Dr. V.P.S.S.M's

Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon (Sangli)

Student Information Manual

First Year B. Tech.

Dr. V. P. Shetkari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon (Sangli) – 416304

STUDENT'S INFORMATION MANUAL

(Academic Year: 2021-22)

Semester-II

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 collaboration of experienced and young faculty which works as a team to strengthen the department.

VISION OF DEPARTMENT

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

MISSION OF DEPARTMENT

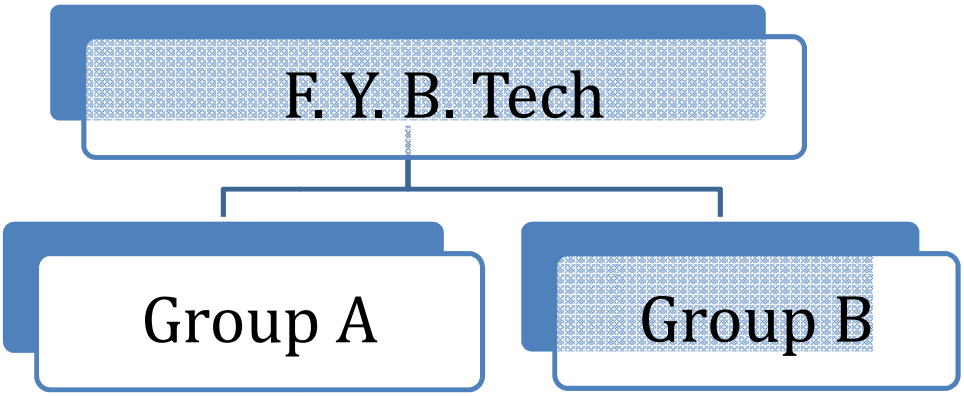
1. To create an environment where students can ascertain that career in engineering matches their interests and abilities.
2. To impart strong fundamental and technical knowledge in the basic science subjects to enable them to prepare themselves for successful career.
3. To inculcate habbit of innovation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

GOALS

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

STRUCTURE OF FIRST YEAR ENGINEERING

(With effective from Academic Year 2021-22)



1) Chemical Engineering
2) Civil Engineering
3) Mechanical Engineering
4) Electrical Engineering
5) Instrumentation Engineering
6) Electronics & Telecommunication Engg.

1) Computer Science and Engineering
2) Computer Science and Engineering (AI&DS)
3) Electronics and Computer Science Engineering

INDEX

THE ROLE OF STUDENTS

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

Responsibilities:

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

Code-of-Conduct: Students Shall

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

Laboratory Instructions

Laboratory Instructions

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

First Year B. Tech. Teaching and Evaluation Scheme

Group B Semester II

(Computer Science and Engineering/ Computer Science and Engineering (AI&DS) / Electronics and Computer Science Engineering)

Sr. No	Course Code	Name of Course	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
1	BTBS201	Engineering Mathematics-II	3	1	-	20	20	60	100	4
2	BTBS202	Engineering Physics	3	1	-	20	20	60	100	4
3	BTES203	Engineering Graphics	2	-	-	20	20	60	100	2
4	BTES204	Communication Skills	2	-	-	20	20	60	100	2
5	BTES205	Energy and Environment Engineering	2	-	-	20	20	60	100	2
6	BTES206	Basic Civil and Mechanical Engineering	2	-	-	50	-	-	50	Audit
7	BTES207L	Engineering Physics Lab	-	-	2	60	-	40	100	1
8	BTBS208L	Engineering Graphics Lab	-	-	3	60	-	40	100	2
9	BTE209L	Communication Skills Lab	-	-	2	60	-	40	100	1
10	BTES210S	Seminar	-	-	2	60	-	40	100	1
11	BTES211P	Field training/ Internship/ Industrial Training (minimum 0f 4 weeks which can be completed partially in first sem and second sem or in at one time)	-	-	-	-	-	-	-	Credits To be evaluated in III Sem
Total			**14**	**2**	**09**	**390**	**100**	**460**	**950**	**19**

COURSE CO-ORDINATOR

Sr. No.	Course	Corse Code	Course Coordinator	Email id	Contact No.
1	Engineering Mathematics-II	BS201	Dr. P. B. Kadam-Lugade	pbklugade.ge@pvpitsangli.edu.in	9970041879
2	Engineering Physics	BS202	Dr. S. L. Patil	slpatil.ge@pvpitsangli.edu.in	7972594465
3	Engineering Graphics	ES203	Mrs. A. P. Lad	aplad@pvpitsangli.edu.in	9970741470
4	Communication Skills	ES204	Mr. S. E. Narwade	senarwade.ge@pvpitsangli.edu.in	8329269479
5	Energy and Environment Engineering	ES205	Mr. A. J. Pawar	ajpawar@pvpitsangli.edu.in	7769033396
6	Basic Civil and Mechanical Engineering	ES206	Mr. A. K. Salunkhe Mr. C. D. Patil	aksalunkhe.civil@pvpitsangli.edu.in cdpatil.mech@pvpitsangli.edu.in	8308101423 7507035940

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	Mr. R. U. Yadav	Mathematics	ruyadav.ge@pvpitsangli.edu.in	7776074138
02	II	Dr. S. L. Patil	Physics	slpatil.ge@pvpitsangli.edu.in	7972594465
03	III	Ms. D. A. Lavate	Chemistry	dalavate.ge@pvpitsangli.edu.in	8788009691
04	IV	Mr. S. E. Narwade	English	senarwade.ge@pvpitsangli.edu.in	8329269479
05	V	Mrs. A. V. Patil	Mathematics	avpatil.ge@pvpitsangli.edu.in	9561212878
06	VI	Mr. A. K. Chavan	English	akchavan.ge@pvpitsangli.edu.in	9834750779

COURSE TEACHERS

SEM-II

Division/ Class / Course	II	IV	VI
Engineering Mathematics-II	Dr. Mrs. A. A. Patil	Dr. Mr. P. B. Kadam Lugade	Mrs. S. P. Mandale
Engineering Physics	Dr. S. L. Patil	Dr. S. L. Patil	Mrs. R. G. Patil
Engineering Graphics	Mr. S. B. Khandagale	Mr. C. D. Patil	Mrs. A. P. Lad
Communication Skills	Mr. S. E. Narwade	Mr. S. E. Narwade	Mr. A. K. Chavan
Energy and Environment Engineering	Mr. A. J. Pawar	Mr. A. J. Pawar	Mr. S. S. Gunjate
Basic Civil and Mechanical Engineering	Mr. A. K. Salunkhe Mr. S. B. Khandagale	Mr. A. K. Salunkhe Mr. C. D. Patil	Mr. A. K. Salunkhe Mrs. A. P. Lad

ACADEMIC CALENDAR

Dr V P S S M's

Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon (Sangli)

First Year Engineering Department

Academic Calendar 2021-22

SEM II

MAY 2022 **Academic Days: 20**

MON	TUE	WED	THUR	FRI	SAT	SUN
30	31					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

Maharashtra Day :- 1st May 2022
Ramazan Eid :-3rd May 22
Commencement of Classes:- 3rd May 22
Buddha Purnima:- 16th May 22
Traditional Day:- 21st May 22
Annual Sports :- 27th - 28th May 22
Annual Social Gathering:- 27th - 28th May 22
1st Defaulter students list:- 31st May 22

JUNE 2022 **Academic Days: 26**

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			

NIRMITI 2022 :- 10th and 11th June 22
CA1 Evaluation :- 6th -11th June 22
Mid Semester Exam:-20th -24th June 22
2nd Defaulter students list :- 30th June 22

JULY 2022 **Academic Days: 22**

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

Bakri Id:- 10th July 2022
Parents Meet :- 9th July 2022
CA2 Evaluation :- 18th -23rd July22
Practical Exam.:-27th -30th July22
3rd Defaulter students list :- 31st July 22

AUGUST 2022 **Academic Days: 4**

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:- 4th August 22
Final Defaulter students list :- 4th August 22
End Semester Examination :- 5th – 10th August 22
Muharram:- 9th August 2022
Independence Day :- 15th August 22
Parsi New Year:- 16th August 22
Result Declaration :- 29th August 22
Ganesh Chaturthit :- 31st August 22

SEPTEMBER 2022 **Academic Days:**

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		

SEM III starts :- 1st September 22

Activity Holiday Exam

Commencement of Classes for next Semester:- 1st Sep. 22

Dr. Mrs. A. A. Patil	Dr. K. K. Pandyaji	Dr. D. V. Ghewade
HoD, First Year Engineering	Dean Academic	Principal

	Dr. Vasantraodada Patil Shtekari Shikshan Mandal's **Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)** **FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)** **TIMETABLE 2021-22 SEM-II**	**With Effect From 03/05/2022**

TIME TABLE

Dr. Vasantraodada Patil Shtekari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)

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

TIMETABLE 2021-22 SEM-II

With Effect From 03/05/2022

Class: FE-II Branch: - Computer Sci. and Engg. (CSE) PHYSICS Group CL-05

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	ES206-AKS	BS201- AAP	B1- HM209L B2- BS207L B3- ES208L	BS201- AAP	HM204- SEN	LVH-Library Visit Hour-
2	11:00 TO 12:00	ES205- AJP	ES203-SBK		BS202- SLP	BS202- SLP	*- Extra
	12:00 TO 12.45		LONG	RECESS			
3	12.45 TO 13:45	HM204- SEN	B1- ES208L B2- HM209L	BS202-SLP	ES206- SBK	B1- ES208L B2- ES210S	(T)-Tutorial
4	13:45 TO 14:45	ES203- SBK	B3-202(T) /201(T)	BS201- AAP	ES205-AJP	B3- BS207L	# - Alternate
	14:45 TO 14:55		SHORT	RECESS			
5	14:55 TO 15:55	B1- BS207L B2- ES208L	B1- ES210S B2- 202(T) /201(T)	*ES203-SBK	B1- 202(T) /201(T) B2- ES208L	*BS201- AAP	# M-M / Counselor Int. Mentee –Mentor or Counselor Interaction
6	15:55 TO 16:55	B3- HM209L	B3- ES208L	LVH	B3- ES210S	# M-M / Counselor Int.	

AAP- /A A Patil SLP-S L Patil SBK-S B Khandagale SEN-S E Narwade AJP- A J Pawar AKS-A K Salunkhe

Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course
1	BS201	Engineering Mathematics-I	4	HM204	Communication Skills	7	BS207L	Engineering Physics Laboratory
2	BS202	Engineering Physics	5	ES205	Energy and Environment Engineering	8	ES208L	Engineering Graphics Laboratory
3	ES203	Engineering Graphics	6	ES206	Basic Civil & Mechanical Engineering	9	HM209L	Communication Skills Laboratory
						10	ES210S	Seminar

(Dr. S. L. Patil)
First Year Engg. Time-Table Coordinator

(Dr. Mrs. A. A. Patil)
HOD First Year Engg.

(Dr. K. K. Pandyaji)
Academic Dean

(Dr. D. V. Ghewade)
Principal

Dr. Vasantraodada Patil Shtekari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)

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

TIMETABLE 2021-22 SEM-II

With Effect From 03/05/2022

Class: FE-IV Branch: Computer Science and Engg.(CSE-AI DS) PHYSICS Group CL-06

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	BS201-PBK	ES205-AJP	ES206-CDP	BS201- PBK	D1- HM209L D2- 202(T)/201(T) D3 ES208L	LVH-Library Visit Hour
2	11:00 TO 12:00	BS202 SLP	BS202 SLP	BS201 PBK	ES203 CDP		*-Extra
	12:00 TO 12.45		LONG	RECESS			
3	12.45 TO 13:45	ES203-CDP	D1- ES208I D2- ES210S D3- BS207L	ES205- AJP	D1- ES208I D2- HM209L D3-202(T) / 201(T)	ES206-AKS	# - Alternate (T)-Tutorial
4	13:45 TO 14:45	HM204- SEN		HM204 -SEN		*BS201- PBK	
	14:45 TO 14:55		SHORT	RECESS			
5	14:55 TO 15:55	D1- 202(T)/201(T) D2- ES208L D3- ES210S	*ES203-CDP # M-M / Counselor Int.	D1- BS207L D2- ES208L D3- HM209L	D1- ES210S D2- BS207L D3- ES208L	BS202- SLP LVH	# M-M / Counselor Int/ Mentee –Mentor or Counselor Interaction
6	15:55 TO 16:55						

PRK-P R Kadam-Lugade SLP-S L Patil CDP-C D Patil SEN-S F Narwade AJP- A J Pawar AKS-A K Salunkhe

Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course
1	BS201	Engineering Mathematics-I	4	HM204	Communication Skills	7	BS207L	Engineering Physics Laboratory
2	BS202	Engineering Physics	5	ES205	Energy and Environment Engineering	8	ES208L	Engineering Graphics Laboratory
3	ES203	Engineering Graphics	6	ES206	Basic Civil & Mechanical Engineering	9	HM209L	Communication Skills Laboratory
						10	ES210S	Seminar

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Dr. Vasantraodada Patil Shtekari Shikshan Mandal's

Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)

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

TIMETABLE 2021-22 SEM-II

With Effect From 03/05/2022

Class: FE-VI Branch: Electronics and Comp. Sci. Engg.(ECS) PHYSICS Group CL-07

Sr. No.	TIME IN HRS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	10:00 TO 11:00	ES203-APL	ES205-SSG	BS201- SPM	F1- HM209L F2-202(T)/201(T) F3- ES208L	BS201- SPM	LVH-Library Visit Hour
2	11:00 TO 12:00	ES206- APL	ES206-AKS	BS202-		ES203- APL	*-Extra
	12:00 TO 12.45	LONG RECESS					
3	12.45 TO 13:45	F1- ES208L F2- ES210S F3- BS207L	BS201- SPM	F1- ES208L F2- HM209L F3-202(T)/201(T)	ES205-SSG	BS202-	(T)-Tutorial # - Alternate
4	13:45 TO 14:45		HM204- AKC		BS202-	*BS201-SPM	
	14:45 TO 14:55	SHORT RECESS					
5	14:55 TO 15:55	HM204-AKC	F1- BS207L F2- ES208L F3- HM209L	F1-202(T)/201(T) F2- ES208L F3- ES210S	*ES203- APL	F1- ES210S F2- BS207L F3- ES208L	# M-M / Counselor Int.- Mentee – Mentor or Counselor Interaction
6	15:55 TO 16:55	LVH			# M-M / Counselor Int.		

SPM-S P MANDALE APL-/A P LAD AKC-A K CHAVAN AJP- A J Pawar AKS-A K Salunkhe

Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course	Sr. No.	Course Code	Name of the Course
1	BS201	Engineering Mathematics-I	4	HM204	Communication Skills	7	BS207L	Engineering Physics Laboratory
2	BS202	Engineering Physics	5	ES205	Energy and Environment Engineering	8	ES208L	Engineering Graphics Laboratory
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(Dr. K. K. Pandyaji)
Academic Dean

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

Note:

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

COUNSELING ACTIVITY

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

Counselor expert: Mrs. Archana Muley (Mobile: 9881667158)

Internal expert may be Dean, Head of department, Coordinators, Class Teachers, Mentors etc. whereas external expert may be related to medical field. **Counselor** as a mentor has been **assigned for each student.** Counseling sheets are maintained by

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

CLASS TEACHER

- Receiving assistance with academic endeavors.
- Constructive interaction with a class teacher and participation in collective activities he or she arranges engagement in the field.
- Receiving encouragement to stay in college.
- Receiving assistance in the understanding of subject.
- It supports their advancement in research activity, conference, presentation, publication, pedagogical skill etc.
- Student should collect **Leave Application Form** from Class Teacher
- Defaulter Student should contact with their Class Teacher /Mentor/ Head of First Year Engg. Dept. (/Dr. Mrs. A. A. Patil) 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.
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, Vasantotavand Sports activity benefits the student to participate in extracurricular activities.

Date	Activity Name	Participation level	Outcome

REMARKS: Student should submit Xerox copy of certificates obtained from Co/Extra Curricular Activities to 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 do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student.
- Any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher.
- Exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.
- Any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students.
- Any act of physical abuse including all variants of it: sexual abuse, homosexual assaults, and stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health or person.

ADIMINISTRATIVE ACTION IN THE EVENT OF RAGGING:

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

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

Library: Late Shri Vishnuanna Patil Technical Library – This specious Library of the Institute is enriched with more than 59000 Volumes of books with more than 78 Indian, 30 International Journals, 538 online journals and periodicals are subscribed per month. Total nontechnical journal are 09, 1800 digital books and 400 Videos.

Gymkhana and N.S.S.

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

The National Service Scheme (NSS) is an Indian government-sponsored flagship for public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. Popularly known as NSS, it provides opportunity to the student youth of Technical Institution, Graduate and Post Graduate at colleges and University level of India to take part in various government led community service activities and programmes. Under this program we always serve/ help community various social activities arrange by NSS. e.g. Blood Donation and Health Checkup camp, Swachh Bharat Abhiyaan and various 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 housefacility is available for visiting parents. The hostels have all necessary facilitiessuch as water purification plant, water coolers, T.V. Medical First aid center,Water heating plant, News Paper, Reading Room, Indoor games, Canteen, Mess, Laundry,Xerox Center, Public Telephone booth are available inside the campus.

Training and Placement Office (TPO)

Placement @PVPIT Sangli: All students those who are interested for industrial placement, are groomed and prepared to face the interview process. Efforts are made by all means to provide maximum opportunities to each and every student, so that every eligible and interested student get at least one offer

Objectives of Training and Placement

The **Training and Placement (TandP)** cell at PVPITguide and counsel every students to choose their proper career path, make them eligible and employable.

Here we groom future Technocrats as per their interest and make them industry-ready. The objective is to

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

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

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

Our Recruiters

Engineering Mathematics – II (4 Credits)
BTBS201

Teaching Scheme
Lecture: 3 hrs/ week
Tutorial: 1 hr/ week

Evaluation Scheme
Continuous Assessment:- 20 Marks
Mid Term Test:-20 Marks
End Semester Exam:-60 Marks

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 problem
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
4. To identify and sketch of curves in various coordinate system.
5. To evaluate multiple integrals and their applications to area and volume.

Course Outcomes:

Students will be able to :

1. Discuss the need and use of complex variables to find roots ,to separate complex quantities and to establish relation between circular and hyperbolic functions
2. Solve first and higher order differential equations and apply them as a mathematical modeling in electric and mechanical systems.
3. Illustrate Fourier series representation of periodic functions over different intervals and understand the concept of vector differentiation and 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.

Unit No.	Details of Content	Hrs
1.	**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.	7
2.	**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.	7
3.	**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.	7
4.	**Fourier Series** Introductory remarks- Euler's formulae ; Conditions for Fourier series expansion –	7

	Dirichlet's conditions ; Functions having points of discontinuity ; Change of interval ; Odd and even functions expansions of odd and even periodic functions ; Half-rangeseries.	
5.	**Vector Calculus** Scalar and vector fields:Gradient , divergence and curl ; Solenoidal and irrotational vector fields; Vector identities (statement without proofs) ; Green‟s lemma , Gauss‟ divergence theorem and Stokes‟ theorem (without proofs	**7**

Text Books

a. Higher Engineering Mathematics by B. S. Grewal, Khanna Publishers, New Delhi.
b. Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley & Sons, New York.
c. A Course in Engineering Mathematics (Vol II) by Dr. B. B. Singh, Synergy Knowledge ware, Mumbai.
d. A Text Book of Applied Mathematics (Vol I & II) by P. N. Wartikar and J. N. Wartikar, Pune Vidyarthi Griha Prakashan, Pune.
e. Higher Engineering Mathematics by H. K. Das and Er. Rajnish Verma, S. Chand & CO. Pvt. Ltd., New Delhi.

Reference Books

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

General Instructions

- The tutorial classes in Engineering Mathematics-II are to be conducted batchwise. Each class should be divided into three batches for the purpose.
- The internal assessment of the students for 20 marks will be done based on assignments, surprise tests, quizzes, innovative approach to problem solving and percentage attendance.
- The minimum number of assignments should be eight covering all topics.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End – Semester Examination (Supplementary): May 2019

Branch: B. Tech (Common to all) **Semester:** II

Subject with code: Engineering Mathematics – II (MATH 201) **Marks:** 60

Date: 29.05.2019 **Duration:** 03 Hrs.

INSTRUCTION: Attempt any **FIVE** of the following questions. All questions carry equal marks.

Q.1

(a) Find all the values of $(i)^{\frac{1}{4}}$ [4 *Marks*]

(b) If $sin(\theta + i\phi) = cos\alpha + isin\alpha$, prove that $cos^2\theta = \pm sin\alpha$. [4 *Marks*]

(c) Prove that $\tan\left[i\ log\frac{a-ib}{a+ib}\right] = \frac{2ab}{a^2-b^2}$. [4 *Marks*]

Q.2

(a) Solve: $cos^2x\frac{dy}{dx} + y = tanx$. [4 *Marks*]

(b) Solve: $(x^2 + y^2)dx - (xy)dy = 0$. [4 *Marks*]

(c) Two particles fall freely, one in a medium whose resistance is equal to k times the velocity and other in a medium whose resistance is equal to k times the square of the velocity. If V_1 and V_2 are their maximum velocities respectively, show that $V_1 = V_2^2$. [4 *Marks*]

Q.3 Solve any TWO:

(a) Solve: $(D^2 - 3D + 2)y - e^{3x}$. [6 *Marks*]

(b) Solve: $(D^6 - D^4)y = x^2$. [6 *Marks*]

(c) Solve by the method of variation of parameters

$\frac{d^2y}{dx^2} + y = cosecx$. [6 *Marks*]

Q.4

(a) Find the Fourier series of $f(x) = x^2$ in the interval $(-\pi, \pi)$, and hence deduce that

$$\frac{\pi^2}{6} = \frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \cdots$$ [6 Marks]

(b) If $f(x) = 2x - x^2$ in $0 \le x \le 2$, show that $f(x) = \frac{2}{3} - \sum_{n=1}^{\infty} \frac{4}{n^2\pi^2} \cos n\pi x$.

[6 Marks]

Q.5

(a) The necessary and sufficient condition for vector $\vec{F}(t)$ to have constant magnitude is

$$\vec{F}(t) \cdot \frac{d\vec{F}(t)}{dt} = 0 .$$ [6 Marks]

(b) Show that the acceleration of the point moving along the curve with uniform speed is $\rho\left(\frac{d\psi}{dt}\right)^2$ along the normal.

[6 Marks]

Q.6

(a) Find $\nabla \cdot \vec{F}$, where $\vec{F} = \nabla\left(x^3 + y^3 + z^3 - 3xyz\right)$. [4 Marks]

(b) If $\vec{r}$ is a position vector with $r = |\vec{r}|$, show that

$$\nabla \cdot (r^n \vec{r}) = (n+3) r^n .$$ [4 Marks]

(c) Show that $\iiint_v \frac{dv}{r^2} = \iint_s \frac{\vec{r} \cdot \hat{n}}{r^2} ds$. [4 Marks]

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Engineering Physics (4 Credit)
BTBS202

Teaching Scheme
Lecture: 3 hrs/ week
Tutorial:1 hr/ week

Evaluation Scheme
Continuous Assessment:- 20 Marks
Mid Term Test:-20 Marks
End Semester Exam:-60 Marks

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: Students will be able to:

1. Define and explain basic laws, Principles and ideas of physics related to Engineering curriculum.
2. Apply basic principles of oscillation, Ultrasonics, Optics laser, fiber optics, nuclear physics and quantum mechanics to solve engineering problems.
3. Understand crystal structure, magnetic and super conducting properties of materials.

Unit No.	Details of Content	Hrs
1.	**Oscillation and Ultrasonics:** Free oscillation, damped oscillation, Forced oscillation and Resonance, differential wave equation, Ultrasonic waves, production of ultrasonics (Piezoelectric effect, Magnetostriction effect) and its applications	5
2.	**Optics, Fibre Optics and Laser:** Interference of light in thin film, wedge shaped film, Newton‟s rings, polarization of light, methods for production of polarized light(Reflection, Refraction& Double refraction), Huygen‟s theory of double refraction, Principle and structure of optical fibre, acceptance angle, acceptance cone, numerical aperture. Principle of laser, Types of laser – Ruby and He-Ne laser and their applications.	5
3.	**Electron Optics, Nuclear Physics and Quantum Mechanics:** Motion of electron in Electric field (parallel and perpendicular), Motion of electron in magnetic field, motion of electron in combined effect, Bainbridge mass spectrograph, G. M counter, Heisenberg‟s uncertainty principle, Schrödinger‟s time dependent and time independent wave equations, physical significance of wave function	6
4.	**Crystal Structure, X-rays and Electrodynamics:** Unit cell, Bravais lattice, cubic system, number of atoms per unit cell, coordination number, atomic radius, packing density, relation between lattice constant and density, lattice planes and Miller indices, X-ray diffraction, Line and Continuous Spectrum of X-ray, Introduction of Maxwell equations (no derivation).	5
5.	**Magnetic, Superconducting and Semiconducting materials:** Types of magnetic materials (Diamagnetic, Paramagnetic and Ferromagnetic), B-H curve, Superconductivity, types of superconductors, Meissner effect, properties and applications of superconductor, Band theory of solids, conductivity of semiconductors, Halleffect.	6

Text books:

1. Engineering Physics M.N.Avadhanulu and P.G. Kshirsagar. S.Chandand Company LTD.
2. Engineering Physics – Dr. L. N. Singh. SynergyKnowledgeware-Mumbai.
3. Engineering Physics-R.K. Gaur and S. L.Gupta.Dhanpat Rai Publications Pvt. Ltd.-NewDelhi.
4. Fundamental of Physics - Halliday and Resnik. Willey EasternLimited.

Reference books:

1. Introduction to Electrodynamics –David R. Griffiths.
2. Concept of Modern Physics – Arthur Beizer.Tata Mc Graw-Hill Publishing Company Limited.
3. Optics – Ajoy Ghatak, MacGraw Hill Education (India) Pvt.Ltd.
4. Science of Engineering Materials- C.M. Srivastava and C. Srinivasan. New Age International Pvt. Ltd.
5. Solid State Physics – A.J. Dekker. McMillan India–Limited.
6. The Feynman Lectures on Physics VolI,II,III.

1. Introduction to solid state physics – Charles Kittel. John Willey and Sons

Engineering Physics Laboratory
BTBS207L

Practical Scheme
Lecture: 2 hrs/ Batch
External Exam:- 40 Marks

Evaluation Scheme
Continuous Assessment:- 60 Marks

	List of Experiments: (Perform any 10 Experiments)
Sr. No.	Practical
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	Magnetron Tube - Determination of „e/m‟ of electron
6	G.M. Counter - Determination of operating voltage of G.M. tube
7	Crystal Plane – Study of planes with the help of models related Miller Indices
8	Hall Effect - Determination of Hall Coefficient
9	Four Probe Method - Determination of resistivity of semiconductor
10	Measurement of Band gap energy of Semiconductors
11	Study of I-V characteristics of P-N junction diode
12	Experiment on fibre optics
13	Ultrasonics Interferometer
14	B-H Curve Experiment
15	Susceptiblity measurement experiment

Reference Books:

1.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – Dec. 2019

Brach: B. Tech. **Semester –I/II**
Subject: Engineering Physics (PHY103/PHY203) **Marks: 60**
Date: 13/12/2019 **Time:3 Hrs**

Instructions to the students:

1. All questions are compulsory and each question carries 10 marks
2. Illustrate your answers with neat sketches, diagrams etc. wherever necessary.
3. Necessary data is given in the respective questions. If such data is not given, it means that the knowledge of the part is part of examination.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

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Que. 1 Attempt the following. **(10)**

a) Obtain the differential equation of free oscillation and find its general solution. (8)

b) Calculate the fundamental frequency of quartz crystal 1 mm thick. (2)

Given: density of quartz is 2650 kg/m^3 and Young's modulus is 8 x 10^{10} N/m^2

Que. 2 Attempt the following. **(10)**

a) Discuss interference of light in thin film for reflected rays. (8)

b) A wedge shaped film is illuminated by light of wavelength 4650 Å. The angle of wedge is 40˚. Calculate the fringe separation between two consecutive fringes. (2)

OR

Que. 2 Attempt the following. **(10)**

a) Explain the principle and working of Ruby Laser. (8)

b) Calculate the numerical aperture of an optical fibre whose core and cladding are made of materials of refractive indices 1.6 and 1.5 respectively. (2)

Que. 3 Attempt the following. **(10)**

a) Describe Millikan's oil drop method for determination of electronic charge. (8)

b) Find the lowest energy of a neutron confined to a nucleus of size 10^{-14} m. (2)

Que. 4 Attempt the following. **(10)**

a) Derive the relation between lattice constant and density of the cubic crystal. (8)

b) Lead has a FCC crystal structure with an atomic radius of 1.746 Å. Calculate the spacing between (200) and (220) planes. (2)

Que. 5 Attempt the following. **(10)**

a) What is Hysteresis Curve? Explain retentivity, coercivity. Explain B-H curve on the basis of domain theory. (8)

b) The magnetic susceptibility of a medium is 940 x 10^{-4}. Calculate its absolute and relative permeability. (2)

Que. 6 Attempt any two the following. **(10)**

a) Write Maxwell equations in differential and integral form and write its physical significance (5)

b) What is Hall effect? Derive an expression for Hall Coefficient and mobility of charge carriers. (5)

c) What is electric polarization? Explain with diagrams different types of polarizations in dielectric (5)

Paper End

Engineering Graphics (2 Credits)
BTES203

Teaching Scheme
Lecture: 2 hrs/ week
Tutorial:1 hr/ week

Evaluation Scheme
Continuous Assessment:- 20 Marks
Mid Term Test:- 20 Marks
End Semester Exam:- 60 Marks

Course Objectives:

1. To make use of drawing instruments effectively for drawing and dimensioning.
2. To understand the conventions and methods of engineering drawing.
3. To know the concept of projections of points, lines, planes, solids and section of solids.
4. To understand the Construction isometric and orthographic views of given objects

Course Outcomes: Students will be able to:

1. Understand basic concepts of engineering drawing and apply the concept of orthographics projection to solve problems..
2. Understand and apply concept of projection to solve problems on projection of point & Line..
3. Understand and apply concept of projection to solve problems on projection of plane, Solid and construct the isometric view.

Unit No.	Details of Content	Hrs
1	**Drawing standards and geometrical construction:** Drawing standard SP: 46, Type of lines, lettering, dimensioning, scaling conventions. Geometrical construction: Dividing a given straight line into any number of equal parts, bisecting a given angle, drawing a regular polygon given one side, special methods of constructing a pentagon and a hexagon	4
2	**Orthographic Projections and Projections of Points:** Introduction to orthographic projection, drawing of orthographic views of objects from their isometric views. Projection of points lying in four quadrants.	4
3	**Projections of Straight Lines and Planes and their Traces:** Projections of lines parallel and perpendicular to one or both planes, projections of lines inclined to one or both planes. Traces oflines. Projections of planes parallel and perpendicular to one or both planes, projection of planes inclined to one or both planes.	4
4	**Projections of Solids:** Types of solids, projections of solids with axis perpendicular and parallel to HP and VP, solids with axis inclined to one or both the planes. Projections of spheres touching each other.	4
5	**Sectioning of Solids, Isometric Projections:** Sectioning of solids: Section planes perpendicular to one plane and parallel or inclined to other plane. Isometric projections: Isometric scale, drawing of isometric projections from given orthographic views.	4

Text Books

1. 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.
3. 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

Engineering Graphics Laboratory BTES208L	
Practical Scheme Lecture: 2 hrs/ Batch External Exam:- 40 Marks	**Evaluation Scheme** Continuous Assessment:- 60 Marks
Sr. No.	Students are expected to satisfactorily complete any ten experiments listed below.
	List of Practical's/ Experiments/ Assignments
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.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE – RAIGAD -402 103

Summer Semester Supplementary Examination – 2019

Branch: All **Sem.: I/II**

Subject: Engineering Graphics (ME104/ME204)

Marks: 60 **Date: 12/06/2019** **Time: 4 Hr.**

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Instructions to the Students

1. Each question carries 12 marks.
2. Attempt **any five** questions out of the following six questions.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

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(Marks)

Q. 1 Attempt the following (2*6 = 12)

a. Draw a regular octagon of side 30 mm

b. Draw centre line, outline and locus line.

Q. 2 Draw the following views of the object shown in fig 1 (first angle projection) **(12)**

a. Front view (6) b. Top view (6)

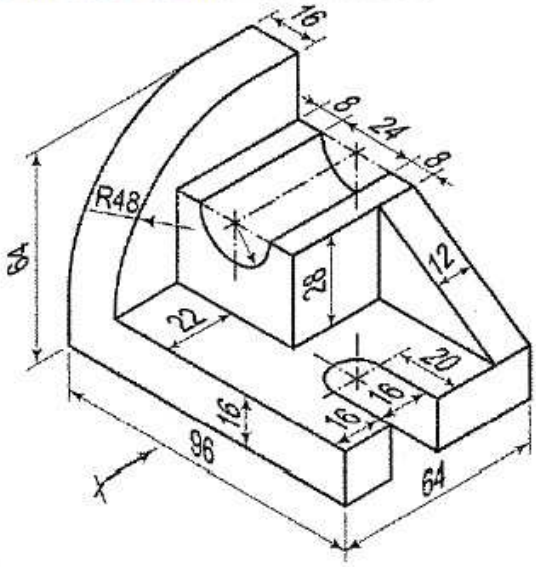

Fig. 1

Page 1 of 2

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Q. 3 Attempt **any one** of the following **(12)**

A line AB, 90 mm long, is inclined at 30^0 to the HP. Its end A is 12 mm above the HP and 20 mm in front of VP. Its front view measures 65 mm. Draw the TV of line AB and find its true inclination with the VP.

OR

Draw the projections of a circle of 50 mm diameter resting in the HP on a point A on the circumference, its plane inclined at 45^0 to the HP and the top view of the diameter AB making 30^0 angle with the VP.

Q.4 A pentagonal prism is resting on one of the corners of its base on the HP. The longer edge containing that corner is inclined at 45^0 to the HP. The axis of the prism makes an angle of 30^0 to the VP. Draw the projections of the solid. **(12)**

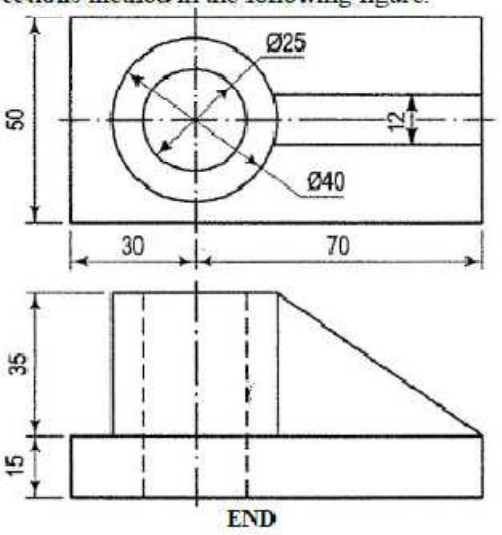
Q.5 Attempt **any one** of the following **(12)**

A square prism, base 40 mm side, axis 80 mm long, has its base on the H.P. and its faces equally inclined to the V.P. It is cut by a plane, perpendicular to the V.P., inclined at 60° to the H.P. and passing through a point on the axis, 55 mm above the H.P. Draw its front view and sectional top view.

OR

Draw the development of hexagonal pyramid of edge 30 mm and length of axis 70 mm, resting on H. P.

Q.6 Draw the isometric view of the object whose orthographic views are shown as per **third angle projections** method in the following figure. **(12)**



END

Page 2 of 2

Communication Skill (2 Credits)
BTES204

Teaching Scheme
Lecture: 2 hrs/ week

Evaluation Scheme
Continuous Assessment:- 20 Marks
Mid Term Test:- 20 Marks
End Semester Exam:- 60 Marks

Course Objectives:

1. To know and apply speaking and writing skills in professional as well as social situations.
2. To Overcome Mother Tongue Influence and demonstrate neutral accent while exercising English.
3. To know and apply communication skills for Presentations, Group Discussion and interpersonal interactions.
4. To know and apply grammar correctly during Speaking and Writing situations especially in context with Presentations, Public Speaking, Report writing and Business Correspondence.

Course Outcomes: Students will be able to:

1. Demonstrate LSRW skills and develop communicative competence in professional presentations.
2. Apply phonetics in spoken English.
3. Make use of grammar correctly with accepted tone and style in technical and business communication.

Unit No.	Details of Content	Hrs
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: Introduction to Reading, Barriers to Reading, Types of Reading: Skimming, Scanning, Fast Reading, Strategies for Reading, Comprehension. Listening: Importance of Listening, Types of Listening, Barriers to Listening.	4
2.	**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.	4
3.	**Study of Sounds in English** Introduction to phonetics, Study of Speech Organs, Study of Phonemic Script, Articulation of Different Sounds in English.	2
4.	**English Grammar** Grammar: Forms of Tenses, Articles, Prepositions, Use of Auxiliaries and Modal Auxiliaries, Synonyms and Antonyms, Common Errors.	5
5.	**Writing Skills, Reading Skills & Listening Skills** Features of Good Language, Difference between Technical Style and Literary Style, Writing Emails, Formal and Informal English, Technical Reports: Report Writing: Format, Structure and Types Letter Writing: Types, Parts, Layouts, Letters and Applications, Use of Different Expressions and Style, Writing Job Application Letter and Resume.	4

Text Books:

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

Reference book:

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. Aswalthapa, 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. Bhasker, 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 Courtl and L Thrill, John V. Business Communication, Today McGraw Hill, New York, Taxman Publication (1989).

Communication Skill Laboratory
BTES209L

Practical Scheme
Practical : 2 hrs/ Batch
External Exam:- 40 Marks

Evaluation Scheme
Continuous Assessment:- 60 Marks

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

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Winter 2018

Course: B. Tech. **Sem: I**

Subject Name: Communication Skills **Subject Code: CS1204**

Max Marks: 60 Marks **Date: 18-12-2018** **Duration: 3 Hr.**

Instructions to the Students:

1. *All the questions are compulsory.*
2. *The level 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.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		
A)	What are psychological barriers to communication? Explain with examples.	**Remember**	**06**
B)	What are the types of reading? Explain.	**Remember**	**06**
C)	What is non-verbal communication? Give five examples of Non-verbal communication.	**Apply**	**06**
Q.2	You will be appearing for the interview in the next week. What preparations will you do before the interview?	**Apply**	**12**
	OR		
A)	Why Group Discussion is conducted as a part of selection process by the companies?	**Understanding**	**06**
B)	How to overcome fear of public speaking?	**Understanding**	**06**
Q. 3			
A)	Write the spelling for the following transcription.	**Understanding**	**06**

1. /ˈʧɑːʤə/ 2. /həʊm/ 3. /ˈkɒnfɪdəns /
4. / greɪt / 5. / ɪgˈzæm/ 6. / ˈmtəˌnɛt /

B)	**Write phonemic transcription of the following words. (Any 3)**	**Understanding**	**06**

1. Technology
2. Click
3. Career
4. Photo

Q.4	**Solve Any Two of the following.**		
A)	Fill in the blanks.	**Apply**	**04**

1. He……his leg while he…..rugby.
   A.was breaking, played B. broke,was playing
   C. breaks, is playing D. was broken, playing
2. ……you finish the project yesterday?
   A.do B. have C. did D. are
3. He was studying at university ……three years.

A.since B. during C. for D. within

4. We……like to thank you for your application.
A.will B. would C. could D. may

B)	**Select the option that is the most OPPOSITE in meaning to the *ITALICISED* word.**	**Remember**	**02**

1. I really love that movie since it was very *DREADFUL* to watch and I like such movies.
A. Pleasant B. atrocious C. awful D. beastly
2. His *RECKLESS* attitude has harmed the entire team. I think we should do something about it.
A.Careless B. Cautious C. Hasty D. Kooky

C)	**Select the option that is the most SIMILAR in meaning.**	**Remember**	**02**

1. BRIEF
A.Long B. Short C. Little D. Limited
2. Alert
A Intelligent B. Energetic C. Passive D. Watchful

D)	**Do as directed.**	**Apply**	**04**

1. They …….. (start) their work everyday at 7 o'clock.
(Use appropriate form of verb.)
2. I'm meeting her …..4o'clock….Monday.
(Use appropriate preposition.)
3. I have been working here …… (from/ since) 1990.
(Use appropriate preposition.)
4. We have ……. uniform for the college.
(Use appropriate article.)

Q. 5	1. Write an application letter for the post of Trainee Engineer to the HR Manager, Infocom Pvt. Ltd., Nashik, Maharashtra. 2. Draft a resume for the above mentioned post.	**Apply**	**12**
	OR		
A)	Explain the difference between Technical writing and Literary writing.	**Understanding**	**06**
B)	What precautions one should take while writing emails?	**Understanding**	**06**

***** End *****

Energy and Environment Engineering
BTES205

Teaching Scheme
Lecture: 2 hrs/ week

Evaluation Scheme
Continuous Assessment:- 50 Marks

Course Objectives:

1. To identify conventional, non conventional energy sources.
2. To understand the power consuming and power developing devices for effective utilization and power consumption
3. To identify various sources of air, water pollution and its effects.
4. To understand noise, soil, thermal pollution and Identify solid, biomedical and hazardous waste.

Course Outcomes: Students will be able to:

1. Identify and aware about Conventional and Renewable energy sources.
2. Know the principle of Energy conservation to implement the energy conservation techniques.
3. Identify and control various sources of air, water and noise pollution and their effects.

Unit No.	Details of Content	Hrs
1	**Conventional Power Generation:** Steam power station, Nuclear power plant – Gas turbine power plant- Hydro power station: Schematic arrangement, advantages and disadvantages, Thermo electric and thermionic generators, Environmental aspects for selecting the sites and locations of power plants	4
2	**Renewable Power Generation:** Solar, Wind, Biogas and Biomass, Ocean Thermal energy conversion (OTEC), Tidal, Fuel cell, Magneto Hydro Dynamics (MHD): Schematic arrangement, advantages and disadvantages.	4
3	**Energy conservation** Scope for energy conservation and its benefits Energy conservation Principle– Maximum energy efficiency, Maximum cost effectiveness, Methods and techniques of energy conservation in ventilation and air conditioners, compressors, pumps, fans and blowers, Energy conservation in electric furnaces, ovens and boilers.,lightingtechniques.	4
4	**Air Pollution** Environment and Human health - Air pollution: sources- effects- control measures - Particulate emission, air quality standards, and measurement of air pollution.	4
5	**Water Pollution** Water pollution- effects- control measures- Noise pollution –effects and control measures, Disposal of solid wastes, Bio-medical wastes-Thermal pollution – Soil pollution -Nuclear hazard.	4

Reference/ Text Books:

1. A Chakrabarti, M. L Soni, P. V. Gupta, U. S. Bhatnagar, A Text book of Power System Engineering, Dhanpat Rai Publication.
2. Rai. G. D., Non Conventional Energy Sources, Khanna Publishers, Delhi,2006.
3. Rao S., Parulekar B.B., Energy Technology-Non conventional, Renewable And Conventional, Khanna Publishers, Delhi,2005.
4. Glynn Henry J., Gary W. Heinke, Environmental Science and Engineering, Pearson Education, Inc,2004.
5. J. M. Fowler, Energy and the Environment, McGraw-Hill, 2 nd Edition,1984.
6. Gilbert M. Masters, Introduction to Environmental Engineering and Science, 2nd Edition, Prentice Hall, 2003.

Note: Students are advised to use internet resources whenever required

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD -402 103
End Semester Examination – June - 2019

Branch: B. Tech (Group A/Group B) **Sem.:- I & II**

Subject with Subject Code:-Energy and Environmental Engineering (CHE106)

Marks: 60 **Date: 10/06/2019** **Time: 3 Hrs.**

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Instructions to the Students

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagram, etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

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(Marks)

Q.1. Solve any Two of the following: **(6×2=12)**

(a) Classify gas turbine power plants. Explain the various elements of gas turbine power plant.

(b) Why most of the thermal power plants are set near coal mines or oil reservoirs? Explain the cooling water circuit in a thermal power plant.

(c) Compare the Hydroelectric plants with the diesel power plant in respect of site requirement, initial cost, fuel transportation, reliability, operating cost, simplicity and cleanliness.

Q.2. Solve any Two of the following: **(6×2=12)**

(a) Compare the relative characteristics of HAWT and VAWT. List the major applications of wind power.

(b) What is the source of tidal energy? What are the potential sites of tidal energy in India? List the advantages and limitations of tidal energy.

(c) What is a fuel cell? Explain briefly about the working of Fuel Cell with a neat sketch.

Q.3. Attempt the following: **(6×2=12)**

(a) What do you mean by energy efficiency? Explain the measures to be taken to reduce the energy conservation in air conditioners. List any four measures.

(b) Explain the energy pyramid? Write at least six practices that lead to increase in energy conservation in industries.

Q.4. Attempt the following: **(6×2=12)**

(a) What are the six criteria pollutants in the original clean air act? Why are they chosen? List at least five illnesses that are caused by the dirty air.

(b) What are the major indoor pollutants? Where do the following indoor pollutants come from? Formaldehyde , Radon, Smoke, Asbestos, Molds.

Q.5. Solve the following: **(6×2=12)**

(a) Explain the various causes of water pollution in brief. What is red tide phenomenon related to water pollution?

(b) What are the sources and effects of noise pollution? Explain in detail.

Q.6. Solve the following: **(6×2=12)**

(a) What is radioactive pollution? What are its effects? How to control it?

(b) Explain the causes of marine pollution and its effect on aquatic life. How the marine pollution be controlled?

Basic Civil and Mechanical Engineering (Audit)
BTES206

Teaching Scheme
Lecture: 2 hrs/ week

Evaluation Scheme
Continuous Assessment:- 50 Marks

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. To understand principals of surveying in actual practice to prepare plan or map.
2. To understand concepts of building planning,building component and uses of building material
3. Define and explain basic terms of thermodynamics, laws of thermodynamics and working of IC Engine & different power plants.
4. Define and explain basic terms related to machine, mechanism, engg. materilas and working of machine tools.

Unit No	Details of Content
	Part I Basic Civil Engineering
1.	**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.
2.	**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.
3.	**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
4	**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
5	**Unit 2:** 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
Reference/Text Books: 1. A Chakrabarti, M. L Soni, P. V. Gupta, U. S. Bhatnagar, A Text book of Power System Engineering, Dhanpat Rai Publication. 2. Rai. G. D., Non Conventional Energy Sources, Khanna Publishers, Delhi,2006. 3. Rao S., Parulekar B.B., Energy Technology-Non conventional, Renewable And Conventional, Khanna Publishers, Delhi,2005. 4. Glynn Henry J., Gary W. Heinke, Environmental Science and Engineering, Pearson Education, Inc,2004. 5. J. M. Fowler, Energy and the Environment, McGraw-Hill, 2 nd Edition,1984. **6.** Gilbert M. Masters, Introduction to Environmental Engineering and Science, 2nd Edition, Prentice Hall, 2003.	
Note: Students are advised to use internet resources whenever required	

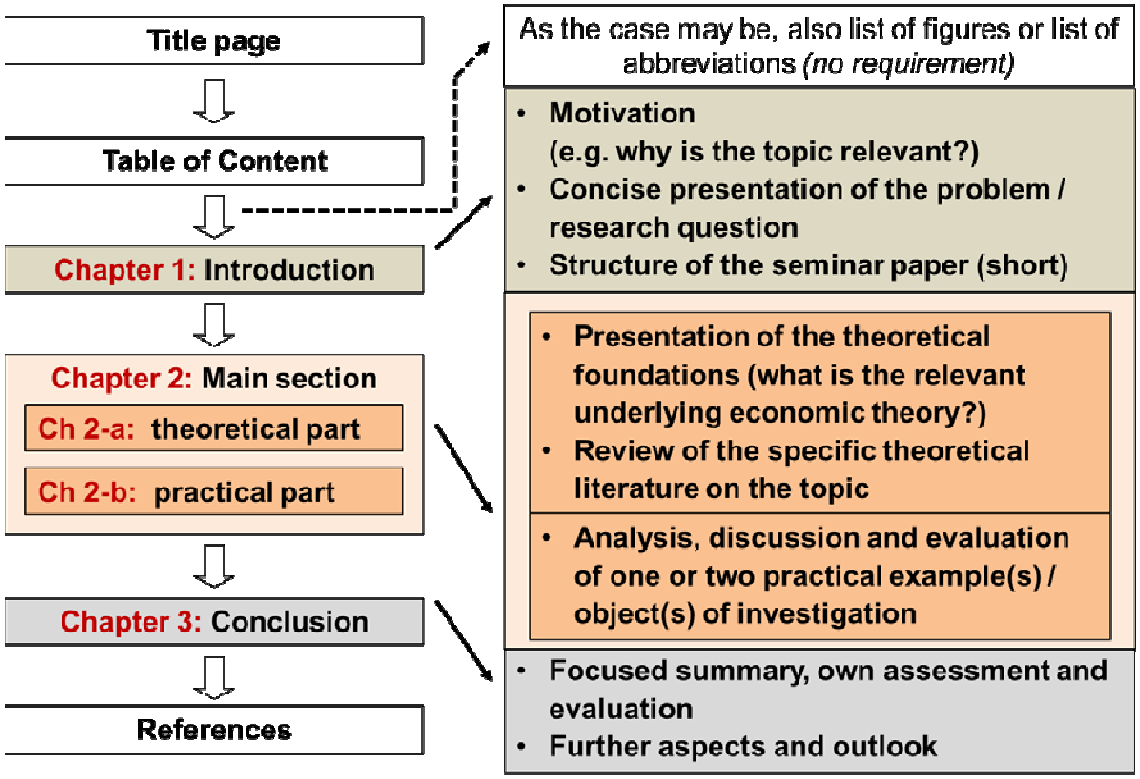
Seminar Guidelines

The seminar paper, including introduction, main section and concluding remarks must not exceed 16 pages. An appendix can only be added (after consultation with the instructor) if the topic requires the use of large-size figures and tables or comprehensive mathematical expositions.

The table of contents providing the deep structure has to be included directly after the title page. It has to contain page references for all paragraphs, sections and subsections, the headings of which have to be repeated at the respective locations in the text.

The introductory paragraph provides a first characterization of the topic. It answers the question why this topic is worth investigating and is concluded by an overview of the structure of the paper. In the subsequent paragraphs, firstly the theoretical foundations of the topic have to be displayed. This is usually done in the form of a review of the relevant literature in the respective field. After that, the specific topic (i.e. a case study or a specific economic or political issue) is dealt with and the results are discussed according to the criteria developed in the theoretical section. The last paragraph contains some concluding remarks. This part emphasizes and evaluates the main findings of the paper (avoid mere summaries!). The concluding remarks should also provide interesting perspectives for future re- search.

The structure of a seminar report can be as shown in schematic form below:



Assessment method:

Assessment heads	Weight age of final marks
Seminar report/paper (12-16 pages)	50%
Seminar Presentation (15 minutes)	25%
Use of modern analysis tools	25%

1) CREDIT SYSTEM AND MODE OF EVALUATION

All the courses in the University and affiliated colleges shall be credit based and the evaluation will be grade based. Credit based grading system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits may be based on different parameters, such as student workload, learning outcomes and contact hours. It is a student-centric system based on the student workload required to achieve the objectives of a programme. It should facilitate academic recognition of the courses and mobility of the students. Credits assignment is based on the principle that Credits can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. Student workload consists of the time required to complete all prescribed learning activities such as attendance at lectures/practical, seminars, projects, etc. Credits are allocated to all the educational components of a study programme and indicate the quantity of work each component requires to achieve its specific objectives. Evaluation is an important component of any teaching-learning process. The University gives emphasis on continuous evaluation with considerable freedom to the teacher in deciding the mode of evaluation of the students. The performance of the student is documented by a grade at the end of the semester. The grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance in his/her class is a prerequisite for applying the grading system.

2. Course Credits

In general, a certain quantum of work measured in terms of credits is laid down as the requirement for a particular degree. The student acquires credits by passing courses every semester, the amount of credits associated with a course being dependent upon the number of hours of instruction per week in that course. There are mainly two types of courses in the University - lecture courses and laboratory courses. Lecture courses consist of lecture (L) and tutorial (T) hours. Laboratory courses consist of practical (P) hours. As per the AICTE norms, the credit (C) for a course is dependent on the number of hours of instruction per week in that course, as given below: (1) 1h/week of lecture (L) or tutorial (T) = 1 credit (2) 2h/week of Practical's (P) = 1 credit (3) Credit (C) for a theory course = No. of hours of lectures per week + No. of hours of tutorials per week = L + T (4) Credits (C) for a Laboratory course = ½ x No. of hours of laboratory course per week Credits will be assigned

to Industrial Training, Seminar, Projects and other mandatory course requirements also and these will be mentioned in the respective syllabi. There may be some non-credit requirements. A student is required to earn credits as mentioned in the syllabus.

3. Evaluation

The weightages of different modes of assessments shall be as under.

In-Semester evaluation				
	Continuous mode(CA)	**Mid Semester Exam**	**EndSemesterExam**	**Components of continuous mode**
Theory	20%	20%	60%	Quizzes, class tests (open or closed book but minimum 2 in the semester if only mode of CA), home assignments, group assignments, viva-voce discussions
Practical's	60%	-	40%	Attendance, completion of experiments viva -voce, journal submission, assignments, project, experiments, announced test

4) In-Semester Evaluation

j) It is expected that the teacher would conduct at least two formal assessments of the students under the continuous assessment mode in a Semester

k) The teacher will announce at the beginning of the respective course the method of conducting the assessments under the continuous mode and the assignment of marks and inform the same to the Director- Academics or Dean in University or Principal/HoD in affiliated college in the first week of the semester. The same may be also displayed on the University/ College Portal.

l) The teacher shall keep the record of the continuous assessment of a class at least for three years and produce it to the Principal of the college or Director-Academics, if needed.

m)In-semester performance of all students, both continuous assessment and midsemester examination should be displayed on notice board as well on College / University Portal and sent to the academic office of the University/ College by the teacher before the end-semester examination. e) For the theory courses, there will be one Mid-semester test for

each course to be held as per the schedule fixed in the Academic Calendar of the University/college, preferably in the eighth week of the semester

n) A candidate who has not appeared for the in-semester continuous tests and/or midterm examination in one or more subjects shall be considered to have not completed the course and will have to re-register for the respective subjects/course in the following year.

5) End-Semester examination

The semester end examination will cover the full syllabus of the course and will be conducted as per the University time table at the end of each semester.

5.1) Pass and Fail

(Revised as per the Item 8 of the Minutes of the Academic Council Meeting held on 19th August 2017)

(a) The candidates who obtain 40% and more marks in a subject head of the end semester examination AND 40% or more of the total marks of a subject head shall be deemed to have passed the respective subject head.

(b) The candidates who obtain less than 40% of marks in a subject head of the end semester examination and less than 40% the total marks of a subject head shall be deemed to have failed in the respective subject head (Grade FF).

5.2) Grades

(a) The performance of a student shall be documented by a Letter grade. Each letter grade has a Grade point associated with it. The Grades and Grade points shall be assigned to each head of passing and both will be indicated in the mark-list of the semester examination.

(b) A teacher shall assign absolute marks to all the in-semester tests and the end-semester tests for the respective subject head. The teacher shall collate the marks in the midsemester and continuous mode examinations convert them to prescribed 20% and 20% mark, respectively and submit the same to the office.

(c) The total marks (continuous assessment + mid-semester + end-semester) of a candidate in a subject head are converted into a letter grade, based on the relative performance of the student in the class taking examination in the subject. The performance of the students who have passed the said subject shall be considered for the allotment of the relative grade on statistical basis.

Letter Grade	Grade Point
EX	10
AA	9.5
AB	9
BB	8.5
BC	8.0
CC	7.5
CD	7
DD	6.5
DE	6.0
EE	5

(d) The grades to be allotted in the case of students who fail or do not appear at the end semester examination shall be as under.

Letter Grade	Grade Point	Explanation
FF	0	The candidate fails in subject head. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule
XX	0	(i) The candidate has not kept term for the subject head due to attendance less than requisite 75%. (ii) The in-semester performance of the candidate is very poor. Further see 7.3.5(g) In the above cases, the candidate has to repeat the respective course by paying the fees in the following year
I	0	The candidate has kept term for the subject head, has taken all the internal examinations with satisfactory performance, but has failed to take the end-semester examination due to genuine reasons. The candidate will be allowed to take subsequent examinations as per rule
FR	0	The candidate has exhausted all the permissible chances to clear the end-semester examinations. The candidate has to register for the respective semester again for all the subject heads or will be out of the respective degree course as per the rules

DR	0	(i) The candidate hasn't participated in academic programme. (ii) The candidate has taken a drop for the subject head;- provided he/she intimates the same (i or ii) at least 7 days in advance of the commencement of the end-semester examination for the respective year.

(e) Grades FF and I are place-holders only and do not enter into CGPI/SGPI calculations directly. These grades get converted to one of the regular grades after the end-semester examination.

(f) A candidate with an FR grade has appeared for maximum number of permissible six end semester examinations and has to re-register for that course by paying the appropriate fees.

(g) I grade will not be continued beyond the permissible number of six consecutive end semester examinations, irrespective of whether the candidate fails to take any of these exams.

(h) 'XX' Grade: The grade XX in a course is awarded if – (i) a candidate does not maintain the minimum 75% attendance in the Lecture/Tutorial/Practical classes, (ii) the student has bad or incomplete in-semester records, for example, a candidate missing all internal tests and mid-semester examination, etc., (iii) a candidate indulges in a misconduct/uses unfair means in the examination, assignments, etc., of a nature serious enough to invite disciplinary action in the opinion of the teacher. (Note: Award of the XX grade in the case of g(iii) above shall be done by Disciplinary Action Committee (DAC)).

(i) The names/roll numbers of students to be awarded the XX grade should be communicated by the teacher to the Academic office as per academic calendar before the last date of submission of the application for end-semester examination

5.3. Awarding the grades

(1) The grading scale ranks the students on a statistical basis on the basis of the overall performance of the students of a given class in the given subject head. Therefore, statistical data on students' performance is a prerequisite for applying the grading system. While assigning grades in a given subject head, it is essential to know the average marks (AM) obtained by the students who have passed the subject head and the highest marks (HM) obtained in the same subject head.

(a) EX Grade shall be awarded to the candidate(s) who scored highest mark (HM) in the concerned subject head provided the marks obtained are 80% or higher in the given subject head.

(b) If the average marks (AM) obtained by the students who have passed the subject head is such that $60\% \leq AM < 70\%$, the interval AM shall be awarded grade CC and the other grades shall be decided as follows:

(c) AA, AB, BB grades shall be decided between the AM and HM by dividing the range in equal intervals.

(d) CC, CD, DD, DE and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

(2) If the average marks (AM) obtained by the students who have passed the subject head is ≥ 70%, the interval AM shall be awarded grade BB and the other grades shall be decided as follows:

(a) AA, AB and BB grades shall be decided between the AM and HM by dividing the range in equal intervals.

(b) BC CC, CD, DD, DE and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals

(3) Illustration of award of different grades are explained in the following examples:

i) Example 1: HM = 92, AM = 76

Hence, IL = (76-40)/6 = 6, IU = (92-76)/3 = 5.33 ≈ 5

ii) Example 2: HM = 84, AM = 62

Hence, IL = (62-40)/5 = 4.4 ≈ 4, IU = (84-62)/4 = 5.5 ≈ 6

Marks distribution for different grades

Sr. No.	Letter Grade	Example 1 (HM=92, AM= 76, IL = 6, IU = 5	Example 2 (HM=84, AM= 62, IL = 4, IU = 6
1	EE	40 to 45	40 to 43
2	DE	46 to51	44to45
3	DD	52 to 57	48to 50
4	CD	58 to 63	52 to 55
5	CC	64to 69	56to 62
6	BC	70 to 76	63 to 68
7	BB	77 to 81	69 to 74
8	AB	82 to 86	75 to 80
9	AA	87 to 91	81 to 83
10	EX	92	84

6. Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

(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 upto two decimal places). A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA=\frac{(\sum_{i=1}^{n} c1g1)}{(\sum_{i=1}^{n} c1)}$$

Where

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

'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 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 (up to 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:

$$CGPA=\frac{(\sum_{i=1}^{m} c1g1)}{(\sum_{i=1}^{m} c1)}$$

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.

(c) The CGPA, SGPA and the grades obtained in all the subjects in a semester will be communicated to every student at the end of every semester/ beginning of the next semester.

(d) When a student gets the grade 'FF', or I' in any subject head during a semester, the SGPA and CGPA from that semester onwards will be tentatively calculated, taking only 'zero' grade point for each such 'FF' or 'I' grade. When the 'FF' grade(s) has/ have been substituted by better grades after the repeat examination or subsequent semester examination, the SGPA and CGPA will be recomputed and recorded.

7. Supplementary End-Semester Examination

(Revised as per the item 7 of Minutes of the Academic Council meeting held on 19th August 2017)

(1) For those candidates who fail in a subject head or are eligible for appearing at the repeat examination, A Supplementary End-Semester Examination of odd semester will be conducted before the regular End semester examination of the even semester.
(2) A Supplementary End-Semester Examination of even semester will be conducted before the regular End semester examination of the odd semester.
(3) The marks obtained by candidates in the in-semester examinations (continuous assessment and mid-term examination) will be carried forward in such cases.
(4) Grading the performance in the Supplementary Examination: The grades will be assigned as per 3.5 and 3.6 above
(5) Revaluation of end-semester and Supplementary examination: Candidate's performance in these examinations will be announced on web portal of the University and after one month of such announcement the grade statements will be sent to the concerned Department for distribution to the students. Those who want to get the photocopy of their answer books are required to pay the requisite fee. Revaluation of these examinations shall be allowed. Those who would like to have the revaluation of their answer books are required to pay a requisite fee.
(6) Remedial examination the candidate will have an option of appearing for an Online Remedial Examination, after the declaration of each End-semester examination results, to pass the subject head where he/she has failed in regular end-semester examination of the semester. The candidate will get only EE grade if he clears the remedial examination and can continue with the next semester. However, for improving his grade in the same subject head, the candidate will have an option of appearing in the 'same' subject in the Supplementary Examination before the regular end-Semester examination.

8. Passing of a Semester Examination

A candidate shall be declared as 'PASSED' any semester examination if he/she has

(a) Cleared all heads of passing by securing grades EE or higher in all the heads;
(b) Passed all the heads of passing such as project, seminar, training, etc as per the rules;
(c) Satisfactorily completed all the mandatory requirements of the course;
(d) paid all the University/college dues;
(e) No case of indiscipline pending against him/her.

9. Eligibility for the Award of a Degree

A candidate shall be declared eligible for the award of a degree, if he/she has cleared all the semester examinations as given in (6) above.

10. Award of Degree of Honors'

Major Degree

The concept of Major and Minors at B.Tech level is introduced , to enhance learning skills of students, acquisition of additional knowledge in domains other than the discipline being pursued by the student, to make the students better employable with additional knowledge and encourage students to pursue cross-discipline research.

A. Eligibility Criteria for Majors

i. The Student should have Minimum CGPA of 7.5 up to 4th Semester
ii. Student willing to opt for majors has to register at the beginning of 5th Semester
iii. The Student has to complete 5 additional advanced courses from the same discipline specified in the curriculum. These five courses should be of 4 credits each amounting to 20 credits. The students should complete these credits before the end of last semester.
iv. Student may opt for the courses from NPTEL/ SWAYAM platform. (if the credits of NPTEL/ SWAYAM courses do not match with the existing subject proper scaling will be done).

Student complying with these criteria will be awarded B.Tech (Honours) Degree.

B. Eligibility Criteria for Minors

i. The Student should have Minimum CGPA of 7.5 up to 4th Semester
ii. Student willing to opt for minors has to register at the beginning of 5th Semester
iii. The Student has to complete 5 additional courses from other discipline of their interest, which are specified in the respective discipline. These five courses should be of 4 credits each amounting to 20 credits.
iv. Student may opt for the courses from NPTEL/ SWAYAM platform. (if the credits of NPTEL/ SWAYAM courses do not match with the existing subject proper scaling will be done)

Student complying with these criteria will be awarded with B. Tech Degree in ------- Engineering with Minor in ------ --Engineering. (For e.g.: B. Tech in Civil Engineering with Minor in Computer Engineering)