

Savitribai Phule Pune University

UG CHOICE BASED CREDIT SYSTEM



RULES AND REGULATIONS

FOR
UNDER GRADUATE PROGRAMME IN ENGINEERING
UNDER
FACULTY OF SCIENCE AND TECHNOLOGY
WITH EFFECTIVE FROM A.Y. 2019-20

Course Structure, Guidelines, Rules and Regulations

Preamble

Economic progress of country is strongly linked with quality of technical education. Engineering education is gaining new heights and it contributes substantial share in overall education system. Engineering graduates are to be educated and trained with a view of employability and sustainability. With the advent of technology and ever-changing expectations from the Industry and Society, revision of curriculum is need of the day, making it contemporary and relevant. In a bid to fine tune our technical education system to the global standards & practices, the Credit-Grade based performance and assessment system has been already implemented with effect from June 2015 onwards for all the Under Graduate Programme (UG) under the Faculty of Science & Technology.

To fulfill the necessities, the youngsters pursuing engineering studies need to be well equipped and acquaint with the latest technological trends and industrial requirements. This is possible only when the students undergo studies with an updated and evolving curriculum to match global scenario. The faculty of Science & Technology has shouldered the idea of incorporating latest advances and to upgrade the course contents with latest and relevant topics and know-how. Accordingly the new structure and curriculum are being introduced to be implemented from the academic year 2019-20 for First Year Engineering and the process will continue for subsequent years for second, third and fourth year engineering.

General Guidelines

1. All undergraduate programmes in Engineering under faculty of Science & Technology will be of **four years** duration and **eight semesters**.
2. The total number of credits required to earn for the **completion of the programme is 170 credits** in a minimum period of **eight semesters**.
3. All UG programme, under Faculty of Science & Technology shall be offered with **170 credit**; one credit is approximately equivalent to 15 contact hours.
4. Assessments in Choice based Credit System consists of
 - A) In-semester examination
 - B) End-semester examination
 - C) Continuous assessment for various examination heads.Assessment and Evaluation is to be done as per guidelines provided by competent authority.
5. Semester 1 and semester 2 will be part of First Year of Engineering (FE), Semester 3 and semester 4 will be part of Second Year of Engineering (SE), Semester 5 and semester 6 will be part of Third Year of Engineering (TE), Semester 7 and semester 8 will be part of Final Year of Engineering (BE)
6. **Induction Program**

Induction programme for first year students is introduced to familiarize them to the new environment and encourage them to learn beyond classrooms. Objective is to help new students adjust and feel comfortable in the new environment, inculcate in them the ethos and culture of the institution, help them build bonds with other students and faculty members, and expose them to a sense of larger purpose and self exploration. Induction Program should be preferably of 3 weeks (**2 weeks at beginning first semester and 1 week at the beginning of second semester**). In order to implement the (SIP) in the College the following activities can be taken at College.

- Physical Activity: - This would involve a daily routine of physical activity with games and sports.
- Creative Arts: - Every students would chose one skill related to arts whether visual arts or performing arts.
- Mentoring and Universal Human values:-Mentoring and connecting the students with faculty members and other students is the most important part of student induction. This can be effectively done by forming a group of 22-24 students with a

faculty mentor each. This can be implemented through group discussion and real life activities rather than only lecturing.

- Familiarization with College, Department and Branch :-The incoming student should be told about the credit, grading system and scheme of the examination. They should be explained how the study in College differs from the study in school. They should be taken on College tour and shown important facilities such as library, canteen, gymkhana etc. They should be shown their own department.
- Literary Activity:-Literary Activity would compass reading book, writing a summary, debating, enacting a play etc.
- Proficiency modules: - The modules can be designed to overcome some critical lacunas that students might have like English Speaking, Computer familiarity etc.
- Lectures by Eminent People: - The lectures of Eminent people be organized to expose the students to social activity and public life.
- Visit to local Area:-A couple of visits to the landmarks of the city or a hospital or orphanage could be organized.
- Extracurricular activities in College:-The new students should be introduced to the extracurricular activities at the College.
- Feedback and Report on the program:-Students should be asked to give their mid program Feedback wherein each group of 22-24 students should be asked to prepare a single report on their experience of the program.

To summarize the above activity the sequence of activities can be planned as given below:

- Address by Principal, HOD's and other functionaries and welcome the new students along with their parents.
- The branch wise allocation of students to be done and a group of 22-24 students is to be formed along with one faculty as mentor.
- A detail time table of various activities is to be prepared and displayed for all students. The timetable should give details of location and details of faculty in charge of the activity.
- The visit to local areas can be arranged on Saturdays.
- The various activities to be carried out can be divided into three phases :-
 1. Initial phase:- Which may include Address by Principal, HOD's and other functionaries College and Dept Visit, interaction with parents Forming of students group and assigning of mentor mentee.
 2. Regular Phase:- This phase may include the activities such as creative arts / universal Human values Games & Sports in the morning session and in the afternoon session. Literary activities, Proficiency module, Lectures & workshop, Extracurricular Activities etc. can be scheduled.
 3. Closing Phase:- This phase may include taking feedback of students, preparation of Report by each group, Test of creative Arts, Human Values can be taken.

These are summarized guidelines to be given to the student inducing induction programme (SIP). Please refer SIP Manual published by AICTE for detail guidelines[2].

7. **Project based Learning:**

For better learning experience, along with traditional classroom teaching and laboratory work based learning, project based learning has been introduced with an objective to motivate students to learn by working in group (**5 to 6 students per group**) courteously to

To
The Principal SCOE Sudumbare
Pune.

Date:- 11/11/2022

Subject:- For sanctioning the budget for FE Induction Program

Respected Sir,

As per discussion with management and you, we have planned to take Induction Program between 17/11/2022 to 23/11/2022. In this program we are planning to arrange the Lectures by Eminent Peoples to expose the students to social activity and public life, some creative activities, small visit, students welcome etc. for the we we required the following budget for the same. The detail is mentioned as follow.

Sr. No.	Activities	Details	Tentative budget
1	Students Welcome function	Bouquets, Roses for students, guest snack and tea for students and parents, Flex	10000/-
2	Guest lecture remuneration	06 guest (2000/ per guest), bouquets, and others miscellaneous.	15000/-
3	Small Visit	snacks	5000/-
4	Other activities	Sports, creative art, small games, and small prizes etc	10000/-
		Total Tentative budget	40,0000/-

Kindly sanction the above budget as early as possible.

Thanking You,

Yours Sincerely,

Dr. Uttam V. Shinde
FE Coordinator

To,
The Management,
SCOE
12/11/2022

Uttam V. Shinde
12/11/2022



NOTICE

Date:- 15/11/2022

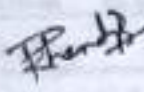
All First Year students are hereby informed that, Induction Program has been Scheduled from **Thursday, 17/11/2022 To 23/11/2022**. All students are requested to remain present from first day of college. The detail time table will be displayed soon.

Note:- Attendance is compulsory for all the students.

College Timing:- 8:30 am To 4:30 Pm.


Dr. Ujjam Shinde

HOD


Dr. R. L. Khandagale

Principal



To,
Director of MBA,
Siddhant College of Management,
Sudumbare,
Pune -
Date - 14/11/2022.

Subject - Regarding Availabile of MBA Seminars
hall for first year Engineering Induction programme.

Respected sir,
With refrence to above above subject we
are arratgoing the first year Engineering Induction
programme dated on 17/11/2022 to 23/11/2022
(Total five Days), so I kindly request you to
provide your MBA seminars hall with all facilities
for our first year Engineering Department.
Thanking you.

your's faithfully,

To,
The Director,
MBA

Frank
14/11/2022

Rat

14/11/22



DIRECTOR
Siddhant Institute of Business Management
Sudumbare, Pune - 412 308
FOR EDUCATIONAL USE

FE INDUCTION PROGRAM 2022-23

AGENDA : DAY 01 (17/11/2022)

- ◆ At 09:00am – 09:30am / Gathering of all students at respective classroom & Common instruction to all students by GFM.
- ◆ At 09:30am – Refreshment for students at canteen.
- ◆ At 10.30am - Gathering of all students & Faculty at MBA Seminar Hall
- ◆ At 10:45am – Arrival of Guest
- ◆ At 11:00am – Welcome of guest & Saraswati Puja by guest
- ◆ At 11:15am – 11:30am Felicitations of Guests

<u>Felicitations of</u>	<u>By Whom</u>
1. Guest Dr.S.P Rao Borde – Chairman FTPO Dr. Prashant Kumbharkar	Hon. Rajendrasingh Yadav/ Hon. Mihir Yadav Sir
2. Hon. President sir Hon. Rajendrasingh Yadav	Dr. Rahul Khandagale Sir
3. Two Vice President sir Mr. Siddhant Yadav Sir Mr. Mihir Yadav Sir	Dr. U.V. Shinde Sir
4. Principle sir – Dr. Rahul Khandagale Sir	Prof. U.V. Shinde Sir
5. FE HOD - Dr. U.V. Shinde Sir	
6. CEO - Prof. BhagwatKedar Sir	Prof. R.S. More Sir
7. TPO - Prof. Monika Madam	Prof. Ghuge Madam
8. HOD Mech - Dr. Makasare Sir	Prof. R.S. More Sir
9. HOD Civil - Prof.Deshmukh Sir	Prof. R.S. More Sir
10.HOD IT - Dr. BijendraGupta Sir	Prof. AvinashTekale Sir



11.HOD Comp - Prof. Sushama Shinde Madam	Prof. AshwiniBhosale Madam
12.HOD E&TC - Dr. PrabhatPallav Sir	Prof. Deepak Kute Sir
13.Diploma Co-ordinator Prof.NandaKulkarni Madam	Prof. ShilpaCharaple Madam
14.Admin Section- Mr.HariharChaure Sir	Prof. U.V .Shinde Sir
15.Student Section	Prof. R.S. More Sir
16. Account Section	Prof. AvinashTekale Sir Prof. Deepak Kute Sir

- ◆ At 11:30am – 12:00am - Handover to FE Hod
- ◆ Felicitation of all FE Teaching and Non-Teaching Faculty
- ◆ Felicitation of FE Toppers
- ◆ Information about College and Department

17. Teaching Staff – Prof. Nanda Kulkarni Madam

18. Prof. Bhagwat Kedar Sir

19. Prof. R.S. More Sir

20. Prof. Avinash Tekale Sir

21. Prof. Ashwini Bhosale Madam

22. Prof. Sonali Ghuge

23. Prof. Shilpa Charaple Madam

24. Prof. Deepak Kute Sir

25. Prof. Pooja Patil

26. Prof. Deepali Bajare

27. Non teaching Staff – Mr. Baviskar Sir

28. Mr. Pradip Sir

29. Mr. Bolkotagi Sir



30.Mr. Pawar Sir

31.Mr. Kaldhoke Sir

32.Mr. Khade Kaka

33.Mr. Shivraj Dada

TOPPERS Felicitation-

Sr. No.	Name of Student	SGPA
1	MAHESH RATNAKAR YEWATE	9.09
2	AMIT DNYANESHWAR RAUT	8.48
3	NIKITA SHIVAJI SHETE	8.43
4	GULVE RUSHIKESH VINOD	8.39
5	BHOOMIKA NITIN PATIL	8.36

- 12:00PM – 12:05 - Mr. Chaure Sir Speech
- 12:00pm- 12:15pm – Principal Sir Speech
- 12:15pm- 12:25pm- President Sir Speech
- 12:25pm- 01:25pm- Guest Introduction
Speech – Dr.SP. Rao Borde
- 01:25pm- 01:30pm- Vote of Thanks
By Prof. Nanda Kulkarni Madam
- **PASAYDAN**
- 01:30pm – Lunch Break.





CHAUDHARI ATARSINGH YADAV MEMORIAL EDUCATION TRUST'S
SIDDHANT COLLEGE OF ENGINEERING

Linguistic Minority (Hindi)
Chakan-Talegaon Road, Sudumbare, Dist. Pune - 412 109. Tel.No.: 02114-661901, 661991. Fax: 02114-661919
Email : siddhantcoe@yahoo.com / Web : www.siddhantcoe.edu.in
Approved by AICTE New Delhi, Recognised by Government of Maharashtra,
Affiliated to University of Pune. Id-No-PUPN/Engg/231/2005

Ref. No. : SCOE Admin/389/2022-23

Date : 17/11/2022

To,
The Director,
Triveni Ashram,
Markal, Alandi, Pune.

Subject: For conducting the session on "Youth Leadership Training Programme"


Respected Sir,

With due respect, we are inviting you For conducting the session on "Youth Leadership Training Programme" for the **First Year Engineering Induction Program** arranged on (Date: 18/11/2022, Friday 10:30 am to 12:30 pm). We are glad to cordially invite you to conduct session for the same. It would also be a great source of inspiration for the students to hear from a living legend. Your presence will be highly appreciated and enthusiastic to all our students.

We are eagerly waiting for your positive reply on this letter. Hope to hear from you soon.

Thanking you very much,

Regards,


Dr. Uttam V. Shinde
First Year Co-ordinator




Dr. R. L. Khandagale
Principal
Siddhant College of Engineering
Sudumbare, Pune - 412 109

Photographs:-




ATTENDANCE OF INDUCTION PROGRAM 2022-23

DIVISION- A

Sr.No.	Candidate Name	17/11/2022	18/11/2022	21/11/2022	22/11/2022	23/11/2022
1	AMBRE SWAPNIL DEEPAK	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	
2	BACCHE VAISHNAVI CHANDRAKANT	<i>pl</i>	<i>pl</i>	<i>pl</i>	<i>pl</i>	
3	BAGADI CHANCHAL RAJU	—	—			
4	BARI AYUSH SUNIL	—	—	<i>ASD</i>	<i>ASD</i>	
5	BIDKAR DURVESH DINESH	—	—	<i>ASD</i>	<i>ASD</i>	
6	BOROLE SAKSHI GHANASHYAMDAS	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	
7	CHAUHAN SUMERSINGH JAGANNATHSINGH	—	—	<i>ASD</i>	<i>ASD</i>	
8	DESHMUKH HARSHAL DILIP	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	
9	DESHMUKH OM SHANKAR	—	<i>ASD</i>	<i>ASD</i>	<i>ASD</i>	
10	DIVEKAR SANIKA SUNIL	—	—	<i>Sanika</i>	<i>S.S. Phetam</i>	
11	GADEKAR OM PRATAP	<i>Om</i>	<i>Om</i>	<i>Om</i>	<i>Om</i>	
12	GADHAVE PREM RAJENDRA	—	—			
13	GAIGOLE GAURI NANDKISHOR	<i>Gaigole</i>	<i>Gaigole</i>	<i>Gaigole</i>	<i>Gaigole</i>	
14	GAIKWAD SHUBHAM SATISH	—	—			
15	INGALE MOTIRAM BABARAO	—	—	<i>Motiram</i>	<i>Motiram</i>	
16	JOSHI SUJAL ANIL	—	—	<i>Sujal</i>	<i>Sujal</i>	
17	KADAM RUTURAJ RAMESH	—	—			
18	KAKADE ADITYA DATTATRAYA	—	—	<i>Aditya</i>	<i>Aditya</i>	
19	KALE GAURAV SANJAY	<i>G. KALE</i>	<i>G. KALE</i>	<i>G. KALE</i>	<i>G. KALE</i>	
20	KAMBLE ISHA RAJESH	<i>Rajesh</i>	—			
21	KAMBLE SWAPNIL SANDEEP	—	—			
22	KARGUDE SANSKRUTI SHIVAJI	<i>Skruti</i>	<i>Skruti</i>	<i>Skruti</i>	<i>Skruti</i>	
23	KHAIRE SIDDHI RAJENDRA	<i>Skhair</i>	<i>Skhair</i>	<i>Skhair</i>	<i>Skhair</i>	
24	KHARCHE JITENDRA GANESH	—	—			
25	KURLEKAR ATHARVA SATISH	—	—	<i>ASD</i>		
26	MANDADE MOHIT SANTOSH	—	—	<i>ASD</i>	<i>ASD</i>	



	MARATHE HRISHIKESH SANTOSH	HRISHIKESH	HRISHIKESH	HRISHIKESH	HRISHIKESH
28	PASHILKAR TANMAY KIRAN	Pashilkar	Pashilkar	Pashilkar	Pashilkar
29	PATIL NIKHIL SHIVAJI	Patil	Patil	Patil	Patil
30	PATIL OMKAR JOTIBA	Patil	Patil	Patil	Patil
31	PAWAR RISHABH RAJENDRA	Pawar	Pawar	Pawar	Pawar
32	RAIKAR SAKSHI PRASHANT	Raikar	Raikar	Raikar	Raikar
33	SAMRUDDHI MOHAN BHOR	Samruddhi	Samruddhi	Samruddhi	Samruddhi
34	SARA WADE ROHIT SUNIL	Sara	Sara	Sara	Sara
35	SARTAPE SHIVKUMAR VINAYAK	Sartape	Sartape	Sartape	Sartape
36	SHARMA AKSHAY MANOJ	Sharma	Sharma	Sharma	Sharma
37	SHEWALE SONAL RAJENDRA	Shewale	Shewale	Shewale	Shewale
38	SONA WANE DIVYA RAJESH	Sona	Sona	Sona	Sona
39	SURYA WANSHI SHASHWATI SAMADHAN	Surya	Surya	Surya	Surya
40	THAKUR PRINCE SATISH	Prince	Prince	Prince	Prince
41	TUPE SHWETA NAVNATH	Tupe	Tupe	Tupe	Tupe
42	VARE PRATIK BALU	Vare	Vare	Vare	Vare
43	VARE SHRIDHAR LANKU	Vare	Vare	Vare	Vare
44	WALUNJ NIKHIL KUNDAN	Walunj	Walunj	Walunj	Walunj


CLASS TEACHER


PE HOD





CAYMET'S
SIDDHANT COLLEGE OF ENGINEERING,
SUDUMBARE, MAVAL, PUNE.
FIRST YEAR ENGINEERING DEPARTMENT

Event Name: "FIRST YEAR INDUCTION PROGRAMME 2022-23"
Event Venue: Classroom and MBA Seminar Hall, SGI, Sudumbare, Maval, Pune.
Event Date: 22/11/2022, Tuesday (Day 04)

Number of Participants:

Teaching Staff: 10

Girls: 65

Total Beneficiaries: 220

Non-Teaching Staff: 5

Boys= 140

Objective: To create awareness about syllabus and Conduct outdoor games for students.

Event Description:


First Year Engineering Department of Siddhant College of Engineering, Sudumbare, Pune, as per SPPU & AICTE norms organized "FIRST YEAR INDUCTION PROGRAMME 2022-23."

During the fourth day of the First Year Engineering Induction Programme, on 22/11/2022, we were arranged two sessions.


In the morning session, on 4th day of induction program, A, B, C & D divisions were separated and A & B division was visited by Shinde sir, Pooja mam and Sonali ma'am, whereas C & D division was visited by Tekade sir and Bajare ma'am. They explained their respective subjects (Chem by Shinde sir, EM by Pooja mam, BEE by Sonali mam, EM-I by Tekale sir and BLX by Bajare mam) syllabus structure along with pattern and marking scheme of In-sem and End-sem. They also explained question paper pattern and shared guidance on how to solve the paper. Also shared important formulae for respective subjects.

In the evening session, we conducted hidden talent in students (Singing, own created poems & dancing) and also different types of fun games for the students, for example, musical chairs and balls thrown in the cups and treasure hunt arranged by second year students.

The winners of the fun games were rewarded with gifts. All students were excited to play the games and they enjoyed it a lot. Feedback of each section took from students and that feedback was very nice. For this programme, HOD Dr. Uttam Shinde, Registrar, Mr. Harihar Choure, all first year teaching and non-teaching staff were present. The entire program was coordinated by Prof Sonali mam and Pooja mam. All students and teaching staff and non-teaching staff attended the Induction Programme.


Dr. Uttam Shinde
FE HOD




Dr. Rahul Khandagale
PRINCIPAL

Savitribai Phule Pune University

Faculty of Science & Technology



Curriculum/Syllabus

For

Fourth Year

Bachelor of Engineering

(Choice Based Credit System)

Mechanical Engineering

(2019 Course)

Board of Studies – Mechanical and Automobile Engineering

(With Effect from Academic Year 2022-23)

Savitribai Phule Pune University
Board of Studies - Mechanical and Automobile Engineering
Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-VII														
402041	Heating Ventilation Air-Conditioning and Refrigeration	3	2	-	30	70	-	-	25	125	3	1	-	4
402042	Dynamics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
402043	Turbomachinery*	2	2	-	-	50	25	-	25	100	2	1	-	3
402044	Elective – III	3	-	-	30	70	-	-	-	100	3	-	-	3
402045	Elective - IV	3	-	-	30	70	-	-	-	100	3	-	-	3
402046	Data Analytics Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
402047	Project (Stage - I)	-	4	-	-	-	50	-	50	100	-	2	-	2
402054	Audit Course VII ^s	-	-	-	-	-	-	-	-	-	-	-	-	NC
	Total	14	12	-	120	330	125	-	125	700	14	6	-	20
Semester-VIII														
402048	Computer Integrated Manufacturing	3	2	-	30	70	25	-	25	150	3	1	-	4
402049	Energy Engineering	3	2	-	30	70	25	-	25	150	3	1	-	4
402050	Elective - V	3	-	-	30	70	-	-	-	100	3	-	-	3
402051	Elective - VI	3	-	-	30	70	-	-	-	100	3	-	-	3
402052	Mechanical Systems Analysis Laboratory	-	2	-	-	-	25	-	25	50	-	1	-	1
402053	Project (Stage - II)	-	10	-	-	-	100	-	50	150	-	5	-	5
402055	Audit Course VIII ^s	-	-	-	-	-	-	-	-	-	-	-	-	NC
		12	16	-	120	280	175	-	125	700	12	8	-	20
Elective-III						Elective-V								
402044A	Automobile Design					402050A	Quality and Reliability Engineering							
402044B	Design of Heat Transfer Equipments					402050B	Energy Audit and Management							
402044C	Modern Machining Processes					402050C	Manufacturing Systems and Simulation							
402044D	Industrial Engineering					402050D	Engineering Economics and Financial Management							
402044E	Internet of Things					402050E	Organizational Informatics							
402044F	Computational Fluid Dynamics					402050F	Computational Multi Body Dynamics							
Elective-IV						Elective-VI								
402045A	Product Design and Development					402051A	Process Equipment Design							
402045B	Experimental Methods in Thermal Engineering					402051B	Renewable Energy Technologies							
402045C	Additive Manufacturing					402051C	Automation and Robotics							
402045D	Operations Research					402051D	Industrial Psychology and Organizational Behavior							
402045E	Augmented Reality and Virtual Reality					402051E	Electrical and Hybrid Vehicle							

Audit Courses			
402054A	Yoga Practices	402054B	Stress Management
402055A	Managing Innovation	402055B	Operations Management

Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral

- Student can select any elective subjects from the list given as per his/her choice. However, it is advised to select the subjects from within a group identified for specialization.

Savitribai Phule Pune University
Board of Studies - Mechanical and Automobile Engineering
 Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

402050B: Energy Audit and Management					
Teaching Scheme		Credits		Examination Scheme	
Theory	3 Hrs./Week	Theory	3	In-Semester	30
				End-Semester	70
Prerequisites: Engineering Thermodynamics, Applied Thermodynamics, Heat and Mass Transfer, HVAC, Turbomachines					
Course Objectives:					
1. To impart basic knowledge to the students about current energy scenarios, energy conservation, energy audit and energy management. 2. To inculcate the systematic knowledge and skill in assessing the energy efficiency, energy auditing and energy management. 3. To carry out an energy audit of Institute/Industry/Organisation					
Course Outcomes:					
On completion of the course the learner will be able to; CO1. EXPLAIN the energy need and role of energy management CO2. CARRY OUT an energy audit of the Institute/Industry/Organization CO3. ASSESS the ENCON opportunities using energy economics CO4. ANALYSE the energy conservation performance of Thermal Utilities CO5. ANALYSE the energy conservation performance of Electrical Utilities CO6. EXPLAIN the energy performance improvement by Cogeneration and WHR method					
Course Contents					
Unit 1	Energy Scenario and Management				
Energy needs of a growing economy, Current and long-term energy scenario - India and World, Concept of energy conservation and energy efficiency, Energy and environment, Need of Renewable energy, Principles of Energy management, Energy policy, Energy action planning, Energy security and reliability, Energy sector reforms.					
Unit 2	Energy Audit				
Need of Energy Audit, Types of energy audit, Energy audit methodology, Energy audit instruments, Analysis and recommendations of energy audit, Benchmarking, Energy audit reporting, Introduction to software and simulation for energy auditing, Current Energy Conservation Act and Electricity Act and its features.					
Unit 3	Energy Economics				
Costing of Utilities (Numerical): Determination of the cost of steam, fuels, compressed air and					

electricity	
Financial Analysis Techniques (Numerical): Simple payback, Time value of money, Net Present Value (NPV), Return on Investment (ROI), Internal Rate of Return (IRR), Risk and Sensitivity analysis, Energy performance contracts and role of ESCOs.	
Unit 4	Evaluation of Thermal Utilities
Energy performance opportunities and assessment of Boilers and Furnaces (Numerical on direct method), Heat exchangers, Cooling towers, DG sets, Fans & blowers, Pumps, Compressors, Compressed air systems and HVAC systems. Assessment of steam distribution losses, Steam leakages, Steam trapping, Condensate and flash steam recovery system.	
Unit 5	Evaluation of Electrical Utilities
Electricity billing, Electrical load management and maximum demand control, penalties, Power factor improvement and benefits, Selection and location of capacitors. Distribution and transformer losses, Harmonics.	
Electrical motors: Types, Efficiency, Selection, Speed control, Energy efficient motors	
Lamp types and their features, recommended illumination levels, Lighting system performance assessment and efficiency improvement (Numerical), Electricity saving techniques.	
Unit 6	Cogeneration and Waste Heat Recovery
Cogeneration: Need, applications, advantages, classification, Introduction to Trigeration	
Waste Heat Recovery: Classification, Application, Concept of Pinch analysis, Potential of WHR in Industries, Commercial WHR devices, saving potential, CDM projects and carbon credit calculations.	
Case Studies: Energy Audit of Institute/MSMEs/Organization, Guidelines for Energy Manager and Energy Auditor examination conducted by BEE.	
Books and other resources	
Text Books:	
1. Bureau of Energy Efficiency Study material for Energy Managers and Auditors Examination: Paper I to IV.	
References Books:	
1. Barney L. Capehart, Wayne C. Turner and William J. Kennedy, "Guide to Energy Management", Seventh Edition, The Fairmont Press Inc., 2012.	
2. Craig B. Smith, "Energy Management Principles", Pergamon Press, 2015.	
3. Hamies, "Energy Auditing and Conservation; Methods, Measurements, Management and Case Study", Hemisphere Publishers, Washington, 1980.	
4. Albert Thumann P.E. CEM, William J. Younger CEM, "Handbook of Energy Audit", The Fairmont Press Inc., 7th Edition.	
5. Wayne C. Turner, "Energy Management Handbook", The Fairmont Press Inc., , Georgia.	
6. Abbi Y. A., Jain Shashank, "Handbook on Energy Audit and Environment management",	

Savitribai Phule Pune University
Board of Studies - Mechanical and Automobile Engineering
 Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

402051E: Electric and Hybrid Vehicle					
Teaching Scheme		Credits		Examination Scheme	
Theory	3 Hrs./Week	Theory	3	In-Semester	30 Marks
				End-Semester	70 Marks
<p>Prerequisites: Mathematics, Physics, Chemistry, Systems in Mechanical Engineering, Basic Electrical Engineering, Electrical and Electronics Engineering, Kinematics of Machinery, Computer Aided Engineering, Design of Transmission Systems</p>					
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. Introduce the concepts of electric vehicle and allied technologies 2. Learn the concept and types of hybrid electric vehicle 3. Identify and Judge application specific selection of Prime Movers, Energy Storage and Controllers required for e-vehicles 4. Recognize the e-Vehicle Configurations and Understand the Mechanics of vehicle movement 5. Design and Select the body frame with relevant suspension system and Testing of e-Vehicle as per Regulation/Licensing/Approval Organizations 6. Understand the Battery Charging techniques and management 					
<p>Course Outcomes:</p> <p>On completion of the course the learner will be able to;</p> <p>CO1. UNDERSTAND the basics related to e-vehicle</p> <p>CO2. CLASSIFY the different hybrid vehicles</p> <p>CO3. IDENTIFY and EVALUATE the Prime Movers, Energy Storage and Controllers</p> <p>CO4. DISCOVER and CATAGORIZE the Electric Vehicle Configuration with respect to Propulsion, Power distribution and Drive-Train Topologies</p> <p>CO5. DEVELOP body frame with appropriate suspension system and TESTING of for e-Vehicles</p> <p>CO6. CLASSIFY and EVALUATE Battery Charging techniques and management</p>					
Course Contents					
Unit 1	Introduction to Electric and Hybrid Vehicle				
<p>History and evolution of Electric Vehicles, Comparison of Electric with Internal Combustion Engine Vehicles, Limitations of IC Engine Vehicles (ICEV), Exhaust Emission and Global warming, Environmental importance of Hybrid and Electric Vehicles, Overview of EV Challenges, Classification, Overview of EV Technologies, Advantages and Disadvantages, Economic and Environmental impacts of using Electrical Vehicles, Emerging Technologies for Electric Vehicle Drives, Case Studies of Two-Wheeler, Three-Wheeler, and Four-Wheeler Electric Vehicles,</p>					

Brief introduction to Autonomous and self-driving Vehicles	
Unit 2	Hybrid Electric Vehicle
<p>Classification of HEV: Architecture, Construction, Working, Advantages and Limitations of Conventional and Gridable HEV, Classification of Conventional HEV, Types of Gridable HEV, Tractive force, Power and Energy requirements for standard drive cycles of HEV</p> <p>Hybrid Electric Drive-Trains: Basic concept of Hybrid Traction, introduction to various hybrid Drive-Train Topologies, Power flow Control in Hybrid Drive-Train Topologies, Fuel Efficiency Analysis</p> <p>Control Strategy: Supervisory Control, Selection of Modes</p>	
Unit 3	Prime Movers, Energy Storage and Controllers
<p>Brief introduction to Motors: Classification, Construction, Working, Control, Design criteria, Application and Design Examples, Selection of Motor, Structural Configuration of Motor Layout, Motor Safety and Maintenance, Motor Torque and Power Rating</p> <p>Brief introduction to Energy Storage Systems: Classification - Types and Packs, Construction, Working, Comparison and Selection, Principle of Operation, Units of Battery/Fuel Cell Energy Storage, Battery Performance Parameters Estimation, Battery/Cell Modeling, Traction Batteries and their Capacity Calculation and Power Rating for standard drive cycles, Lifetime and Sizing Considerations, Power and Efficiency, Characteristic Curves, Battery Cooling/Thermal Control and Protection, Battery Safety and Maintenance, Auxiliary battery, Hybridization of energy storage devices, Ultra capacitor and Ultra flywheel</p> <p>Controllers: Configuration based on power electronics, Torque/Speed Coupling, Speed and Torque Controllers, BCU, MCU, Speed Control for Constant Torque/Power Operation of all electric motors, Control Methods</p>	
Unit 4	Electric Vehicle Configuration and Mechanics of Vehicle Movement
<p>Electric Vehicle Configuration with respect to Propulsion and Power distribution: Unicycle, Two-Wheeler (Bicycle, Dicycle, Motorcycle, Scooter, Scooteretts, Mopeds and Underbone), Three-Wheeler, and Four-Wheeler Electric Vehicles, Steering and Propulsion Configuration, Placement of Motors, Battery and Motion Transmission Systems</p> <p>Electric Drive-Trains: Basic concept of Electric Traction, introduction to various Electric Drive-Train Topologies, Power flow Control in Electric Drive-Train Topologies, Fuel Efficiency Analysis, Mechanical Differential Vs. Electric Differential</p> <p>Mechanics of Vehicle Movement: General description of vehicle movement, Power train Components and Sizing, Wheels and Tires, Load calculation, Torque/Traction Calculations, Power Calculation, Effect of Rolling, Pitch & Yaw on velocity and moments, Rolling resistance and its equation, Aerodynamic Drag/Lift and its equation, Grading resistance, Road</p>	

resistance, Acceleration resistance, Total driving resistance, Dynamic equation, Brake System	
Unit 5	Electric Vehicle Design, Manufacturing, Testing & Homologation
<p>Frames and Suspension Design for varieties of Electric Vehicle Configuration: Introduction to Body loads, Driving dynamics and Comfort, Strength and Stiffness of chassis/frames, Types and constructional details of frames, Frame Materials, Frame building Problems, frame components, Front and Rear Suspension Systems, Panel meters and controls on Handle-bar/Dash-board, Body Manufacturing, Aesthetics and Ergonomics Consideration, Retrofitting and its associated Problems</p> <p>Vehicle Testing & Homologation: Need of vehicle Testing and Homologation, National/International Testing/Regulation/Licensing/Approval Organizations and their Standards (AIS) for e-Vehicles, Hierarchy of Testing, Conformity of Production tests, Crash test, Side Impact Test, Rollover Test, Impact Test, Track Testing</p>	
Unit 6	EV Charging Infrastructure Management
<p>Battery Charging: Basic Requirements for Charging System, Charging Methods and Standards, Converters, Charger Architectures, Grid Voltages, Frequencies and Wiring, Charger Functions, Real Power, Apparent Power, and Power Factor, Boost Converter for Power Factor Correction, Examples, Vehicle to Grid operation of EV's</p> <p>Battery Management Systems: Necessity of Battery Management Systems, Typical Structure of BMSs, Representative Products, Keypoints of BMSs in Future Generation, Hazard/Safety Management</p>	
Books and other resources	
<p>Text Books:</p> <ol style="list-style-type: none"> 1. Iqbal Hussein, (2021), “Electric and Hybrid Vehicles: Design Fundamentals,” CRC Press, ISBN: 9780367693930 2. Denton, Tom, (2020), “Electric and Hybrid Vehicles,” 2nd Ed., Routledge, ISBN:9780367273248 3. John Lowry, James Larminie, (2012), “Electric Vehicle Technology Explained,” Wiley, ISBN: 9781119942733 4. Knowles, Don, (2011), “Automotive Suspension & Steering Systems,” Cengage learning, ISBN: 9781435481152 5. Malen, Donald E., (2011), “Fundamentals of Automobile Body Structure Design,” SAE International, ISBN: 9780768021691 6. R. Krishnan, (2001), “Electric Motor Drives: Modeling, Analysis, and Control,” Pearson, ISBN: 9780130910141 7. Mohammad Saad Alam, Reji Kumar Pillai, N. Murugesan, (2021), “Developing Charging Infrastructure and Technologies for Electric Vehicles,” IGI Global/ Business Science Reference, ISBN: 9781799868583 	
<p>References Books:</p> <ol style="list-style-type: none"> 1. Mehrdad Ehsani, Yimi Gao, Sefano Longo, Kambiz Ebrahimi, (2019), “Modern Electric, Hybrid Electric and Fuel Cell Vehicles: Fundamentals, Theory and Design,” CRC Press, 	



CAYMET's
SIDDHANT COLLEGE OF ENGINEERING
Sudumbare, Pune - 412109

CERTIFICATE OF COMPLETION

Subject Electronic and Hybrid Vehicle

This is to certify that Mr/Ms Ashutosh .B. Toundkar

Of B.E.C Mech Roll No. 68

University Exam No. B190440866 has satisfaction only complete the
Required number of practical/ Term Work as laid down by university.

Date:- 25/5/23

Subject Teacher

Head of the Department





SIDDHANT COLLEGE OF ENGINEERING


Sudumbare, Talegaon Chakan Road Pune -412109.

Roll No. 66 Year 2022/2023
 Name Ashutosh B. Jondhkar Sub E and H vehicle

Sr. No.	Name Of Experiment	Page No.	Date	Remarks
01	Assignment no-01		02/04/23	gt
02	Assignment no-02		25/05/23	gt
	Electric and Hybrid Vehicle			
	Assignment no-01			
	Assignment no-02			
	Assignment no-03			
	Assignment no-04			
	Assignment no-05			
	Assignment no-06			
	Assignment no-07			
	Assignment no-08			
	Assignment no-09			
	Assignment no-10			

Certified that student has performed above mentioned practical/term work during academic year 2022-2023 in college laboratories/premises.

Date: 25/5/23



 Subject Teacher



 HOD

Assignment No-1

Q-1] Write down comparison of electric with internal combustion engine vehicles.

⇒ Point of Comparison.	Internal combustion engine vehicle.	Electric vehicle.
a] Source of power.	ICEV is diff ⁿ types of Fuels such as diesel or petrol.	Electricity obtained from charged batteries, ultra-capacitors etc.
b] Prime mover.	It is the prime mover or powertrain.	EV motor is the prime mover in EV.
c] Specific energy.	High specific energy in ICEV.	Low specific energy in EV.
d] Power Density.	Fuels used in ICEV have high power density.	In power density of power source is low.
e] Impact on Environment.	ICEV emits green house gases which have adverse effect on Environment.	EV does not have adverse effect on environment.
f] Travelling Distance.	It can travel more than around 300 miles/hr.	EV travels less than around 100 miles per charge.
g] Efficiency.	The efficiency of the IC engines is about 30%.	Electric motor have approximately 80% eff ⁿ .

Q-2
→

What are the environmental importance of Hybrid & EV?
- These are many negative environment impact of using gasoline powered vehicle. For one these are emit carbon-dioxide and other greenhouse gases straight from their tail pipes area time. This can have a large impact on the environment according to the U.S environment protection agency (EPA) typical passenger vehicle emits 4-6 metric tons of carbon dioxide annually, plus other pollutants like methane & nitrous oxide all greenhouse gases that contributes to global warming. Even before the gasoline hits your engine, extracting the fuel to use as energy has a number of environmental cost to consider as well with hybrid cars, you have two options of fuel efficient some hybrid allow more fuel efficient some. This means you'll use the less gas to travel the same distance & therefore emit less pollution. That said how environmentally friendly your common is in a hybrid car will very depending on where your electricity comes from while more and more of our electricity from renewable each year fossil fuel continue to generate the majority of electricity the country. The source of your electricity impact your overall transportation emission know as well to wheel emission.

When weighting the environmental pros & cons of hybrid cars here are a few of their advantages:-

- (i) Greater Fuel efficiency
- (ii) Reduced CO₂ Emission
- (iii) Less Fossil Fuel Dependency
- (iv) Regenerative Braking
- (v) Less emissions
- (vi) Cleaner car
- (vii) Self sustaining
- (viii) Less Noise
- (ix) Fuel efficient and cost effective.

Q-3] What are advantage and disadvantages of electric vehicle

⇒ • Advantage of Electric Vehicle:-

- a) High efficiency of the powertrain & storage.
- b) Rechargeability of the battery system.
- c) Outstanding Accelerations power transfer.
- d) New vehicle concepts are developed.
- e) Decreasing life cycle costs.
- f) Local free emission of electric device.

• Disadvantage of Electric Vehicle:-

- a) Many electric propulsion systems are very heavy.
- b) Limited cycles Comtex Cell technology.
- c) Limited electric Range.
- d) High effort regarding new design concepts.
- e) High components costs.
- f) Today's overall carbon footprints.

Q-4] Write down History and evolution of electric vehicles

⇒ In 1801, Richard Trevithick built a steam powered carriage, opening the era of horse less transportation. After tolerating over 30 years of noise & dirtiness due to steam engines. This first battery powered electric vehicles was built in 1834 over 50 years later the first petrol-powered internal combustion engine vehicle was built in 1885. So the EV is not new and it's already over 168 years old. It was better than the ICEV in the early 1900: Having slept for almost 70 years. It was powered by a non-rechargeable battery & used on a short track 4 years later. Robert Davidson also built a non-rechargeable battery powered electric locomotive. After the invention of lead acid battery.

There are four types of electric cars.

- (1) Battery Electric vehicle (BEV)
- (2) Hybrid Electric vehicle (HEV)
- (3) Plug-in Hybrid Electric vehicle (PHEV)
- (4) Fuel cell Electric vehicle (FCEV)

Q-6] State limitations of IC engine vehicle (ICEV).

- ⇒
- (a) High specific energy of fuel.
 - (b) Emits green house gases.
 - (c) Higher maintenance costs.
 - (d) Breaking energy not recovered.
 - (e) Running cost high.
 - (f) Needs complex gear system.
 - (g) Noisy operation.
 - (h) Uses only hydrocarbons.
 - (i) Fuel which is expensive like gas or diesel.
 - (j) Not suitable for large scale power production.
 - (k) Efficiency is low.
 - (l) Breaking power is low where desire torque not.

Q-7] Give a Brief introduction of Autonomous and Self Driving.

- ⇒
- Automated vehicle means a motor vehicle designed & constructed to move autonomously. For certain periods of time without continuous driver supervision but in respect of which driver intervention is still expected or required.
 - Fully automated vehicle means a motor vehicle that has been designed & constructed to move autonomously without any driver supervision.
 - According to the National Highway traffic safety administration. "Autonomous" or self driving vehicles are those in which operation of the vehicle occurs without direct drivers input to control.



C.A.Y.Y. TRUST'S

SIDDHANT COLLEGE OF ENGINEERING

Sadumbare, Talegaon Chakan Road Pune -412109.

COMPLITION OF CERTIFICATE

Subject: Air Pollution and control

This is to certify that

Mr/Ms Dinesh k. patil

of BE CIVIL division

Roll No. 41

University Exam No. _____ has satisfaction only complete the required Number of practical / term work as laid down by university.

Date:

[Signature]

Staff member

[Signature]
Civil Engineering
Siddhant College of Engineering

Head of department





C A Y M Education Trust's
SIDDHANT COLLEGE OF ENGINEERING
(A/p - Sudumbare, Tal.-Maval, Dist-Pune)

Roll No.: BE Civil 4R

Year: 2022-23

Name: Dinest. K. Patil

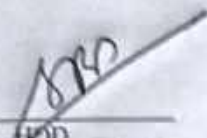
Subject: Air pollution.

Sr. No.	Name of Experiment	Page No.	Date	Remarks
1	Assignment No-1		7-9-22	Pass
2	Assignment NO-2		21-9-22	Pass
3	Term work A		05-10-22	Pass
4	i) Sampling and analysis			
5	ii) Sampling & analysis No 202			
6	iii) Report Stack emission.			
7	2] Term work and		12-10-22	Pass
8	i) Report Ind met Dep.			
9	ii) Report on AQI			
10	iii) Indoor Air pollution			
11	3] Term work.		26-10-22	Pass
12	i) AQI ii) Impact lockdown air. iii) case study quality			

Certified that student has performed above mentioned practical / term work during the academic year 2019-20 in college laboratory/premises.

Date:-


Subject Teacher


HOD
H.O.D.
Civil Engineering
Siddhant College of Engineering

Assignment No: 1

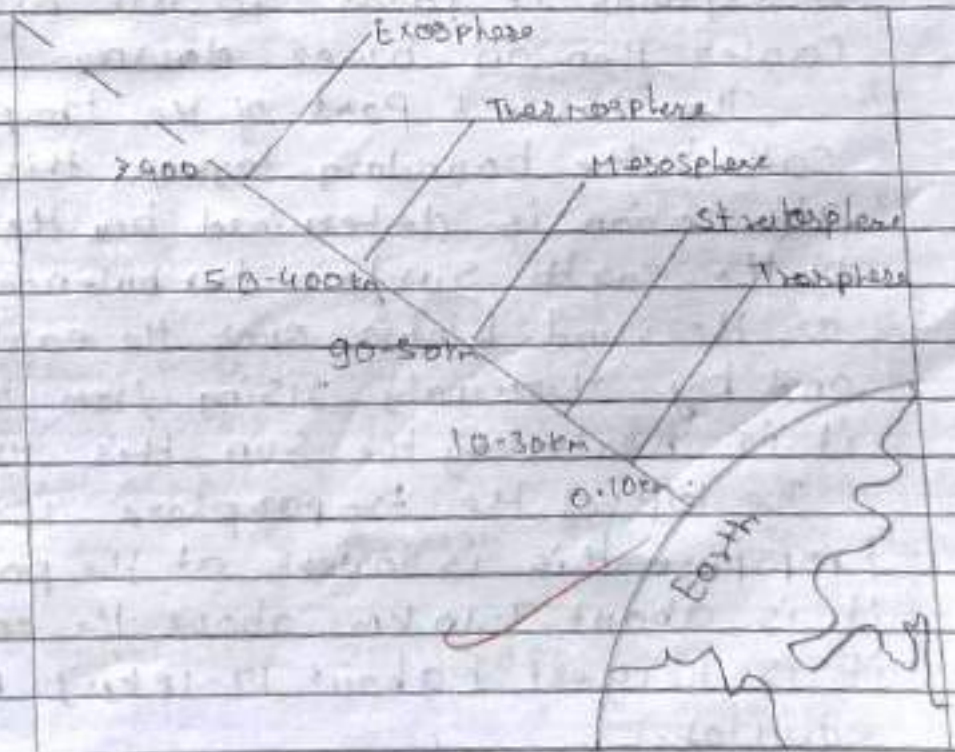
Q 1] Write a short note on layers of atmosphere and its temperature variation [with suitable dig].

→ The atmosphere is comprised of layers based on temp. These layers are the troposphere, Stratosphere, Mesosphere and Thermosphere. A further region at about 500 km above the earth surface is called exosphere.

Q 2] * The Different layers of the Atmosphere:-

The atmosphere can be divided into layers based on its temperature as shown in the fig. These layers are the troposphere, the Stratosphere, the mesosphere and the Thermosphere.

Q 3] A further region beginning about 500 km above the earth surface is called the Exosphere.



* The Troposphere

This is the lowest part of the atmosphere. The part we live in it contains most of our weather - clouds, rain, snow in the part of the atmosphere. The temperature gets colder as the distⁿ above the earth increases by about 6.5°C per km. The actual change of temperature with height varies from day to day depending on the weather.

The troposphere contains about 75% of all of the air in the atmosphere and almost all of the air water vapour [which forms clouds and rain]. The decrease in temperature with height is a result of the decreasing pressure. If parcels of air moves upwards it expands it cools so air higher up is cooler than air lower down.

The lowest part of the troposphere is called the boundary layer. This is where the air motion is determined by the properties of the earth surface. Turbulence is generated as the wind blows over the earth surface and by thermally rising from the land as it is heated by the sun. This turbulence

The top of the troposphere is called the tropopause. This is lowest at the poles where it is about 7-10 km above the earth surface. It is highest [about 17-18 km] near the equator.

* The Stratosphere :-

This extends upward from the troposphere to about 50 km it contains much of the ozone in the atmosphere. The increase in temperature with height occurs because of absorption of ultraviolet (UV) radiation from the sun by the ozone. Temperature in the stratosphere are highest over the summer poles and lowest over the winter pole.

By absorbing dangerous UV radiation the ozone in the stratosphere protects us from skin cancer and other health damage. However chemicals [called CFCs or Freons, and Halons] which were once used in refrigerators, spray cans and fire extinguishers have reduced the amount of ozone in the stratosphere particularly at polar latitude, leading to the so-called "Antarctic ozone hole".

How humans have shaped making most of the harmful effects we expect the ozone hole will eventually recover over the 21st century.

* The Mesosphere :-

The region above the stratosphere is called the mesosphere here the temperature again decrease with height reaching minimum about -90°C at mesopause.

* The Thermosphere and Ionosphere.

The thermosphere lies above the mesosphere & is a region in which temperature again increase.

The region of the atmosphere above about 80 km is also called the ionosphere; since the energetic solar radiation knocks electrons of molecules and atoms turning them into "ions" with a positive charge. The temperature of the thermosphere varies between night and day and electrons which are present in the ionosphere reflect and absorb radio waves allowing us to receive shortwave radio broadcasts in New Zealand from other parts of the world.

* The Exosphere:-

The region above about 500 km is called the exosphere it contains mainly O_2 and hydrogen atoms, but they are so few of them that they rarely collide. They follow "ballistic" trajectories under the influence of gravity and some of them escape right out into space.

Q2] Describe the following case studies:-

a] Donora Pennsylvania 1948:-

Donora is a town located in Pennsylvania just south of Pittsburgh, along the Monongahela River. The town was home to many industries such as steel mills and zinc melting plant. Zinc works was owned by the US Steel Corporation. Zinc works was built on land adjacent to the Monongahela River. It was upwind of the city of Wehster a city beside Donora on the opposite side of the river in a valley with large surrounding hills. The emission have nowhere to disperse therefore creating heavily polluted air in a confined space. due to the financial benefits Pittsburgh had large amounts of zinc consumption which required large amounts of zinc neighbouring towns such as Donora, built steel and zinc plants.

* What Happened in Donora:-

In late October 1948 Donora was hit with an environmental disaster that would change the way air pollution was regulated nationwide.

A typical morning in Donora would include the formation of a layer of fog over the town and which would dissipate as the day proceeded. on Tuesday October 26, 1948, this typical morning fog lingered for fog had burned off confined to the town. The superheated of the

Zinc smelting plant checked on the plants operation. However nothing was out of the ordinary. At the weekend began the residents began flooding to the hospitals and as way administered the smog became very thick and created little visibility which made evacuation impossible. The smog became very thick October 30 & 31 clearing up visibility and creating breathable air [Heffland, Lazrus and Sherman, 2001] The end event was only about 5 days long but it left the town of Donora in great distress.

* Cause of smog :-

The cause of the donora smog event of 1948 was in debate for a long time one possible cause was the zinc smelting plant zinc works. Because it had been releasing harmful contaminants since it opened on Oct 26 1948 air movement over the town was spots which created a temperature inversion. This inversion trapped the air movement & the valleys trapped the air within the town zinc works released particulate and industrial contaminants in their emissions. during the zinc smelting process [Heffland, Lazrus and Sherman 2001] zinc works cancelled their records for so many years that it made it difficult to tally explain the donora smog event.

Bhopal Gas Tragedy 1984:-

The Bhopal disaster occurred on the night of December 2-3, 1984, at the Union Carbide India Ltd pesticide facility in Bhopal. This catastrophe affected around 500,000 people. Bhopal people who were still suffering as a result of the gas leaks long term health impacts chronic eye difficulty and respiratory problems were some issues due to it children who have been exposed have stunted growth and cognitive impairments.

* Reasons for gas leak:-

- ① During the build-up to the spill the plant's safety mechanisms for the highly toxic MIC were not working.
- ② Many valves and lines were not working as was many vent gas scrubbers were in disrepair and the steam boiler that was supposed to clean the pipes.
- ③ The MIC was stored in three tanks with tank 3 should have held no more than 50 tonnes of MIC according to safety regulations.
- ④ Water is believed to have entered the tank through a side pipe as technicians were attempting to clear it late that fatal night.
- ⑤ This resulted in an exothermic reaction in the tank, progressively raising the pressure until the gas was ejected through the atmosphere.

* Effects of Gas Leak :-

- 1) Thousands had died as a result of choking pulmonary edema, and septicoemic circulatory collapse.
- 2] Neonatal death rates increased by 200 percent
- 3) A huge number of animal carcasses have been discovered in the area indicating the impact on flora and animals. The trees died after a few days food supplies have grown scarce due to the feast of contamination.
- 4) Fishing was also prohibited.
- 5] In March 1985, The Indian government established the Bhopal Gas Leak Accident Act giving it legal authority to represent all victims of the accident. Whether they were in India or abroad.
- 6) At least 200,000 youngsters were exposed to the gas
- 7) Hospitals were overcrowded and there was no sufficient training for medical workers to deal with mic. exposure.

② Unregulated Rocket Launches
Researchers say that unregulated launching of rockets results in much more depletion of the ozone layer than the CFCs do if not controlled. This might result in a huge loss of the ozone layer by the year 2050.

③ Nitrogenous Compounds:-
The nitrogenous compounds such as NO_2 and NO are highly responsible for the depletion of the ozone layer.

④ Natural Causes:-
The ozone layer has been found to be depleted by certain natural processes such as sun spots and stratosphere wind but it does not cause more than 1-2% of the ozone layer depletion.

The volcanic eruption are also responsible for the depletion of the ozone layer.

* Effects of ozone layer depletion:-

The depletion of the ozone layer has harmful UV radiation of the sun due to the depletion of the ozone layer this might result in serious health issues among human such as skin diseases, cancer, sunburns, cataract, quick ageing and weak immune system.

1) Effects on the Environment :-

Strong UV rays may lead to minimal growth Flowering & photosynthesis in plant. The forests also have to bear the harmful effects of the UV rays.

2) Effects on Marine life :-

Planktons are greatly affected by the exposure to harmful UV rays. There are higher in the aquatic food chain if the planktons are destroyed the organisms present in the food chain also affected.

* Solution to Ozone layer Depletion :-

(a) Avoid using ODS

(b) Minimise the use of vehicles.

(c) Use Eco-friendly cleaning products.

(d) Use of Nitrogen oxide should be prohibited.

b) Acid Rain :-

Acid rain or acid deposition is a broad term that include only form of precipitation with acidic components such as sulfate or nitric acid that fall to the ground from the atmosphere in wet or dry form. This can include rain, snow, fog, hail or even dust that is acidic.

Human activities are the main causes of acid rain. Power plants release the majority of sulfur dioxide and power plants release the majority of surface dioxide and much of the nitrogen oxide when they burn fossil fuels. Sulfur dioxide and nitrogen oxide pollutants cause acid rain.

● c) GLOBAL WARMING:-

Global warming is a gradual increase in the earth's temperature generally due to the greenhouse effect caused by increased level of carbon dioxide, CFCs and other pollutants.

* Causes :-

Man-causes :-

- ① Deforestation
- ② use of vehicles
- ③ Chloro Fluorocarbon
- ④ Industrial Development.
- ⑤ Agriculture.
- ⑥ Over Population.

* Natural Causes

- ① Volcanoes
- ② Water Vapour
- ③ Mating Permafrost
- ④ Forest Blazes

* Effects of Global Warming.

- ① Rise in temperature.
- ② Threats to the Ecosystem.
- ③ Climate Change
- ④ Spread of disease
- ⑤ High Mortality Rates
- ⑥ Loss of Natural Habitat.

Q] CLIMATE CHANGE

Climate change is the long-term increase in the earth's average surface temp and the large-scale changes in global regional and local weather patterns that result from that increase caused by a significant gases that are produced by the use of fossil fuels.

* Natural causes of climate change.

- 1] Changes in solar radiation.
- 2] Green house effect.
- 3] Drastic weather change.

* Man-made causes of climate change.

- 1] Industrialization
- 2] Inconsistent Emission control.
- 3] Deforestation.
- 4] Agribusiness
- 5] Modernization.

* Climate change effects :-

- 1] Weather
- 2] Plants
- 3] Wildlife
- 4] Businesses
- 5] Ocean Acidification.

E] Estimation of Carbon Footprint :-

A Carbon Footprint is the total amount of green house gases including carbon dioxide and methane that are generated by air action. The average Carbon footprint for person in the United state is 16 tons one of the average Carbon footprint is closer to 4 tons.

Q5) Describe the following in detail:-

1] Central Motor Vehicle Act 1988-

The subject motor vehicle is dealt by the central government the government of India. Has a specific ministry concerned with the motor vehicle laws in India Ministry of Road transport and highway. The ministry has two separate wing ① Road wing
② Transport wing.

1] Road wing:-

Deals with development and maintenance of National Highway in the country.

2] Transport wing:-

Deals with matters relating to road transport including motor vehicle legislation.

* THE MOTOR VEHICLES ACT [1988]

[Act NO-59 of 1988].

* PREAMBLE :-

① An act to consolidate and amend law relating to motor vehicle.

② The act categorizes motor vehicles into different types.

③ Generally the categorization is based on size type and utility of such vehicle.

* Types of vehicles :-

1] Good Carriage :-

Good Carriage means any motor vehicle constructed or adapted for use solely for the carriage of goods or any motor vehicle not so constructed or adapted when used for the carriage of goods.

2] Heavy good vehicle means any goods carriage the gross vehicle wt. of which or a tractor or a road roller the unladen wt. of either of which, exceeds 12000 kg.

3] Heavy passage motor vehicle

4] Invalid Carriage

5] Light Motor Vehicle

6] Maxi Cab

* ROAD SIGNS :-

① Road signs which have backing of law in India are incorporated in the Motor Vehicle Act 1988.

② Road signs notify road users of regulations and provide warnings and guidance needed for safe uniform and efficient operation.

* Classification of Road Signs :-

- ① Mandatory / Regulatory Signs
- ② Cautionary / Warning Signs
- ③ Informative / Guide Signs

* Orientation of signs :-

- ① The signs unless otherwise stated shall normally be placed at right angles to line of travel of the approaching traffic
- ② Signs relating to parking however should be fixed at an angle [approximately] 95° to the carriage way as to give better visibility

* Hit and Run :-

Special provisions as to compensation in case of Hit and Run Motor accident.

- ① Hit and run Motor accident - means an accident arising out of the use of motor vehicle or motor vehicle the identity where of cannot be ascertained in spite of reasonable efforts for the purpose.
- ② The insurance companies for the time being carrying on general insurance business in India shall provide for paying in accordance with the provision of this Act and the scheme compensation in respect of the death of any person must to persons resulting from hit and motor accident.

* OFFENCES:-

Different types of offences and Penalties have been enumerated in following provisions of the MV Act.

Section 177 - General provision for punishment of offence.

Section 181 - Driving vehicle in contravention of section 389

Section 182 - Offences relating to licences

Section 183 - Driving at excessive speed.

Section 184 - Driving at dangerously

Section 185 - Driving by drunken person or by person under the influence of drugs

Section 186 - Driving under penalty of physically unfit to drive

Section 187 - Punishment for offence relating to accident

Section 188 - Punishment for abatement of certain

Section 192 - using vehicle without registration

Section 196 - offence by company.

Section 199 - Driving uninsured vehicle.

Section 200 - Composition of certain offences

Section 201 - Penalty for causing obstruction for flow of traffic.

c) THE ENVIRONMENTAL PROTECTION ACT [1986] :-

An act to provide for the protection and improvement of environment and matters connected therewith.

Where the decisions were taken at the United Nations Conference on the Human Environment held at Stockholm, in June 1972, in which India participated to take appropriate steps for the protection and improvement of human environment. The Environment Protection Act 1986 was introduced after the Bhopal gas tragedy during Rajiv Gandhi was the Prime Minister of our country.

* Objectives :-

- ① To protect the forest and wildlife in the country.
- ② To improve the quality of life by protection of environment.
- ③ To co-ordinate the activity of the various regular agencies already in existence.
- ④ To appoint environment officers to check environment pollution.
- ⑤ Enabling Environment laboratories. ✓ (C)

* Section for environment protection act.

This act has four chapters and 28 sections. Chapter one consists of preliminary information such as short title, extend date of commencement and definition the definitions are given in the second chapter 3 give the central gov.

Faculty of Science & Technology
Savitribai Phule Pune University
Pune, Maharashtra, India



Curriculum for
Final Year of Information Technology
(2019 Course)
(With effect from AY 2022-23)

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Savitribai Phule Pune University Final Year of Information Technology (2019 Course) (With effect from Academic Year 2022-23)														
Semester VII														
Course Code	Course Name	Teaching Scheme(Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Termwork	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
414441	Information Storage and Retrieval	03	-	-	30	70	-	-	-	100	3	-	-	3
414442	Software Project Management	03	-	-	30	70	-	-	-	100	3	-	-	3
414443	Deep Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
414444	Elective III	03	-	-	30	70	-	-	-	100	3	-	-	3
414445	Elective IV	03	-	-	30	70	-	-	-	100	3	-	-	3
414446	Lab Practice III	-	04	-	-	-	25	-	25	50	-	2	-	2
414447	Lab Practice IV	-	02	-	-	-	25	25	-	50	-	1	-	1
414448	Project Stage-I	-	-	02	-	-	50	-	-	50	-	-	2	2
414449	Audit Course7													
Total Credit											15	03	02	20
Total		15	06	02	150	350	100	25	25	650	15	03	02	20
Elective III: <ul style="list-style-type: none"> • Mobile Computing • High Performance Computing • Multimedia Technology • Smart Computing 					Elective IV: <ul style="list-style-type: none"> • Bioinformatics • Introduction to DevOps • Computer Vision • Wireless Communications 									
Lab Practice-III: It is based on subjects: <ul style="list-style-type: none"> • Information Storage and Retrieval 					Lab Practice-IV: It is based on subjects: <ul style="list-style-type: none"> • Deep Learning 									
Audit Courses 7: <ul style="list-style-type: none"> • 414449A: Copyrights and Patents • 414449B: Stress Management by Yoga • 414449C: English for Research Paper Writing 														

Savitribai Phule Pune University Final Year of Information Technology (2019 Course) (With effect from Academic Year 2022-23)														
Semester VIII														
Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Teamwork	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
414450	Distributed Systems	03	-	-	30	70	-	-	-	100	03			03
414451	Elective V	03	-	-	30	70	-	-	-	100	03			03
414452	Elective VI	03	-	-	30	70	-	-	-	100	03			03
414453	Startup and Entrepreneurship	-	-	03	-	-	50	-	-	50	-	-	03	03
414454	Lab Practice V	-	04	-	-	-	50	25	-	75		02		02
414455	Lab Practice VI	-	02	-	-	-	25	-	50	75		01		01
414456	Project Stage II	-	10	-	-	-	100	-	50	150		05		05
414457	Audit Course 8													
Total Credit											09	08	03	20
Total		09	16	03	90	210	225	25	100	650	09	08	03	20
Elective V: <ul style="list-style-type: none"> Software Defined Networks Social Computing Natural Language Processing Soft Computing Game Engineering 					Elective VI: <ul style="list-style-type: none"> Ethical Hacking and Security Augmented and Virtual Reality Business Analytics and Intelligence Blockchain Technology 									
Lab Practice V: It is based on subjects: <ul style="list-style-type: none"> Distributed Systems 					Lab Practice VI: It is based on subjects: <ul style="list-style-type: none"> Elective VI 									
Audit Courses 8: <ul style="list-style-type: none"> 414457A: Functional Programming in Haskell 414457B: Cyber Laws and Use of Social Media 414457C: Constitution of India 														

Savitribai Phule Pune University, Pune		
B.E Information Technology (2019 Course)		
414449B: Audit Course 7		
Stress Management By Yoga		
Teaching Scheme:	Credit Scheme:	Examination Scheme:
Theory(TH): 01 hrs/week	Non-Credit	Audit Course
Prerequisite Courses, if any:		
Course Objectives: To achieve overall health of body and mind		
Course Outcomes: On completion of the course, students will be able to–		
CO1. Understand the reasons for Stress.		
CO2. Understand the role of Yoga.		
CO3. Develop healthy mind in a healthy body.		
CO4. Develop overall efficiency.		
COURSE CONTENTS		
Unit I	Introduction to Stress	(03 hrs)
Meaning and Definition of Stress. Types: Eutress, Distress, Anticipatory Anxiety, Intense Anxiety and Depression. Meaning of Management – Stress Management. Physiology of Stress on: Autonomic Nervous System.		
Mapping of Course Outcomes for Unit I	CO1	
Unit II	Introduction to Yoga	(03 hrs)
Meaning and definition of Yoga – aims & objectives of yoga, Definitions of Eight parts of yog. (Ashtanga), Concept of Stress according to Yoga.		
Mapping of Course Outcomes for Unit II	CO2	
Unit III	Asan and Pranayam	(03 hrs)
Asan - Various yog poses and their benefits for mind & body. Pranayam - Regularization of breathing techniques and its effects-Types of pranayam.		
Mapping of Course Outcomes for Unit III	CO3	
Unit IV	Effect of Yoga	(03 hrs)
Impact of Yoga on Muscular system, Respiratory System, Circulatory system, Nervous system, Digestive system and Endocrine system		
Mapping of Course Outcomes for Unit IV	CO4	

1. Textbooks:

2. 'Yogic Asanas for Group Training-Part-I': Janardan Swami Yogabhyasi Mandal, Nagpur
3. "Rajayoga or conquering the Internal Nature" by Swami Vivekananda, Advaita Ashrama (PublicationDepartment), Kolkata
4. Iyengar, BKS., (2003). The Art of Yoga. New Delhi: Harper Collins Publishers.
5. Ravishankar.N.S., (2001). Yoga for Health. New Delhi: Pustak Mahal.
6. <https://nptel.ac.in/courses/121105009>
7. https://onlinecourses.swayam2.ac.in/aic19_ed29/

Evaluation

Students should select any one of the topics in a group of 3 to 5. Students should submit a written Report. Make a presentation on the topic. Report will be evaluated by the faculty as per rubrics defined by them at start of course.

Savitribai Phule Pune University

Faculty of Science and Technology



Syllabus for

B.E (Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2022)

Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
 (With effect from Academic Year 2022-23)

Semester-VII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404181	Radiation & Microwave Theory	03	-	-	30	70	-	-	-	100	03	-	-	03
404182	VLSI Design and Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
404183	Cloud Computing	03	-	-	30	70	-	-	-	100	03	-	-	03
404184	Elective - 3	03	-	-	30	70	-	-	-	100	03	-	-	03
404185	Elective - 4	03	-	-	30	70	-	-	-	100	03	-	-	03
404186	Lab Practice - 1 (RMT & Cloud Computing)	-	04	-	-	-	25	-	50	75	-	02	-	02
404187	Lab Practice - 2 (VLSI Design & Elective -3)	-	04	-	-	-	25	50	-	75	-	02	-	02
404188	Project Stage - I	-	02	-	-	-	50	-	-	50	-	01	-	01
404189	Mandatory Audit Course 7	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	10	-	150	350	100	50	50	700	-	-	-	-
Total Credits											15	05	-	20

Elective - 3	Elective - 4
1. Speech Processing	1. Data Mining
2. PLC SCADA & Automation	2. Electronic Product Development
3. JAVA Script	3. Deep Learning
4. Embedded & RTOS	4. Low Power CMOS
5. Modernized IoT	5. Smart Antennas

Mandatory Audit Course - 7
1. Management Information System
2. Patent Search & Analysis
3. Knowledge Management
4. Energy Economics & Policy
5. Educational Leadership
6. Human Resource Development

Savitribai Phule Pune University

Faculty of Science and Technology



Syllabus for

B.E (Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2022)

Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
 (With effect from Academic Year 2022-23)

Semester-VII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404181	Radiation & Microwave Theory	03	-	-	30	70	-	-	-	100	03	-	-	03
404182	VLSI Design and Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
404183	Cloud Computing	03	-	-	30	70	-	-	-	100	03	-	-	03
404184	Elective - 3	03	-	-	30	70	-	-	-	100	03	-	-	03
404185	Elective - 4	03	-	-	30	70	-	-	-	100	03	-	-	03
404186	Lab Practice - 1 (RMT & Cloud Computing)	-	04	-	-	-	25	-	50	75	-	02	-	02
404187	Lab Practice - 2 (VLSI Design & Elective -3)	-	04	-	-	-	25	50	-	75	-	02	-	02
404188	Project Stage - I	-	02	-	-	-	50	-	-	50	-	01	-	01
404189	Mandatory Audit Course 7	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	10	-	150	350	100	50	50	700	-	-	-	-
Total Credits											15	05	-	20

Elective - 3	Elective - 4
1. Speech Processing	1. Data Mining
2. PLC SCADA & Automation	2. Electronic Product Development
3. JAVA Script	3. Deep Learning
4. Embedded & RTOS	4. Low Power CMOS
5. Modernized IoT	5. Smart Antennas

Mandatory Audit Course - 7
1. Management Information System
2. Patent Search & Analysis
3. Knowledge Management
4. Energy Economics & Policy
5. Educational Leadership
6. Human Resource Development



Woman's Day



Independence Day

Name of the Institution Sudhant College
संस्थेचे नांव Sudumbare, Tal. - Maval
Dist. - Pune - 412 109

PROCEEDING BOOK

१) सभेचा प्रकार

Kind of Meeting

२) सभेचा क्रमांक

Sr. No. of Meeting

३) सभेची तारीख

Date of Meeting

४) सभेची वेळ

Time of Meeting

५) सभेचे स्थळ

Place of Meeting

-15/11/2021

६) सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची (हुद्यासह) नावे

Name & designations of officials &

respectable persons present

सभेचे अध्यक्ष - Chairman of Meeting

Prof. U.V. Shinde

विषय क्र.

Subject
No.

ठराव क्र.

Resolution
No.

सभेपुढे विचाराकरिता आलेले विषय आणि ठराव

Resolutions and subjects placed before meeting for discussion.

01.

All the committee members were present for the meeting and discussed about previous meeting points.

02.

As per the UGC circular dated oct 2021 the discussion about filling of anti ragging form which is available on www.anti-ragging.in or www.aamovement.org is mandatory.

03.

Also parents should be aware about all the details related with anti ragging and should the rules and regulations of anti ragging thoroughly.

04.

Students and parents should submit an undertaking that they will not directly or indirectly involved in ragging.

05.

As per the given instructions by UGC, we appoint Prof. B.M. Deshmukh as nodal officer by consent of

प्रोसिडिंग बुक

सभेच्या कामकाजाच्या
वृत्तांताचे पुस्तक

सूचना - सभेस हजर असलेल्या सभासदांची
नावे गारजेप्रमाणे व जसरीप्रमाणे स्वतंत्र
कामदावर लिहून ती या कामकाजास जोडावीत.

पान नं. Page No.

15

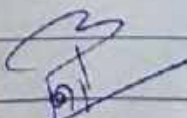
सभेस हजर असणाऱ्या सभासदांची नावे

Name of members who were present at the meeting

- | | |
|-------------------------|------------------------------------|
| 1. Prof. U. V. Shirde | 6. Dr. B. G. Gupta |
| 2. Dr. P. Makasare | 7. Prof. N. S. Kulkarni <u>N/S</u> |
| 3. Prof. B. N. Deshmukh | 8. Prof. Mrs. Vidya Ogale |
| 4. Prof. A. V. Bada. | 9. Mrs. Dhanashri Babar |
| 5. Prof. Sunil Yadav. | 10. Mr. Harihar Chaur |

विषय क्र. Subject No.	उराव क्र. Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि उराव Resolutions and subjects placed before meeting for discussion.	शेरा व तारखेसह उरावाची अंमलबजावणी Remarks & / or action taken on the resolution & date
		all members in the meeting.	
06.		It was made mandatory or compulsory that the student will submit the Antiragging undertaking attested by nodal officer and then submit it in the student section.	
07.		Discussion about adding a column for anti ragging undertaking reference number in admission form.	
08.		The meeting was concluded by Prof. N. S. Kulkarni.	




PRINCIPAL
Principal

Siddhant College of Engineering
Sudumbare, Pune - 412 109

Name of the Institution संस्थेचे नांव		Siddhant College of Engineering Sudumbare, Tal.- Maval Dist.- Pune 412 109		PROCEEDING BOOK	
१) सभेचा प्रकार Kind of Meeting	३) सभेची तारीख Date of Meeting	- 8/9/2021		५) सभेचे स्थळ Place of Meeting	
२) सभेचा क्रमांक Sr. No. of Meeting	४) सभेची वेळ Time of Meeting				
६) सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची (हुद्यासह) नावे respectable persons present				Name & designations of officials &	
सभेचे अध्यक्ष - Chairman of Meeting				Prof. U.V. Shinde	

विषय क्र. Subject No.	ठराव क्र. Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि ठराव Resolutions and subjects placed before meeting for discussion.
01	01	No complaints received till date
02	02	Principal gave all the assurance that grievance would be solved and need not hesitate to tell the grievance.
03	03	meetings were conducted with staff and created awareness between the staff.
04	04	Vote of thanks given by Prof. N.S. Kulkarni mam.

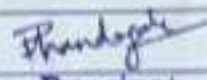


Principal
Principal
Siddhant College of Engineering
Sudumbare, Pune - 412 109

Name of the Institution संस्थाने नांव		Siddhant College of Engineering Budumbar, Tal.-Maval Dist.-Pune-412 109		PROCEEDING BOOK	
1) सभेचा प्रकार Kind of Meeting	ग्रिव्हान्स Redressal Comittee	3) सभेची तारीख Date of Meeting	25/2/2022	4) सभेचे स्थान Place of Meeting	
2) सभेचा क्रमांक Sr. No. of Meeting		4) सभेची वेळ Time of Meeting			
6) सभेस कोणी सन्माननीय गृहस्थ अथवा अधिकारी हजर असल्यास त्यांची (तुद्यासह) नावे respectable persons present:				Name & designations of officials &	
सभेचे अध्यक्ष - Chairman of Meeting				Dr. R. L. Khandagale	

विषय क्र. Subject No.	उत्तर क्र. Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि उत्तर Resolutions and subjects placed before meeting for discussion.
01	01	No complaints received till date.
02	02	Principal gave the assurance that all the grivance would be solved and need not hesitate to tell the grivance.
03	03	Meeting were conducted with staff and no grivance cases.




 Principal
 Siddhant College of Engineering
 Budumbar, Pune - 412 109

Name of the Institution
संस्थेचे नाव

Siddhant College of Engineering
Sudumbare, Tal. - Maval
Dist. - Pune 412 109

PROCEEDING BOOK

१) सभेचा प्रकार
Kind of Meeting

३) सभेची तारीख - 8/10/2021
Date of Meeting

५) सभेचे स्थळ
Place of Meeting

२) सभेचा क्रमांक
S. No. of Meeting

४) सभेची वेळ
Time of Meeting

६) सभेस कोणी सन्माननीय वृहत्तर अग्र अधिकारी हजर असल्यास त्यांची (हजारह) नावे
Name & designations of officials & respectable persons present

Prof. Nanda Kulkarni

सभेचे अध्यक्ष - Chairman of Meeting

Chair Person - Women's Grievance Committee.

विषय क्र.
Subject No.

ठराव क्र.
Resolution No.

सभेपुढे विचाराकरिता आलेले विषय आणि ठराव
Resolutions and subjects placed before meeting for discussion.

01.

All committee members were present & welcome by the chair person.

02.

Discussion about awareness of having rights to lodge a complaint concerning sexual harassment against male students & male employee of the institute by writing letter to the principal for the newly admitted.

03

It was decided to organise workshop & awareness program at regular interval towards women's safety.

04.

Meeting was concluded by vote of thanks by prof. Manisha Bhatik.

MSK
N.S. Kulkarni

प्रोसिडिंग बुक

सभेच्या कामकाजाच्या वृत्तांताचे पुस्तक

सभेस हजर असणाऱ्या सभासदांची नावे

सभेस हजर असलेल्या सभासदांची नावे गुरुजप्रमाण व ज्योतीप्रमाण स्वतंत्र कामकाजावर लिहून ती या कामकाजास जोडावीत.

पान नं. Page No. **14**

Name of members who were present at the meeting

- 1. Prof. Nanda Kulkarni Nish
- 2. Prof. Manisha Parelle Nish
- 3. Prof. Lata Kamthelekar Nish
- 4. Ms. Monika Samrutwar Nish
- 5. Mr. Sunil Khedkar Sunil
- 6. Mrs. Karita Shinde Karिता

- 7. Mr. Harishar Chavare Chavare
- 8. Mrs. Vidya Sgate Vidya

विषय क्र. Subject No.	ठराव क्र. Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि ठराव Resolutions and subjects placed before meeting for discussion.	शेध व ताखेसह ठरावाची अंमलबजावणी Remarks & / or action taken on the resolution & date

Name of the Institution स्थळेचे नांव		Siddhant College of Engineering Sudumbare, Tal.- Maval Dist.- Pune 412 109		PROCEEDING BOOK	
१) सभेचा प्रकार Kind of Meeting		३) सभेची तारीख Date of Meeting - 4/2/2022		५) सभेचे स्थळ Place of Meeting	
२) सभेचा क्रमांक Sr. No. of Meeting		४) सभेची वेळ Time of Meeting			
६) सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची (हुद्यासह) नावे respectable persons present		Name & designations of officials &			
सभेचे अध्यक्ष - Chairman of Meeting		Prof. Nanda Kulkarni Chair person - Women's Grievance Committee.			

विषय क्र. Subject No.	उराव क्र. Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि उराव Resolutions and subjects placed before meeting for discussion.
01.		All committee members were present & welcome by chair person.
02.		New members were added in the women's redressal cell & discuss rules with them.
03.		Online session was arranged for the girl students & Ladies staff regarding awareness of the institute women's Grievance Cell.
04.		Due to pandemic It was decided to work towards building a strong environment at the institute for girls.
05.		It was decided to arrange workshop & awareness programme at regular interval of time towards building gender-neutral workplace.

सभेस हजर असणाऱ्या सभासदांची नावे

Name of members who were present at the meeting

- | | |
|-------------------------------------|-------------------------------------|
| 1. Prof. Nanda Kulkarni <u>NSB</u> | 7. Mr. Harihar Chaurse <u>Chase</u> |
| 2. Prof. Manisha Jorde <u>N</u> | 8. Mrs. Vidya Ogle <u>Vidya</u> |
| 3. Prof. Lata Kamthekar <u>Late</u> | 9. Mrs. Aparna Thakre <u>Thakre</u> |
| 4. Ms. Monika Samratwar <u>MS</u> | |
| 5. Mr. Sanil Khedkar <u>Sunil</u> | |
| 6. Ms. Kavita Shinde <u>Kavita</u> | |

विषय क्र.
Subject No.

ठराव क्र.
Resolution No.

सभेपुढे विचाराकरिता आलेले विषय आणि ठराव
Resolutions and subjects placed before meeting for discussion.

शेरा व तारखेसह ठरावाची अंमलबजावणी
& / or action taken on the resolution & date
Remarks

06.

meeting was concluded by vote of thanks by ms. Kalyani Kadam.

Kesa