AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade | NBA - 6 UG Programmes

Department of Chemical Engineering

Experiential Learning

2022-23

NPTEL based Active Learning

AISSMS
COLLEGE OF ENGINEERING
Approved by AICTE, New Delhi, Recognized by
Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University
and recognized 2(f) and 12(B) by UGC (Id.No. PU / PN/ Engg. / 093 (1992)
Accredited by NAAC with 'A+' Grade

Department of Chemical Engineering

Subject: Mass Transfer-I

Academic Year: 2022-23(Term-I) **Class: TE**

List of NPTEL and you tube links

1. https://www.youtube.com/watch?v=Yc2eSffzhBI&list=RDCMUCCDzHkpuIuD1ZC0wsCXUuPQ&start_radio=1&rv=Yc2eSffzhBI&t=13
2. https://www.youtube.com/watch?v=HlHyEcP_7SU&list=PL38769A2045D58D20
3. https://www.youtube.com/watch?v=YdJUefsrwSg&list=PLk7ptZcI9vmhm5hlyLAqbVFsYO2sWCd9b
4. https://www.youtube.com/watch?v=xVRcxzapuTg
5. https://www.youtube.com/watch?v=LjPyiVdQTtM&t=2472s
6. https://www.youtube.com/watch?v=s34y3jXm5X4
7. https://www.youtube.com/watch?v=rh9UdX0OEWc&t=1006s (PACKED VS TRAY TOWER)
8. https://www.youtube.com/watch?v=4FKxdvhGUd4 (TRAYS)
9. https://www.youtube.com/watch?v=HiMOMeAxOXo&t=1745s (DIFFUSION)

K N Bawankar
Subject Teacher

Head
Deptt of Chemical Engg.
AISSMS, COE, PUNE-01.

D G DEVELOPERS ,
Dalviwadi , Dhayari ,
Pune – 411041.

Rera no. P52100013792
Mobile : 8888033422.

Ref. No.

Date- 05/01/2023.

CERTIFICATE

This is certify that, Mr. **Patil Shubham Chandrakant** Roll No. **20CV091.** of Class TE Civil studying at Department of Civil Engineering. AISSMS College of Engineering. Kennedy road. Pune-411001. has successfully completed Internship training at our firm D G Developers . Dalviwadi , Dhayari , Pune. from **05/12/2022** to **04/01/2023.**

RFDalvi
Rushikesh Dalvi

Sign, name, Designation and stamp of Industry

M/s. D. G. DEVELOPERS
S. No.132, Dalviwadi, Sinhgad Rd.,
Nanded Phata, Dhayari,
Tal. Haveli, Dist. Pune-411 041.

CERTIFICATE OF INTERNSHIP FROM INSTITUTE

TO WHOMSOEVER IT MAY CONCERN

This is certify that, Mr./Ms. Patil Shubham Chandrakant Roll No 20CV091 of Class TE Civil studying at Department of Civil Engineering, AISSMS College of Engineering, Kennedy road , Pune-411001, has successfully completed Internship training from firm D.G. Developers (Name of Industry and Site address) from 05/12/22 to 04/01/23 He / She submit the report of Internship and gave presentation of his / her work.

Faculty Mentor	Internship Coordinator	Dr. P. B. Nangare Head of Department
	Dr. G. C. Chikute	Dr. P. B. Nangare

S.S. CONTRACTORS
BUILDERS & DEVELOPER

INTERNSHIP AT S.S CONTRACTORS BUILDERS & DEVELOPERS

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr.Soham Surve (20CV115) who is a student of Civil,Semester six, of AISSMS College of Engineering .Shivaji Nagar,Pune has undergone internship at our ongoing residential project at Wagholi Pune from 10 th December 2022 to 7th January 2023.

He is very punctual qick on the uptake and dedicated towards all aspects of Civil Engineering as required of a professional

We wish him all the very best in all future endeavours in his professional growth

S.S CONTRACTOR BUILDERS AND DEVELOPER

Proprietor

Hermes Heritage Phase-1, Shastrinagar,
Yerwada, Pune-411006

9923315698 / 9823065886 / 9923993355
ss.developer03@gmail.com

AISSMS
COLLEGE OF ENGINEERING

Department of Civil Engineering
NPTEL Student Enroll List

Timeline: Jan April 2023

S.no	Name	Email Id	Course Id	CourseName	College Roll Number	Qualification	Degree	Study Year
1	Aditya Sanjay Jadhav	adityajadhav312002@gmail.com	noc23-ce28	Structural Analysis-I	22CV321	diploma	be	2
2	bharati chhotiram gangurde	bharatigangurde12399@gmail.com	noc23-ce50	Concrete Technology	17CV034	bachelor5yr	be	5
3	Nayan krishna dhake	dhakenayan11@gmail.com	noc23-ce01	Strategies for Sustainable Design		bachelor4yr	me	1
4	Prasanna Morale	itsmeprasannam@gmail.com	noc23-ce01	Strategies for Sustainable Design	MST-22018	bachelor4yr	me	1
5	Chougule Ketan Manoj	ketanmchougule99@gmail.com	noc23-ce01	Strategies for Sustainable Design	22ST005	bachelor4yr	me	1
6	TAYADE KRUSHNARAVIBABU	krushnatayade26@gmail.com	noc23-ce01	Strategies for Sustainable Design	21CV091	pre_university	be	2
7	TAYADE KRUSHNARAVIBABU	krushnatayade26@gmail.com	noc23-ce28	Structural Analysis-I	21CV091	pre_university	be	2
8	TAYADE KRUSHNARAVIBABU	krushnatayade26@gmail.com	noc23-ce50	Concrete Technology	21CV091	pre_university	be	2
9	Jadhav Mahesh Sanjay	maheshjadhav4536@gmail.com	noc23-cs21	Python for Data Science		diploma	be	2
10	Manish Paygude	mpaygude33@gmail.com	noc23-ce49	Analysis and Design of Bituminous Pavements	17CV093	bachelor4yr	be	4
11	Omkar shirke	omkarshirke1404@gmail.com	noc23-cs64	Optimisation for Machine Learning: Theory and Implementation (Hindi)	19CV101	pre_university	be	4
12	Omkar shirke	omkarshirke1404@gmail.com	noc23-ma13	Basic Calculus - 1	19CV101	pre_university	be	4
13	Sakshi Mahadev Akhade	sakshiakhade01@gmail.com	noc23-hs52	English Language for Competitive Exams	21CV301	bachelor4yr	be	3
14	Sakshi Mahadev Akhade	sakshiakhade01@gmail.com	noc23-hs68	Learning English in Hindi	21CV301	bachelor4yr	be	3
15	Shridhar mahadev rakate	shridharrakate@gmail.com	noc23-ce01	Strategies for Sustainable Design	18CV321	bachelor4yr	be	4
16	Shridhar mahadev rakate	shridharrakate@gmail.com	noc23-cs05	An Introduction to Artificial Intelligence	18CV321	bachelor4yr	be	4
17	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc23-ce24	Remote Sensing: Principles and Applications	21CV317	diploma	be	3
18	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc23-ce33	Advanced Foundation Engineering	21CV317	diploma	be	3

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AISSMS
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Department of Civil Engineering
NPTEL Student Result List

timeline: July - December 2022

Sr. No.	Name	Email Id	Year of passing	College Roll no	Present/Absent	Score From Assignment	Unproctored programming exam score out of 25	Exam Score	Final Score	Certificate Type	FDP Eligible
1	Sakshi Anant Kulkarni	sakshikulkarni012@gmail.com	2024	20CV065	Present	20.16	NA	42.75	63	Elite	No
2	Panpatkar Vaibhav Nagesh	vbv01np@gmail.com	2023	21CV317	Present	19.78	NA	30.75	51	Successfully completed	No
3	Makarand Yuvraj Mali	makarandmali2003@gmail.com	2024	20CV069	Present	23.13	NA	26.25	49	No Certificate	No
4	Chetan Bhaskar Pardhi	chetanpardhi35@gmail.com	2024	21CV318	Present	23.28	NA	17.63	41	No Certificate	No
5	Saurabh Suresh Relekar	sourabhrelekar23@gmail.com	2024	20CV097	Present	22.66	NA	16.5	39	No Certificate	No
6	Saurabh Suresh Relekar	sourabhrelekar23@gmail.com	2024	20CV097	Present	23.72	NA	13.5	37	No Certificate	No
7	TEJAS GANESH ROKADE	tejasrokade02@gmail.com	2024	21CV323	Present	22.66	NA	37.5	60	Elite	No
8	RUTESH SURYAKANT SHIVSHARAN	ruteshshivsharan@gmail.com	2021	21CV326	Present	11.88	NA	22.5	34	No Certificate	No
9	Aishwarya Hemant Tanpure	ahtanpure27@gmail.com	2024	21CV328	Present	22.5	NA	30	53	Successfully completed	No
10	AYUSH GAJENDRA RAJPUT	ayushrajput3464@gmail.com	2024	21CV322	Present	22.97	NA	36.75	60	Elite	No
11	Atharv Patil	sowatharvpatil@gmail.com	2024	20CV085	Present	21.56	NA	36.75	58	Successfully completed	No
12	Sakshi Anant Kulkarni	sakshikulkarni012@gmail.com	2024	20CV065	Present	23.72	NA	36.74	60	Elite	No
13	Panpatkar Vaibhav Nagesh	vbv01np@gmail.com	2023	21CV317	Present	22.81	NA	30.75	54	Successfully completed	No
14	CHAWADA ARYAN DHANANJAY	aryanchawada12@gmail.com	year_3		Absent	12.35	NA			No Certificate	No
15	Atharv Patil	sowatharvpatil@gmail.com	2024	20CV085	Present	23.28	NA	52	75	Elite+Silver	No
16	Sakshi Anant Kulkarni	sakshikulkarni012@gmail.com	2024	20CV065	Present	22.81	NA	22.13	45	No Certificate	No
17	Panpatkar Vaibhav Nagesh	vbv01np@gmail.com	2023	21CV317	Present	11.44	NA	10.5	22	No Certificate	No
18	Shubham Sagar Shirgave	shubhamshirgave1234@gmail.com	2024	21CV325	Present	22.97	NA	31.5	54	Successfully completed	No

CIVIL ENGINEERING
AISSMS's COE, PUNE-1.

AISSMS
COLLEGE OF ENGINEERING

Department of Civil Engineering

NPTEL Student Enroll List

timeline: July - December 2022

S.no	Name	Email Id	Course Id	CourseName	College Roll Number	Mobile Number	Qualification	Degree	Study Year
1	Shubhankar Purandare	2000shubhankar@gmail.com	noc22-ce70	Introduction to Multimodal Urban Transportation Systems (MUTS)		+91 90753 53085	diploma	be	4
2	ABHAY ANIL MANE.	abhaymane210@gmail.com	noc22-ce66	Design of Steel Structures	20CV071	+91 94217 37858	pre_university	be	3
3	ABHAY ANIL MANE.	abhaymane210@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	20CV071	+91 94217 37858	pre_university	be	3
4	ABHAY ANIL MANE.	abhaymane210@gmail.com	noc22-ce85	Fluid Mechanics	20CV071	+91 94217 37858	pre_university	be	3
5	Aishwarya	ahtanpure27@gmail.com	noc22-ce66	Design of Steel Structures	21CV328	+91 83081 34124	bachelor3yr	be	2
6	Aishwarya	ahtanpure27@gmail.com	noc22-ce85	Fluid Mechanics	21CV328	+91 83081 34124	bachelor3yr	be	2
7	Ajay Bhosale	ajaybhosale5016@gmail.com	noc22-ce59	Project Planning & Control	20CV306	+91 90119 26648	bachelor3yr	be	3
8	Ajay Bhosale	ajaybhosale5016@gmail.com	noc22-ce84	Remote Sensing and GIS	20CV306	+91 90119 26648	bachelor3yr	be	3
9	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce57	Design of connections in steel structures	18CV084	+91 90116 98185	bachelor4yr	be	4
10	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce58	Advanced Concrete Technology	18CV084	+91 90116 98185	bachelor4yr	be	4
11	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce63	Bridge Engineering	18CV084	+91 90116 98185	bachelor4yr	be	4
12	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce65	Design of Reinforced Concrete Structures	18CV084	+91 90116 98185	bachelor4yr	be	4
13	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce66	Design of Steel Structures	18CV084	+91 90116 98185	bachelor4yr	be	4
14	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce67	Foundation Engineering	18CV084	+91 90116 98185	bachelor4yr	be	4
15	Akash Nanu Phatak	akashphatak8185@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	18CV084	+91 90116 98185	bachelor4yr	be	4

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16	CHAWADA ARYAN DHANANJAY	aryanchawada12@gmail.com	noc22-ce56	Principles of Construction Management	20CV021	+91 98500 45989	pre_university	be	3
17	CHAWADA ARYAN DHANANJAY	aryanchawada12@gmail.com	noc22-ce59	Project Planning & Control	20CV021	+91 98500 45989	pre_university	be	3
18	CHAWADA ARYAN DHANANJAY	aryanchawada12@gmail.com	noc22-ce66	Design of Steel Structures	20CV021	+91 98500 45989	pre_university	be	3
19	Atharva Potdar	atharvapotdar1998@gmail.com	noc22-ce66	Design of Steel Structures	20CV094	+91 70839 98383	bachelor4yr	be	2
20	Atharva Potdar	atharvapotdar1998@gmail.com	noc22-ce85	Fluid Mechanics	20CV094	+91 70839 98383	bachelor4yr	be	2
21	Ayush Gajendra Rajput	ayushrajput3464@gmail.com	noc22-ce66	Design of Steel Structures	21CV322	+91 93595 83689	bachelor4yr	be	3
22	Ayush Gajendra Rajput	ayushrajput3464@gmail.com	noc22-ce85	Fluid Mechanics	21CV322	+91 93595 83689	bachelor4yr	be	3
23	Chetan Bhaskar Pardhi	chetanpardhi35@gmail.com	noc22-ce66	Design of Steel Structures	21CV318	+91 79728 30847	diploma	be	3
24	Chetan Bhaskar Pardhi	chetanpardhi35@gmail.com	noc22-ce85	Fluid Mechanics	21CV318	+91 79728 30847	diploma	be	3
25	Gauri Nandkishor Warang	gauriwarang1@gmail.com	noc22-ce66	Design of Steel Structures	20CV125	+91 73506 29595	bachelor4yr	be	3
26	Harish Pandharinath Wagh	harishwagh2597@gmail.com	noc22-ce56	Principles of Construction Management	15CV123	+91 95119 71695	bachelor4yr	be	-1
27	Harish Pandharinath Wagh	harishwagh2597@gmail.com	noc22-ce59	Project Planning & Control	15CV123	+91 95119 71695	bachelor4yr	be	-1
28	Harish Pandharinath Wagh	harishwagh2597@gmail.com	noc22-mg60	Project Management	15CV123	+91 95119 71695	bachelor4yr	be	-1
29	Harish Pandharinath Wagh	harishwagh2597@gmail.com	noc22-mg71	Project management for managers	15CV123	+91 95119 71695	bachelor4yr	be	-1
30	Khushali Ekbote	khushali2500@gmail.com	noc22-ce59	Project Planning & Control	19CV309	+91 88304 67761	bachelor4yr	be	4
31	Khushali Ekbote	khushali2500@gmail.com	noc22-ce86	Earth Sciences for Civil Engineering Part - I & II	19CV309	+91 88304 67761	bachelor4yr	be	4
32	Khushboo Suresh Gunde	khushboogunde@yahoo.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	18CV039	+91 80073 62305	bachelor4yr	be	4
33	Khushboo Suresh Gunde	khushboogunde@yahoo.com	noc22-ce75	Strength of Materials	18CV039	+91 80073 62305	bachelor4yr	be	4
34	Kolate Trupti Arvind	kolatetrupti@gmail.com	noc22-ce66	Design of Steel Structures	AISSMS coe pune	+91 91300 68590	pre_university	be	3

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35	Kolate Trupti Arvind	kolatetrupti@gmail.com	noc22-ce85	Fluid Mechanics	AISSMS coe pune	+91 91300 68590	pre_university	be	3
36	Kumbhar Shubham jaysing.	kumbharshubham3737@gmail.com	noc22-ce66	Design of Steel Structures	20CV066	+91 96140 13737	pre_university	be	3
37	Mandar Ravindra Hire	mandarhire18@gmail.com	noc22-ce66	Design of Steel Structures	20CV042	+91 81778 28378	pre_university	be	3
38	Nikam Aditya Harish	nikam.aditya13@gmail.com	noc22-ce57	Design of connections in steel structures	20CV079	+91 91467 66400	bachelor3yr	btech	2
39	Omkar Thombare	omkarthombare2015@gmail.com	noc22-ce66	Design of Steel Structures	21CV329	+91 90753 73249	bachelor3yr	be	2
40	Aishwarya Sudhir Pandharpure	pandharpureaishwarya@gmail.com	noc22-ce58	Advanced Concrete Technology	19CV074	+91 98230 76607	bachelor4yr	be	3
41	Aishwarya Sudhir Pandharpure	pandharpureaishwarya@gmail.com	noc22-oe02	Advanced design of steel structures	19CV074	+91 98230 76607	bachelor4yr	be	3
42	Shubham patil	patilshubham3911@gmail.com	noc22-ar13	Modern Indian Architecture	50	+91 94038 47081	bachelor4yr	be	-1
43	Shubham patil	patilshubham3911@gmail.com	noc22-ar18	Introduction to Urban Planning	50	+91 94038 47081	bachelor4yr	be	-1
44	Pratiksha Ramesh Patil	pratiksharpatil2002@gmail.com	noc22-ce66	Design of Steel Structures	21CV320	+91 76665 25337	bachelor3yr	be	3
45	Pratiksha Ramesh Patil	pratiksharpatil2002@gmail.com	noc22-ce85	Fluid Mechanics	21CV320	+91 76665 25337	bachelor3yr	be	3
46	Rashi ugalkar	rashiugalkar022@gmail.com	noc22-ce66	Design of Steel Structures	21CV330	+91 788 747 8918	bachelor3yr	be	3
47	Rashi ugalkar	rashiugalkar022@gmail.com	noc22-ce85	Fluid Mechanics	21CV330	+91 788 747 8918	bachelor3yr	be	3
48	RUTESH SURYAKANT SHIVSHARAN	ruteshshivsharan@gmail.com	noc22-ce66	Design of Steel Structures	21CV326	+91 90225 03412	bachelor4yr	be	3
49	RUTESH SURYAKANT SHIVSHARAN	ruteshshivsharan@gmail.com	noc22-ce85	Fluid Mechanics	21CV326	+91 90225 03412	bachelor4yr	be	3
50	Sakshi Mahadev Akhade	sakshiakhade01@gmail.com	noc22-ce66	Design of Steel Structures	21CV301	+91 77678 23666	bachelor3yr	be	3
51	Sakshi Mahadev Akhade	sakshiakhade01@gmail.com	noc22-ce85	Fluid Mechanics	21CV301	+91 77678 23666	bachelor3yr	be	3
52	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ar14	Building Materials and Composites	18CV080	+91 77209 98308	bachelor4yr	be	-1
53	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce54	Mechanics Of Materials	18CV080	+91 77209 98308	bachelor4yr	be	-1

54	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce60	Geotechnical Engineering Laboratory	18CV080	+91 77209 98308	bachelor4yr	be	-1
55	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce63	Bridge Engineering	18CV080	+91 77209 98308	bachelor4yr	be	-1
56	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce65	Design of Reinforced Concrete Structures	18CV080	+91 77209 98308	bachelor4yr	be	-1
57	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce66	Design of Steel Structures	18CV080	+91 77209 98308	bachelor4yr	be	-1
58	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering i	18CV080	+91 77209 98308	bachelor4yr	be	-1
59	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-ce85	Fluid Mechanics	18CV080	+91 77209 98308	bachelor4yr	be	-1
60	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-cs101	Problem Solving Through Programming In C	18CV080	+91 77209 98308	bachelor4yr	be	-1
61	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-cs102	Programming In Java	18CV080	+91 77209 98308	bachelor4yr	be	-1
62	Sanket Shahaji Patil	sanketpatil229999@gmail.com	noc22-mg60	Project Management	18CV080	+91 77209 98308	bachelor4yr	be	-1
63	Sayali tangature	sayalitangature@gmail.com	noc22-ce51	GPS Surveying	20CV334	+91 70409 13605	bachelor4yr	be	3
64	Sayali tangature	sayalitangature@gmail.com	noc22-ce63	Bridge Engineering	20CV334	+91 70409 13605	bachelor4yr	be	3
65	Sayali tangature	sayalitangature@gmail.com	noc22-ce94	Geometric Design of Highways	20CV334	+91 70409 13605	bachelor4yr	be	3
66	Shubham chandrakant patil	scpatil461@gmail.com	noc22-ce66	Design of Steel Structures		+91 84840 59470	pre_university	be	3
67	Shantanu Mulay	shantanumulay213@gmail.com	noc22-ce57	Design of connections in steel structures	COE-2351	+91 77748 99891	masters	mtech	-1
68	Shraddha nawale	shraddhanawale852@gmail.com	noc22-ce66	Design of Steel Structures	20CV078	+91 91569 42210	bachelor4yr	be	3
69	Shraddha nawale	shraddhanawale852@gmail.com	noc22-ce85	Fluid Mechanics	20CV078	+91 91569 42210	bachelor4yr	be	3
70	Shreya Sanjeev Yadav	shreyayadav1121@gmail.com	noc22-ce66	Design of Steel Structures	21CV331	+91 92843 80052	bachelor3yr	be	3
71	Shreya Sanjeev Yadav	shreyayadav1121@gmail.com	noc22-ce85	Fluid Mechanics	21CV331	+91 92843 80052	bachelor3yr	be	3
72	Shubham Sagar Shirgave	shubhamshirgave1234@gmail.com	noc22-ce66	Design of Steel Structures	21CV325	+91 90674 60639	bachelor4yr	be	3
73	Shubham Sagar Shirgave	shubhamshirgave1234@gmail.com	noc22-ce85	Fluid Mechanics	21CV325	+91 90674 60639	bachelor4yr	be	3

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CIVIL ENGINEERING
AISSMS's COE, PUNE-1.

74	Soham Surve	sohamsurve20@gmail.com	noc22-ce85	Fluid Mechanics	20CV115	+91 95956 63020	pre_university	btech	2
75	Saurabh Suresh Relekar	sourabhrelekar23@gmail.com	noc22-ce66	Design of Steel Structures	20CV097	+91 73875 16350	bachelor4yr	be	3
76	Saurabh Suresh Relekar	sourabhrelekar23@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	20CV097	+91 73875 16350	bachelor4yr	be	3
77	Saurabh Suresh Relekar	sourabhrelekar23@gmail.com	noc22-ce85	Fluid Mechanics	20CV097	+91 73875 16350	bachelor4yr	be	3
78	Atharv Patil	sowatharvpatil@gmail.com	noc22-ce66	Design of Steel Structures	20CV085	+91 95290 79717	bachelor4yr	be	3
79	Atharv Patil	sowatharvpatil@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	20CV085	+91 95290 79717	bachelor4yr	be	3
80	Atharv Patil	sowatharvpatil@gmail.com	noc22-ce85	Fluid Mechanics	20CV085	+91 95290 79717	bachelor4yr	be	3
81	Atharva Soygaonkar	soygaonkaratharva@gmail.com	noc22-ce85	Fluid Mechanics	20CV113	+91 96375 50077	bachelor4yr	be	3
82	SOHAM SANDEEP SARPHALE	sssarphale@gmail.com	noc22-ce85	Fluid Mechanics	20CV102	+91 91302 01136	bachelor4yr	be	2
83	Shrawani Suryawanshi	suryawanshishrawani@gmail.com	noc22-ce66	Design of Steel Structures	21CV327	+91 94213 71134	diploma	be	3
84	Shrawani Suryawanshi	suryawanshishrawani@gmail.com	noc22-ce85	Fluid Mechanics	21CV327	+91 94213 71134	diploma	be	3
85	Sushant Sandanshiv	sushantsandanshiv16@gmail.com	noc22-ce56	Principles of Construction Management	20CV332	+91 86683 81021	diploma	be	4
86	Tejas Ganesh Rokade	tejasrokade02@gmail.com	noc22-ce66	Design of Steel Structures	21CV323	+91 87888 01122	bachelor4yr	be	3
87	Tejas Ganesh Rokade	tejasrokade02@gmail.com	noc22-ce85	Fluid Mechanics	21CV323	+91 87888 01122	bachelor4yr	be	3
88	Vaibhav More	vaibhavspace22@gmail.com	noc22-ar18	Introduction to Urban Planning	20CV121	+91 74772 82021	pre_university	be	3
89	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc22-ce66	Design of Steel Structures	21CV317	+91 99603 44294	diploma	be	3
90	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc22-ce67	Foundation Engineering	21CV317	+91 99603 44294	diploma	be	3
91	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc22-ce74	Soil Mechanics/Geotechnical Engineering I	21CV317	+91 99603 44294	diploma	be	3
92	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc22-ce85	Fluid Mechanics	21CV317	+91 99603 44294	diploma	be	3
93	Vaibhav Nagesh Panpatkar	vbv01np@gmail.com	noc22-ce96	Geotechnical Engineering-II	21CV317	+91 99603 44294	diploma	be	3

HEAD OF DEPARTMENT
CIVIL ENGINEERING
AISSMS's COE, PUNE-1.

Experiential Learning Participation in Competition

MoE's Innovation Cell (Government of India)

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय

INSTITUTION'S INNOVATION COUNCIL (Ministry of HRD Initiative)

INSTITUTION'S INNOVATION COUNCIL AND STARTUP - INNOVATION CELL

2022 - 2023



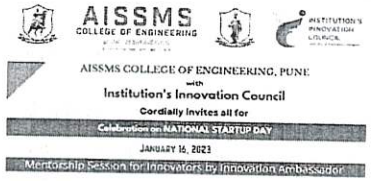


Smart India Hackathon (Hardware) 22

Activity Name

- Smart India Hakathon (Software)- Winner
- Smart India Hakathon (Hardware)- Finalist
- Avishkar – 25 teams participated
- Ideathon 2022-23
- UNESCO AFRICA - International Hackathon
- National Startup Day
- International Women's Day 2023
- Yukti, Innovation challenge 2023
- Kavach Compition 2023
- IPR-NIPAM Awareness Program

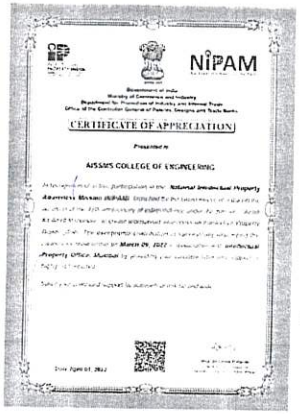

Smart India Hackathon (Software)-22
1st Prize Worth 100000


AISSMS COLLEGE OF ENGINEERING, PUNE
with
Institution's Innovation Council
Cordially invites all for
Celebration on NATIONAL STARTUP DAY
JANUARY 16, 2023
Mentorship Session for Innovators by Innovation Ambassador

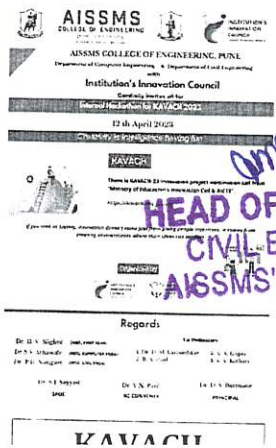



Ideathon 2022-23

International Hackathon



NIPAM



KAVACH

HEAD OF DEPARTMENT
CIVIL ENGINEERING
AISSMS's COE, PUNE-1

Dr V N Patil

Hackathon Group Photos 22-23

4.1

Smart India Hackathon

AISSMS
COLLEGE OF ENGINEERING
Approved by AICTE, New Delhi, Recognized by
Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University
and recognized 2(f) and 12(B) by UGC (Id.No. PU / PN/ Engg. / 093 (1992)
Accredited by NAAC with 'A+' Grade

Activity Report

Industrial Visit to Gayatri Engineers

25th Aug 2022

Department of Electrical Engineering has organized an Industrial visit for TE Electrical students to Gayatri Engineers,Pune in association with Institute of Engineers, India (IEI), Electrical Chapter on 25 Aug 2022.

The Expert of the session were

1. Sudhanshu Shrikhande,

Gayathri Engineers, Pune

This visit was organized by **Mrs. P. K. Sankala and Dr. A.A. Apte**.

Company Profile:

A Pune based company started in 1998, is headed by **Sudhanshu Shrikhande** and supported by **Mrs. Madhavi Shrikhande.**Started with small Designs in the fields in Power Electronics for reliable products, the organization has attained a level of confidence to build the Power Products to work with a variety of applications Design, Manufacturing, of Electrical and Electronics Power Products.

GAYATRI ENGINEERS

1) Battery chargers- SMPS based and transformer based for gensets, battery vehicles, UPS, Inverters etc.

2) Servo voltage stabilizers - 1 ph - 3ph- for a variety of industrial / medical applications where stability of voltage is important.

3) Engine Cranking rectifiers - For engine testing applications from 50 amp to 3000 amp capacity.

4) On Line UPS, Industrial Inverters, Home UPS, Batteries etc.

5) Battery Tester- For Understanding or finding a faulty battery or a weak battery, in 1 minute.

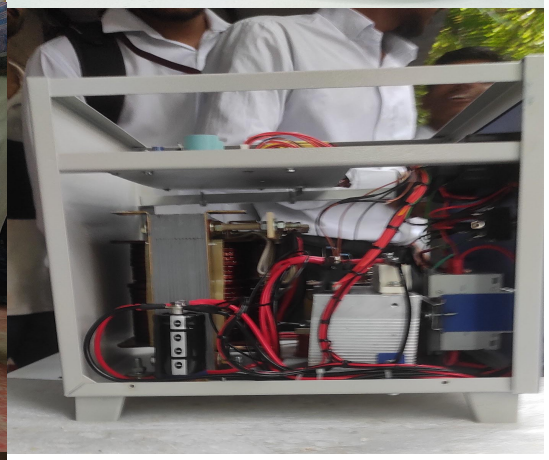
6) Battery Level Indicator - It displays the status of a discharging battery in %. Useful for battery operated vehicles.

The **main motive** of this industrial visit was to understand more about battery chargers and Voltage stabilizers.

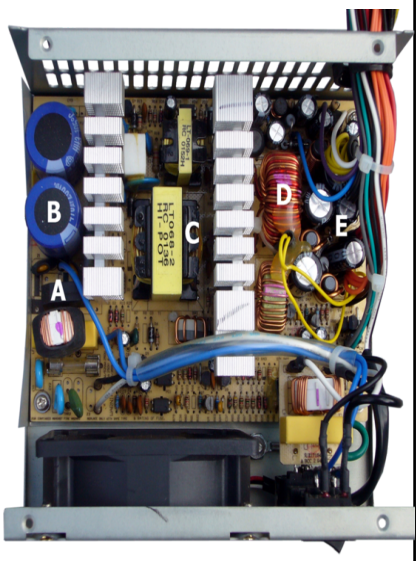
The various equipments discussed were:

1. **Battery Charger** (for SMPS):

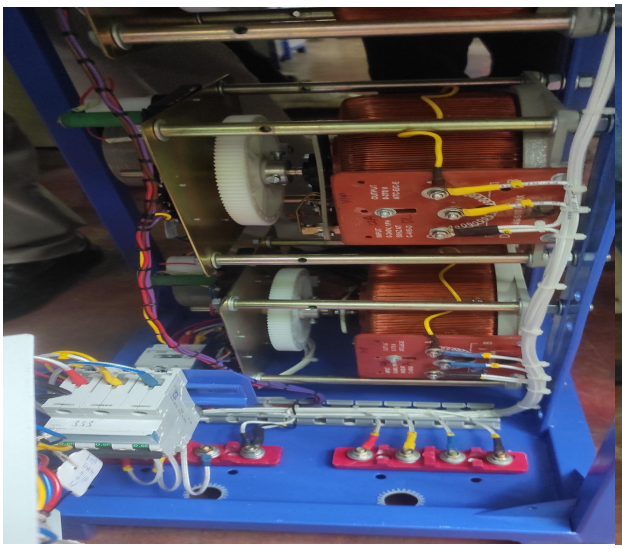



Battery chargers are used for SMPS, which are operated on high frequency (100-200KHz). All air-flying vehicles require to carry load, to fly in air as less is the volume/size, less losses are incurred. As SMPS has high operating frequency, volume required is less and efficiency is effectively higher. So it is preferred as it has less volume and less size. The battery charger consisted of a **semi-controlled** (buck) converter (1 SCR and 1 diode were used).

SMPS		**Battery Charger**
100-200 KHz		**50 Hz**
	**Difference (in frequency)**	

2. **Servo Voltage Stabilizer**:



Voltage stabilizer shown was a 20A device, front side consisted of display while backside had a control card. Bridge converter is connected to LC filters and LC

filter is connected to **bleeder resistor**, bleeder resistors are used as a safety feature to discharge capacitors to safe voltage levels after power is removed. A bleed resistor may be either permanently for cost effectiveness and high reliability or switched across a capacitor for rapid discharge without stagnant dissipation. **A PIC16F887** version of the microcontroller was used on the control card of the voltage stabilizer.

Conclusion :

- Various facets of Battery charger, voltage stabilizer and related devices were studied.
- Operation was understood and specifications of components were noted down.

HOD
Department of Electrical Engineering
AISSMS College of Engineering, Pune

RESONANCE RACING BAJA

SEASON REPORT 2022-23

UNDER THE GUIDANCE OF

DR. C S DHARANKAR
MR. S A ANSARI

Prepared by
ABHISHEKH KHATAVKAR
Team Captain
Resonance Racing BAJA 2023

CONTENTS

1) Team List

Member Name	Role In Team	Year	SAE ID	Branch
Abhishek khatavkar	Captain	IV Year	7200520828	Mechanical
Pratul Mulik	Vice-captain & Vehicle Dyn. (L)	IV Year	7200522147	Mechanical
Piyush Suryawanshi	Team manager & Chassis (L)	IV Year	7200522146	Mechanical
Shivam Yewale	Technical (L)& CAE (L)	IV Year	7200522149	Mechanical
Shreyas Parchure	Technical (L) & Powertrain (L)	IV Year	7200522151	Mechanical
Aditya Ghule	Procurement (L)	IV Year	7200522154	Mechanical
Atharva Chirmure	Driver & Marketing (L)	III Year	7210520748	Computer science
Kunal Aher	Co-Driver & Powertrain	III Year	7210523073	Electrical
Manthan Muke	Manufacturing (L) & Powertrain	III Year	7210523021	Mechanical
Sahil Gole	DAQ (L)	III Year	7210520741	Electrical
Ravi Yadav	Brakes (L)	III Year	-	Electrical
Prathmesh Awaghade	Vehicle dynamics	III Year	7210523020	Mechanical
Parth Deshmukh	Vehicle dynamics	IV Year	7210520735	Mechanical
Hrutik Awasthi	Vehicle dynamics	III Year	-	Mechanical
Aditya Kamble	Chassis & CAE	III Year		Mechanical
Suyash Bhandare	Chassis & CAE	III Year		Mechanical
Hritik Kanade	CAE	III Year		Mechanical
Harshal Jagtap	Chassis & Marketing	III Year		Mechanical
Mahesh Shingote	Powertrain	II Year		Mechanical
Avishkar Varpe	Brakes	II Year		Mechanical

Faculty Advisors	Role	SAE ID
Dr. Chandrashekhar Dharankar	Faculty Advisor	7170511666
Mr. S A Ansari	Faculty Advisor	

2) Season Commencement

a) Overview

The 2023 season was kick-started with the team selection procedure in APRIL 2022. The team was selected by the senior members of the team after a rigorous round of tests, and a probation period followed by technical interviews.

After evaluating the assets and liabilities of participation in relevant Events, It was decided that the Team would participate in 1 event for the 2022-23 Season which is BAJA SAE INDIA 2023 Pithampur.

As we are venturing into the 4WD domain after the team selection, the season began with brainstorming ideas for the 4WD All-terrain vehicle. Introspecting the previous seasons, the goals and parameters were decided, and the following prospects were decided for the team.
The Team began its Design with set Performance Targets for every department. A thorough Design Literature Review was conducted, and New Design is analyzed from all possible angles. The Team went through Phase 1 which is the preliminary round of BAJA SAE India. Post Phase1, a Design Finalization Phase rendered the entire Vehicle and the Team started with its Manufacturing Phase with simultaneous processing of Components.
Assembling the Entire Vehicle, the Testing phase was enacted at Testing Grounds in Moshi, Bhosari. After a rugged Testing Phase of more than 600km and 160 hrs, the Team and Car were Ready to tackle the competition. The Team Competed in BAJA SAE INDIA in the month of April at Pithampur, Indore

b) Team Objectives

- To incorporate the design of 4WD in the all-terrain WITH IMPROVEMENT in quality and working.
- Upgrade Team's Design and Development Plan along with industry-level Testing and Manufacturing compliance.
- Standardization protocols for Verification and Validation of Vehicle Design.

c) Team Structure

Management

Captain – ABHISHEK KHATAVKAR

- Manage the coordination and Overall Integration of Team Activities.
- Perform administrative functions – reviewing reports, approving expenditures, and ensuring goal-oriented Project Execution.

Vice-Captain – PRATUL MULIK

- Lead Technical Designer driving Technical Team Design & Development.
- Provide direction for developing short-term and long-term operational goals.

Team Manager – PIYUSH SURYAVANSHI

- Implement, Supervise and Mediate Team Activities to meet Team Objectives.
- Foster a cohesive, creative, and comfortable working environment within the team.

Technical Departments

I. Roll Cage

Lead – PIYUSH SURYAVANSHI

- The main goal was to minimize unnecessary members without compromising the driver's safety
- To perform RULA Analysis for a better understanding of driver ergonomics and to optimize our design accordingly
- Incorporate a lumbar curve and better thigh support for the driver

II. Computer-Aided Engineering (CAE)

Lead – SHIVAM YEWALE

- Perform the suspension linkage analysis by inertia relief method
- Perform full dynamic analysis on the chassis to obtain deformation for the front, side, rear impact, and rollover condition
- To perform fatigue and kinematic analysis with hyper mesh and IPG CARMAKER industry software.

III. Brakes

Lead – RAVI YADAV

- Inboard Braking System to be implemented.

IV. Suspension

Lead – PRATHAMESH AWGHADE

- Custom Rear Suspension with improved Regression.
- New Spring Dampers (Afco) to be implemented.

V. Powertrain

Lead – SHREYAS PARCHURE

- Incorporate customized 4WD transmission with the shifting mechanism
- Custom in-House Lightest 2-Stage Transfer case 4WD Gearbox and cageless differential to be designed.
- Simulate Gearbox in System Simulation Software – KissSOFT.

VI. Data acquisition

Lead – SAHIL GOLE

- Wireless Communication to be set up for seamless communication between the vehicle and ground station.
- Provide the design team with accurate forces for component design

VII. Manufacturing

Lead – MANTHAN MUKE

- Implement Composites - Carbon Fiber Reinforced Components in Seat and Body panels.
- Implement quality inspection with industry-level execution.

Non-Technical Departments

I. Sales and Marketing

Lead – ATAHRV CHIRMURE

- Implement and manage approaches for sponsorships and marketing
- To represent the virtual industry of manufacturing 4000 vehicle

I. Costing and finance and Procurement

Lead – RAVI YADAV

- Implement an industry model of procurement and finance management simultaneously.
- Maintain a record of costs for each component of a vehicle with supporting documents.

3) BAJA SAE INDIA PHASE-1

The Baja competition consists of a virtual round in September and the final round being held in January

The objectives of the Virtual BAJA event are as follows:

- To acquaint the teams completely with the objectives of the BAJA SAEINDIA event.
- The teams are required to familiarize themselves with the technical guidelines and limits for the design of the BAJA vehicle.
- To design the complete CAD Model of the BAJA Vehicle. The design should be complete in all respects to the extent of being considered ready for manufacturing.

Based on the performance in the Virtual BAJA, the teams would be selected for participation in the main event. In the virtual round, the team has to design the proposed buggy completely using CAD software and perform various analyses on it to validate their design as close as possible.

It is also expected that the team comes up with a valid design validation plan backed by a projected timeline. We also have to prepare the costing sheet and bill of material for the buggy

The virtual consists of a presentation round of 15 min and a cross-questioning round of 20 min. The virtual Baja took place on17th and 18th august 2022. 5 team members represented the team in the BAJA SAEINDIA Virtual Round.

Resonance Racing of A.I.S.S.M.S. College of Engineering has secured Overall **AIR 1st** Place and **AIR 1st** in Virtuals Online Test. The performance in Virtual Qualifiers boosted the Team Spirit through our Results and propelled Us to achieve greater heights of success in the upcoming events.

4) BAJA SAE INDIA PHASE-2

This phase of BAJA SAE INDIA consists of a Static Design event round and a Virtual dynamic round held in December.

1. Statics Round –

In this round various technical as well as non-technical presentations were conducted in a virtual manner on a Zoom platform.

The various technical events were –

- Design Evaluation
- CAE Presentation

The various non-technical events were –

- Cost Event
- Manufacturing Event
- Sales Event

2. Virtual Dynamics Round –

This round was introduced for the first time in the history of the BAJA Competition to replicate the Dynamic Rounds which are conducted every year in January in Pithampur in a virtual manner. In this round, the team had to simulate their respective vehicles in IPG Car Maker software.

The teams had to also simulate driver racing style according to different dynamic events like –

- Suspension and Traction,
- Maneuverability
- Endurance
- Acceleration
- Brake Test
- Hill climb

The teams were judged based upon their performances in these different events and the judging criteria were the time required, and offsets to cover the entire track of the respective event.

Resonance Racing of A.I.S.S.M.S. College of Engineering has secured **AIR 9th** in go green event, also Team Resonance Racing secured **Overall AIR 1st** in virtual dynamic event we also secured **AIR 2nd** in Maneuverability, **AIR 3rd** all terrain performance.

5) Vehicle Manufacturing and Testing

After Phase 1, the Team commenced its **Design Finalization and Manufacturing phase**. The Design Finalization phase included **verification of Design** and preparation of Engineering Drawings with GD&T. Foremost, the chassis was constructed using accurate fixtures and sound engineering techniques. AISI 4130 Chromoly steel was selected as the chassis material in compliance with the Rule book.

A **Structured Plan** for Manufacturing along with **Resource Planning** was formulated for parallel Manufacturing processes to **minimize time and efficient workforce management**. Throughout the months of August, September, and October multiple Components were built, machined, and inspected for quality. The team fabricated the mounting tabs by laser cutting method, All the wheel components were manufactured using VMC machining; the team used space-grade aluminum for components making them lightweight and durable. The brake rotors were manufactured using laser cutting and then surface ground to maintain accuracy.

A customized two-stage Transfer case gearbox and cageless differential were manufactured with 20MnCr5 as gear material and drive shafts of EN24. A prototype CVT transmission was designed & tested under several conditions to ascertain the set performance level. We tried a new suspension design in 2021 which 3-Link Suspension System. This suspension system was tried for better load transfer through the damper. The final assembly of the car started in October and the car finally roared on 15th November 2022.

An Extensive testing plan was charted to push the car to its limits in all respects making it ready for the event. A comprehensive Testing Strategy for 65 days was planned in 3 phases
Phase 1 - Includes basic testing procedures of vehicles for validation and data acquisition.
Phase 2 - Covered optimization of vehicle-based driver feedback and analysis of the pre-gathered data.
Phase 3 - consisted of testing and tuning of vehicle for specific events and allowing the driver to gel with the vehicle.
The car was then rigorously tested to its limits for **more than 600 km and 160hrs** on the harshest terrains possible.
After a successful testing session, the buggy was painted and livery representing the Resonance racing legacy was used.

6) BAJA SAE INDIA PHASE-3

BAJA SAE INDIA is a National Level Intercollegiate Engineering Competition with the objective is to Design, Manufacture, and Race Off-road Vehicles that can withstand rough terrain. SAE BAJA was initiated in 2008. Organized by SAE – Society of Automotive Engineers India

The team participated in the BAJA SAEINDIA competition held at Pithampur, Indore.
Event Date – 14th to 18th February.
Venue – NATRAX Testing Facility, Pithampur, Indore
Event Schedule

1. Technical inspection
2. Static events
3. Dynamic events
4. Endurance race

During the competition, the car cleared the Technical Inspection on the Second Attempt and the Brake Test on the 2nd attempt. The team in the iconic 4-hour endurance race the team completed 16 laps of the circuit. Overall the team stood 6th out of 81 teamsparticipating.

Team Standings (ALL INDIA RANK)

EVENT	RANK
Suspension-Traction	**2nd**
Maneuverability	**1st**
Endurance	**9th**
Overall Dynamic	**3rd**
Overall season 2023	**5th**

7) Season Details

a) Season 2022-23 Achievements

- ✓ Manufactured first ever durable and customized 4WD all-terrain vehicle.
- ✓ Highest grid position-2nd place on the endurance race grid.
- ✓ Implemented Industry Standards and protocols in Team's Design & Development.
- ✓ Structured 3-Level Testing Process with Total Vehicle Testing of more than 600 km and 160 hrs.
- ✓ Customized Three-link Suspension System along with Afco Racing 18" coil-over Shocks with upgraded spring design
- ✓ Designed a 4WD customized transfer case gearbox and cageless differential Implemented jaw coupling for shifting along with customized UV and propeller shaft assembly
- ✓ Implemented Carbon-Fiber reinforced components successfully.
- ✓ Purchase Order Process for Cost-Efficient Resource Planning.

B) Rankings

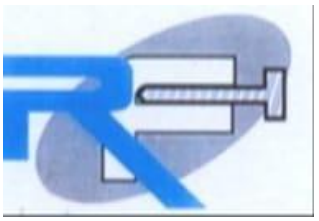
Overall season	**AIR5**	ATP VD	**AIR3**
Overall dynamic	**AIR3**	Virtual round	**AIR3**
Overall virtual dynamic	**AIR1**	Maneuverability VD	**AIR2**
Overall statics	**AIR9**		
Endurance	**AIR9**		
Suspension and traction	**AIR2**		
Maneuverability	**AIR1**		

C) sponsorship

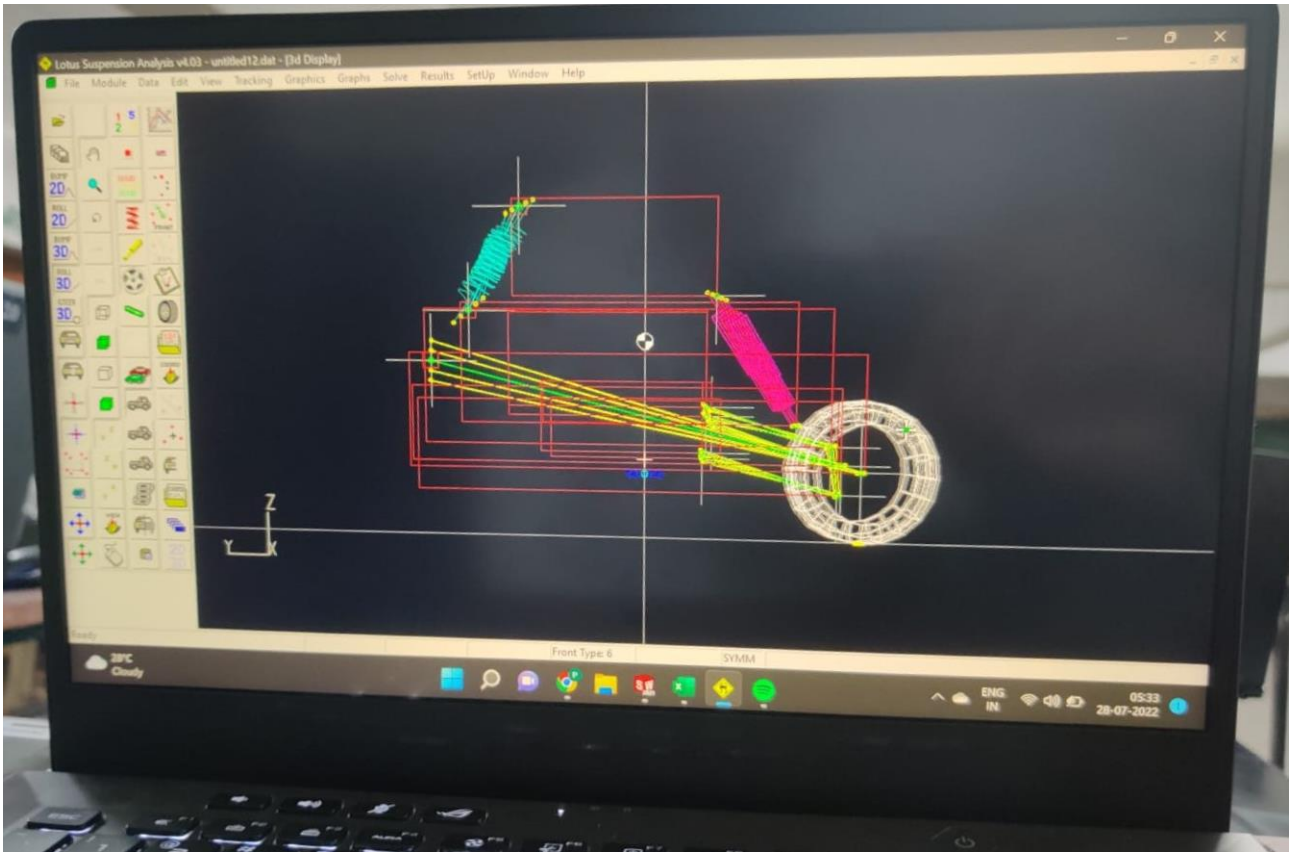
Monetary funds are the basic requirement of every organized event. For teams to achieve targeted outcomes, adequate funds are needed to be allocated in Design, Manufacturing, Branding and promotion, research and development sectors.

SPONSORS

Sr.No	SPONSORS	PART SPONSORSHIP	MONETARY SPONSORSHIP Rs.
1	AISSM Society		5,50,000/-
2	Solidworks	Solidworks 2020 Software	
3	Tushar engineering	Laser cutting	20,000/- EST
4	Accufit	VMC sponsorship	10,000/- EST
5	Laxmi automation	VMC sponsorship	18,000/- EST
4	Maruti wafers		11,000/-
6	Sahayadri industries		11,000/-
7	Srujan Enterprises	GTAW Welding	8,000/- EST
8	ASR industries	Powder coating	7000/- EST
9	Scolarian Racing	4130 pipes	7000/- EST
10	Proceed digital	social media marketing	2000/-EST
11	Crowd Funding		30,000/-
12	imperial		60,000



I 1 CONDUCTING POST SEASON TESTING



1

Image 2 VIRTUAL VALIDATION OF NEW DESIGN CONCEPTS

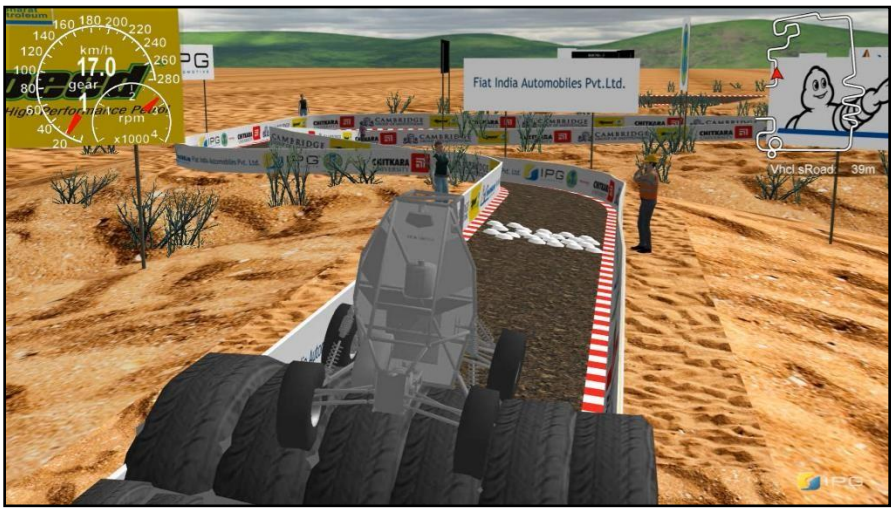


Image 3 ATV PERFORMING ATP IN VIRTUAL DYNAMIC EVENT

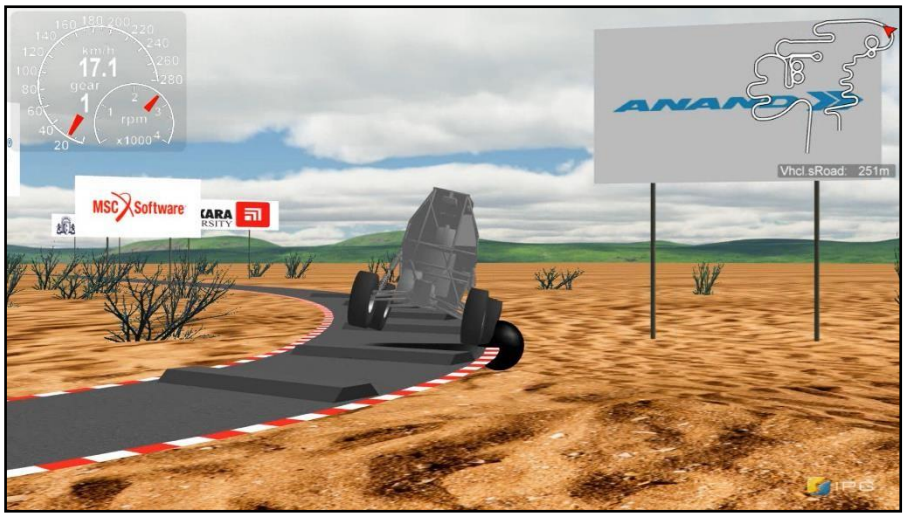


Image 4 ATV PERFORMING MANEUVERABILITY IN VIRTUAL DYNAMIC EVENT

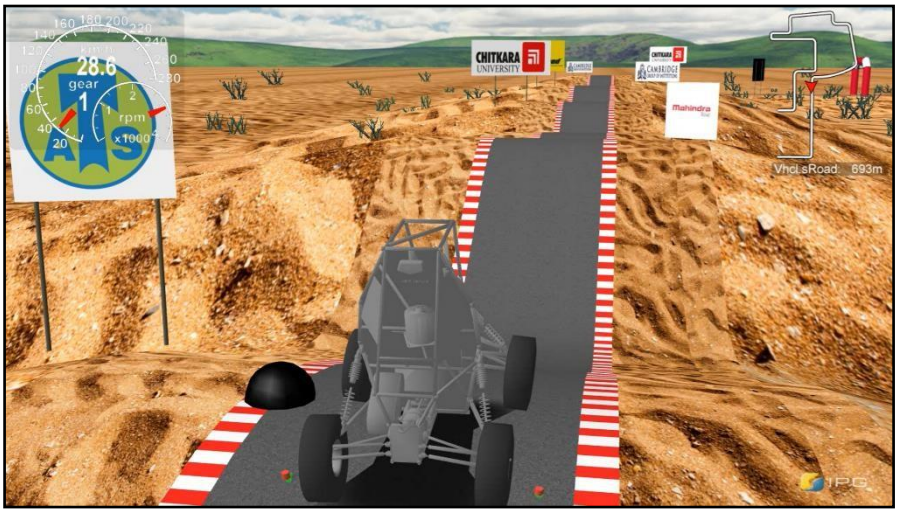


Image 5 ATV PERFORMING S&T IN VIRTUAL DYNAMIC EVENT

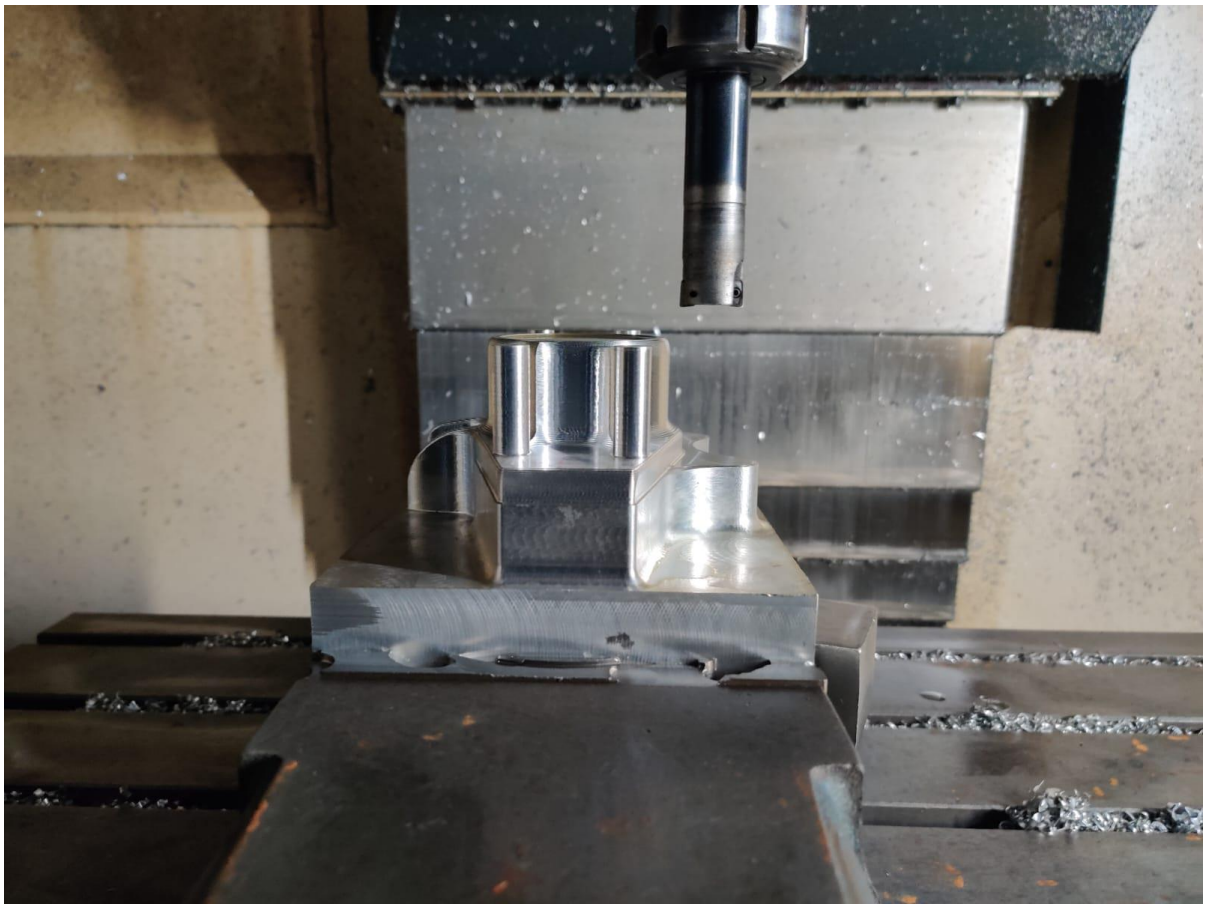


Image 6 UPRIGHT VMC MACHINING

Image 7 FRONT AND REAR SUSPENSION MANUFACTURING

Image 8 DREADNAUGHT 3.0's FIRST RUN

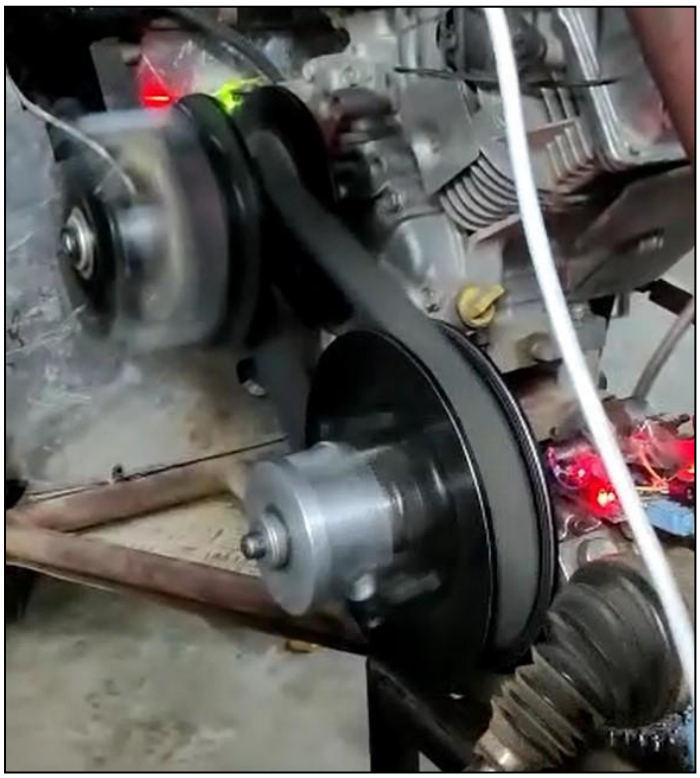


Image 9 CVT DATA COLLECTION WITH RPM SENSOR AND VALIDATION WITH TACHOMETER

Image 10,11 TESTING 1. ENDURANCE 2.S&T

Image 12 DREADNOUGHT 3.0 INAUGURATED BY EXECUTIVES OF BAJA SAEINDIA

Image 13 DREADNOUGHT 3.0 AT ACCELARATION TEST

Image 14 DREADNOUGHT CRUISING CONFIDENTLY IN ENDURANCE RACE AT P1 POSITION

Image 15 EVENT SITE

TEAM PHOTO AFTER VALEDICTORY SESSION

TROPHIES WON

TROPHIES WON

PHOTOS OF CHEQUES

Head of Department
Mechanical Engineering
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COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Mechanical Engineering Department
Vision: - To be recognized as a premier centre in the field of Mechanical Engineering Education

Industry Visit Report

Name of the Industry: Shriram Sahakari Sakhar Karkhana Phaltan Dist Pune

Objectives of the activity: To study the preventive maintenance of industry.

Topic/Theme: Skill Development/ Heat and Mass Transfer

Activity level: Department Level

Date and Timings: Friday, 02nd Septmber 2022

Expert from Industry: Mr. Parkale, Training Manager, SSSK Phaltan.

Coordinator: Dr. M R Dahake

Faculty members: Dr S R Patil, Dr S J Navale, Mr P S Aglawe, Mrs M J Chokshi, Mrs A T Thombare

No. of students Present: 120 (TE M A and B)

Outcome of meet:

The industrial visit organized by Mechanical Engineering Department at the Shriram Sahakari Sakhar Karkhana Phaltan Dist Pune was indeed a great success. Dr M R Dahake coordinated the industrial visit. Students have seen the preventive maintenance of sugar industry. They studied the various processes of manufacturing the sugar in detail. Also, seen the machineries, equipment, components in the industry in dissembled stage during the visit. The students also gained the knowledge about recycling the waste and converting it in energy.

Glimpses of the industry visit :

Head of Department
Mechanical Engineering
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Experiential Learning Industry Specific Projects

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COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Approved by AICTE, New Delhi, Recognized by Govt. of Maharashtra,
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC
(Id.No. PU / PN/ Engg. / 093 (1992)
(Accredited by NAAC with grade A+)

Mechanical Engineering Department

BE PROJECTS 2015 PATTERN (AY 2022-23)

Group No.	Name of Students	Name of Guide	In-House / Sponsored	Title of Project
A01	Kshitij Modhe Om Bayas Aniket Ramdas Londhe Aniruddha Kulkarni	Dr. S. V. Chaitanya	Inhouse	DEVELOPMENT OF SMART SURVEILLANCE DRONE
A02	Jadhav Rutuja Hemant Balraj Waghmare Chavan Vedant Vijay Anecha Yash Mukesh	Dr B.D. BACHCHHAV	Inhouse	Tribological performance evaluation of TMPTO based nano lubricants
A03	Shubham Pandurang Landage Aditya Ramesh Ghule Neha Jitendra Kuchekar Rutuja Rupesh Kank	Dr. Mangesh R. Phate	Sponsored	Experimental Investigation on Aluminium Based Metal Matrix Composite using Various Natural Wastes
A04	Akshat Arage Gourav Sharma Samarjeet Aherrao Soham Ingale	Dr. C. S. CHOUDHARI	Inhouse	DEVELOPMENT OF WIRELESS CHARGING SYSTEM FOR ELECTRIC VEHICLES
A05	Pratik Kenche Tejas Lot Omkar Khot Abhishek Khatavkar	Dr. C S Dharankar	Inhouse	Bearing Life Testing
A06	Vedant Aher Divya Dhamal Darshan Gawas 	Dr S R Patil	Sponsored	Design and Development of solar water heating system using phase change material
A07	Nikhil Santosh Bundele Tanvi Jayprakash Gavhane Nikita Anil Bhamare Sourav Parimal Bhowmick	Prof. M.U.Gan	Inhouse	DESIGN AND FABRICATION OF PRESSURE VESSEL FOR COMBINED SEPARATING AND THROTTLING CALORIMETER
A08	Kamble Girish Jagannath Bamble Omkar Pandurang Kokane Rahul Murlidhar Ahirrao.P. Abhishek	Prof. A.T. Thombare	Inhouse	MULTI POWER GENERATION UNIT USING SOLAR ENERGY, WIND ENERGY AND PEDAL ENERGY
A09	Archit Hariom Kale Shubham Sahebrao Borade Sakshi Vijay Jagdhane Parth Aanasaheb Deshmukh	Prof.G. P. Lohar	Inhouse	Design and Fabrication of Spraying machine
A10	Ameya Gandhi Omkar Bhosale Ranjit Kharat Yash Gulhane	Prof.M.P.Bauskar	Inhouse	Conversion of Non-Biodegradable Thermoplastic to Biodegradable Plastic and Investigation of its Mechanical Properties
A11	Aryan Rahul Deshpande Vinaya Gholap Rajeshwari Deshmukh Vaishnav Bendale	Prof. N N Gotkhindikar	Inhouse	Optimization of Process Parameters involved in Fused Deposition Modelling
A12	Utkarsh Anil Ekatpure Kundan Shankar Ghorpade Vedant Rameshrao Godbole Dnyanesh Vilas Joshi	Dr. M. M. Sayyad	Inhouse	DESIGN AND DEVELOPMENT OF SUGAR CANE BUD CHIPPING MACHINE
A13	Parag Rajendra Dhamne Madhura Ramchandra Gulavani Vishvajeet Vivek Ghatage Shree Khopade	Dr. D S Malwad	Inhouse	Design and Development of Rotating Tray for Indirect Solar Dryer for Agriculture Product

A14	Tanaya Jagtap Parth Khedekar Heramb Khandve	Prof.Ms. Pranjali Tete	Inhouse	Design and Development of Battery Thermal Management System using PCM and Fins to Improve Battery Life.
A15	Sagar Navanth Ghalme Aniket Rajendra Kadam Jalindar Radhakisan Ghadge Bhushan Narendrasing Girase	Prof.S.T. Gade	Inhouse	Design and Development of hybrid mixer grinder
A16	Shivam Nitin Deshmukh Sanskar Sunil Fursule Nikhil Chakrapani Durgam Harshad Laxman Dighe	Prof.S.S. Khasbage	Inhouse	Efficiency Improvement of Water Cooler Using Suction Line Heat Exchanger With Phase Change Material
A17	Sahil Nisar Jahagirdar Atharva Shankar Thube Harshal Anil Gaikwad Guruprasad Dattaram Kokare	Prof. S. S. Patil	Inhouse	Design and fabrication of multi axis special purpose drilling machine for fabrication purpose
A18	Pratik Khagesh Jadhav Lalikar Tejas Tukaram Ganesh Maroti Khandalkar Atharv Jadhav	Prof P.V.Deshmukh	Inhouse	Design and development of harmony vertical axis wind turbine
A19	Lakshmi Bakshi Siddhant Kasbe Yash Bendre Tanishq Badegar	Dr B.D.Bachchhav	Inhouse	Design and development of harmony vertical axis wind turbine
A20	Viraj Deshpande Akash Didbhai Suvidha Sanjay Bhosale Rohan Rambhau Chaure	Dr M.S.Deshmukh	Inhouse	Fabrication of PCM based solar air heating system
A21	Omkar Sharad Dalvi Atharva Prashant Deokar Shambhuraj Yashvant Chavan Sandesh Deshmukh	Dr M.S.Deshmukh	Inhouse	Design and Fabrication of Semi- AUtomatic Mulching Machine
A22	Aniket Digraskar Aniket Ambule Manthan Dhobe Rohit Honwadajkar	Dr. S.V.Chaitanya	Inhouse	Productivity Improvement on go-kart vehicle using method study
B01	Purwant Sharang Dhananjay Rajpure Siddhant Balaso Ranade Saket Ramchandra Rohit Mukund Sobale	Dr. P. S. Gajjal	Sponsored	Design and Development of Waste heat Recovery from a Domestic Refrigerator using tube type heat exchanger
B02	Gaurav Singh Sonawane Sagar Vijay Siddiqui Faizan Vaishnavi Shisode	Dr D Y Dhande	Inhouse	Drowsiness detection using deeplearning
B03	Atharva Pravin Pakhode Vrunda Parmeshwar Mane Urjit Mehta Soham Subhash Rathod	Dr S. H. WANKHADE	Sponsored	Design and development of thermal interface material tester
B04	Vikky Mukund Kale Waghmare Avanti Narendra Wadje Vilas Hari Waghole Nikita Vitthal	Prof P.V.Deshmukh	Inhouse	Design and Testing of Vertical Axis Wind Turbine
B05	Sarvesh Dinkar Patil Omkar Pralhad Landge Khagesh Sanjay Patil Jaswant Bharat Patil	Prof R.A.Marne	Inhouse	AMMUNITION DETECTION AND BORDER SURVEILLANCE VEHICLE
B06	Neeraj Shashikant Maddel Sanket Sanjay Nartwadekar Yogesh Subhash Bamhande Aashish Shashikant Mahale	Dr. S.J. Navale	Inhouse	Design and Development of Laser Engraving Machine
B07	Yogesh Dinesh Nawde Ashwathi Ajaykumar Maniyath Pratik Kailas Mahajan Rohit Rahul Sorate	Dr. D Y Dhande	Inhouse	Vibration Analysis of 6215 Bearing

B08	Saste Atish Machindra Nishandar Raj Ramdas Rane Mohit Umesh Shinde Dhiraj Rajesh	Prof. P. S. Aglawe	Inhouse	Development of Sea Oil Separator
B09	Abhishek Manjarekar Ratish Patil Nitesh Verma Bhagyesh Kore	Prof. O.A More	Inhouse	Design and fabrication of Brayton cycle Engine
B10	Sreyesh Dharne Sharvil Suradkar Vijay Takmoge Aman Pathan	Prof Mrs M P Shah	Inhouse	Development of Regenerative Shock absorber
B11	Prajwal Ashok Rathod Chaitanya Shahaji Petkar Pawandeep Tarsaim Singh Sumedh Sunil Yeolekar	Dr M R Dahake	Sponsored	Design and Development of Automatic Grass Cutting Machine
B12	Prachi Baban Pandhare Aarti Santosh Nikam Sejal Devraj Palange Sunayana Khandu Mohite	Prof.S.A.Ansari	Sponsored	Analyzing Vibrations On IC Engine Using Accelerometer And TOR Device
B13	Suyash Satish Pawar Nitesh Umesh Pampattiwar Sourabh Ashok Sambarwal Mulla Wadoot	Prof. V. R. Patil	Inhouse	Stiffness Optimization Of Electronic Control Unit Of Vehicle
B14	Shruti Puntambekar Akshata Patil Swapnil Tole Siddharth Shitole	Prof.P.G.Kokare	Sponsored	Design, manufacturing and testing of an UAV using EDF for health monitoring of bridge bearing
B15	Durgesh Rajendra Nankar Raju Ganpati Mali Sahil Sunil Mate Siddhesh Sudhir Mahabare	Prof. M. S. Swami	Inhouse	Experimental Investigation and Failure Analysis of Rolling Contact Bearing
B16	Sumedh Rane Saurabh Maskade Anand Zende Sumit Shirtode	Prof.Y.B.Karandikar	Sponsored	Design and Development of Frictionless Braking System
B17	Sayali Santosh Koli Sanyogini Sanjay Mohite Sanyogita Sandeep Rawool Srushti Sunil Shinde	Prof. M. S. Swami	Inhouse	Microscopic Analysis of Rolling Contact Bearing and it's Prediction Using Deep Learning
B18	Sahil Mangesh Pawar Sangram Bhau Mane Suyash Satish Pathade Jyoti Prasad Paithankar	Dr. A. V. Waghmare	Inhouse	Battery Thermal Management System
B19	Dnyaneshwar Thombre Rohan Mane Pratul Mulik Shreyas Parchure	Dr S.H.Wankhade	Inhouse	Prototype Development of Electrostatic Precipitator for Automobile Exhaust Systems
B20	Taksal Pritam Kailas Wagh Rajwardhan Suryawanshi Piyush Ramesh Yewale Shivam Arun	Dr.A.V.Waghmare	Sponsored	Structural Analysis of Rocket Solid Prapulsion System
B21	Faizan Ali Saeed Ahmad Sayad Siddhant Warule Sanjiv Yesambare Akshay Waghmare	Dr.G.P.Lohar	Sponsored	Design and fabrication of sky saver kit

Dr S.J.Navale
Project Coordinator

Dr S.V.Chaitanya
Head of Department

Head of Department
Mechanical Engineering
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Academic Year 2021-22

A Brief Report on

"Diesel Locomotive Shed, Ghorpadi, Pune."

Date: 26th 2022

Time: 9:30 am to 3pm

Venue: Diesel Locomotive Shed,
Ghorpadi-Pune

Visit Coordinator
Prof. M. R. Dahake.

Agenda of the Visit

To provide students the real insight of working procedure at Railway Workshop.

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Activity Report

Workshop On Fabrication of Voltage Regulator

30AUG 2022

Department of Electrical Engineering has organized a workshop on Fabrication of Buck converters in association with Institute of Engineers, India (IEI), Electrical Chapter on 30 AUG 2022,

Under guidance of,

Prof.P.Sankala

Prof. A. Apte

The Experts of the session were ,

Mr Mohan R Pare ,

Design & Development Engineer, R & D ,

Arthetec Innovative Solutions, Pune

The session has started with the brief description of the working and operation of buck converter by Mr Mohan and continued with the design of the converter to be fabricated. The basic circuit and the components selected was discussed. Once the discussion is done, a total of 7 groups were formed with 6 to 7 students in each group. Then we have started with the building of the circuit on PCB. The triggering pulses were given from an Arduino Uno controller for different values of frequency. The circuit is then tested for the results and troubleshoot incase needed.

Introduction:

For Voltage controlling purpose AC voltage regulator is used, This experiment focuses primarily on regulating the AC voltage of the electronic device using ZVC (Zero Voltage Crossing) technique.

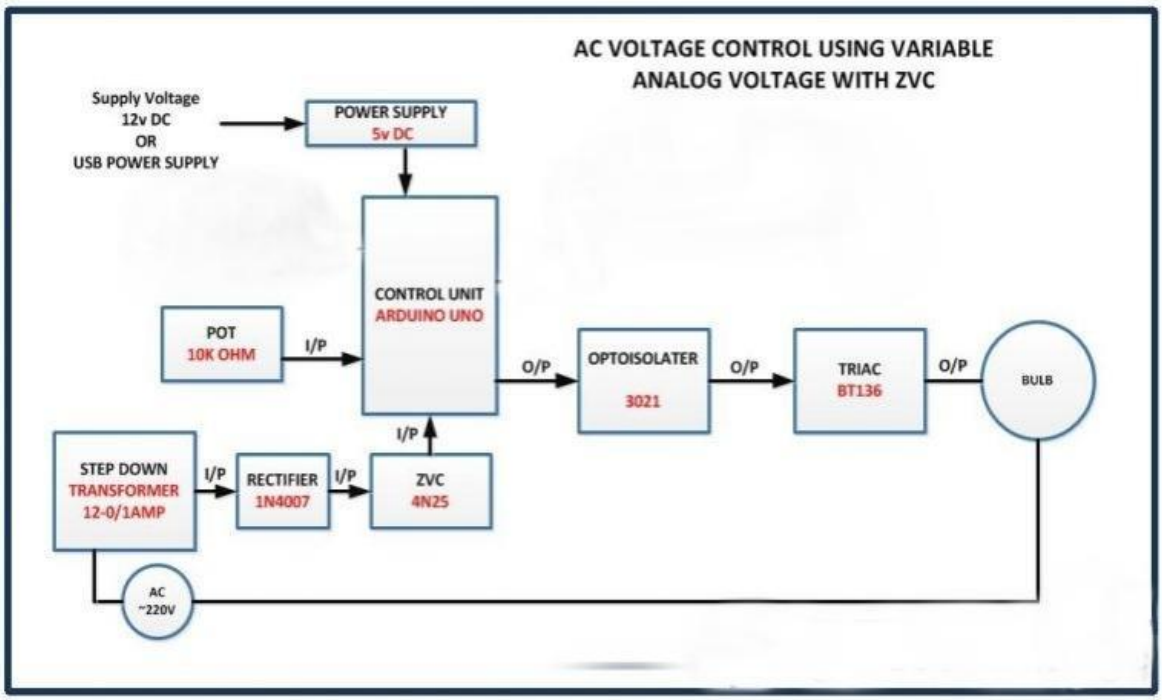
For controlling AC appliances operationally, the peak voltage of both the halves of a cycle needs to be chopped off. For this, it is important to detect when voltage alternates its direction. The point on voltage curve where it alternates direction is called zero voltage crossing.

The zero voltage crossing of AC voltage can be detected by first rectifying it using full wave rectifier and then using an optoisolator which will switch OFF and ON upon zero voltage crossings and past zero voltage crossings respectively. The output of optoisolator can then be passed to the arduino to indicate zero voltage crossings to it.

For controlling AC voltage to a load, TRIAC needs to be used. TRIAC is commonly used for power control and switching applications. The TRIAC can be feed control using an optocoupler which itself would be driven by a arduino pin.

The project is built upon Arduino UNO and 4N25 optoisolator with a full bridge rectifier is used for zero voltage crossing detection. The 3021 optocoupler and BT136 TRIAC are used for chopping off AC voltage to the load. The tasks of zero voltage crossing detection and switching of 3021 IC are programmatically controlled by the Arduino board.

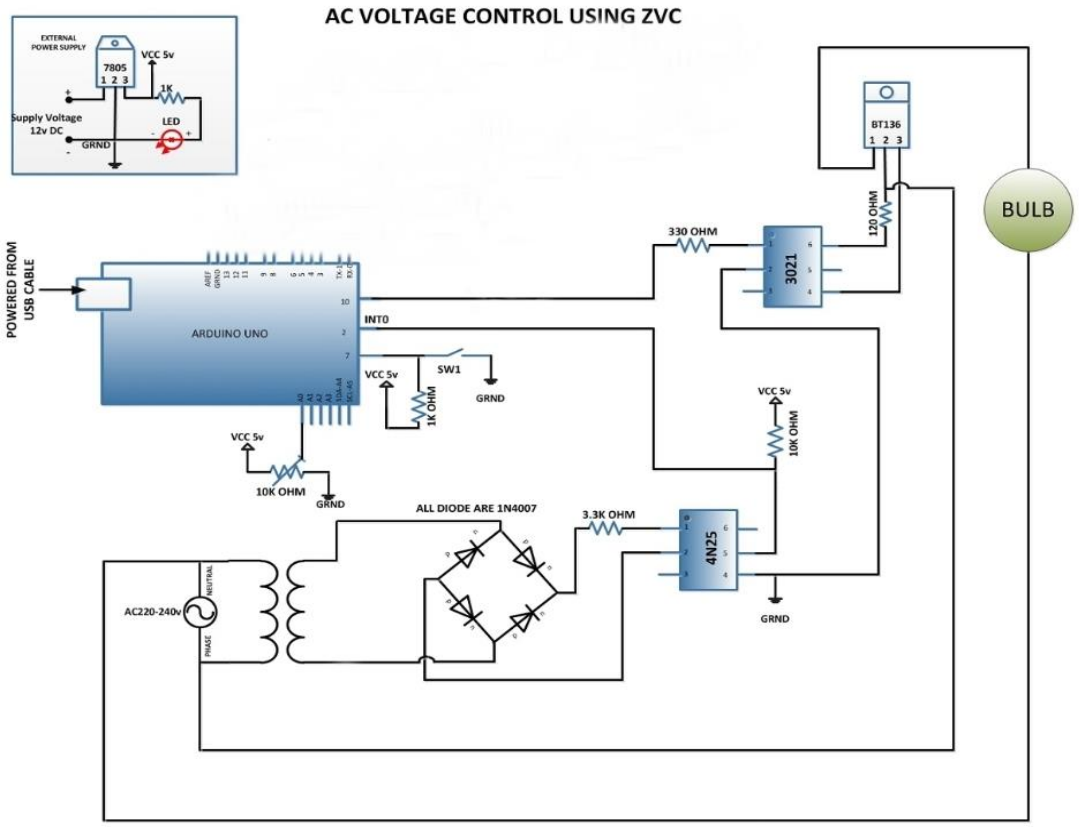
Block Diagram:



Components Required:

- Arduino Uno
- 3021 IC
- 4N25 IC
- BT136 Triac
- 15-0/1 Amp Transformer
- 1N4007 Diode
- Resistive load
- Resistors-10k, 3.3k, 330, 120 ohm and Pot.
- PCB

Circuit Connections:

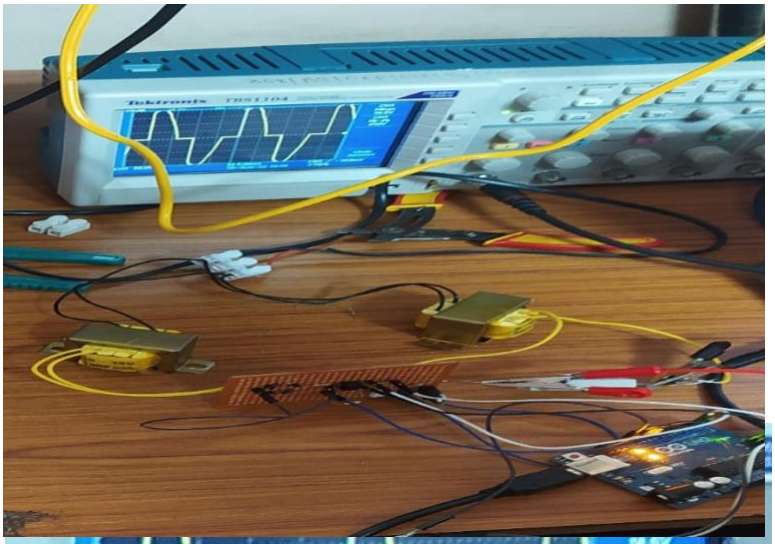


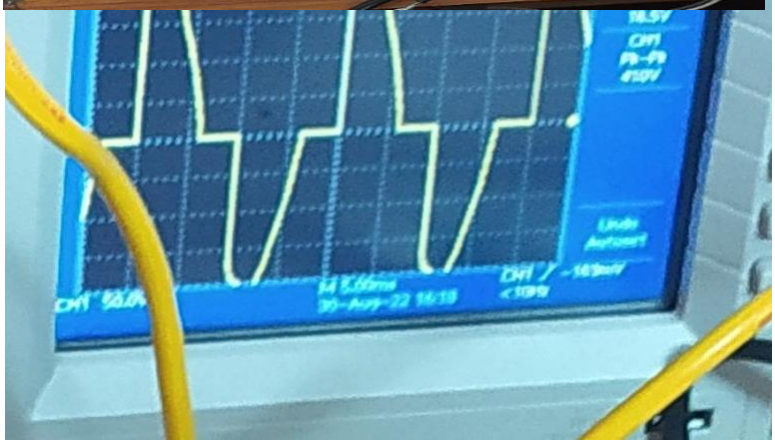
Program:

```
//Triac Program Final
#define triacPulse 10
int x=0;
float x_angle=0;
void setup()  {
Serial.begin(9600);
pinMode(2, INPUT);
digitalWrite(2, HIGH); // pull up
pinMode(triacPulse, OUTPUT);
pinMode(13, OUTPUT);
digitalWrite(13, HIGH); //For Potentiometer
}
void loop()
{
attachInterrupt(0, acon, FALLING);
   x=analogRead(A0);
x_angle = x * 0.1759;
Serial.print(x);
Serial.println(x_angle);
   //delay(50);
}
void acon()
  {
//    if((analogRead(A0) * 7) < 1000)
//    {
delayMicroseconds((analogRead(A0) * 7) + 200); // read AD0
```

```
digitalWrite(triacPulse, HIGH);
delayMicroseconds(100);
    // delay 100 uSec on output pulse to turn on triac
digitalWrite(triacPulse, LOW);
 //   }
//    else
//    {
//    digitalWrite(triacPulse, LOW);
//    }
  }
```

Result:





Conclusion:

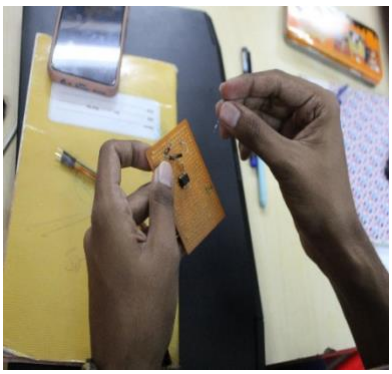
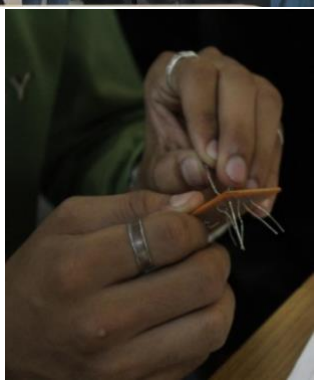
This experiment focuses primarily on regulating the AC voltage of the electronic device using ZVC (Zero Voltage Crossing) technique.

It can be concluded that, the Arduino detects the zero voltage crossing and determines a firing angle of TRIAC based on the voltage supplied through variable resistance. Here Turning ON & OFF of TRIAC Controls the A.C. Output Voltage. Thus Regulating / Controllable output obtain on Load side.

Glimpses of the Session:





HOD
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