, 2011
- 6. Karaṇapaddhati of Putumana Somayājī, Venketeswara Pai et al., HBA New Delhi and Springer 2018



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:

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

Credit Framework



2024-25

Levels	Qualification Title	Credit Requirements		Same	0
		Minimum	Maximum	Semester	Year
6.0	(B.E./ B.Tech. or Equivalent) in Engg./ Tech. with Multidisciplinary Minor	160	176	8	4
<mark>6.0</mark>	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 IIIto VIII. Here in the case of —**B. Tech in Electronics and Telecommunication Engineering with Computer Engineering** (160-176 credits) student is supposed to takeup 50% or more courses to complete the 50% or more credits (from assigned 14 credits) from **Computer Engineering minor bucket**. The remaining courses to complete the assigned 14 credits can be covered from other discipline's minor buckets.

- Remaining three level 6.0 options are the advanced options where the student is given an opportunity to get extra qualification by earning some extra credits (18-20 extra credits). These three options are given below:
- Level 6.0: The **Bachelor's Engineering Degree with Honours** in chosen Major Engg./ Tech. Discipline i.e. in Electronics and Telecommunication Engineering with Honours with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up five-six additional courses of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters III to VIII. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, which are over and abovethemin.160-max.176 Credits prescribed for the duration of four years will be taken by Academic Authorities of University. **Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option**.
- Level 6.0: The **Bachelor's Engineering Degree with Research** in i.e. in Electronics and Telecommunication Engineering with Research with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up a research project of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters VII to VIII. **Student must have CGPA equal to or greater than 7.5 at the end of sixth semester to go for this option**.
- Level 6.0: The **Bachelor's Engineering Degree with Research** in i.e. in Electronics and Telecommunication Engineering with Research with Multidisciplinary Minor (180-194 credits) enables students of Electronics and Telecommunication Engineering to take up a research project of 18 to 20 credits in the Electronics and Telecommunication Engineering discipline distributed over semesters VII to VIII. **Student must have CGPA equal to or greater than 7.5 at the end of sixth semester to go for this option**.
- Level 6.0: The Bachelor's Engineering Degree in chosen Engg./ Tech. Discipline with Double Minor (Multidisciplinary and Specialization Minor, 180- 194 credits), i.e. —B. Tech in Electronics and Telecommunication Engineering with other selected discipline in Engineering (as MDM) with Specialization Minor in Computer Engineering (180-194 credits) enables students to take up five-six additional courses of 14 credits in the discipline other than Electronics and Telecommunication Engineering(for completion of



multidisciplinary minor) and 18 to 20 extra credits in the **Computer Engineering discipline** distributed over semesters III to VIII. Here, the *other selected discipline* in Engineering should be different from Specialization Minor i.e. Computer Engineering. This enables students to take up five-six or required additional courses of 18 to 20 credits in the Computer Engineering discipline distributed over semesters III to VIII, which are over and above the min.160-max.176 Credits. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, prescribed for the duration of four years will be taken by Academic Authorities of University. Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option.

General Rules and Regulations

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

Registration:

- Lower and Upper Limits for Course Credits Registered in a Semester, by a Full- Time Student of a UG/PG Programme:
 A full time student of a particular UG/PG programme shall register for the appropriate number of course credits in each semester/session that is within the minimum and maximum limits specific to that UG/PG programme as stipulated in the specific Regulations pertaining to that UG/PG programme.
- 2. Mandatory Pre-Registration for higher semesters: In order to facilitate proper planning of the academic activities of a semester, it is essential for the every institute to inform to Dean (Academics) and COE regarding details of total no. of electives offered (Course-wise) along with the number of students opted for the same. This information should be submitted within two weeks from the date of



- 3. Commencement of the semester as per academic calendar.
- 4. PhD students can register for any of PG/PhD courses and the corresponding rulesof evaluation will apply.
- 5. Under Graduate students may be permitted to register for a few selected Post Graduate courses, in exceptionally rare circumstances, only if the DUGC/DPGC is convinced of the level of the academic achievement and the potential in a student.

Course Pre-Requisites:

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



Evaluation System:

1. 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	
<40 EF 0.			0.0	
1.	Continuous Assessment Marks 40			40
2.	End Semester Examination(ESE)Marks 60			

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

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

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

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



4. A total of 100 Marks for each practical course are distributed as follows

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

Description of Grades

EX Grade: An EX' grade stands for outstanding achievement.

EE Grade: An 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)whichisaweightedaverageofthegradepointsobtainedinallthe 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 all otted to a particular subject, and

 \underline{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):*

c. 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:

$$\begin{bmatrix} \sum^{m} c_{i}g_{i} \end{bmatrix}$$

$$CGPA = \underbrace{i=1} \\ \begin{bmatrix} \sum \\ m c_{i} \end{bmatrix} \\ i= \\ 1 \end{bmatrix}$$

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.



6. <u>Attendance Requirements:</u>

- 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.

In exceptional cases, the students may opt for higher credits than the prescribe

