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– 416304

STUDENT'S INFORMATION MANUAL

(Academic Year: 2020-21)

Semester-I

Teaching and Evaluation Scheme for First Year B. Tech. Group A

Department of First Year Engineering

Department of First Year Engineering

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

VISION OF DEPARTMENT

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

MISSION OF DEPARTMENT

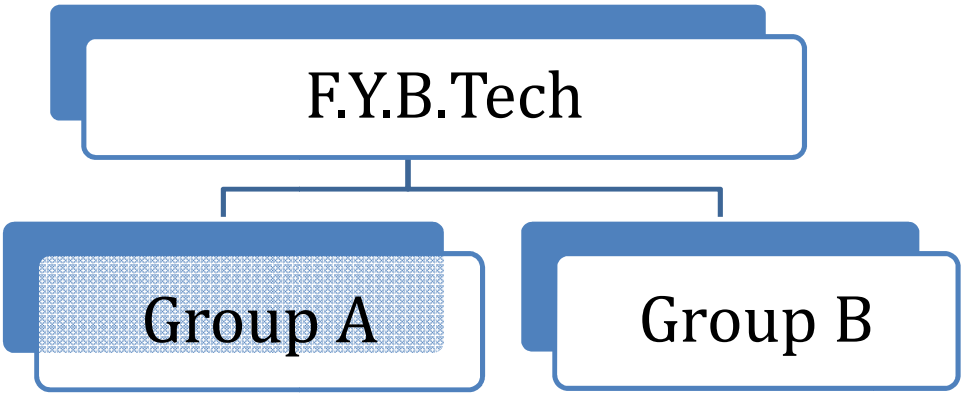
1. To create an environment where students can ascertain that career in engineering matches their interests and abilities.
2. To impart strong fundamental and technical knowledge in the basic science subjects to enable them to prepare themselves for successful career.
3. To inculcate habbit of innovation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

GOALS

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

STRUCTURE OF FIRST YEAR ENGINEERING

(With effective from Academic Year 2020-21)



1) Chemical Engineering
2) Civil Engineering
3) Mechanical Engineering

1) Computer Science and Engineering
2) Electronics Engineering
3) Electrical Engineering
4) Electronics & Telecommunication Engg.
5) Instrumentation Engineering

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THE ROLE OF STUDENTS

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

Responsibilities:

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

Code-of-Conduct: Students Shall

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

Laboratory Instructions

Laboratory Instructions

- Read all the instructions carefully.
- Always keep silence in the laboratory.
- Keep your mobiles switched off in the laboratory.
- Always wear an apron before starting your laboratory work.
- 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 A Semester I

(Chemical/ Civil/ Mechanical Engineering)

Sr. No.	Course Code	Name of Course	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
1	BTBS101	Engineering Mathematics-I	3	1	-	20	20	60	100	4
2	BTBS102	Engineering Physics	3	1	-	20	20	60	100	4
3	BTES103	Engineering Graphics	2	-	-	20	20	60	100	2
4	BTHM104	Communication Skills	2	-	-	20	20	60	100	2
5	BTES105	Energy and Environment Engineering	2	-	-	20	20	60	100	2
6	BTES106	Basic Civil and Mechanical Engineering	2	-	-	50	-	-	50	Audit
7	BTBS107L	Engineering Physics Laboratory	-	-	2	60	-	40	100	1
8	BTES108L	Engineering Graphics Laboratory	-	-	4	60	-	40	100	2
10	BTHM109L	Communication Skills Laboratory	-	-	2	60	-	40	100	1
		Total	**14**	**2**	**8**	**330**	**100**	**420**	**850**	**18**

COURSE CO-ORDINATOR

Sr. No.	Course	Corse Code	Course Coordinator	Email id	Contact No.
1	Engineering Mathematics-I	BS101	Dr. P. B. Kadam-Lugade	pbklugade.ge@pvpitsangli.edu.in	9970041879
2	Engineering Physics	BS102	Dr. S. L. Patil	slpatil.ge@pvpitsangli.edu.in	9423269875
3	Engineering Graphics	BE103	Mr. S. B. Khandagale	sbkhandagale@pvpitsangli.edu.in	7798934522
4	Communication Skill	HM104	Mr. S. E. Narwade	senarwade.ge@pvpitsangli.edu.in	9527057048
5	Energy and Environmental Engineering	ES105	Mr. P. B. Dhanke	prashantdhanke.chem@pvpitsangli.edu.in	92260 12686
6	Basic Civil and Mechanical Engineering	ES106	Ms. A. K. Salunkhe Mr. S. B. Khndagale	aksalunkhe.civil@pvpitsangli.edu.in sbkhandagale@pvpitsangli.edu.in	8308101423 7798934522

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	Dr. S. L. Patil	Physics	slpatil.ge@pvpitsangli.edu.in	9423269875
02	II	Dr. V. J. Suryavanshi	Chemistry	vjsuryavanshi.ge@pvpitsangli.edu.in	9975758102
03	III	Mr. A. K. Chavan	English	akchavan.ge@pvpitsangli.edu.in	9834750779
04	IV	Mrs. S. P. Mandale	Mathematics	spmandale.ge@pvpitsangli.edu.in	9172035381
05	V	Mr. M. R. Waikar	Physics	maqsoodwaikar.ge@pvpitsangli.edu.in	9860861758
06	VI	Mrs. D. A. Lavate	Chemistry	dalavate.ge@pvpitsangli.edu.in	8788009691

COURSE TEACHERS

SEM-I

Course \ Division/ Class	I	III	V
Engineering Maths-I	Dr. P.B. Kadam-Lugade	Dr. A. A. Patil	Mrs. S. P. Mandale
Communication Skills	Mr. S. E. Narwade	Mr. A. K. Chavan	Mr. S. E. Narwade
Engineering Physics	Dr. S. L. Patil	Dr. S. L. Patil	Mr. M. R. Waikar
Engineering Graphics	Mr. A.P. Lad	Mr. S. B. Khndagale	Mr. C. D. Patil
Basic Civil and Mechanical Engg.	Ms. A. K. Salunkhe Mr. A.P. Lad	Ms. A. K. Salunkhe Mr. S. B. Khndagale	Ms. A. K. Salunkhe Mr. C. D. Patil
Energy and Environment Engg.	Ms. P. C. Kale	Ms. P. C. Kale	Mr. P. B. Dhanke

ACADEMIC CALENDAR

Dr V P S S M's

PadmabhooshanVasantraodadaPatil Institute of Technology, Budhgaon (Sangli)

First Year Engineering Department

Academic Calender 2020-21

SEM I

FEBRUARY 2021 **Academic Days: 23**

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

Induction Programme :- 18th Jan. -31st Jan. 21
Commencement of Term :- 1th Feb. 21
Late Vishnu Anna Punyatithi :- 12th Feb. 21
Shiv Jayanti:-19th Feb.21
List of non-Reported students :- 28th Feb. 21
1st Defaulter students list :- 28th Feb. 21

MARCH 2021 **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	31				

Late Vasantdada Punyatithi:- 1st March 21
CA1 Evaluation :- 1st -6th March21
Mid Semester Exam(To be conduct on Zero Hours) :- 11th-15th March 21
Parents Meet :- 27th March 21
Holi:-29th March 21
2nd Defaulter students list :- 31st March 21

APRIL 2021 **Academic Days: 21**

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		

AmbedkarJayanti:- 14th April 21
CA2 Evaluation :- 12th -17th March21
Annual Social Gathering :- 23rd and 24th April21
End of Classes:- 23rd April 21
Practical Exam.:-26th -29th April 21
3rd Defaulter students list :- 24th April 21

MAY 2021 **Academic Days: 23**

MON	TUE	WED	THUR	FRI	SAT	SUN
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	30

Maharashtra Day :- 1st May 21
End Semester Examination :- 3rd-12th May 21
Result Declaration :- 20th May 21
SEM II starts :- 17th May21

Dr. Mrs. A. A. Patil
HoD, First Year Engg.

Mr.A.A.Kumbhojkar
Dean Academic

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 2020-21 SEM-I**	**With Effect From 01/02/2021**

TIME TABLE

	Class:	FE-I	**Branch: -**	**Chemical/Mechanical/Civil**		**Class Room:**	**C-03**
Sr. No.	**TIME**	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**
1	**10:10 TO 11:10**	ES105/PCK	ES103/APL	**A1- HM109L A2-102(T) /101(T) A3- ES108L**	ES106//APL	BS101/PBKL	**PBKL- Dr P B Kadam -Lugade SLP-Dr. S LPatil SEN-S E Narwade /APL- A P Lad /PCK- P C Kale**
2	**11:10 TO 12:10**	HM104/ SEN	BS102/SLP		ES105/PCK	ES106/TSB	
	12:10 TO 12.45		**LONG**	**RECESS**			
3	**12.45 TO 13:45**	BS101/PBKL	**A1- ES108L A2- HM109L A3-102(T) /101(T)**	BS102/SLP	BS101/PBKL	**A1- ES108L A2- BS107L A3- ES108L**	
4	**13:45 TO 14:45**	BS102/SLP		ES103/APL	HM104/SEN		
	14:45 TO 14:55		**SHORT**	**RECESS**			
5	**14:55 TO 15:55**	**A1- BS107L A2- ES108L A3- HM109L**	*HM104/BS102 #	*BS101/PBKL	**A1- 102(T) /101(T) A2- ES108L A3- BS107L**	*ES103/APL	**# M-M / Counselor Int.** Mentee –Mentor or Counselor Interaction
6	**15:55 TO 16:55**		**# M-M / Counselor Int.**	***LVH***		***LVH***	
	LVH-Library Visit Hour-		***- Extra**	**# - Alternate**	**(T)-Tutorial**		

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	BS101	Engineering Mathematics-I	**4**	HM104	Communication Skills	**7**	BS107L	Engineering Physics Laboratory
2	BS102	Engineering Physics	**5**	ES105	Energy and Environment Engineering	**8**	ES108L	Engineering Graphics Laboratory
3	ES103	Engineering Graphics	**6**	ES106	Basic Civil and Mechanical Engineering	**9**	HM109L	Communication Skills Laboratory

Dr. Vasantraodada Patil Shtekari Shikshan Mandal's
Padmabhooshan Vasantraodada Patil Institute Of Technology, Budhgaon. (Sangli)
FIRST YEAR ENGINEERING DEPARTMENT (F. Y. B. Tech)
TIMETABLE 2020-21 SEM-I

With Effect From 01/02/2021

	Class:	FE-**III**	**Branch: -**	**Chemical/Mechanical/Civil**		**Class Room:**	**C-04**
Sr. No.	**TIME**	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**
1	**10:10 TO 11:10**	BS101/AAP	BS101/AAP	HM104/AKC	**C1- HM109L C2-102(T)/101(T) C3- ES108L**	ES103/SBK	**AAP- Dr. A A Patil SLP- Dr.S L Patil SBK -S B Khandagale AKC- A K Chavan /PCK-P C Kale**
2	**11:10 TO 12:10**	BS102/SLP	ES103/SBK	BS102/SLP		HM104/AKC	
	12:10 TO 12.45			**LONG**	**RECESS**		
3	**12.45 TO 13:45**	**C1- ES108L C2- BS107L C3- ES108L**	ES106/AKS	**C1-102(T)/101(T) C2- ES108L C3- BS107L**	BS101/AAP	BS101*/AAP	
4	**13:45 TO 14:45**		ES105/PCK		BS102/SLP	ES105/PCK	
	14:45 TO 14:55			**SHORT**	**RECESS**		
5	**14:55 TO 15:55**	*ES103/SBK	**C1- BS107L C2- ES108L C3- HM109L**	*HM104/BS102#	ES106/SBK	**C1- ES108L C2- HM109L C3-102(T)/101(T)**	**# M-M / Counselor Int.** Mentee – Mentor or Counselor Interaction
6	**15:55 TO 16:55**	***LVH***		***LVH***	**# M-M / Counselor Int.**		
	LVH-Library Visit Hour		***-Extra**	**# - Alternate**	**(T)-Tutorial**		

Sr. No.	**Course Code**	**Name of the Course**	**Sr. No.**	**Course Code**	**Name of the Course**	**Sr. No.**	**Course Code**	**Name of the Course**
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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 2020-21 SEM-I

With Effect From 01/02/2021

	Class:	FE-**V**	**Branch: -**	**Chemical/Mechanical/Civil**		**Class Room:**	**C-05**
Sr. No.	**TIME**	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**
1	**10:10 TO 11:10**	BS102/MRW	ES105/PBD	BS101/ SPM	ES103/CDP	**E1-102(T)/101(T) E2- ES108L E3- BS107L**	/SPM-S P Mandale CDP- C D Patil MRW-M R Waikar SEN-S E Narwade AKS-A K Salunkhe PBD- P B Dhanke
2	**11:10 TO 12:10**	BS101/ SPM	BS102/MRW	ES106/AKS	BS102/MRW		
	12:10 TO 12.45		**LONG**	**RECESS**			
3	**12.45 TO 13:45**	HM104/SEN	**E1- ES108L E2- BS107L E3- ES108L**	ES103/CDP	**E1- ES108L E2- HM109L E3-102(T) / 101(T)**	ES105/PBD	
4	**13:45 TO 14:45**	ES106/CDP		HM104/SEN		BS101/ SPM	
	14:45 TO 14:55		**SHORT**	**RECESS**			
5	**14:55 TO 15:55**	**E1- HM109L E2-102(T)/101(T) E3- ES108L**	*ES103/CDP	**E1- BS107L E2- ES108L E3- HM109L**	*BS101/ SPM	*HM104/BS102#	**# M-M / Counselor Int.** Mentee –Mentor or Counselor Interaction
6	**15:55 TO 16:55**		**LVH**		**LVH**	**# M-M / Counselor Int.**	
	LVH-Library Visit Hour-		****-Extra***	***# - Alternate***	***(T)-Tutorial***		

Sr. No.	**Course Code**	**Name of the Course**	**Sr. No.**	**Course Code**	**Name of the Course**	**Sr. No.**	**Course Code**	**Name of the Course**
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3	ES103	Engineering Graphics	**6**	ES106	Basic Civil and Mechanical Engineering	**9**	HM109L	Communication Skills Laboratory

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: 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, Vasantotav and 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 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.

Our Recruiters

Engineering Mathematics – I (4 Credits)
BTBS101

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. Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem
2. Demonstrate the concept partial derivatives and their applications to Maxima/ Minima , series expansion of multi valued functions.
3. Compute Jacobian of functions of several variables and their applications to engineering problems
4. Identify and sketch of curves in various coordinate system.
5. Evaluate multiple integrals and their applications to area and volume

Unit No.	Details of Content	Hrs
1.	**Linear Algebra- Matrices** Rank of a matrix; Consistency of non- homogeneous 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 application **[Topic for Self Study Mode: Inverse of a matrix by Gauss-Jordan method; Normal form of a matrix]**	6
2.	**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; **[Topic for Self Study Mode: Change of variables]**	6
3.	**Applications of Partial differentiation** Jacobians - properties; Taylor's and Maclaurin's theorems (without proofs) for functions of two variables; **[Topic for Self Study Mode: Maxima and minima of functions of two variables; Lagrange's method of undetermined multipliers.]**	6

4.	**Reduction Formulae and Curve Tracing** Tracing of the curves given in Cartesian, parametric and polar forms. **[Topic for Self Study Mode: Reduction formulae for $\int_0^{\frac{\pi}{2}} \sin^n x\,dx$, $\int_0^{\frac{\pi}{2}} \cos^n x\,dx$, $\int_0^{\frac{\pi}{2}} \sin^n x \cos^n x\,dx$]**	**6**
5.	**Multiple Integrals** 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; **[Topic for Self Study Mode: Applications of multiple integrals to find area as double integral , volume as triple integral and surface area.]**	**8**

Text Books

1) Higher Engineering Mathematics by B. S. Grewal, Khanna Publishers, New Delhi
2) Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley and Sons, New York
3) A Course in Engineering Mathematics (Vol I) by Dr. B. B. Singh, Synergy Knowledgeware, Mumbai.
4) A Text Book of Applied Mathematics (Vol I and II) by P. N. Wartikar and J. N. Wartikar, Pune, Vidyarthi Griha Prakashan, Pune.
5) Higher Engineering Mathematics by H. K. Das and Er. RajnishVerma, S. Chand and 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 and L. C. Barrett, Tata Mcgraw-Hill Publishing Company Ltd., New Delhi.

General Instructions

- The tutorial classes in Engineering Mathematics-I 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 – RAIGAD -402 103

Semester Winter Examination – Dec.- 2019

Branch: B. Tech. (Common to all) **Semester:- I**
Subject:- Engineering Mathematics – I (MATH 101) **Marks: 60**
Date:- 11/12/2019 **Time: 3 Hr.**

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Instructions to the Students

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

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Q.1

(a) Determine the consistency of the set of equations:

$x - 2y + z = -5$; $x + 5y - 7z = 2$; $3x + y - 5z = 1$. [6 *Marks*]

(b) Find the eigen values and eigen vectors of the matrix $A = \begin{bmatrix} 3 & 1 & 4 \\ 0 & 2 & 6 \\ 0 & 0 & 5 \end{bmatrix}$. [6 *Marks*]

Q.2

(a) If $y = x^n \log x$, prove that $y_{n+1} = \frac{n!}{x}$. [6 *Marks*]

(b) Using Taylor's theorem,

Prove that $\log \sin x = \log \sin a + (x-a)\cot a - \frac{1}{2}(x-a)^2 \operatorname{cosec}^2 x + \cdots$ [6 *Marks*]

Q.3 Solve any TWO:

(a) If $u = \log(x^3 + y^3 + z^3 - 3xyz)$, show that $\left(\frac{\partial}{\partial x} + \frac{\partial}{\partial y} + \frac{\partial}{\partial z}\right)^2 u = \frac{-9}{(x+y+z)^2}$. [6 *Marks*]

(b) If z is a homogeneous function of degree n in x *and* y , prove that

$x^2 \frac{\partial^2 z}{\partial x^2} + 2xy \frac{\partial^2 z}{\partial x \partial y} + y^2 \frac{\partial^2 z}{\partial y^2} = n(n-1)z$. [6 *Marks*]

(c) If $z = f(x, y)$ where $x = e^u + e^{-v}$ & $y = e^{-u} - e^v$,
then show that $\frac{\partial z}{\partial u} - \frac{\partial z}{\partial v} = x\frac{\partial z}{\partial x} - y\frac{\partial z}{\partial y}$. [6 *Marks*]

Q.4

(a) If $u = \frac{yz}{x}$, $v = \frac{zx}{y}$, $w = \frac{xy}{z}$, show that $\frac{\partial(u,v,w)}{\partial(x,y,z)} = 4$. [4 *Marks*]

(b) Find the percentage error in the measurement of the area of an ellipse when an error of **1.5 %** is made

in measuring its major and minor axes. [4 Marks]

(c) Find the points on the surface $z^2 = xy + 1$ nearest to the origin. [4 Marks]

Q.5 Solve any TWO:

(a) Evaluate the integral $I = \int_0^1 \int_0^x e^{x+y}\, dy\, dx$. [6 Marks]

(b) Change the order of integration and evaluate $\int_0^{\frac{\pi}{2}} \int_x^{\frac{\pi}{2}} \frac{cosy}{y}\, dx\, dy$. [6 Marks]

(c) Evaluate the integral $I = \int_0^a \int_0^x \int_0^{x+y} e^{x+y+z}\, dz\, dx\, dy$. [6 Marks]

Q.6

(a) State D' Alembert's ratio test, and hence check the convergence of the series:
$\sum_{n=1}^{\infty} \left(\frac{n^2}{2^n} + \frac{1}{n^2}\right)$. [6 Marks]

(b) State Cauchy's root test, and hence check the convergence of the series:
$\sum \frac{[(2n+1)\,x]^n}{n^{n+1}}$ $(x > 0)$. [6 Marks]

**********Paper End**********

Engineering Physics (4 Credits)
BTBS102

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. Explain and apply the concept of types of Oscillation, Dielectric properties and ultrsonics
2. Explain and compare between Interference and Polarisation of light ,working Principle of Lasers and Fiber optics
3. Interprete, apply and demonstrate principle of motion of charged particles in EFandMF, BA in bridge Mass spectrograph andG M counter
4. Identify Types of crystals and crystal planes using Miller indices, Experemental apprroach.

Unit No.	Details of Content	Hrs
1.	**Oscillation, Ultrasonic's and Dielectric Materials** Ultrasonic waves, production of ultrasonic's (Piezoelectric effect, Magnetostriction effect) and its applications. Dielectric parameters (Dielectric constant, Electric displacement, Polarization and Polarizability), Types of polarization, temperature and frequency dependences of dielectric materials. **[Topic for Self Study Mode:** Free oscillation, damped oscillation, Forced oscillation and Resonance, differential wave equation]	6
2.	**Optics, Fibre Optics and Laser** Laurent's half shade Polarimeter, Principle and structure of optical fibre, acceptance angle, acceptance cone, numerical aperture. Principle of laser, Einstein's coefficients, Types of laser – Ruby and He-Ne laser and their applications. **[Topic for Self Study Mode:** Interference of light in thin film, wedge shaped film , Newton's rings, polarization of light, methods for production of polarized light(Reflection, Refractionand Double refraction), Huygen's theory of double refraction,	6
3.	**Electron Optics, Nuclear Physics and Quantum Mechanics** Measurement of 'e/m' by Thomson's method, Determination of electronic charge by Millikan's oil drop method, Bainbridge mass spectrograph, Schrödinger's time dependent and time independent wave equations, physical	6

	significance of wave function. **[Topic for Self Study Mode:** G.M. counter, Heisenberg's uncertainty principle]	
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, Interplaner spacing for cubic system, Bragg's law, X-ray diffraction, Line and Continuous Spectrum of X-ray, Mosley's law. Electromagnetic wave in free space. **[Topic for Self Study Mode:** relation between lattice constant and density, lattice planes and Miller indices, Introduction of Maxwell equations (no derivation)]	**6**
5.	**Magnetic, Superconducting and Semiconducting materials** Types of magnetic materials (Ferromagnetic and Ant ferromagnetic, Ferrites and Garnets), B-H curve, Classical free electron theory-electrical conductivity, resistivity and its temperature dependence, microscopic Ohm's law, Meissner effect and Applications. Band theory of solids, conductivity of semiconductors **[Topic for Self Study Mode:** Superconductivity, types of superconductors, Hall effect]	**6**

Text books

1. Engineering Physics M.N. Avadhanulu and P.G. Kshirsagar. S.Chand and Company LTD.
2. Engineering Physics – Dr. L. N. Singh. Synergy Knowledgeware-Mumbai.
3. Engineering Physics - R.K. Gaur and S. L. Gupta. DhanpatRai Publications Pvt. Ltd.-New Delhi.
4. Fundamental of Physics - Halliday and Resnik. Willey Eastern Limited.

Reference books

1. Introduction to Electrodynamics –David R. Griffiths
2. Concept of Modern Physics – Arthur Beizer. Tata McGraw-Hill Publishing Company Limited.
3. Optics – Ajay Ghatak. Mac Graw 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 Vol. I, II, III.
7. Introduction to solid state physics – Charles Kittel. John Willey and Sons

Engineering Physics Laboratory
BTBS107L

Practical Scheme
Lecture: 2 Hrs/ Batch

Evaluation Scheme
Continuous Assessment:- 60 Marks
External Exam:-40 Marks

At least 10 experiments should be performed from the following list.

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.	Susceptibility measurement experiment

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. (2)
Calculate the spacing between (200) and (220) planes.

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

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. Use of drawing instruments effectively for drawing and dimensioning.
2. Explain conventions and methods of engineering drawing.
3. Apply concept of projections of points, lines, planes, solids and section of solids.
4. Construct isometric and orthographic views of given objects.

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: special methods of constructing a pentagon and a hexagon. **[Topic for Self Study Mode:** Dividing a given straight line into any number of equal parts, bisecting a given angle, drawing a regular polygon given one side]	4
2.	**Orthographic Projections and Projections of Points:** Introduction to orthographic projection, drawing of orthographic views of objects from their isometric views. **[Topic for Self Study Mode:** 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 of lines. **[Topic for Self Study Mode:** 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, solids with axis inclined to one or both the planes. Projections of spheres touching each other. **[Topic for Self Study Mode:** projections of solids with axis perpendicular and parallel to HP and VP]	4
5.	**Sectioning of Solids, Isometric Projections** Sectioning of solids: Isometric projections: Drawing of isometric projections from given orthographic views. **[Topic for Self Study Mode:** Section planes perpendicular to one plane and parallel or inclined to other plane, Isometric scale]	4

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*, McGraw Hill Education, 2017

Engineering Graphics Laboratory
BTES108L

Practical Scheme
Lecture: 4 Hrs/ Batch

Evaluation Scheme
Continuous Assessment:- 60 Marks
External Exam:-40 Marks

List of Practical

Sr. No.	Name of Experiment
1.	Lines, lettering and dimensioning.
2.	Geometrical Constructions.
3.	Orthographic projections.
4.	Projections of points.
5.	Projections of straight lines
6.	Projections of planes.
7.	Projections of solids.
8.	Section of solids.
9.	Isometric Projections.

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

Branch: B. Tech **Sem.: -I/ II**
Subject: -Engineering Graphics ME104/ME204 **Marks:60**
Date: -24/12/2019 **Time: -4 Hr.**

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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.
5. Retain all construction lines.

(Marks)

Q.1. **a.)**Inscribe a regular Heptagon in a circle of diameter 80mm. **(6)**

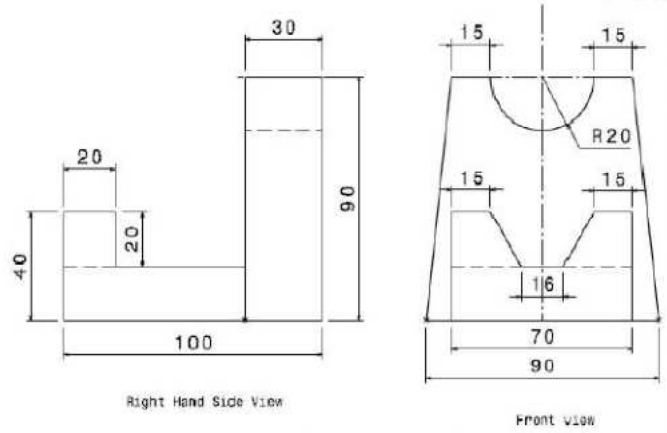
b.) Inscribe a Square in a circle of diameter of 70mm,Square is resting on one of its corner on ground **(6)**

Q.2 Draw Front View in the Direction of X and Right-Hand Side view of the given objectin fig Orthographic Projections. **(12)**

Q.3. Draw the Front View & Top View of line "AB", if HT & VT of line is 20& 35 mm below XY and distance between them is 30mm. Point "A" is 20mm above HPand length of Front View of AB is 60mm. **(12)**

Q.4. Draw the projections of Pentagonal pyramidside of base 25mm& height of axis 70mm if it is resting on one of its base edge such that axis is inclined at 30degrees to HP & the edge on which it is resting is inclined at 45 degrees to VP (Apex is away from the observer) **(12)**

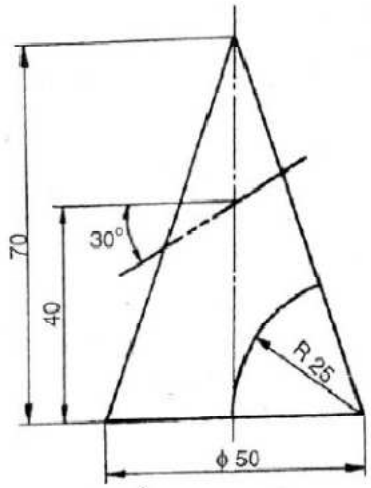
Q.5.A .Draw isometric drawing of given object in fig. Isometric Drawing **(12)**



OR

B) A right circular cone of diameter 60mm & height of Axis 70mm is resting on ground on its base. A Cutting Plane perpendicular to HP & inclined at 45 degrees to V. P. cuts the cone by passing through a point at a distance of 10 mm from axis, draw the projections and true shape of the section. **(12)**

Q.6. Draw the Development of cone given in the fig. Development of Cone **(12)**



Development of Cone

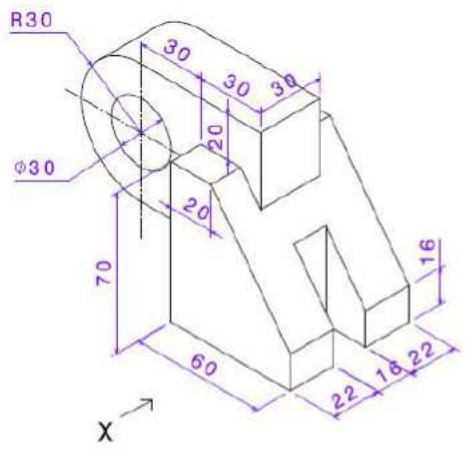


Fig. Orthographic Projection

Communication Skills (2 Credits)
BTHM104

Teaching Scheme	Evaluation Scheme
Lecture: 2 Hrs/ week	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. Apply speaking and writing skills in professional as well as social situations
2. Overcome Mother Tongue Influence and demonstrate neutral accent while exercising English
3. Apply communication skills for Presentations, Group Discussion and interpersonal interactions.
4. Apply grammar correctly during Speaking and Writing situations especially in context with Presentations, Public Speaking, Report writing and Business Correspondence

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. **Listening:** Importance of Listening, Types of Listening, Barriers to Listening. **[Topic for Self Study Mode:** Types of Reading: Skimming, Scanning, Fast Reading, Strategies for Reading, Comprehension]	4
2.	**Verbal and Non-verbal 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. **[Topic for Self Study Mode:** Use of Language in Spoken Communication, Extempore, Elocution]	4
3.	**Study of Sounds in English** Introduction to phonetics, Study of Speech Organs, Articulation of Different Sounds in English. **[Topic for Self Study Mode:** Study of Phonemic Script]	2
4.	**English Grammar** Grammar: Forms of Tenses, Articles, Prepositions, Use of Auxiliaries and Modal Auxiliaries, **[Topic for Self Study Mode:** Synonyms and Antonyms, Common Errors].	5
5.	**Writing Skills, Reading Skills and Listening Skills** Writing Emails, Formal and Informal English, **[Topic for Self Study Mode:** Features of Good Language, Difference between Technical Style and Literary Style, Technical Reports: Report Writing: Format, Structure and Types]. **Letter Writing:** Types, Parts, Layouts, Letters and Applications, Use of Different	4

	Expressions and Style, Writing Job Application Letter and Resume.	

Reference Books:

1) Sanjay Kumar, Pushp Lata, *Communication Skills*, Oxford University Press, 2016
2) Meenakshi Raman, Sangeeta Sharma, *Communication Skills*, Oxford University Press, 2017
3) Teri Kwal Gamble, Michael Gamble, *Communication Works*, Tata McGraw Hill Education,2010
4) Anderson, Kenneth. Joan Maclean and Tossny Lynch. Study Speaking: A Course in Spoken English for Academic Purposes. Cambridge: CUP, 2004.
5) Aswalthapa, K. *OrganisationalBehaviour*, 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 and Prabhu, N. S.: *English through Reading*, Vols. 1 and 2. Macmillan,1975
10) Black, Sam. *Practical Public Relations*, E.L.B.S. London (1972).
11) Blass, Laurie, Kathy Block and Hannah Friesan. *Creating Meaning*. Oxford: OUP, 2007.
12) Bovee Courtland L, and Thrill, John V. *Business Communication*, Today McGraw Hill, New York, Taxman Publication (1989).

Text book:

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

	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Winter End Semester Examination – Dec. 2019** **Course: B. Tech.** **Sem: I** **Subject: Communication Skills** **Subject Code: CS1204** **Max Marks: 60** **Date:21/12/2019** **Duration: 3 Hr.**		
	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.		
		(Level/CO)	Marks
Q. 1			
A)	**Write answers of any two of the following:**		**12**
1.	Define communication and its process?	**Knowledge**	03
2.	What functions do engineers perform through communication?	**Application**	03
B)	**Discuss any four barriers to communication and validate your answer with one example each.**	**Comprehensi on**	06
Q.2 A)	**Write short note on any two of the following:**		**12**
1.	Non-verbal communication during Interviews	**Application**	03
2.	Tips to overcome fear of Public Speaking/ Stage fright?	**Application**	03
B)	**What are the principles of group discussion?**	**Knowledge**	06
Q. 3			**12**
A)	**Draw a diagram of Speech organs. Explain any three speech organs with examples.**	**Comprehensi on**	06
B)	Write the spelling for the following transcription. (2 marks each) 1. dɪsˈʧɑːʤ 2. ˈmdəstri 3. ˈθɪətə	**Comprehensi on**	2x3= 06
Q.4			**12**
A)	**Fill in the blanks with appropriate words. (One mark each)** Rahul and Smita _____ (work, works, worked) in a mall everyday till 6:00 pm. Rahul handles the billing section of _____ (a, an, the, no article) mall, while Smita takes care of logistics. Yesterday, Smita _____ (see, saw, was seeing) a mouse running _____ (in, into, on) the storeroom. Rahul also heard some noise near _____ (a, an, the, no article) boxes. He _____ (started, start, has started) observing the movement.	**Application**	1x6= 06
B)	**Fill in the blanks with appropriate modal auxiliary verbs.**	**Application**	1x3= 03

	(one mark each) 1. My grandmother is eighty-five, but she …… still read and write without glasses. (can, may, could) 2. You …… not lose any more weight. You are already slim. (may, need, should) 3. We …… follow traffic rules to avoid accidents. (may, can, must)		
C)	**Fill in the blanks with the word opposite in meaning to those underlined. (one mark each)** 1. What looks like a **convenient** shortcut may prove to be very _____ in the long run. 2. No one wants to listen to an **ignorant** man but everybody listens to a _____ man. 3. Gold is an **expensive** metal while iron is _____.	**Application**	1x3= 03
Q. 5	**Solve Any One of the following.** *(This is just a sample instruction)*		**12**
A)	Write an application letter to your Head of the Department requesting 3 days' leave for your sister's marriage ceremony.	**Synthesis**	06
B)	Being a General Secretary of your institute, write an email to Hon. Narayan Murthy, Founder, Infosys inviting him as the Chief Guest for your College Annual function.	**Synthesis**	06
Q. 6	Solve any **three** of the following.		**(3x4)= 12**
A)	What are the barriers to listening?	**Knowledge**	4
B)	What is extempore Speech?	**Knowledge**	4
C)	How phonetics is important for Engineers?	**Comprehension**	4
D)	List down the points to be included in resume.	**Knowledge**	4
	_____ **Paper End** _____		

Energy and Environment Engineering (2 Credits)
BTES105

Teaching Scheme
Lecture: 2hrs/week
Mid Term Test:-20 Marks

Evaluation Scheme
Continuous Assessment:- 20 Marks
End Semester Exam:-60 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 conventional, non conventional energy sources.
2. Know and discuss power consuming and power developing devices for effective utilization and power consumption
3. Identify various sources of air, water pollution and its effects.
4. Know and discuss noise, soil, thermal pollution and Identify solid, biomedical and hazardous waste

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, [**[Topic for Self Study Mode:**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, [**[Topic for Self Study Mode:**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, Energy conservation in electric furnaces, ovens and boilers, lighting techniques. [**[Topic for Self Study Mode:** Methods and techniques of energy conservation in ventilation and air conditioners, compressors, pumps, fans and blowers]	4
4.	**Air Pollution:** Environment and Human health - Air pollution: sources- effects- control measures - Particulate emission, **[Topic for Self Study Mode: A**ir quality standards, and measurement of air pollution].	4
5.	**Water Pollution:** Water pollution- effects- control measures- Noise pollution –effects and control measures, Thermal pollution. [**[Topic for Self Study Mode:** Disposal of solid wastes, Bio-medical wastes– 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.

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

Winter Semester Examination – December - 2019

Branch: B. Tech. (Engineering &Technology) **Sem.:- I**
Subject:-Energy & Environment Engineering (EEE1205) **Marks: 60**
Date:- 18/12/2019 **Time:- 3 Hr.**

Instructions to the Students

1. Solve Any Five of the following.
2. Each question carries 12 marks.
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

(Marks)

Q.N.	Question	Marks	CO	BT
1 a	Enumerate the various systems and components used in steam power plant. Explain feed water and ash handling circuit in these power plants.	6	EEE1205-2	BT2
1 b	What is a nuclear chain reaction? Explain how electricity is generated from a nuclear reactor?	6	EEE1205-1/3	BT1 BT2
2a	What is Bio-mass? Write the percentage composition of Bio-gas. What are the environmental and health benefits of Bio-gas utilization?	6	EEE1205-2	BT2
2b	How the Wind mills are classified? Sketch the diagram of a HAWT, and explain the function of its main components.	6	EEE1205-2	BT1 BT2
3a	What is energy efficiency? How do you conserve the energy in industry? Write the suitable measures.	6	EEE1205-1	BT1
3 b	What is the role of Energy manager in industry? Explain the concept of star rating of appliances in connection with energy conservation.	6	EEE1205-1	BT1 BT2
4a	What are the major sources of outdoor pollution? What effects does air pollution have on Health of animals and plants and materials.	6	EEE1205-1	BT2
4b	What are the major indoor pollutants?	6	EEE1205-4	BT1

	Where do the following indoor pollutants come from? How can you prevent or control indoor pollutants?			BT2
5a	Give a broad classification of water pollutants. What is the significance of BOD and COD?	6	EEE1205-4	BT2
5b	What is noise pollution? How to control it? What are its effects?	6	EEE1205-4	BT1 BT2
6	Solve any **Four** of the following			
a	Give classification of hydroelectric power plants and brief about the concept of mini and hydel power plants.	3	EEE1205-2	BT2
b	List at least four positive and negative effects each for the OTEC System.	3	EEE1205-2	BT2
c	What is marble cancer? How is Taj Mahal turning yellow?	3	EEE1205-4	BT1
d	How oil spills and sediments degrade the water quality? Explain.	3	EEE1205-4	BT1
e	Define solar energy. What are the applications of solar energy?	3	EEE1205-4	BT1 BT2
f	What is radioactive pollution? What are its effects?	3	EEE1205-2	BT2

Paper End

Basic Civil and Mechanical Engineering (Audit)
BTES106

Teaching Scheme	**Evaluation Scheme**
Lecture: 2 Hrs/ week	Continuous Assessment:- 50 Marks
Audit Course	

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

Unit No.	Details of Content	Hrs
	Basic Civil Engineering	
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.	**4**
2.	**Building Components and 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	**4**
3.	**Surveying** Principles of survey, elements of distance and angular measurements, plotting of	**4**

	area, base line and offsets, introduction to Plane table surveying, introduction to levelling, concept of benchmarks, reduced level, contours	
	Part II Basic Mechanical Engineering	
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	**4**
2.	Design Basics, Machine and Mechanisms, Factor of safety, Engineering Materials: typesand 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	**4**

Text Books

1) Anurag Kandya, “Elements of Civil Engineering”, Charotar Publishing, Anand
2) M. G. Shah, C. M. Kale, and S. Y. Patki, “Building Drawing”, Tata McGraw Hill
3) Sushil Kumar, “Building Construction”, Standard Publishers Distributors
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) B. C. Punmia, “Surveying”, Vol.- I, Vol.-II, Vol.-III, Laxmi Publications
7) G. K. Hiraskar, “Basic Civil Engineering”, Dhanpat Rai Publications
8) Gopi Satheesh, “Basic Civil Engineering”, Pearson Education
9) P. K. Nag “Engineering Thermodynamics”, Tata McGraw Hill, New Delhi 3rd ed. 2005
10) A. Ghosh, A. K. Malik, “Theory of Mechanisms and Machines”, Affiliated East West Press Pvt. Ltd. New Delhi.
11) Serope Kalpakaji and Steven R. Schimd “Amanufacturing Engineering and Techology” Addision Wsley Laongman India 6th Edition 2009
12) V. B. Bhandari, “Deisgn of Machine Elements”, Tata McGraw Hill Publications, New Delhi.

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**	**End Semester Exam**	**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

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

b) 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.

c) 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.

d) In-semester performance of all students, both continuous assessment and mid semester 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

e) 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 mid semester 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 Honours

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)