Kalyani Charitable Trust's

Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road,
Nashik – 422 213

Department of Mechanical Engineering

List of Final Year Project

Academic Year	Group No.	Name of Student	Name of Guide/Mentor	Project Title	Sponsored/ Non-sponsored
2018-19	1	Jadhav Rakesh Sunil Kharwandikar Saurabh Pradip Jadhav Sumit Nandkumar Kadam Ashish Vaman	PROF. V. B. GAVALI	Design and Analysis of Suspension System of a UTV	Inhouse
	2	Gunjal Shubham Ramnath Kakade Kedar Mukesh Shewale Shubham Hiralal Sinha Nikhil Jaipal	PROF. C. P. SHINDE	Manufacturing of tool	Inhouse
	3	Sarode Saurabh Dattatray Yewale Kuldeep Shyamkant Shinde Umesh Sharad	PROF. R. R. CHAUDHARI	Chamfering machine moving spindle shaft design	Inhouse
	4	Bhole Chinmay Hemant Chaudhari Harshal Bhagwan Borse Gaurav Sanjay Gayake Sujit Dnyaneshwar	PROF. R. R. CHAUDHARI	Cool pack machine	Inhouse
	5	Bhandari Ketan Ramesh Baria Deep Prakash Nikumbh Abhishek Kishor Patil Manoj Bansilal	PROF. R. B. HAGOTE	Design & Manufacturing of welding fixtures & leak testing gauges for vehicle silencer	Inhouse
	6	Hiray Lokesh Vilas Ahire Mahesh Satish Chandan Ketan Prabhakar Sonawane Suraj Eknath	PROF. D. R. MAHAJAN	Die moulding of rubber sealing	Inhouse
	7	Gupta Vijay Kashiram Kulkarni Chaitanya Harish Thakkar Siddhart	PROF. D. B. ZOMAN	Electric scooter	Inhouse

		Ajay			
		Yadav Anchal Surendranath			
	8	Deshmukh Kishor Santosh Gawari Hemant Ramesh Jadhav Shubham Anil Chandramore Satish Sikandar	PROF. G. R. JADHAV	WAVE ENERGY CONVERTER	Inhouse
	9	Mane Prathamesh Shivaji Kuwar Sanket Hemant Kale Rushikesh Rajendra Jadhav Saurabh Anil	PROF. P. D. JADHAV	6 DOF Robotic arm	Inhouse
	10	Shravagi Pankaj Vijay Sonar Ganesh Prasad Sonawane Rushikesh Sanjay	PROF. Y. D. TAMBE	Band Bulding letoff to be modified	Inhouse
	11	Pawar Pratik Kishor Mande Akshay Bhika Jadhav Bhavesh Nimba Patil Yogesh Shiganesh Nandan Vilas Punjaram	PROF. P. R. GOLEKAR	Mini windmill power generation	Inhouse
	12	More Minal Shivaji Dumbare Sayali Vishnu Khandare Kalpesh Suhas Kulal Harshit Shankar	PROF. D. B. ZOMAN	Hoverbike (prototype)	Inhouse
	13	Chandy Sanil Sawan jadhav Mayur Sharad	PROF. P. R. GOLEKAR	Design of weight operated material handling equipment	Inhouse
	14	Baviskar Ramesh Kantilal Bhadane Tejas Vasant Abhang Akshay Balasaheb Bhavsar Aditya Madan	PROF. K. W. KALE	Solar coolar	Inhouse
	15	Kulkarni Mihir Milind Sasale Sagar Rajendra	PROF. R. R. BOMBALE	Design and manufacturing of Torch rotary welding SPM for	Inhouse

		Shelke Abhijeet Kishor Patil Mrunal Bhalchandra		exahus systm	
	16	Savalkar Karan Narayan Zaiwala Vaibhav Milan Tejani Kunal Satish Savale Manish Madhukar	PROF. N. V. AVHAD	Special Purpose Machine	Inhouse
	17	Gaikwad Vaibhav Bhaskar Khairnar Varad Suresh Kote Roshan Nanabhau Kale Shubham Kishor	PROF. M. B. GOPHANE	Design Analysis and Manufacturing of Rollcage	Inhouse
	18	Ahire Rohit Ambadas Awchar Avinash Vitthalrao Vetal Yogesh Pundalik	Prof. N. Pawar	Welding Rotater with proximity Sensor	Inhouse
	19	Gharte Harshal Suresh Chavhan Amol Rajendra Kale Arati Ganpat Biradar Vaishali Laxman	PROF. D. B. UPHADE	Thermoelectric Heating and Cooling	Inhouse
	20	Borse Himanshu Anup Dandagawhal Piyush Dhananjay Jagzap Pavan Ramnath	PROF. T. Y. BADGUJAR	Design and analysis of a braking system for a UTV	Inhouse
	21	Mandlik Swapnil Sunil Malpani Shubham Vijay More Shubham Arun Makhe Aakash Shrikant	PROF. R. G. DEORE	Industry projects	Inhouse
	22	Ranalkar Vishal Sunil Porje Vishal Bhaskar Kuwar Madhuri Bhatu Mahammed Shakir Mohammed Anwer	PROF. J. A. TIDKE	conveyor	Inhouse
	23	Patil Shivam Rajendra	PROF. S. S. ABHALE	Polycarbonate luggage	Inhouse

		Chavan Ankit Sanjay Randhir Aman Santosh			
	24	Dhumane Deepak Sunil Bhadane Lalit Ankush Dahite Ritesh Sudhakar Kumawat Nikhil Rakesh	PROF. P. G. CHVAN	Manufacturing of Die Mould (Sponsored by Sanjit Moulds Pvt Ltd)	Inhouse
	25	Ingle Aniket Rustumrao Mahale Pramod Nandkumar Patil Bharat Manoharbhai Bhambure Saurav Ravindra	PROF. S. D. PATIL	Automation in industry	Inhouse
	26	Putla Tarun Jaichandra Chavan Jayesh Bhausaheb Jadhav Ganesh Valmik Sakhare Shrikant Suresh	PROF. R. B. HAGOTE	HOT STAMPING MACHINE	Inhouse
	27	Hase Adinath Annasaheb Gite Shakti Rambhau Bhabad Gokul Balasaheb Jadhav Ashish Nanaji	PROF. R. B. HAGOTE	DESIGN AND Manufacturering of gear mould mechhanism	Inhouse
	28	Nikam Bhushan Sanjay Patil Manoj Bhaskar Chandy Sanil Sawan Patil Yashwant Ramdas	PROF. S. K. CHANDOLE	Seat Belt Controled Hand break	Inhouse
	29	Rai Ankit Rakesh Pathak Gaurav Padmakar Gunjal Gaurav Prabhakar Chulbhare Mayur Eknath	PROF. C. P. SHINDE	Solar Seed robot	Inhouse
	30	Pawar Sayali Chudaman Shaikh Uroj Rafique Sayyed Uzaif Anwar Sindhikar Shashank	PROF. R. G. DEORE	Die manufacturing of brazed armature coil (sponsered by seva engineering)	Inhouse

		Pramod			
	31	Deore Lalit Yashvant Ingole Shubham Rajendra Inamdar Nomaanahmed Akhlaquahmed Khedakar Manoj Lotan	PROF. S. K. CHANDOLE	Multi operation tool machine	Inhouse
	32	Hire Mayur Suresh Bhangale Chetan Sunil Lonkar Aditya Mahesh Honde Chetan Manik	PROF. D. R. MAHAJAN	Hydrodynamics	Inhouse
	34	Gajare Deepak Pramod Fegade Tejas Ravindra	PROF. S. S. ABHALE	Slipping Type Of Mechanical Ball Clutch	Inhouse
	35	Porje Rahul Ashok Salunkhe Tejas Hemkant Patil Harshal Chandrakant Walzade Laxmikant Shrikant	PROF. A. G. TAJNE	Pneumatic Operated Reverse braking And Bumper System	Inhouse
	36	Bhangale Rohan Pandurang Bhardwaj Hrishikesh Prakash Ajay Vijayraj Gamane Gopal Shivaji	PROF. S. D. PATIL	Advancement in actuator and Designing of Hydraulic press (Sponsored by Graphite India Limited)	Inhouse
	37	Avhad Nilesh Vitthal Mahajan Sanket Vijay Paredeshi Mayur Mahipalsingh Bachhav Jayesh Prakash	PROF. K. W. KALE	MODERN PUMP	Inhouse
	38	Zinjar Vaibhav Sopan Zalte Viraj Ashok Sonawane Meghraj Arun Shejwal Bhushan Baban	PROF. R. R. AHIRE	Stiffness measurment machine	Inhouse
	39	Chaudhari Kunal Gorakh Jadhav Ajay Bhikan Chudhari Kunal Milind Pagar Roshan	PROF. J. A. TIDKE	Identification break fluid leakeage	Inhouse

		Manohar			
	40	Sarevsh RV Jadhav Shubham santosh Patil Durgesh Chakrdhar Ptil Prashant Ramesh	PROF. CHUMBALE	Design and manufacturing of Fixture	Inhouse
	41	Patil Bhushan Sunil Tapkire Roshan Kondaji Patil Vishal Pradip Borase Milind Yuvraj	PROF. S. S. SARODE	Parkinsons Gear tester	Inhouse
	42	Patil Sumit Diwakar Daulkar Rohit Suryakant Dashmukhe Pratik Anil Bharambe Yogesh Anil	PROF. G. S. NEMADE	Pnumatic Lifting and shifting	Inhouse
	43	Patil Atul Purushottam Patekar Narendra Ramdas Panjwani Mayur Naresh Patil Shubham Prakash	PROF. D. R. MAHAJAN	Automatiic pesticide sprayer	Inhouse
	44	Sant Viranjali Sumant Lahamge Nikita Balu Sanap Madhuri Suresh	PROF. Y. D. TAMBE	High speed Drill Machine employing Air bearing	Inhouse
	46	Shinde Sankalp Rajendra Barve Shubham Somnath Bhagare Kunal Chandrshekhar Wagh Shubham Ramesh	PROF. P. D. JADHAV	Design and manufacting of high speed progressive tool on automatic press machine	Inhouse
	47	Patil Ketan Vikram Patil Kiran Vilas Patil Sandip Shaligram	PROF. R. R. AHIRE	Sponsore Project	Inhouse
	48	Shewale Mayur Prabhakar Wagh Kiran Dyaneshwar Pagare Vaibhav Bhagwant Sonawane Yogesh Balasaheb	PROF. P. G. CHVAN	Spray Pimp trolly with solat panel	Inhouse

	49	Ghuge Mayur Eknath Dholi Sanket keshav Khandekar Shubham Sanjay	PROF. R. R. BOMBALE	Design & development of hydraulic power press machine	Inhouse
	50	Shelke Pravin Parshuram Pangavhane Mayur Trambak Patil Bhushan Kuwarsingh Ugale Rohit sambhaji	Prof. N. Pawar	Two Wheeler Overlaod prevention	Inhouse
	51	Jadhav Dinesh Dhanjay Pawar Gaurav Chandrkant Raundal Prasad Bapu Shende Akshay Chandrkant	PROF. U. V. ELAVANDE	3 in 1 agriculture mechanism system	Inhouse
	52	Sonawane Sachin Somanth Varade Akash Ramesh Markad Ashish Ratnakar Lipne Krishna manikrao	PROF. P. R. GOLEKAR	Devlopment of Pannel Air Cooler by maintaining the Room Temperature.	Inhouse
	53	Narayane Abhijeet Dattatray Nerkar Prashant Dilip Nikam Rohit Sanjay	PROF. M. B. GOPHANE	Upperlink Holding Fixture	Inhouse
	54	Shinde Smith Parshram Suroshe Sandip Narayan Kambale Sumit Panditrao Chaudhari Sagar Pandit	PROF. ZEESHAN SHAIKH	Design and fabrication of reactive and absortiv exhast muffler	Inhouse
	55	Desale Prafulla Bhanudas Bhusare Amit Nandkishor Borse Dipak Kehsav Suryawanshi Suraj Rajendra	PROF. U. V. ELAVANDE Guide Change	manufactring of forming tool	Inhouse
	56	Aher Tushar Dhanraj Ahire Mayur Sanjay Deore Shyam Chintaman Ahire Sushil Babaji	PROF. S. S. KUSHARE	Tool life imrovement on valve piece schutte machine	Inhouse

	57	Patil Rushikesh Yashwant Patil Rajesh Ramesh Pawar vaibhav Sahebrao Sarode Mahesh Suresh	PROF. G. S. NEMADE	Mecanum Wheel Robot base Track Stability Test	Inhouse
	58	Sonwane Gaurav Uttam Sonawane Ketan Kishor Sonwane Pradnya Dayanand Shinde Poornima Rajendra	PROF. J. R. MAHAJAN	Wire less tyre Pressuer monitor system	Inhouse
	59	yadav Shivam Chandrabhan Yadav Shubham Santosh Sharma Shubham Purushottam Shinde Amol Suresh	PROF. P. K. GANGURDE	Job Cleaning Machine	Inhouse
	60	Patil Vaibhav Sanjay Patil Manish Pramod Sawdatkar Sagar Sahebrao Rajput Yash Mangesh	PROF. T. Y. BADGUJAR	Solar Green House Drier	Inhouse
	61	Deore Rohan Sahebrao Makune Sanjay balu Khairnar Vijay Motiram Mahale Deepak Laxman	PROF. N. V. AVHAD	Oversteer prevention system unde High speed automobile application	Inhouse
	62	Ghate Udhhav Dyaneshwar Deshmukh Yash Hemant Surude Saurav Shantaram Bhavsar Pushkar Shirish	PROF. U. V. ELAVANDE	Design of locaters for welding job	Sponsred
	63	Nagare Swapnil Manohar Dalvi Shivam Balasaheb Desale Shubham Bharat Gadhe Rahul Subhash	PROF. U. V. ELAVANDE	Solar powerd lawn mover	Inhouse
	64	Jachak Akash bakerao	PROF. M. V. JADHAV	Bamboo based cooler	Sponsred

		Pawar Shashikant Vishvanath Sandhan Bhagwat Somnath Sandhan Amol Dattatray			
	65	Patil Aniket Kiran Wagh Chandan Ashok Pathak Pratik Rajendra Tambade Kiran dattatray	PROF. S. CHUMBALE	Design of centrifugal metal chip chip oil separator	Inhouse
	66	Zade Ashish Sanjay Patil Rushikesh Subhash Shirsat Kiran Popat Singh Rahul Brajesh	PROF. M. B. GOPHANE	Srap reduction on grinding machine	Sponsred
2019-20	1	Jadhav Harshal Satish Badhane Kunal Narendra Mahajan Kalpesh Vishnu Desale Nikhil Vials	PROF. K. W. KALE	Design and Optimazation of Process of Bearing Bush Die	Inhouse
	2	Patil Tejas Kartik Nandan Vilas Punjaram Nikam Rohot Ravindra Khairnar Pratik Namdeo	PROF. M. V. JADHAV	Evaporative Cold Storage	Sponsored
	3	Nichit Rushikesh Sunil Nagpure Prathamesh Ganesh Rajurikar Pranav Pralhad Pachore Vaibhav	PROF. F. U. PATHAN	Zero Metal Finishing	Sponsored
	4	Vivek Kumar Singh Tidke Rohit Dattatray Sonawane Nirzar shriram Khairnar Mohit Hansraj	PROF. R. R. Chaudhari	Loading Intruption Reducation	Sponsored
	5	Walimbe Mohit Mukund Waghulde Praful l Madhukar Pandit Jitendra Jaykishor Wagh kalpesh Avinash	PROF. J. R. Mahajan	Double Side Lapping Machine	Sponsored

	6	Shaikh Faizan Shakel Saiyad mizan Anil Shaikh Azar Ulhay Telang Ashaave omkar	PROF. T. Y. BADGUJAR	Evaluation of Hybrid Method for Refrigerant Flow in Finned Tube Evaporator	Inhouse
	7	Gaikawad Pranav Chavan Ahishek Bhagwat Ankush Tambat Sahil	PROF. C. P. SHINDE	Electromagnetic Braking System	Sponsored
	8	Dahale Ajinkya Ashok Jaybhaye yogesh Sanjay Joshi Abhishek umesh Barkul Sachin Kailas	PROF. M. B. GOPHANE	Design of Gripper of Valve Sheet Head Hardening Machine	Inhouse
	9	Patil Sopan Arun Thombare Gokul nanasaheb Khandbahale Hemant Kaluram Ushir Vinay Shankar	PROF. M. B. GOPHANE	Muliti Purpose Farming Machine	Inhouse
	10	Bavisakr Harshal Ravindra Kulakarni Sarang Kiran Jagtap Shubham Sanju Mathure Kaustubh Sanjay	PROF. M. B. GOPHANE	Design and Manufacturing of Edge Honning Machine	Inhouse
	11	Ahier Chetan Madhukar Badgujar Tushar Bhatu Baria Hardik Bharat More Mayur Shantaram	PROF. M. V. JADHAV	Hydrallic power robotic arm	Sponsored
	12	Dhikale Swapnil raghunath Kulakrni Dhiraj Rajendra Katare Pankaj Prabhakar Khairnar Ranjeet Rajesh	PROF. T. Y. BADGUJAR	Automation of Robotic Arm	Inhouse
	13	Kundal Arun Rajkumar Gharte Akshay kailas Desale Pratik Sunil Shirole Praful Ashok	PROF. Y. D. TAMBE	Agriculture Three in One Mechnism System	Inhouse
	14	Patil Shubham	PROF. M. V.	Fabrication of	Sponsored

		Snjay Patil Sandip Shivaji Sangle Suraj Kisan Patil Yashdeep Yashwant	JADHAV	Experimental Set up for Measurement of Stress and Strain by Strain Gauge	
	15	Phadtare Sourabh sunil Nikam Akash Sanjay Deshmukh Abhishek Sanjay Mali Abhishek nandu	PROF. M. V. JADHAV	Hydraulic Crimping Machine	Inhouse
	16	Thakre Ramdas Ashok Rajebhosale Viraj Zunjarrao Pawar Rakesh Sunil Patil Ritul Sudhakar	PROF. P. D. JADHAV	Hubless wheel bycycle with gear driv emechanism	inhouse
	17	Patil Sahil Rushikesh Wani Shrikant D More Gaurav S Sonawane Tushar Ramesh	PROF. Y. D. TAMBE	Design and development of pnumatic interlock for gravity roller conveyor	inhouse
	18	Bhole Pranav Ramakant birari Yashodhan Vijay Chavan Pratik Hiralal Gosavi Kaustubh Pravin	PROF. P. S. TALMALE	Padel Oprated Hacksaw Machine	Inhouse
	19	Patil Rushikesh Vishwas Ingole Shubham Rajendra Garge Vedant Vasant Dahite Ritesh Sudhakar	PROF. M. V. JADHAV	Four Way Hack Saw Machine	Inhouse
	20	Kanada Aditya Harekar Vaibhav Doiphode Amar Katapalle Shivdas	PROF. C. P. SHINDE	Padel Oprated Hacksaw Machine	Inhouse
	21	Dhonage Chetan R Gaikwad mahesh B Gangavate Gaurav G Bhalerao Shubham D	PROF. S. S. KUSHARE	Design and Fabrication of Non- Conventional Hydro Power Centipetal Pump	Inhouse
	22	Fegade Tejas Ravindra	PROF. S. S. KUSHARE	Modification in Hydraulic Jack	Inhouse

		Gurav Amit Subhash Gajare Deepak Pramod Pingale Akash Shrikrishna			
	23	Wagh Sachin Sawaleram Shelar Pruthviraj Sunil Sonwane Tanishq Bipin Sonwane Swapnil Manikrao	PROF. T. Y. Badgujar	Design and Manufacturing of Deburring Machine	Inhouse
	24	Patil Ishwar Prabahkar Nandwalakar Amol Snajay Badgujar Sumit Sudhir Bonde Dharmesh ravindra	PROF. C. P. SHINDE	Design of Multi Level Vibrating Screen	Inhouse
	25	Sarode Bhushan anil Bhamare Harshad Shivaji Ladhe Jiava Chhagan Patil Sudhir yuvraj	PROF. J. R. MAHAJAN	Hydraulic Bending and Bend Removing	Inhouse
	26	Vetal Yogesh Pundlik Nandan Gaurav Sudhakar Shinde Paornima rajendra Atawane Omkar Tukaram	PROF. S. S. KUSHARE	Vibration Analysis of an I. C. Engine	Inhouse
	27	Bachhav Jayesh Prakash Dahale Pranjal Santosh Patil Jayesh Vikas Gangurde shubham Chandrarao	PROF. C. P. SHINDE	Determination of Deflection Using Flexure Formula	Inhouse
	28	Domade Kalpesh Annasaheb Dhokrat Dhananjay Arun Dalvi Akshay Deepak Khairnar Vipul Hansraj	PROF. T. Y. BADGUJAR	Pick and Place Automation of 20 ton BEMCO Hydraulic Oil press	Inhouse
	29	Suryawanshi Hitesh digambar Narwade Laxman Balaji	PROF. K. W. KALE	Intelligent Braking System	Inhouse

		Shinde Pratik Rajendra Shinde Sai SandEEp			
	30	Lokhande Aditya Ganesh kayastha Shivam balraj Velani Harshal Diliplal Kolse Swapnil rajendra	PROF. C. P. SHINDE	Pipe Inspection Robot	Inhouse
	31	Borkar Rohit Sunil Jadhav Yogesh Pramod Patil Gopal Rajendra SHAIKH SHAHBAZ ZAHEED	PROF. T. Y. BADGUJAR	Adaptable Headlight System (AHS)	Inhouse
	32	Patil Shrikant subhash Misalkar Kunal Dayanand Jade Rushikesh Rajendra	PROF. P. D. JADHAV	Pneumatic Press Machine	Inhouse
	33	Banedar Akash Hiraman Bedke Ajinath Dattu Patil Gaurav Dipak Warghat Abhijeet Prashant	PROF. P. S. TALMALE	Automatated Guided Vehicle	Inhouse
	34	Salve Sanket Mukund Raut Nilesh Bhaskar Pingate Siddharth Suresh Porje Girish Bhima	PROF. P. S. TALMALE	Automatic Indexing Lift	Inhouse
	35	Late Roshan Rajesh Mahajan Dhiraj Ashok Pathade Lalit bapu Kakad shubham Gokul	PROF. T. Y. Badgujar	PNEUMATICALLY OPERATED COMMON FRAME FIXTURE	Inhouse
	36	Kanwade Vinayak Gitaram Kalaskar Ajay Radhakishan Khairnar Ashish Vithoba Kale Trishul Pradeep	PROF. R. R. CHAUDHARI	Stabbing Machine	Sponsoere
	37	Save Smit Ajit Bodke Abhishek Babnrao Chaudhari Tanmay	PROF. Y. D. TAMBE	AUTOMATION IN COLLECT CLAMPING ON GREEDEWEILER MACHINE	Inhouse

		Ramesh Pagare amol Sampat			
	38	Patil Akash Arun Jagtap Saurabh Mangalsingh Jagtap Narendra Namdev Pagar Milind Ravindra	PROF. Y. D. TAMBE	MATERIAL HANDLING EQUIPMENT "DRUM TILTER"	Inhouse
	39	Mahale Rushikesh kailas Chaudhari Nilesh Ishwar Pawar Vijay Dyanehswar Patil Dattatray Sunil	PROF. R. R. CHAUDHARI	Pauch ramming Conveyor	Inhouse
	40	Date Rohan Bhalchandr Fadol Tushar Dasharath Wagh Abhijit Ramesh Londhe Shubahm ravindra	PROF. R. B. HAGOTE	PERFORMANCE, EMISSION AND VIBRATIONAL ANALYSIS OF SOYAFUEL with VCR for C.I.ENGINE	Inhouse
	41	Pomnar Shubhan Aba Khandare Pandurang Sadashiv Vispute Akash rajendra Kadam Sagar Bajirao	PROF. R. B. HAGOTE	STEP TURNING MACHINE USING PLC	Inhouse
	42	Kshatriya Bhushan Kiran Kale Shubham rajaram Mahale Shankar Dyaneshwar Noel Louis	PROF. V. U. ELAVANDE	SOLAR IRRIGATION SYSTEM(AUTOMATION)	Inhouse
	43	Bharambe Manish Vijay Kuwar Shubham Sunil Chavan Rohan Sambhaji Sultane Prem Anand	PROF. F. U. PATHAN	DESIGN & Development of Milling Fixtuer FOR AUTOMOBILE SHAFT	Inhouse
	44	Bhagat Pritesh Bhanudas Patil Shivani rajendra Chavan Shriram Virsen Gwalani Yash	PROF. C. P. SHINDE	DESIGN & DEVLOPMENT OF MAGNETIC SHOCK ABSORBER USING M.R.FLUID	Inhouse

		Shrikrishna			
	45	Patil Harshal Satilal Patil Shubham Vilas Patil Sameer Pundlik Shinde Jayesh Chandrakant	PROF. R.B. HAGOTE	DEVLOPMENT OF Air Conditioning System Operated on Wheel Torque of Vechile	Inhouse
	46	Kulkarni Atharva milind Madiwale Mayuresh Nitin Gaidhani Pranav Prakash Mistari Darshan Sharad	PROF. K. W. KALE	MECHANICAL SPRING TESTING MACHNE	Inhouse
	47	Gohad Sameer Devidas Mathure Rahul Jagannath Ghotekar Rahul navnath Mogal Bharat Subhash	PROF. S. S. KUSHARE	MANUALLY OPERATED SEED DRILLED MACHINE	Inhouse
	48	Suryawanshi Chandrakant Sanjay Patil Pranav Ravindra Patil Aniket Girish Suryawanshi Gaurav Prabhakar	PROF. F. U. PATHAN	OVER SPEED INDICATION & ACCIDENT PREVENTION SYSTEM	Inhouse
	49	Aher Rohit Bhalchandra Chaudari Vinayak Krushna Kurle Anand Madhukar Borale Ganesh Balu	PROF. U. V. ELAVANDE	SOLAR REFRIGERATION SYSTEM	Inhouse
	50	Kothawade Anup Kamlakar Kulkarni Shantanu Hemant Nikum Jayesh Pravinkumar	PROF. R. R. CHAUDHARI	MULTIPURPOSE MACHINE FOR DRILLING,CUTTING & GRINDING	Inhouse
	51	Deore Sujit Shivman Deshmukh Yogesh Prakash Salunke Harish Dyaneshwar Pillai Akhilraj Rajappal	PROF. F. U. PATHAN	ANTI COLLESION EQUIPMENT FOR CAR BUMFER	Inhouse
	52	Mahajan Dipesh Shamkumar Patil Jayesh A Deore Shubham V Jangle Bhushan S	PROF. Y. D. TAMBE	DESIGN & FABRICATION OF PNEUMATIC HACKSAW MACHINE	Inhouse

	53	Nikam Mayur Rajendra Nikam MUkund Vitthal Bhadane Kaushal Rajendra Sonawane Dhiraj Devidas	PROF. R. B. HAGOTE	DESIGN, FABRICATION AND ANALYSIS OF AIR CONDITION THROUGH VEHICLE SUSPENSION SYSTEM	Inhouse
	54	Lole Rushikesh Sandip Panmand Parshuram C Maniyar Altamash Riyaji Shelke Ashok Popat	PROF. K. W. KALE	DRIP IRRIGATION IPE & MATCHING PAPER LAYING MACHINE	Inhouse
	55	Karpe Abhishek Dattatray Khairnar Rushikeh Sanjay Sangale Tejas Chhaburao Jadhav Kalpesh Sunil	PROF. F. U. PATHAN	DIPPING TANK DESIGN MODIFICATION	Inhouse
	56	Khatale Prashant Tanaji Deshmukh Shubham Sanjay Shewale Minal Devidas Tadage Sayali Rambahu	PROF. V. U. ELAVANDE	AUTO LOADING & UNLOADING OF CNC LATHE USING PNEUMATIC SYSTEM	Inhouse
	57	DEORE GAURAV JABBARSING	PROF. C. P. SHINDE	DESIGN & FABRICATION OF PNEUMATIC HACKSAW MACHINE	Inhouse
2020-21	1	Kapure Vismay Ravindra Mali Vedant Sanjay Kothawade Niranjan Vasant	Prof. R. R. Chaudhari	Design and Development of Solar Power Aeration System	In house
	2	Kumbhar Sumit Ashok Gangurde Sachin Eknath Patel Deep Mohan Bhadange Prajwal Girish	Prof. R. B. Hagote	Design of suspension system for offroad vehicle	In house
	3	Deshmukh Aquib Zahir Sayyed Umair Yasin Patil Tanuj Vinod Thandan Amal Ramachandran	Prof. R. R. Chaudhari	Design and development of automatic holding and packing station for roller conveyor	In house
	4	KHANDARE ANUP MADHUKAR Patil Kshitij Yograj	Prof. J. R. Mahajan	Design of solar operated car cabin ventilation system	In house

		Borse Swapnil Nilesh Wagh chandrashekhar vijay			
	5	Gavali Tejas Bhanudas Hire Ganesh Suresh Chopde Tejas Kishor Patil Yash Gunvant	Prof. K. W. Kale	Design and Fabrication of Oil Collector	In house
	6	Avhad Abhijeet Anant KOLHE ATUL MOTHABHAU Bhadange Akshay Vijay Aher lalit daulat	Prof. M. V. Jadhav	UTM (UNIVERSAL TESTING MACHINE)	Sponsor
	7	Patil vipul dnyaneshwar Chaskar Prathamesh Vikram Chandele Akshay Mineshsing Bhamare prathmesh vishwas	Prof. S. S. Kushare	Design and fabrication of parallel parking system	In house
	8	Kadam Vishal Ganpat Kadam sushant bhausaheb PATIL AMIT BHAGWAN VISHWAKARMA SHUBHAM SHRIRAM	Prof. S. S. Kushare	Accident preventing reverse braking tractor trolley	In house
	9	Shevate Chandrakant Shivaji Tivhale Manoj Kisanrao Shelar Krishna Damu Pawar Vaibhav Pandharinath	Prof. F. U. Pathan	Horizontal Axis Hydro Turbine	Sponsor
	10	Pawar Omkar Ashok Ajnadkar Archit Vinod Aher abhijeet ramesh Mate Harshal Dnyaneshwar	Prof. C. P. SHINDE	Design & Development of Blow moulding	Sponsor
	11	SANAP PRASAD BALU WARAKE HITESH KASHINATH WAGH ROHIT	Prof. M. V. Jadhav	Analysis of Cooling Performance of Automobile Radiator using different type of Coolants	In house

		RAJENDRA Musale Rushikesh Pravin			
	12	Madhukar shubham pramod Erande Ankush Bapu Mulmule Akshay Kishor Bhoi subhash tukaram	Prof. C. P. SHINDE	Design and Devlopment of Bush trimming machine	In house
	13	Shewale Gaurav Jagannath Khatale Aditya Dilip Pagar Saurav Sunil	Prof. M. V. Jadhav	Design, Analysis & Manufacturing Of Breaking System For An Universal Terrain Vehicle (UTV)	In house
	14	Dora Madhu Venkataiah Borade Ajay Machhindra Kamble Atith Anushilan Pagare harshal madhavrao CHAUDHARI DNYANESH PRITAM	Prof. R. B. Hagote	Design & Analysis of Multi-cell Square thin walled Sandwich panel in bumper to improve Crashworthiness	In house
	15	KHALANE MAYUR PRAKASH Gaikwad Siddhesh Dagu Pardeshi Gaurav Prashant zende abhishek yuvraj	Prof. F. U. Pathan	Automatic solar tracking and cleaning device.	In house
	16	Patil Pankaj Sunil Prasad kashinath pathankar CHAVAN SANDIP BALASAHEB Pawar Pankaj Kashinath	Prof. S. S. Kushare	Design And Fabrication Of Six Way Drilling Machine Table	In house
	17	Pathak Piyush Ramdas Ranjave Shekhar Punja Pawar Rajat Suresh	Prof. K. W. Kale	Ultimate terrain Vehical	In house
	18	Dhakite Tejas Vijay Momin Mohammed Mustafa Anees Ahmed Dhatrak Nikita Dnyaneshwar MEDHE SANKET ARJUNRAO Pawar chetan	Prof. P. S. Talmale	Design and Development of Cam Operated Multiple Vibrating Screening Machine	In house

		deepak			
	19	KANGANE AKASH MADHUSUDAN THAKARE ASHLESH YOGESHWAR TATHE SANDESH KHANDERAO More shubham nana	Prof. T. Y. Badgujar	Frictionless Breaking system	In house
	20	Bedmutha Akshay Mukeshkumar PAWAR SHEKHAR RAMESH Santosh Baban Shinde GAVIT BHUSHAN JAGAN	Prof. F. U. Pathan	PM AC with Sanitization System	In house
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	22	Gavali Purushottam Rajiv Endait Akshay Anant Gangurde Prajwal Nandkishor Dhongade Saurabh rambhau	Prof. P. S. Talmale	Plastic Injection Moulding Machine	In house
	23	GAWALI SHUBHAM ASHOK LAHOTI AMIT SHARAD BHAGWAT HARSHAL VILAS GAIKWAD ABHISHEK ARVIND	Prof. R. R. Chaudhari	DESIGN AND EVALUATION OF VORTEX TUBE	In house
	24	MORE SACHIN ROHIDAS Mogare Rohit Bhatu Jadhav Piyush Deelip Bodake keshav devidas	Prof. K. W. Kale	OVERHEAD TANK CLEANING MACHINE	In house
	25	Badgujar Rohit prashant BORSE SAGAR DILIP Birari Harshal Vijay Badgujar Swapnil Prabhakar	Prof. C. P. SHINDE	3 in 1 cultivator	In house

	25	YADAV RAHUL GORAKHNATH Vishwakarma Arvind Omprakash VIGHNE HEMANT HIRAMAN Vidhate Nilesh Madhav	Prof. T. Y. Badgujar	OIL SKIMMER	In house
	26	Chaudhari Mandar Dilip BHAVSAR GAURAV SANJAY Medhane Ajay Baban Bhawale Dhiraj Sunil	Prof. Y. D. Tambe	Study and analysis of press tool design.	Sponsor
	27	Patil Nilesh Sanchilal Gite Shubham Sudhakar Shinde Gaurav Bharat BAHIRAM SAURABH GOPAL	Prof. P. S. Talmale	Digital Fuel Indication System For Automobile	In house
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	29	Patil Naresh Ravindra Shinde Suraj Balu Wagh Pooja Jagdish Pachorkar Tushar Sadashiv	Prof. R. B. Hagote	Designing and fabrication of steering system for utility terrain vehicl.	In house
	29	PACHORKAR TUSHAR SADASHIV Supekar Nivrutti Prakash Sonawane chetan gyandeo Vaishnav Ankit Ravindra	Prof. R. B. Hagote	Design and fabrication of steering system for utility terrain vehicl	In house
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	33	Mankar Tushar Karbhari Wagh Tejas Popat Vidhate Nikhil Raghunath	Prof. C. P. SHINDE	Manufacturing of Mechanism to Ease the Pillion Rider on Two wheeler.	In house
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A Project Report on

Design & Development of Automatic Cattle Feeding System

By

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Mr. Palve Mukesh D.
Mr. Nikam Aditya B.
Mr. Bagul Ramesh C.

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A Project report on

"Pneumatic Operated Reverse Braking And Bumper System"

By

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A Dissertation on

"Development Of Panel Air Cooler"

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A Project Report
On

DESIGN AND DEVELOPMENT OF AUTOMATIC SEVEN TANK PROCESS OF POWDER COATING

By

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Mr. Todkar Shreyash M.
Mr. Wadekar Prathmesh S.
Mr. Magar Nandkumar R.

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Tushar Ramnath Sonawane

Shreyash Mangesh Todkar

Prathmesh Shashikant Wadekar

Nandkumar Rajaram Magar

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ABSTRACT

The Project is intended to design and fabricate an automated mechanism for chemical retreatment process in powder coating for avoiding the manual handling of metal substrates in chemical pre-treatment processing in order to remove dust, to avoid corrosion and to provide good adhesion for powder coating. For this, a gantry crane structure is proposed where two vertical columns and a horizontal beam setup are designed to which a movable carriage is mounted across the horizontal beam. The movable carriage is fitted with a pulley mounted by a rope, the end of the rope is connected to a hanger which has a workpiece holder to which a metal substrate is hanged. The process is controlled by a programmable controller which is programmed with appropriate delays and according to the process designated, the hanged workpiece will move up and down and get dipped into the chemical tank. Once the delay was completed, the carriage automatically moves horizontally to the next tank. The gantry crane structure with movable carriage having pulley and programmable controller are well suited for automating pre-treatment process and it can safeguard manual workers' hands from hazardous chemicals in the tank and also achieving the exact delay operations of each tank process.

CHAPTER 01

INTRODUCTION

It is very important that the metal is prevented from corrosion. The loss of metals due to corrosion has become very big problem in industries. The pre-treatment process is carried out for cleaning of the metal equipment. The phosphate process is carried out manually. It is very non-efficient and the time consuming process. The automation of seven phosphate process must be done so that large number of metal equipment can be get coated and prevented from corrosion The chemical cleaning of metals has number of advantages over mechanical cleaning methods. Metal equipment typically gets both organic and inorganic objects deposited on it, coming from various lubricating oils, corroding metals, deposited products, deposits from hard water etc. Pre-treatment methods of metal object prior to powder coating are divided into two types, chromatin and Phosphating Automatic control is the use of various control system for operating equipment More often the systems are incorporated with Allen Bradley software of PLC. The PLC programming of ladder logics is implemented. The large number of input and output of PLC will be used in this system control large number of tanks and hoist The sensors sense the presence of water, liquid and presence of an object. A programmable logic controller is an industrial digital computer. PLC can range from small building brick devices with ten of inputs and outputs, in housing integral with the processor, to large rack-mounted modular devices with a count of thousands of I/O, and which are often networked to other PLC and SCADA system . SCADA is a control system architecture that uses computers, networked data communication. They can control large scale processes that can include multiple sites, and work over large distance . Some work shows the design and implementation of a controller based on fuzzy logic using PLC as a processing element The proposed system provides an analysis of simulation and component required for the implementation of an automated level control of system using PLC. Three level sensors are used to provide the level data to the PLC. The PLC is used to take the required decision and thereby turning forward, reverse, up and down positioning of the hoist of the motor. The proposed system can be divided into two modules-sensing and implementation.

1.1.1 System Introduction

In all manufacturing industries strength of every product is prime important but with strength it is also very important life of component. The life of components is increased by various things like heat treatment painting and coating of materials.

By considering coating process we can see that main parts are assembled with lot of child parts and it very difficult to coat it manually. After that gantry crane system is implemented in this system to coat the material by dipping the parts in solutions.

To operate the crane one worker is required. As we know paint and coating parts contains chemicals and smell it tend to affect on workers health.

To overcome this problem and increasing in work efficiency as well as considering industry 4.0 we are designing a automation system for seven tank process of powder coating.

In this system we are designing a gantry crane system which operates automatically with the help of plc.

System consists of gantry crane operated b y motor and one motor is used of lifting all the process is working with help of plc and timer.

1.1.2 Powder Coating

It is a type of coating that is applied as a free-flowing, dry powder. Unlike conventional liquid paint which is delivered via an evaporating solvent, powder coating is typically applied electrostatically and then cured under heat or with ultraviolet light.

The powder may be a thermoplastic or a thermoset polymer. It is usually used to create a hard finish that is tougher than conventional paint. Powder coating is mainly used for coating of metals, such as household appliances, aluminium extrusions, drum hardware, automobiles, and bicycle frames. Advancements in powder coating technology like UV curable powder coatings allow for other materials such as plastics, composites, carbon fiber, and MDF (medium-density fibreboard) to be powder coated due to the minimum heat and oven dwell time required to process these components. There will be a Gantry system (Vertical & Horizontal Motorized Slider) that will dip the Loaded object to every Tank for predefined time. This system will be automated.

Fig.1.1 Conventional powder coating method

1.1.3 Conventional Method of Powder Coating

The powder coating process was invented around 1945 by Daniel Gustin and received US Patent 2538562 in 1945. This process puts a coating on an item electrostatically, which is then cured by heat. The finish is harder and tougher than conventional paint. The process is useful for coatings on metal used in many household appliances, aluminium products and automotive parts.

1.1.4 Properties of Powder Coating

Because powder coating does not have a liquid carrier, it can produce thicker coatings than conventional liquid coatings without running or sagging, and powder coating produces minimal appearance differences between horizontally coated surfaces and vertically coated surfaces. Because no carrier fluid evaporates away, the coating process emits few volatile organic compounds (VOC). Finally, several powder colours can be applied before curing them all together, allowing color blending and bleed special effects in a single layer.

While it is relatively easy to apply thick coatings that cure to smooth, texture-free coating, it is not as easy to apply smooth thin films. As the film thickness is reduced, the film becomes more and more orange peeled in texture due to the particle size and glass transition temperature (Tg) of the powder.

Most powder coatings have a particle size in the range of 2 to 50 μm, a softening temperature Tg around 80 °C, a melting temperature around 150 °C, and are cured at around 200 °C for a

minimum of 10 minutes to 15 minutes (exact temperatures and times may depend on the thickness of the item being coated). For such powder coatings, film build-ups of greater than 50 µm may be required to obtain an acceptably smooth film. The surface texture which is considered desirable or acceptable depends on the end product. Many manufacturers prefer to have a certain degree of orange peel since it helps to hide metal defects that have occurred during manufacture, and the resulting coating is less prone to showing fingerprints.

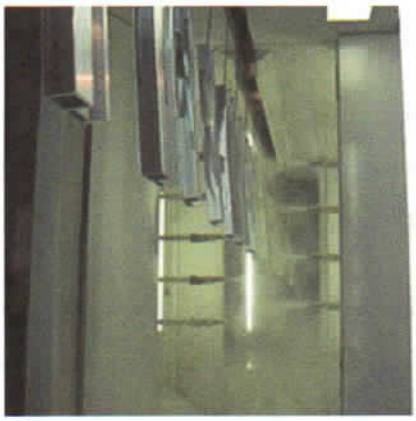

Fig.1.2 Aluminium extrusions being powder coated

There are very specialized operations where powder coatings of less than 30 µm or with a Tg below 40 °C are used in order to produce smooth thin films. One variation of the dry powder coating process, the Powder Slurry process, combines the advantages of powder coatings and liquid coatings by dispersing very fine powders of 1–5 µm sized particles into water, which then allows very smooth, low film thickness coatings to be produced.

For garage-scale jobs, small "rattle can" spray paint is less expensive and complex than powder coating. At the professional scale, the capital expense and time required for a powder coat gun, booth and oven are similar to a spray gun system. Powder coatings have a major advantage in that the overspray can be recycled. However, if multiple colors are being sprayed in a single spray booth, this may limit the ability to recycle the overspray.

1.1.5 Advantages of other Coating Process.

Powder coatings contain no solvents and release little or no amount of volatile organic compounds (VOC) into the atmosphere. Thus, there is no need for finishers to buy costly pollution control equipment. Companies can comply more easily and economically with environmental regulations, such as those issued by the U.S. Environmental Protection Agency.

Powder coatings can produce much thicker coatings than conventional liquid coatings without running or sagging.

Powder coated items generally have fewer appearance differences than liquid coated items between horizontally coated surfaces and vertically coated surfaces.

wide range of speciality effects are easily accomplished using powder coatings that would be impossible to achieve with other coating processes.

Curing time is significantly faster with powder coatings compared to liquid coatings especially when using ultraviolet cured powder Coatings or advanced low bake thermosetting powders.

1.1.6 Types of Powder Coating.

There are three main categories of powder coatings: thermosets, thermoplastics, and UV curable powder coatings. Thermoset powder coatings incorporates a cross-linker into the formulation.

Most common cross-linkers are solid epoxy resins in so-called hybrid powders in mixing ratios of 50/50, 60/40 and 70/30 (polyester resin/ epoxy resin) for indoor applications and Tri glycidyl isocyanate (TGIC) in a ratio of 93/7 and β-hydroxy alkylamine (HAA) hardener in 95/5 ratio for outdoor applications. When the powder is baked, it reacts with other chemical groups in the powder to polymerize, improving the performance properties. The chemical cross-linking for hybrids and TGIC powders—representing the major part of the global powder coating market—is based on the reaction of organic acid groups with an epoxy functionality; this carboxy–epoxy reaction is thoroughly investigated and well understood, by addition of catalysts the conversion can be accelerated and curing schedule can be triggered in time and/or temperature. In the powder coating industry it is common to use catalyst masterbatches where 10–15% of the active

CHAPTER 05

NCLUSION

We searched for a real time problem in the Industrial Manufacturing Process.

We checked the feasibility of the Project along with the components lists and technical challenges.

We will also implement mechatronics including hardware & software Programming which is in demand in current Industry.

- The system will completely built by using mechatronics and industrial technology that can automatically load and unload the industrial fabricated products in seven tanks and get the Pre-treatment process of powder coating done thereby reducing the labour costs.
- Better management of the powder coating generally has to do with automation of the material handling components and recovery/reprocessing devices.
- Specifically, powder systems use a centralized powder management centre to fluidize, regulate, deliver, and reprocess the powder.
- This equipment minimizes the manual intervention required, eliminates excess waste and over consumption of the powder, and provides excellent colour change flexibility.
- For many companies, colour changes are a production line bottleneck and reduce production efficiency.
- The advanced powder management tools available will offer risk free color changeovers by automating the cleaning and colour changing process. These functions take only minutes to perform and open up a great deal of production flexibility which previously not available.

CHAPTER 06

FUTURE SCOPE

- Adding more part of robotics can prove beneficial to the system.
- Today, robots can perform a slew of functions without considerable human intervention. Automated technologies are not only executing iterative tasks, but also augmenting workforce capabilities significantly. In fact, automated machines are expected to replace almost half of the global workforce.
- From manufacturing units to experimental robotics for medical, military and automotive industries, the future of robotics engineering finds tremendous opportunities for its budding professionals. Robotic science has a tremendous scope as a career option as robots play an important role in the industrial sector.
- Industrial Internet of Things (IIoT) is a way to digital transformation in manufacturing. Industrial IoT employs a network of sensors to collect critical production data and uses cloud software to turn this data into valuable insights about the efficiency of the manufacturing operations.
- Artificial Intelligence and Machine Learning are giving manufacturers an unprecedented ability to skyrocket throughput, optimize their supply chain, and accelerate research and development. Since the rise of the internet, the world's top-producing factories have digitized their operations. For that, companies need Artificial Intelligence.
- Using the above-mentioned Technologies like Robotics, IOT, Mechatronics, Artificial Intelligence etc. Can give the better performance to the System.

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