



Saraswati College of Engineering Department of Mechanical Engineering

16 Feb 2021

FIELD TRIP TO AIRVISION TECHNOLOGIES Pvt.Ltd







Introduction of the Company

Airvision manufactured products are widely used by the client for their compact construction, durability, long service life and fine finish.

Owing to their easy installation, optimum functionality and resistance to corrosion, these products are highly appreciated among their customers like Consumer goods/ Personal care, Automobile, Specialty Chemical Industries, Foods and Beverages, Pharmaceutical and Healthcare, Bio-Laboratories, Hospitals, Engineering Industries and Ventilation System, etc. across the country. The company has developed a sound and sophisticated infrastructure that is installed with modern equipment as well as machines to carry out effective production process to offer only the finest quality range of products.

Systematically constructed and segregated, unit helps in streamlining all the business activities such as manufacturing, quality testing, research, storage and others. The team members work with client-centric approach, which help to ensure complete satisfaction of their clients. They are well versed with clean room standards as per ISO, USFDA, WHO, GMP, MHRA and other standards, also offer testing/validation service as per this standard.

They have a full-fledged sales and design office with after sales service facilities which have extended through the subordinates and associates.





Air vision Technologies Pv. Ltd.





About the Field Trip

An Field Trip to **Airvision Technologies Pvt Ltd**, at Vasai was organized by the Ishrae Committee of Saraswati College of Engineering, Kharghar on 16th February 2021. There were twenty students who visited the industry to gain knowledge about Air Conditioning, Air Handling Units and much more. The Field Trip was explained by Mr. Ronit Sir starting from the basics of thermodynamics to the making and working of AHU system.

The following are the points covered in the IV:

- 1. Introduction to AHU system
- 2. Components used inside the AHU
- 3. Materials used for making the AHU

Introduction to AHU system: An air handler, or air handling unit (often abbreviated to AHU), is a device used to regulate and circulate air as part of a heating, ventilating, and air-conditioning (HVAC) system. An air handler is usually a large metal box containing a blower, heating or cooling elements, filter racks or chambers, sound attenuators, and dampers. Air handlers usually connect to a ductwork ventilation system that distributes the conditioned air through the building and returns it to the AHU. Sometimes AHUs discharge (supply) and admit (return) air directly to and from the space served without ductwork

Small air handlers, for local use, are called terminal units, and may only include an air filter, coil, and blower; these simple terminal units are called blower coils or fan coil units. A larger air handler that conditions 100% outside air, and no recirculated air, is known as a makeup air unit (MAU) or fresh air handling unit (FAHU). An air handler designed for outdoor use, typically on roofs, is known as a packaged unit (PU), heating and cooling unit (HCU), or rooftop unit (RTU).



Air Handling Unit





Components used inside the AHU:

- 1. Grills: Grills are used to stop the waste from entering the inlet of AHU system.
- **2. Dampers:** Dampers are the device used to control the amount of outdoor air that enters the AHU system. The types of dampers are,
- **a. Bypass Damper:** It is installed between the supply and return duct to the supply air into room according to the situation of the room.
- **b.** Fire Smoke Damper: It is a device which is connected to smoke detector. As smoke detector sense smoke inside room, it sends signal to the fire smoke damper and the damper removes all the smoke from the room into the outdoor atmosphere.
- **c.** Volume Control Damper: It is a device which helps to control or adjust the air flow volume to the other part of the duct system.
- **3.** Filters: The filters are used in AHU system are to stop the dirt, pollutant or any waste to enter the AHU system. The types of filters are as follows,
 - **a. Primary Filters:** These are used to stop the dust, pollutants from entering into the system.
 - **b.** Secondary Filters: They are used to stop the other harmful micro-organism or bacteria from entering into the system.
- 4. Heating and Cooling Coils: It is a device which changes the temperature of the air passing through heating/cooling coils into hot/cold air. The heat exchanging medium flowing inside the heating/cooling coil is water if it is connected to chiller system and its refrigerant if its connected to VRV system.
- **5. Humidifier:** Humidification is often necessary in colder climates where continuous heating will make the air drier, resulting in uncomfortable air quality and increased static electricity. Various types of humidification may be used:
- **a. Evaporative**: dry air blown over a reservoir will evaporate some of the water. The rate of evaporation can be increased by spraying the water onto baffles in the air stream.
- **b.** Vaporizer: steam or vapor from a boiler is blown directly into the air stream.
- **c. Spray mist:** water is diffused either by a nozzle or other mechanical means into fine droplets and carried by the air.
- **d.** Ultrasonic: A tray of fresh water in the airstream is excited by an ultrasonic device forming a fog or water mist.
- e. Wetted medium: A fine fibrous medium in the airstream is kept moist with fresh water from a header pipe with a series of small outlets. As the air passes through the medium, it entrains the water in fine droplets. This type of humidifier can quickly clog if the primary air filtration is not maintained in good order.
- **6. Mixing Chamber:** In order to maintain indoor air quality, air handlers commonly have provisions to allow the introduction of outside air into, and the exhausting of air from





the building. In temperate climates, mixing the right amount of cooler outside air with warmer return air can be used to approach the desired supply air temperature. A mixing chamber is therefore used which has dampers controlling the ratio between the return, outside, and exhaust air.

7. Blower/Fan: Air handlers typically employ a large squirrel cage blower driven by an AC induction electric motor to move the air. The blower may operate at a single speed, offer a variety of set speeds, or be driven by a variable-frequency drive to allow a wide range of air flow rates. Flow rate may also be controlled by inlet vanes or outlet dampers on the fan. Some residential air handlers in USA (central "furnaces" or "air conditioners") use a brushless DC electric motor that has variable speed capabilities. Air handlers in Europe and Australia and New Zealand now commonly use backward curve fans without scroll or "plug fans". These are driven using high efficiency EC (electronically commutated) motors with built in speed control.

Multiple blowers may be present in large commercial air handling units, typically placed at the end of the AHU and the beginning of the supply ductwork (therefore also called "supply fans"). They are often augmented by fans in the return air duct ("return fans") pushing the air into the AHU.

Materials used for making the AHU:

- **1. AHU metallic body** made by SS304 or SS316 for pharma company and galvanized iron (GI) used for commercial purposes, hospitals, etc.
- 2. Filters: The material for filters used are synthetic materials, HOPE mesh.
- 3. Insulation materials:
- a. AHU Insulation: Eco Puff, Rock wool, Glass wool.
- b. Duct Insulation: Nitrite rubber, Glass wool

The above insulation materials are used to stop the leakage of air and refrigerant or other heat exchanging mediums.





Overview of Industrial Visit





Student's interaction and doubt solving during the IV.







Machines and components at the industry.







Conclusion

The students of Saraswati College of Engineering had successfully completed the industrial visit at Airvision Technologies Pvt.Ltd on 16th Feb 2021. The students gained a lot of knowledge regarding the HVAC industry, complete AHU system and much more related to HVAC. All the doubts and questions of the students were cleared during the Field Trip



Group Photo in industry



DDB anidear

H. O. D. Mechanical Engg. Dept Saraswati Colle ja of Engineering Kharghar, Navi Mumbai.

ISHRAE Registeration 20-21



B0770200 High Normal Action Made No Canal D CHIRD Control Proceedings 60770200 High Solation PA 91 PTORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS SCORESTICS SCORESTICS SCORESTICS (STREETER SCORESTICS (STR	Timestamp	Nome						
96772020 19122 (am tapian mag) Software 94 Market B Distant B <td>6/27/2020 18:12:46</td> <td>Name of Student</td> <td>Division</td> <td>Roll No</td> <td></td> <td>Johila Na</td> <td>C</td> <td>ISHPAE Membeshin No</td>	6/27/2020 18:12:46	Name of Student	Division	Roll No		Johila Na	C	ISHPAE Membeshin No
Bergerson and Selection 7 20223 (17.8) Integrated 2006 (17.8) Selection 2000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and Selection 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and 2007 (17.9) 3000 (17.9) 3000 (17.9) 3000 (17.9) Bergerson and 2007 (17.9) 3000 (17.9) 30000 (17.9) 3000 (17.9)	6/27/2020 18:12:24		Software	04			Email ID	SOORE Methodship no
Begrammen 13 770/094/12 Beschward (196)/pm 2000/140 Begrammen 14 970/000 Beschward (196)/pm 2000/140 Begrammen 14 970/000 Beschward (196)/pm 2000/140 Begrammen 15 14 Beschward (196)/pm 2000/140 Begrammen 15 14 Beschward (196)/pm 2000/140 Begrammen 15 14 Beschward (196)/pm 2000/140 Begrammen 15 4 Beschward (196)/pm 2000/140 Begrammen 15 4 Beschward (196)/pm 2000/140 Begrammen 15 14 Beschward (196)/pm 2000/140 Begrammen 15 17 1771/140 Begrammen Begrammen 16	6/27/2020 19:12:45	Lokesh gajanan wagh	TE DESIGN			9082331756	hiralbarot1234567891234	520066271
1222000 19.2 Adips Vartiment, Jadavi (E.A. 40 88774000 4000000000000000000000000000000000000	6/27/2020 18:13:45	Deven Ashok Panchal	Software		15	7710874612	lokeshwagh20@gmail.coi	500088015
Home Hard Biological adjustance Hard Biological adjustance Hard Hard <td>6/27/2020 18:15:23</td> <td>Aditya Yashwant Jadhav</td> <td>BE-A</td> <td></td> <td>40</td> <td>8879470960</td> <td>devenpanchal1998@gma</td> <td>S20087940</td>	6/27/2020 18:15:23	Aditya Yashwant Jadhav	BE-A		40	8879470960	devenpanchal1998@gma	S20087940
cccccccccccccccccccccccccccccccccccc	6/27/2020 18:15:25	Shubham Bajirao Mainga	SE-DESIGN-D2		34	8652063302	adityajadhav086@gmail.c	S00089154
01/0001 01/0000 01/0000 01/0000 01/000000 01/000000 01/000000 01/000000 01/000000 01/000000 01/000000 01/000000 01/0000000 01/0000000000000 01/0000000000000000 01/00000000000000000000000000000000000	6/27/2020 18:16:45	Saurabh santosh chavan	C	04	42	8857818405	Shubhammaingade2000@	S00088225
bit 30 11:5:1:9 Disana Nivoli Tardoli TC-Duijn 44 96200427207765433 ponteh-fbgmill.com 50008441 0277200 11:5:2:0 Statis 274207154543 Parker Marker Anna Park 7 9630042720775543 Statis 27507 0277200 11:2:0:0 Statis 274207 Parker Marker Anna Parker 7 9630042720775542 Statis 27507 0277200 11:2:0:0 Statis Parker Marker Anna Parker Bergel E-0 54 96772031 (2:0:0 Statis 27507757 0277200 11:2:0:0 Statis Parker Marker Bergel E-0 6 96772031 (2:0:0 Statis 27507757 0277200 11:2:0:0 Statis Parker Marker Bergel E-0 7 70023213 (2:0:0 Statis 27507577 0277200 11:4:0:0 Parker Bergel E-0 7 70023213 (2:0:0:0 Statis 27507577 0277200 11:4:0:0 Parker Bergel E-0 7 70023213 (2:0:0:0 Statis 27507577 0277200 11:0:0:0 Parker Bergel E-0 7 9570231 (2:0:0:0:0 Statis 27507577 0277200 11:0:0:0 Parker Bergel E-0 7 9570231 (2:0:0:0:0 Statis 27507577 0277200 11:0:0:0 Parker Bergel E-0 7 9570231 (2:0:0:0:0	6/27/2020 18:17:01	Punitesh Poojary	BE B			8108665639	saurabhchavan2662000@	S20087947
02/2020 16:137 AMARY SATUS GUTT IS SOFTVARE 71 561948727 damatsandowsigger 5200715 02/2020 16:236-4 Max Manager 1 97 7777420407 satusations of the system huber 158(gyms 15007688 02/2020 16:236-4 Max Manager 1 BE 40 52217168 Maxamina 158(gyms 15007678 02/2020 16:237 Max Manager 1 BE 40 52217168 Maxamina 158(gyms 15008668 02/2020 16:237 Maxamina 1112 Satu Maxamina 1111 Satu Maxamina 11112 Satu	0/27/2020 18:18:18	Dhanesh Nivrutti Tendolk	TE-Design		46 9	920024292/8779654343	ppunitesh@gmail.com	S00088441
927/2020 16:20:0 Statistics and Statis and Statis and Statistics and Statistics and Statistics and St	0/2//2020 18:18:37	AKSHAY SATISH SHET	TE SOFTWARE		71	9619946277	dhaneshtendolkar99@grr	S20087715
62772020 19:24:54 A 97 797/74/20107 Imbalanter/2016/0001 Im	6/27/2020 18:20:50	Sahil S Patankar	A		57	8433640785	akshaysshetty16@gmail.	S00087883
69772020 H2:30 Viss Nuha Pall Ed. 52: +19721802010 jayetamahani 1746gan. S008689 69772020 H3:31 Adas Jahashawa Pandrang BE-C 40 923717680 Vissanahane31746gan. S008689 69772020 H3:31 Adas Jayeta Pandrang BE-A 16 989735934 wikateshape527637 69772020 H3:43:1 Adas Jayeta Pandrang BE-A 16 989735934 wikateshape527637 69772020 H3:43:5 Dayetawa Niwu TE Leidon 17 977701 H3:4351000 989755539 wikateshape5263008444 69772020 H3:63:5 Tredox Binash Niwu TE Leidon 16 989755539 wikateshape5263008444 69772020 H3:63:5 Tredox Binash Niwu TE Leidon 16 16 1699930887 1699930887 69772020 H3:63:5 Niskikana Rahara BE:C 99 1699930887 <t< td=""><td>6/27/2020 18:28:54</td><td>Jayesh liladhar mahajan</td><td>A</td><td>-</td><td>57</td><td>7977430407</td><td>sahilpatankar13@gmail.o</td><td>S00076389</td></t<>	6/27/2020 18:28:54	Jayesh liladhar mahajan	A	-	57	7977430407	sahilpatankar13@gmail.o	S00076389
927/2020 18:32 Asia Many and Bages 40 92217189 visualizabas/Sigmal c 1907/570 927/2020 18:43 Asia Many and Sigmal c 1907/570 98775329 18:4712 Salimalapa/Sigmal c 1907/570 927/2020 18:451 Telesson 43 740032982 Salimane 1901/2001 (Spin Scottics) 927/2020 18:453 Transformations (Stottics) Bit And Sigmal c 1907/570 9877559 927/2020 18:453 Transformations (Stottics) Bit And Sigmal c 1907/570 9877559 927/2020 19:052 Ruit Castman Bit Control (Stottics) Bit Control (Stottics) Bit Control (Stottics) 927/2020 19:052 Ruit Castman Bit Control (Stottics) Bit Control (Stottics) Bit Control (Stottics) 927/2020 19:052 Ruit And Castman Bit Control (Stottics) Bit Control (Stottics) Bit Control (Stottics) 927/2020 19:052 Ruit And Castman Bit Control (Stottics) Bit Control (Stottics) Bit Control (Stottics) 927/2020 19:052 Ruit And Castman Bit Control (Stottics) Bit Control (Stottics) Bit Control (Stottics) 927/2020 19:052 Ruit And And Castman Bit Control (Stottics) Bit Control (Stottics)	6/27/2020 18:29:08	Vikas Natha Patil	BE-B		52 +	917219820910	jayeshmahajan138@gma	S18051876 (renewed)
99726201 19331 Austa hyuraj avar 4 16 999736594 anilesta Storpsorp 9772001 194331 Austa hyuraj avar 1 999736594 anilesta Storpsorp 9772001 194453 Oparathwark Hand Edwark 1 70 7045418802 tendinational Hand Hand Hand Hand Hand Hand Hand Hand	6/27/2020 18:29:27	Ankita Ganesh Ethape	BE-C		40	9323171898	vikasnathapatil1718@gm.	S00088899
6/17/2020 18-71/2 Lash More T 61 986007610 (pasknymski) 5100 (pasknymski) 6/77/2020 18-554 Transfordar Binwen Nurst T.E. derlign 37 887503130 dynanchmap22000 (s0008341 (unw)) 6/77/2020 18-554 Transfordar Binwen Nurst T.E. derlign 37 887503130 dynanchmap22000 (s0008341 (unw)) 6/77/2020 18-554 Transfordar Binwen Nurst T.E. derlign 37 88750759 provinging 2000714 (unw)) 6/77/2020 18-552 Turkt Swetz Anna Pall TE. Schhane 33 98776759 provinging 30007692 6/77/2020 18-526 Swetz Anna Pall TE. Schhane 33 98776759 provinging 30007692 520142921 (undwalthmath9990) (gynalt.cm 52003714 (undwalthmath9990) (gynalt.cm 52003713 (undwalthmath9990) (gynalt.cm 52003713 (undwalthmath9990) (gynalt.cm 52003713 (undwalthmath9990) (gynalt.cm 52003714 (undwalthmath9990) (gynalt.cm 52003714 (undwalthmath9990) (gynalt.cm 52003713 (gynalt.cm 52003713 (gynalt.cm 52003713 (gynalt.cm 52003713 (gynalt.cm 52003713 (gynalt.cm 52003714 (gynalt.cm 52003714 (gynalt.cm 52003714 (gynalt.cm	6/27/2020 18:38:31	Akash yuvraj pawar	Δ		16	9987356934	ankitaethape55@gmail.cc	S00088968
43 740032828 attempts New T. Evelop 43 740032828 attempts New T. Evelop 7 4712020 tests T. Indeke May New T. Evelop 7 740448820 attempts New T. Evelop 7 4712020 tests T. Indeke May New T. Evelop 7 740448820 attempt New Second S0002524 4712020 tests T. Indeke May New T. Evelop 3 397675759 s0002525 4712020 tests T. Indeke May New T. Evelop 3 397675759 s0002525 4712020 tests T. Indeke May New T. Evelop 3 397675759 s0002525 4712020 tests T. Indeke May New T. Indeke Ma	6/27/2020 18:47:12	Sahil More	TE		61	9869087610	pawaryuvaraj93@gmail.c	S19076570
97 8792031 80.051 T mind sweet New T E calup 37 8792031 30 dynast-myterylapi2000 § 20003444 9772020 18:052 T Wind Synap 15 16 <td< td=""><td>6/27/2020 18:48:53</td><td>Dnyaneshwari Panduran</td><td>BEA</td><td></td><td>43</td><td>7400326929</td><td>sahilmore19012001@gm</td><td>S00076341 (renew)</td></td<>	6/27/2020 18:48:53	Dnyaneshwari Panduran	BEA		43	7400326929	sahilmore19012001@gm	S00076341 (renew)
69772020 165112 Tuber Sures Lute 0 70 7044118022 tentocharbarvach 1992(§ 50007744 69772020 160728 Piker Amir Sopan Gund Els Amir 00 105190724 1992(500000000000000000000000000000000000	6/27/2020 18:50:51	Tendolkar Bhavesh Nivn			37	8879503130	dnyaneshwaripatil20000@	S00088444
69772020 10522 10450 Dehmuks TENCCH 00 82142241 1044cstmma00gmat.com 50002226 69772020 105028 Pixe Source 33 9997557569 Pixeliganition 50002366 69772020 105028 Pixel Source 44 972015168 Pixeliganition 50002866 69772020 125243 StAnAM RAHMA BUNK BEC 09 7733975733 nikamenchgmat.com 50002866 69772020 125243 StAnAM RAHMA BUNK BEC 09 7733975733 nikamenchgmat.com 50002866 69772020 125243 StAnAM RAHMA AND B BEC 01 89930582 mikamenchgmat.com 50002876 69782020 01423 StAnAM RAHMARA AND B TE OFTWARE 13 961880774 952405723 dixpant.com 50002872 69782020 012324 Advan Dix Chave TE OFTWARE 12 99441655 dixpant.com 50002872 69782020 012324 Advan Dix Chave TE OFTWARE 12 99446432 dixpant.com 50002776 69782020 0141354 Lokaka ginganawegh TE OFTWARE 20	6/27/2020 18:51:12	Tushar Suresh Lute	R E A		70	7045418802	tendolkarbhavesh1999@e	S20087714
62772020 1607:08 Prevs Sepas Guid 12 IBC/H 09 829148291 ndt481ma4989gmail 50008762 62772020 162:05 Shveta Anaka Pala 12 A 33 93757559 previngund/@gmail.com 50002856 62772020 162:45 Nukla Reju chavkan 12 Orgen 9700115164 Shvetapalif604(@gmail.com 50002876 62772020 162:45 Nukla Reju chavkan 12 Orgen 9700115164 Shvetapalif604(@gmail.com 50005287 62772020 162:45 Nukla Anaka Nuhla A 0 62 713875713 Shukantol Com 50005113 6272020 162:45 Nukla Anaka 12 Eosign 03 99930562 Shukantol Com 50005113 6282020 05:45 Nick Anaka Nukla Anaka 12 Eosign 13 869182778 3192437881 Hadamator27@pmail.cs 50005621 6282020 10:3541 Likesh gainan wegh 12 Eosign 26 99244241 Jadahyspent/Signail Com 50005815 6282020 10:3541 Likesh gainan wegh 12 Eosign 26 902242237 Nakai Nama Com 50005726 6282020 10:142 Shukanta Kanata 12 Eosign 26 902242320 13 80918271 13 80918271 13 80918271 13 80918271 13 8091827 14 80914121 14 80914121 14 80914121 14 80914121 14 80914121 <	6/27/2020 19:05:22	Rutik Deshmukh	TE MEOU		51 9	619019724 / 835608306	tusharlute06@gmail.com	\$00052256
B2772020 1902#2 SNWEA Anards Pail 33 9907657559 99070657559 9907067559 9907067559 9907067559 9907067559 9907067559 9907067559 9907067559 9907067559 9907067759 9907067759 9907067759 9907067776 990706777 990706777 9907067776 9907067776 9907067776 9907067776 990706777 990706777 990706777 990706777 9907067776 9907067776 990706777 990706777 990706777 990706777 990706777 990706777 9907067776 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 990706777 99070777 990707777 990707777 <	6/27/2020 19:07:08	Pravin Sopan Gund		09		8291482491	rutikdeshmukh999@amai	500087692
6272020 12:2459 Mike Paju Catekam PCC 09 77297122 PNI291564 PNI291566 PNI29156674 PNI29156767 PNI291566741 PNI291566741 PNI291566741 PNI29156674 PNI29156674 PNI29156674 PNI29156747 PNI291567477 PNI291566747 PNI29156777 PNI291566774 PNI291566774 PNI291567774 PNI291567777 PNI291567777 PNI29156777777777777777777777777777777777777	6/27/2020 19:09:26	Shweta Ananda Patil	DE-A		33	9987657559	pravingund0@gmail.com	500052850
BC2702012 D2:00 F03 T73977323 D3300000000000000000000000000000000000	6/27/2020 19:24:59	Nikita Raju chavhan	PE/C		44	9702915164	Shwetapatil9904@gmail (500032839
627/2020 223745 Millesh vitinal abube AC 01 592900582 millesh vitinal abube AS 627/2020 223745 Millesh vitinal abube TE Design 03 79292006 592900582 millesh vitinal com S0006539 627/2020 2103243 Millesh vitinal abube AS 593900582 millesh vitinal com S0006539 627/2020 2103243 Millesh vitinal abube AS 593900582 millesh vitinal com S0006539 627/2020 103243 Adity Dillo Folken TE SOFTWARE 11 5934100743 S0005726 627/2020 103243 SMILENKINGR AUU B 77107412 Millesh vitinal abube S0005726 627/2020 103243 SMILENKINGR AUU B 77107412 Millesh vitinal abube S0005726 627/2020 103243 Millesh vitinal abube TE SOFTWARE 24 S0526520 millesh vitinal abube S0005822 627/2020 103243 Millesh vitinal abube TE SOFTWARE 24 S05225200 millesh vitinal abube S0005822 627/2020 114150 Gamach vitinal abube TE SOFTWARE 24 S0522114070 Japada Bibe S00058714 </td <td>6/27/2020 19:25:03</td> <td>SHARMA RAHUL SUNIL</td> <td>BE/C</td> <td>09</td> <td></td> <td>7738757352</td> <td>nikitacmech@amail.com</td> <td>S00088108</td>	6/27/2020 19:25:03	SHARMA RAHUL SUNIL	BE/C	09		7738757352	nikitacmech@amail.com	S00088108
gr272020 22:9:2:9 Mileti Mujlen Agiu T Design 03 703227220 miletion Status	6/27/2020 22:37:45	Mitesh vitthal abbalo	DE-C		62	7021880663	rabulsks2000@email.com	520088168
6 #22/220 0.5 4.30 File Delign 0.3 703272926 matcal/sqgmal.com 50006839 6/22/220 0.51.30 Atta Sidehesh D.V., Pakar B 13 563 180771/J 33257266 matcal/sqgmal.com 500069113 6/22/2201 0.32.41 Lokesh gijanan wagi Te design 12 55416556 siddhesh D.V., Pakar B 75 7710874612 bisshing/22/gijanal.com 50006913 6/28/2201 10.33.54 Lokesh gijanan wagi Te design 12 5757710874612 bisshing/22/gijanal.com 500087143 bisslower/22/gijanal.com 5000087143 biss	6/27/2020 22:52:38	Mafiz Mujibh Alii	A	01		8999305682	mih/20087@amail.com	\$18052247
622/2020 641.34 slothesh D,V, Pakar 13 661800778/ 332437611 kedindandard2 (2gmail.ac) S0007621 622/2020 10.35.41 Lokesh regionan wegh TE SOFTWARE 41 959416562 60007521 622/2020 10.35.41 Lokesh regionan wegh TE SOFTWARE 2 9594506729 601007263 600007263 622/2020 10.43.02 SHALEGH KUMAR MAU B TE SOFTWARE 2 9594506729 601007263 600021473 622/2020 10.35.41 Lokesh regionan Mey TE SOFTWARE 2 9594506729 601007263 600021473 622/2020 11.36.01 Valbar Ram Chanada TE Design 26 60221473 644914912 0matchandes May Bodde 800007741 622/2020 11.36.01 Valbar Ram Chanada TE SOFTWARE 26 600214734 600017743 300087174 300087174 622/2020 12.56.07 Ram Member Datakar TE SOFTWARE 26 60224473 matchandes May Bodde 100097252 300087412 30008727 300087174 300087174 300087174 300087174 30008727 300087174 300097263 300097263 300097263 300097263 300097263 300097263 300097263 30	6/28/2020 0:54:30	KEDAR RAVINDRA DAL	TE Design	03		7028272606	mati6064@gmail.com	S00066389
6222020 10.32.43 Adiya Dig Chavan E 507TWARE 1 99411655 81640450 patka2000 6222020 10.43.22 SHALESK KUMAR MU Te design 12 9354067712 dispatka2000gm315 90221673 6222020 10.43.22 SHALESK KUMAR MU B 75 7710974512 bissup2020gma16 500008512 6222020 10.43.22 SHALESK KUMAR MU B 75 7710974512 bissup320ggma16 500008512 6222020 10.43.22 SHALESK KUMAR MU B 75 9710974512 bissup320ggma16 500008512 62282020 11.41:53 Omkar Leman Chavan C 03 845149122 bissup320007434 (Hev) 62282020 11.41:53 Omkar Leman Chavan C 03 84514912 bissup3200 bissup320007434 (Hev) 6282020 11.41:53 Dissup341 E SOUTATA Bissup340007552 Bissup340007552 Bissup340007552 Bissup340007552 Bissup340007552 Bissup340075552 Bissup3400075552 Bissup340075552 Bissup340075552 Bissup340075552 Bissup340075552 Bissup340075552 Bissup340075552 Bissup340075552 Bissup3400757557	6/28/2020 6:41:34	Siddhesh D V. Patker	BE-B		13 8	691880778/ 932437681	kedardaund- 07 O	S00089113
6/22/220103.54/LESA LUSA by Johnson Mark 15 SOFTWARE 12 993406/72 aldys, charan 768g mail 50007720 6/22/220103.54/LESA HUMAR MAU B 75 77106/812 [ckstrwaph2/02gmail.scon 50008015 6/22/22011.31.62/ Yogeth Amarkh Igdde TE-SOFT 26 902214/2740 [jddaloycgen/326gmail 50007743 6/22/22011.31.62/ Yogeth Amarkh Igdde TE-SOFT 26 902214/2740 [jddaloycgen/326gmail 50008744 6/22/22011.36.01 Wathav Fam Khand TE-SOFTWARE 76 90244/370 [jddaloycgen/326gmail 50008744 6/22/22011.36.01 Wathav Fam Khand TE-SOFTWARE 76 90244/370 [jddaloycgen/326gmail 50008749 6/22/22011.36.01 Wathav Fam Khand TE-SOFTWARE 76 9044/9132 [mail.com 500087617 6/22/22011.46.01 Khandhakin KT-SOFTWARE 76 944/91333 Mutkarcganaethed/ggmail 50008720 6/22/22011.46.01 Khandhakin KT-SOFTWARE 76 944/91333 Mutkarcganaethed/ggmail 50008727 6/22/22011.74.07 KhaNt Wathav Andhala A 02 7032661327 Francharkark KT-SOFTWARE 76 944/91333 Khatkarcohang/gmail cos 50005021 6/22/2202 Tri-SortWakhak Ahandhakan KT-SOFTWARE 76 944/91434 Francharkarcohang/gmail cos 500057531	6/28/2020 10:32:43	Aditya Dilin Chaven	В		41	9594116556	ciddhach action ages a	S00076521
6222020 10.43.2 Status St	6/28/2020 10:35:41	Lokesh gajanan week	TE SOFTWARE		12	9594506729	siddnesn.patkar2000@gn	S18052310
6222020 110142 Yoursen havanah lagdale (222020) TE-SOFT 28 9029664532 20089741 6222020 113601 Vabhav Ram Khande TE-SOFT 28 9022418740 Jagdaleyogen/756@gmail.cs 300087741 6222020 113601 Vabhav Ram Khande TE Delign 28 9022418740 Jagdaleyogen/756@gmail.cs 300087741 6222020 135508 Ravi Roopchand Qupta TE -SOFTWARE 24 965232200 ravig235 Ggmail.com S00087617 6222020 18:1514 Ganesh Chandrakan Khu TE-SOFTWARE 76 8424918337 Multar ganesh80gmail.com S00087617 6222020 18:1514 Ganesh Chandrakan Khu TE-SOFTWARE 76 8424918337 Multar ganesh80gmail.com S0008721 62292020 18:150 Ganary Chandrakan Khu TE-SOFTWARE 76 8424918337 Multar ganesh80gmail.com S0008721 62292020 17:4007 Kohu Mahash Anhole A 02 79226601328 prathamybi26@gmail.com S00087331 6292020 18:17.50	6/28/2020 10:43:32	SHAILESH KUMAD MAL	Te design		75	7710874612	aditya.cnavan768@gmail	S00087726
G2242020 1136.01 Value Arankan Higdela IE-SOFT 26 G2242020 1136.01 Value Arankan Higdela IE-SOFT 26 G222020 1136.01 Value Arankan Higdela IE-SOFT 36 B6153265 Windela S0005822 G222020 1136.01 Value Arankan Higdela IE-SOFTWARE 24 B65232200 G4241021 G4241021 G6242020 Gauge Construct Arange Construc	6/28/2020 11:01:42	Yogesh payroth loud	В		27 9	029664532 /908202472	lokeshwagh20@gmail.col	S00088015
6/22/2020 1141:33 Ontar Lam Ananae IE Design 36 B45165366 Wandel 30600743 6/22/2020 1141:33 Ontar Lam Ananae C 0.3 B45165366 Wandel 30600743 B45165366 Wandel 30600743 6/22/2020 113:5:05 Raw Roopchand Qupit TE - SOFTWARE B 24 B652235200 Urg 20151514 G6222020 Urg 20151514 Gasse Status B00007517 B652235200 Urg 20151514 G6222020 Urg 20151514 Gasse Status B B652235200 Urg 20151514 Gasse Status B000075521 6/22/2020 Urg 2017:60:05 Prathamseh Bid BE A 02 T922601326 Urg 201600000000000000000000000000000000000	6/28/2020 11:36:01	Vaibbay Rom Khand	TE-SOFT	-	26	9022149740	mshailesh89.ms@gmail.c	S00065822
6/22/2020 13:56:08 Rav Roopchand Gupta C 03	6/28/2020 11:41:53	Omkarl avman Ol	TE Design		36	8451953535	Jagdaleyogesh795@gmai	S00087743
6/28/2020 18:03:57 Shell Buryskant More F. SOFTWARE 24 06/39/312 0008/312 6/28/2020 18:03:57 Shell Buryskant More B 22 900490253 moreshefall?@gmail.com 5008/7617 6/28/2020 18:15:14 Ganesh Chandrakant Ku TE-SOFTWARE 76 424918337 khutkar.ganeshefall?@gmail.com 500069027 6/28/2020 17:46:07 Roha Malesh Dharkar BE-A 05 862265037 Rohandbe@gmail.com 500069023 6/28/2020 17:50:05 Prahamesh Brid BE-A 02 77 9326601328 prahamyb12/6@gmail.com 50005835 6/28/2020 18:17:09 Gaurav dalvi TE design 16 7738446042 gauraduh/15/6@gmail.com 500068072 6/28/2020 19:12:07 Saurabh santosh chavara C 04 8104211039 nemlekushat 400@gmis com 500068072 6/28/2020 19:12:07 Saurabh santosh chavara C 04 8104211039 nemlekushat 400@gmis com 500068072 6/28/2020 19:12:07 Saurabh santosh chavara C 04 8106421039 81004211039 merkushat400@gmis com <td>6/28/2020 13:56:08</td> <td>Ravi Rospeter to</td> <td>C</td> <td>03</td> <td></td> <td>8454014040</td> <td>vkhande1308@gmail.com</td> <td>S00087949 (New)</td>	6/28/2020 13:56:08	Ravi Rospeter to	C	03		8454014040	vkhande1308@gmail.com	S00087949 (New)
6/28/2020 18:15:14 Ganage Striggtmail.com 500027617 6/28/2020 18:15:14 Ganage Striggtmail.com 500027617 6/28/2020 6:5:07 Rohan Mahesh Chandrakan Kh, TE-SOFTWARE 76 842401837 Khulikar.ganesh96@gmail.com 50006971 6/28/2020 17:5:0:5 Prathamesh Brid A 05 855265337 rohinade0502@gmail.com 50005973 6/28/2020 17:5:0:5 Prathamesh Brid A 02 70450775 viek.abhale40802@gmail.com 50005731 6/28/2020 18:43:24 Kusha Abrile A 02 70450775 viek.abhale40802@gmail.com 51005131 6/28/2020 18:43:24 Kusha Varitekar EE.A 02 70450775 viek.abhale408@gmail.com 51005131 6/28/2020 18:43:24 Kusha Varitekar SE Software 38 510421103 nenikovshna1400@gmail.com 51005171 6/28/2020 12:1:43 Sahil More TE 41 740032629 sahilmore 19012001@gm S00076341 6/30/2020 13:1:37 Rushkash Jagdale BE.C 37 705486050 nayanaskpa812@gmail.com 500076743 6/30/202	6/28/2020 18:03:57	Shefali Suprekeet to	TE - SOFTWARE		24	8652225200	omkarchavan890@gmail.	S00088482
6/29/2020 8:58:07 Nohas Diantakani Kh, TE-SOFTWARE 76 84/2401633 Multikar, ganesh8@gmail.com S19076562 6/29/2020 17:45:07 Rohit Vilas Andhale A 05 98/757173 Multikar, ganesh8@gmail.com S19076562 6/29/2020 17:50:05 Frahamesh Brid BE_A 05 98/757173 Multikar, ganesh8@gmail.com S10052652 6/29/2020 17:57:57 Vivek Abhale A 02 17/354757757 Vivek Abhale4@gmail.com S10052652 6/29/2020 18:17:96 Gaurav dalvi TE design 17 93/2661328 pratamyl 12@gmail.com S10052651 6/29/2020 18:47:16 Harshada Ramchandra P B SE Software 38 8104211039 nemlexushna1400@gmail.com S1005631 6/29/2020 19:12:07 Saurabh Santoch chavan C 04 8108656539 saurabh-chavan262000 §20087947 6/29/2020 21:24:16 Sahil More TE 41 7400326929 sahilmore 19012001@gm S00076341 (reverv) 6/29/2020 11:40:13 Sakpal Nayana Govind C 25 6108670963 nushikeshjagdale10@gmai	6/28/2020 18:15:14	Gapesh Chandral More	В		28	9004002520	ravig2351@gmail.com	S00087617
Br29/2020 International National Natingenerational National Natingenerational National Na	6/29/2020 8:59:07	Bohan Mahart Di	TE-SOFTWARE		76	9004902523	moreshefali7@gmail.com	S19076562
bit A 05 Best 301/33 (harkarohan@gmail.com 500052852) bit29/2020 17:50:05 Prathamseh Brid BE_A 17 9326601328 prathamyb126@gmail.com 510052853 6/29/2020 18:70:95 Gaurav dalvi TE design 704587377 vivek.abhale48@gmail.com 5100528514 6/29/2020 18:10:01 Gaurav dalvi TE design 704587377 vivek.abhale48@gmail.com 5100528514 6/29/2020 18:41:18 Harshada Ramchandra P B 704587377 vivek.abhale48@gmail.com 510052814 6/29/2020 18:43:24 Krushna Nemlekar SE Software 38 9702138264 harshadaphegad@gmail.com 510052817 6/29/2020 18:43:24 Krushna Nemlekar SE Software 38 10421103 nemlekrushna1400@gmail.com 510052817 6/29/2020 18:43:24 Krushna Nemlekar SE Software 38 10421103 nemlekrushna1400@gmail.com 51005281 6/29/2020 12:12:19 Sahil More TE 43 7400326929 sahilmore19012001@gms 500076341 6/20/2020 11:31:57 Rushkesh agdale BE-C 38 10421103 nemlekrushna3agkale10@gms 500076341 6/20/2020 11:31:51 Sikhadha Pawar C 63002202 12:328 Sahilmore19012001@gms 500076341	6/29/2020 17:48:07	Robit Vilae Andhal	BE-A		27	0424918337	khutikar.ganesh98@gmal	S00089027
BE_A 02 0	6/29/2020 17:50:05	Prothemast D. L	A	05		900/05/1/3	dharkarrohan@gmail.com	S00052852
6/29/2020 117.09 Gaux daiv TE design 16 7738448042 gaux daiv 6/29/2020 18.17.09 Gaux daiv TE design 16 7738448042 gaux daivi S1052514 6/29/2020 18.41:18 Harshada Ramchandra P B 45 9702138264 harshadaphepade@gmail.cc S10057331 6/29/2020 18.41:18 Harshada Ramchandra P B 45 9702138264 harshadaphepade@gmail.cc S10076331 6/29/2020 21:21:48 Saurabh santosh chavan C 04 8104211039 nemlexhsha1400@gms S00086072 6/29/2020 21:21:49 Sahil More TE 43 7400326929 salimore 19012001@gms S00076341 6/30/2020 13:13:57 Rushkesh Jagdale BE-C 56 757486050 nayaaskpäld 2@gmail.cc S0076341 6/30/2020 13:14:01 Skadah Nayaa Govind C 56 757486050 nayaaskpäld 2@gmail.cc S007736 6/30/2020 14:14:22 Akshay Satpute B 50 996741181 satputeskshaydeelp@gms S00087745 6/30/2020 14:28:15 Insathad	6/29/2020 17:57:57	Welt Attal	BE_A		17	0002006397	rohitandhale0602@gmail.	S00088073
Bit Status Tit Besign Totals 1775 Wirek abhale 48@gmail.cc S18052514 6/29/2020 18.41:16 Harshada Ramchadra P B 15 7738448042 gauralation gauralatio	6/29/2020 18:17:00	Courses de la c	Α	02		9320601328	prathamyb126@gmail.coi	S18053138
bit bit bit is harshada Ramchandra P B 10 7/38448042 gauravdalv158@gmail.cc S00076331 6/29/2020 19:13:07 Saurabh santosh chavan C 04 8104211039 nenleksursha1400@gms S00088072 6/29/2020 19:12:07 Saurabh santosh chavan C 04 8104211039 nenleksursha1400@gms S00088072 6/29/2020 21:21:48 Sahil More TE 31 740032629 sahilmore19012001@gm S00076341 6/29/2020 13:13:57 Kushkesh Jagdale BE-C 43 740032629 sahilmore19012001@gm S00076341 (renew) 6/30/2020 13:14:01 Sakpal Nayana Govind C 56 7057486050 nayanasakpa812@gmail S00052102 6/30/2020 13:14:01 Sakpal Nayana Govind C 52 9967414981 satputeskinaydeelip@gm S00052183 6/30/2020 14:27:16 Granthika Mangesh Kirve C 52 9967414981 satputeskinaydeelip@gm S00052183 6/30/2020 17:06:12 Mayur Deepak Panchal C 44 750665762 ganjhadedinesh@gmail.c S00076341 630/2020 6/30/2020 20:15:35 Sayall shivardhan kadam BE-B 05 7206627664 gaura	6/29/2020 18:41:19	Saurav dalvi	TE design		16	7045873775	vivek.abhale48@gmail.co	S18052514
Bit 2020 Dist 2020 Dist 2020 Dist 2020 Dist 2020 SE Software 38 Bit 2021	6/29/2020 18:41:18	Harshada Ramchandra P	B		45	7738448042	gauravdalvi158@gmail.cc	S00076331
Bit Status Bit Sta	6/29/2020 10:43:24	Crushna Nemlekar	SE Software	· · · · · · · · · · · ·		9702138264	harshadaphepade@gmai	S18053479
Ud2/2020 12:138 Sahil More TE 8108665639 saurabchavan2662000 § 2008/947 6729/2020 13:13:57 Kushikesh Jagdale BE-C 43 7400326929 sahilmore 19012001@m: S00076341 6/30/2020 13:13:57 Kushikesh Jagdale BE-C 25 8108670963 rushikesh jagdale 10@m: S00076341 6/30/2020 13:14:01 Sakpa Nayana Govind C 25 8108670963 rushikesh jagdale 10@gm: S00076341 6/30/2020 13:19:46 Shraddha Pawar C 56 7057486050 nayanasakpal612@gmall S00052502 6/30/2020 14:27:16 Granthika Mangesh Kirve C 32 9967411981 satputeakshaydeelip@gm S00087745 6/30/2020 14:27:16 Granthika Mangesh Kirve C 37 20967441981 satputeakshaydeelip@gm S00087183 6/30/2020 14:27:16 Granthika Mangesh Kirve C 37 400336237 mayurikiry99@yaho.com S000879181 6/30/2020 17:06:12 Mayur Deepak Panchal C 43 7400336237 mayurikiry99@yaho.com S18065941 6/30/2020 20:15:29 Chaitanya ravindra tamba Mech software 67 8452080070 munalmon	6/20/2020 19:12:07 5	Saurabh santosh chavan	C	04	30	8104211039	nemlekrushna1400@gma	S00088072
U29/2020 12:23:19 Sahil More TE 43 7400326929 sahilmore 19012001@gm: S00076341 6/30/2020 13:13:57 Rushikesh Jagdale BE-C 25 8108670963 rushikeshjagdale 10@gm: S00076341 (renew) 6/30/2020 13:14:01 Sakpal Nayana Govind C 25 8108670963 rushikeshjagdale 10@gm: S00087736 6/30/2020 13:14:01 Sakpal Nayana Govind C 25 8108670963 rushikeshjagdale 10@gm: S00087736 6/30/2020 13:14:01 Sakpal Nayana Govind C 56 7057486050 nayanasakpal612@gmail S00082502 6/30/2020 14:22:24kshay Satpute B 50 9987171632 shraddha Pawar, 0473@g S00087745 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurkirve99@yahoo.com S00087918 6/30/2020 11:29 Chaitanya ravindra tamba BE-B 05 44 7506605262 panjhadedinesh@gmail.co S10065941 6/30/2020 20:253:50 Sayali shilvardhan kadam Se-Fortware 67 8108681674 chaitanyatambade0@gmi S0008644 6/30/2020 20:254:02 Xusha Prakash Kajare EF-C 28 8291584383 Sayalikadam 102@gmail.com S0008745 6/30/2020 20:254:02 Xushava Kajare BE-C 28 8291584383 Sayalikadam 102@gmail.com S00067651 6/30/2020 20:254:02 Xushava Kajare BE-C 28 <td>6/20/2020 21:21:48 5</td> <td>Sahil More</td> <td>TE</td> <td></td> <td>40</td> <td>8108665639</td> <td>saurabhchavan2662000@</td> <td>S20087947</td>	6/20/2020 21:21:48 5	Sahil More	TE		40	8108665639	saurabhchavan2662000@	S20087947
b30/2020 13:13:57 Rushikesh Jagdale BE-C 43 7400326929 sahilmore 19012001@gm: S00076341 (renew) 6/30/2020 13:19:40 Skradha Pawar C 25 8108670983 rushikeshjagdale10@gm: S00076341 (renew) 6/30/2020 13:19:40 Skradha Pawar C 56 7057486050 nayanasakpal612@gmail S00052102 6/30/2020 14:14:22 Akshay Satpute B 50 9987171632 shraddha.pawar.0473@g S00087745 6/30/2020 14:27:16 Granthika Mangesh Kirve C 25 9967441981 satputeakshaydeeij@gm S00052183 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurikirve99@yahoo.com S00087918 6/30/2020 17:06:12 Mayur Deepak Panchal C 44 7506605262 panjhadedinesh@gmail.c S00076396 6/30/2020 10:2:25 Laitanya tavihdra tamba Mech software 67 8452080070 munalmona.md@gmail.c S10076515 6/30/2020 20:2:5:05 Sayali shilyardhan kadam SE-software 67 8424993077 patikshakajare21(@gmail K 80089414 6/30/2020 22:2:40:5 Neha Mahadev Atatari BE-B 01 993	0/29/2020 21:23:19 S	Sahil More	TE	· · · · · · · · · · · · · · · · · · ·	43	7400326929	sahilmore19012001@om:	500076241
b30/2020 13:14:01 Sakpal Nayana Govind C 25 8108670963 rushikeshjagdale10@gmi S2008/736 6/30/2020 13:19:46 Shraddha Pawar C 56 7057486050 nayanasakpal612@gmail S00052502 6/30/2020 14:27:16 Granthika Mangesh Kilve B 50 9987171632 shraddha.pawar.0473@g S00087745 6/30/2020 14:27:16 Granthika Mangesh Kilve C 35 7206627604 gaurikirv99@yahoo.com S00087918 6/30/2020 14:27:16 Granthika Mangesh Kilve C 35 7206627604 gaurikirv99@yahoo.com S00087918 6/30/2020 14:27:16 Granthika Mangesh Kilve C 44 7506605262 panjhadelinesh@gmail.com S00076396 6/30/2020 12:12:29 Chaitanya ravindra tamba Mech software 67 8108681674 chaitanyatambade0@gmi S0008464 6/30/2020 20:55:30 Sayali shilvardhan kadam SE-software 27 8424993077 pratikshakajare10@gmail.com S00062745 6/30/2020 22:54:30 Kaita shinde BE-B 01 933821541 neha.atakari@gmail.com S00052745 7/1/2020 19:53:56<	6/30/2020 13:13:57 R	Rushikesh Jagdale	BE-C		43	7400326929	sahilmore19012001@gm	S00076341
b30/2020 13:19:46 Shraddha Pawar C 56 7057486050 nayanasakpal612@gmail 000/07/36 6/30/2020 14:12:2 Akshy Satpute B 50 9987171632 staddha.pawar.0473@g S00087745 6/30/2020 14:27:16 Granthika Mangesh Kive C 52 996741981 satputeakshaydeelip@gr S00052183 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurikirve99@yahoo.com S00087918 6/30/2020 11:3:33 Mrunal Dalal BE-B 05 43 7400336237 mayuwing11@gmail.com S10065941 6/30/2020 20:56:32 Sayali shilvardhan kadam SE-software 67 8108681674 chainaya tambade0@gmi S0008474 6/30/2020 20:56:32 Pralksha Prakash Kajare BE-B 01 9833821541 neha.atakari@gmail.com S0008464 6/30/2020 22:54:05 Vash anhadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com S0008474 6/30/2020 22:54:05 Vash anhadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com S00065745 <	6/30/2020 13:14:01 S	akpal Nayana Govind	0	and a second secon	25	8108670963	rushikeshjagdale10@oms	S2008/7220
6/30/2020 14:14:22 Akshay Satpute B 50 9987171632 shraddha.pawar.0473@g S00092702 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 52 9967441981 satputeakshaydeelip@gr S00087745 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurikirve99@yahoo.com S00087918 6/30/2020 17:06:12 Mayur Deepak Panchal C 44 7506605282 panjhadedinesh@gmail.co S00076396 6/30/2020 20:12:29 Chaitanya ravindra tamba Mech software 67 8108681674 chaitanyatambade0@gm. S00089464 6/30/2020 20:56:32 Patiksha Prakash Kajare BE-C 27 8424993077 pratikshakajare21@gmail.c S00976515 6/30/2020 20:56:32 Patiksha Prakash Kajare BE-B 01 933821541 neha.atakari@gmail.c S00089464 6/30/2020 22:54:05 Kavita shinde BE-B 01 933821541 neha.atakari@gmail.com S00052745 6/30/2020 22:54:06 Kavita shinde BE-B 03 11 7718006753 vaishnavisuchir2411@gm S00089662 6/30	6/30/2020 13:19:46 S	hraddha Pawar	0		56	7057486050	nayanasakpal612@gmail	520087736
6/30/2020 14:27:16 Granthika Mangesh Kirve C 52 9967441981 satputeakshaydeelip@gr S00057143 6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurikirve99@yahoo.com S00087918 6/30/2020 17:06:12 Mayur Deepak Panchal C 44 7506605262 panjhadedinesh@gmail.com S00087918 6/30/2020 20:12:29 Chaitanya ravindra tamba Mech software 67 8108681674 chaitanyatambade0@gmi S0008914 6/30/2020 20:55:32 Pratiksha Prakash Kajare BE-C 28 8291584383 Sayalikadam102@gmail.com S00089174 6/30/2020 20:56:32 Pratiksha Prakash Kajare BE-B 01 9633821541 neha.atakari@gmail.com S00089174 6/30/2020 20:25:406 Kavita shinde BE-B 01 9833821541 neha.atakari@gmail.com S00076664 7/1/2020 19:53:56 Vaishnavi Sudhir Jadhav BE-B 03 17 7718006753 vaishnavisudhir2411@gr S00089762 7/1/2020 11:39:44 Chandrakant Nanoskar C 41 703021741 nanoskarchandrakant@gr S00089762 7/1/2020 11:39:45 Nikhil Dhivare C 11 7718006753	6/30/2020 14:14:22 A	kshay Satpute	n di na si si si si si si si si si B		50	9987171632	shraddha.pawar 0473@a	500052502
6/30/2020 14:28:51 Dinesh pandhri panjhade BE-C 35 7208627604 gaurikirve99@yahoo.com S00087183 6/30/2020 17:06:12 Mayur Deepak Panchal C 44 7506605262 panjhadedinesh@gmail.co S00076396 6/30/2020 18:13:33 Mrunal Dalal BE-B 05 8452080070 mrunalmona.md@gmail.cor S10065941 6/30/2020 20:12:29 Chaitanya ravindra tamba Mech software 67 8108681674 chaitanyatambade0@gm: S0089464 6/30/2020 20:53:50 Sayali shilvardhan kadam SE-software 67 8108681674 chaitanyatambade0@gm: S0089464 6/30/2020 22:54:06 Kavita shinde BE-C 27 8424993077 pratikshakajare21@gmail.com S00076664 6/30/2020 22:54:06 Kavita shinde BE-B 01 983821541 neha.atakari@gmail.com S0076664 7/1/2020 19:53:56 Vaishnavi Sudhir Jadhav BE-B 03 11 7718006753 vaishnavisudhir2411@gr S00089174 7/1/2020 11:39:44 Chandrakant Nanoskar C 41 7030211741 nanoskarchandrakant@gi S00089562 7/20/2020 11:59:15 Nikhill Dhivare C	6/30/2020 14:27:16 G	ranthika Mangesh Kirve (and the set of the set	· · · · · · · · ·	52	9967441981	satputeakshavdeolip@	500087745
6/30/2020 17:06:12 Mayur Deepak Panchal C 44 7506605262 panjhadedinesh@gmail.c S00076396 6/30/2020 18:13:33 Mrunal Dalal BE-B 05 8452080070 mrunalmona.md@gmail.c S19076515 6/30/2020 20:52:32 Chaitanya ravindra tamba Mech software 67 8106681674 chaitanyatambade0@gmi S00089464 6/30/2020 20:55:32 Parakash Kajare 67 8106681674 chaitanyatambade0@gmi S00089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com S00076664 6/30/2020 22:54:06 Kavita shinde BE-B 01 9833821541 neha.atakari@gmail.com S00052745 7/1/2020 19:53:56 Valshnavi Sudhir Jadhav BE-B 03 11 7718006753 vaishnavisudhir2411@gr S00089562 7/1/2020 11:39:44 Chandrakant Nanoskar C 41 7030211741 nanoskarchandrakant@gr S00089479 7/2/2020 11:39:44 Chandrakant Nanoskar C 41 7030211741 nanoskarchandrakant@gr S00089479 7/2/2020 11:39:45 Nikhil Dhivare C 57 8693030854 <t< td=""><td>6/30/2020 14:28:51 D</td><td>inesh pandhri panihade f</td><td>BE-C</td><td></td><td>35</td><td>7208627604</td><td>gaurikirye99@vabaa</td><td>500052183</td></t<>	6/30/2020 14:28:51 D	inesh pandhri panihade f	BE-C		35	7208627604	gaurikirye99@vabaa	500052183
6/30/2020 18:13:33 Mrunal Dalal BE-B 05 43 7400336237 mayurwing11@gmail.corr \$18065941 6/30/2020 20:12:29 Chaitanya ravindra tamba Mech software 67 8452080070 mrunalmona.md@gmail.c \$19076515 6/30/2020 20:53:50 Sayali shilvardhan kadam SE-software 67 8108681674 chaitanyatambade0@gmil.c \$19076515 6/30/2020 20:56:32 Pratiksha Prakash Kajare BE-C 28 8291584383 Sayalikadam102@gmail.c \$00089464 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com \$00076664 7/1/2020 19:53:56 Valshnavi Sudhir Jadhav BE-B 03 11 7718006753 valshnavisudhir2411@grr \$00089562 7/1/2020 11:39:44 Chandrakant Nanoskar C 25 740034917 gaurav.mane17@gmail.co \$00089479 7/20/2020 11:39:44 Chandrakant Nanoskar C 25 740034917 gaurav.mane17@gmail.co \$00089459 7/20/2020 11:59:15 Nikhil Dhivare C 25 7400348417 nanoskarchandrakant@gr \$00089562 7/20/2020 11:59:15 Nikhil Dhivare C 11 7030211741	6/30/2020 17:06:12 M	ayur Deepak Panchal			44	7506605262	Danihadedinash Q	S00087918
6/30/2020 20:12:29 Chaitanya ravindra tamba Mech software 05 8452080070 mrunalmona.md@gmail.cor \$18065941 6/30/2020 20:53:50 Sayali shilvardhan kadam SE-software 67 8108681674 chaitanya tambade0@gmi \$00089464 6/30/2020 20:56:32 Pratiksha Prakash Kajare 28 8291584383 Sayalikadam102@gmail.c \$00089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 27 8424993077 pratikshakajare21@gmail.s00089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com \$00076664 7/1/2020 19:53:56 Vaishnavi Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com \$00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 03 845488416 harshalbuva27@gmail.co \$00089562 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.co \$00089565 7/2/2020 11:39:45 Nikhil Dhivare C 11 7030211741 nanoskarchandrakant@gi \$00089585 7/20/2020 11:59:15 Nikhil Dhivare C 15 9594198352 nikhildhivre@gmail.com \$00089629 7/20/2020 14:06:23 KHAN MOHD SHADAB	6/30/2020 18:13:33 M			1	43	7400336237	parijnadedinesn@gmail.c	S00076396
6/30/2020 20:53:50 Sayali shilvardhan kadam SE-software 67 8108681674 chaitanyatambade0@gmi. S00089464 6/30/2020 20:56:32 Pratiksha Prakash Kajare 28 8291584383 Sayalikadam102@gmail.c S00089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 27 8424993077 pratikshakajare21@gmail. S18052991 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com S00076664 7/1/2020 19:53:56 Vaishnavi Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com S00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 03 845488416 harshalbuva27/@gmail.co S00089479 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27/@gmail.co S00089479 7/2/2020 11:39:45 Nikhil Dhivare C 11 7030211741 nanoskarchandrakant@gi S00089585 7/20/2020 11:59:15 Nikhil Dhivare C 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 12:44:31 MOre Sahil Deepak TE-DESIGN 16 8898124926 sk2331840@gmail.com s	6/30/2020 20:12:29 CH	naitanya saviadaa t	BE-B	05		8452080070	mayurwing11@gmail.com	S18065941
6/30/2020 20:56:32 Pratiksha Prakash Kajare 28 8291584383 Sayali kaidam102@gmail.c00089464 6/30/2020 22:48:57 Neha Mahadev Atakari BE-C 27 8424993077 pratikshakajare21@gmail.c100089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 01 9833821541 neha.atakari@gmail.com \$00076664 7/1/2020 19:53:56 Valshnavi Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com \$00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 845488416 harshalbuva27@gmail.co \$00089479 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.co \$00089479 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.co \$00089479 7/2/2020 11:39:45 Nikhil Dhivare C 25 7400384917 gaurav.mane17@gmech.si \$20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B B 15 9594198352 nikhildhivre@gmail.com \$00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 sabilige:exi231840@gmail.com	6/30/2020 20:53:50 5	lananya ravindra tamba M	Aech software		67	8108004070	mrunalmona.md@gmail.c	S19076515
6/30/2020 22:48:57 Neha Mahadev Atakari BE-C 27 8424993077 pratikshakajare21@gmail. \$20089174 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 27 8424993077 pratikshakajare21@gmail. \$18052991 6/30/2020 22:48:57 Neha Mahadev Atakari BE-B 9833821541 neha.atakari@gmail.com \$00076664 7/1/2020 19:53:56 Valshnavi Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com \$00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 845488416 harshalbuva27@gmail.co \$00089479 7/2/2020 11:39:44 C 84 41 7030211741 nanoskarchandrakant@gi \$00089585 7/2/2020 17:38:38 Gaurav Mane B 25 7400384917 gaurav.mane17@mech.si \$20089585 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com \$00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 shilmex 4000gmail.com \$00065925	6/30/2020 20:56:20 0	yali shiivardhan kadam S	E-software		28	0100001674	chaitanyatambade0@gma	S00089464
Bit Bit <td>6/30/2020 22:40.57 M</td> <td>aliksha Prakash Kajare B</td> <td>BE-C</td> <td></td> <td>27</td> <td>0291584383</td> <td>Sayalikadam102@gmail.c</td> <td>S00089174</td>	6/30/2020 22:40.57 M	aliksha Prakash Kajare B	BE-C		27	0291584383	Sayalikadam102@gmail.c	S00089174
BE-B 9833821541 neha.atakari@gmail.com \$00076664 7/1/2020 19:53:56 Valshnavi Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com \$00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 11 7718006753 vaishnavisudhir/2411@grr \$00089562 7/2/2020 11:39:44 Chandrakant Nanoskar C 8454888416 harshalbuva27@gmail.co \$00089479 7/2/2020 17:38:38 Gaurav Mane B 25 74003211741 nanoskarchandrakant@gi \$00089585 7/20/2020 11:59:15 Nikhil Dhivare C 25 7400384917 gaurav.mane17@mech.si \$20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com \$00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 shilleeveetee \$00065925	6/30/2020 22.48:57 Ne	ha Mahadev Atakari B	E-B	01	· · · · · · · · · · · · · · · · · · ·	8424993077	pratikshakajare21@gmail	S18052991
7/1/2020 19:53:56 Valshnavl Sudhir Jadhav BE-B 57 8693030854 ks1232000@gmail.com S00052745 7/1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 11 7718006753 valshnavlsudhir/2411@grr S00089562 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.com S0008979 7/2/2020 17:38:38 Gaurav Mane B 21 7030211741 nanoskarchandrakant@gi S00089585 7/20/2020 11:59:15 Nikhil Dhivare C 25 7400384917 gaurav.mane17@mech.si S20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 sahilman.com s00065925	7/1/2020 22:54:06 Ka	vita shinde B	E-B	e en la companya de l		9833821541	neha.atakari@gmail.com	S00076664
//1/2020 20:23:29 Harshal Shantaram Buva BE-B 03 11 7718006753 vaishnavisudhir2411@grr 500052/45 7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.co 500089/79 7/2/2020 17:38:38 Gaurav Mane B 41 7030211741 nanoskarchandrakant@gi S00089/85 7/20/2020 11:59:15 Nikhil Dhivare C 25 7400384917 gaurav.mane 17@mech.si S20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 shilmer 400gmail.com s00065925	//1/2020 19:53:56 Va	ishnavi Sudhir Jadhav B	E-B		57	8693030854	ks1232000@gmail.com	S00052745
7/2/2020 11:39:44 Chandrakant Nanoskar C 845488416 harshalbuva27@gmail.co S00089562 7/2/2020 17:38:38 Gaurav Mane B 41 7030211741 nanoskarchandrakant@gi S00089585 7/20/2020 11:59:15 Nikhli Dhivare C 25 7400384917 gaurav.mane17@mech.si S20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 sahilmexed.com s00065925	//1/2020 20:23:29 Ha	rshal Shantaram Buva B	E-B	03	11	7718006753	vaishnavisudhir2411@or	500032145
7/2/2020 18/2/2020 18/2/2020 <th< td=""><td>7/2/2020 11:39:44 Ch</td><td>andrakant Nanoskar</td><td>and the second s</td><td>US</td><td></td><td>8454888416</td><td>harshalbuva27@gmail</td><td>500089562</td></th<>	7/2/2020 11:39:44 Ch	andrakant Nanoskar	and the second s	US		8454888416	harshalbuva27@gmail	500089562
7/20/2020 11:59:15 Nikhil Dhivare C 25 7400384917 gaurav.mane17@mech.si S20089350 7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 shill control of the sahil Deepak s00065925	7/2/2020 17:38:38 Ga	urav Mane	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	41	7030211741	nanoskarchandroka-10	500089479
7/20/2020 14:06:23 KHAN MOHD SHADAB A B 15 9594198352 nikhildhivre@gmail.com S00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 sahilman for general com s00065925	7/20/2020 11:59:15 Nik	chil Dhivare	and the second		25	7400384917	gauray,mane17	SUUC89585
16 8898124926 ski2331840@gmail.com \$00089629 7/20/2020 20:44:31 More Sahil Deepak TE-DESIGN 43 7400326929 sahilmer (gmail.com) \$00065925	7/20/2020 14:06:23 KH	AN MOHD SHADAB A B	and the second		15	9594198352	nikhildhivre@a	520089350
43 7400326929 sabilized and solution s00065925	7/20/2020 20:44:31 Mo	re Sahil Deenak	E-DERICH		16	8898124926	sk2331840	500089629
			L-DESIGN		43	7400326929	Sabilmore too to	s00065925

Timestamp	Name at D	and the second sec						
7/21/2020 14:14:17	Marine of Student	Division	Roll No.					ICUIDAE Mambaabla No
7/23/2020 19:51:05	Roshen A h Hanchal	C			Mobile No		Email ID	ISHRAE Membeship NO
7/23/2020 20:42:34	Rosnan Ashok Raut	BE-B	and the second second	43	den al energia este su	7400336327	mayurwing11@gmail.com	S18065941
7/23/2020 20:44:00	Shraddha Dipak Pawar	C		47		0029274058	roshanraut27230@gmail.	S20090013
7/23/2020 20:44:02	Adesh Khandu Bamugade	SE-A		50		9987171632	shraddha.pawar.0473@g	S00087745
7/24/2020 22:49:20	Prathamesh Yashwant Br	A	a torresona	26	095277459	07	aadeshbamugade@gmail	S00090160
8/1/2020 17:00 17	Mayuresh Narendra Patil	BE-b	and a state set	17	1	9326601328	prathamyb126@gmail.com	S18053138
8/16/2020 17:28:42	Abhishek Shallesh Ghara	BE-B		38		8975347361	mayureshpatil434@gmail	S00090222
8/16/2020 22:33:00	Sushant Kotawade	BE-C	and the second s	8		7507221725	abhigharat123@gmail.com	S00090761
B/17/2020 23:23:14	Priyanka kushwaha	A	re i marca de la cara	36		7738986039	sushant.l.kotawade@gm&	S18065940
B/17/2020 0:49:47	Shwela Ashok Salve	TE - software		50		8268730599	pkpriyanka90@gmail.corr	S20090999
6/17/2020 6:12:32	Granthika Mangesh Kirve	C	the second to be second to be	51		9082137541	sonalsalve13@gmail.com	S00091326
6/1//2020 9:42:43	Sahil More	TE	and the set of the second seco	35		7208627604	granthikakirve23@gmail.c	S00087918
8/1//2020 21:27:13	Neha Mahadev Atakari	BE-B		43		7400326929	sahilmore19012001@gm	S00076341
8/17/2020 21:32:32	Gauri Laxman Parab	BE/B	01		ter anderstander and and	9833821541	neha.atakari@gmail.com	S00076664
9/6/2020 15:12:26	Pritam Chavan	BF-A	· · · · · · · · · · · · · · · · · · ·	33	the country of the same	8108024282	gp6682184@gmail.com	S00052617
9/17/2020 17:42:19	TAAMIR	A		19		9833462519	pritamchavan13399@gm	S00091960
9/17/2020 17:43:13	Yash Amit Barhanpurkar	A Protocolar a California e ana	-	15		7506416908	khalfetaamir@gmail.com	S00092737
9/17/2020 18:44:53	Sahil kumar Sonawale	Te- coll	Martine Construction and the	14		8779666279	yashbarhanpurkar@gmai	S00091539
9/17/2020 18:50:35	Vedant Vijay Gundekar	Δ		63		7738188354	sahilsonawale777@gmail	S00091868
9/17/2020 18:51:52	Vinayak santosh Ramoad	TE poffuses	the second s	23		9167935798	vedantvgundekar@gmail	500092140
9/17/2020 18:53:20	TUSHAR LUTE LUTE	RE A	a di alta da composito da compos	49		7738973204	vinayakramgade03@gma	500092296
9/17/2020 19:58:35	Sahil Dwarkanath Patang	A A		51	8356083067	7/961901972	tusharlute06@gmail.com	500052250
9/18/2020 9:45:11	Kavita Baban Shinde		and the second s	16		9834056263	palangraosahil@gmail.co	500052250
9/30/2020 20:23:03	Vinay Yellajah Chilukama	A		57		8693030854	ks1232000@gmail.com	S00052033
11/13/2020 18:02:17	Parth Doshi	TESOFTHIST		19		7620657094	noteitsvinav@gmail.com	500032745
	the last of a second	IE-SUPIWARE	-	15		8655711969	parth.doshi619@omail.co	S00033150 S00004125

Banglear

H: O. D. Mechanical Engg. Dept Saraswati College of Engineering Kharghar, Navi Mumbai.

INTERNSHIP REPORT

A Report Submitted in partial fulfillment of the Requirement for the award of the

BACHELOR'S DEGREE (B.E) IN CIVIL ENGINEERING,

Submitted by

Zende Rajani & Borkar Sakshi

Conferred by

UNIVERSITY OF MUMBAI



DEPARTMENT OF CIVIL ENGINEERING SARASWATI EDUCATION SOCIETY'S SARASWATI COLLEGE OF ENGINEERING KHARGHAR, NAVI MUMBAI-410210 (2020-2021)

Acknowledgements

This is not included only to complete the formalities as per tradition because everything is important in life, can be achieved only as a result of team work or collective efforts perseverance. Inspiration and motivation have always played a key role in success of any venture.

It is great sense of accomplishment to express our sincere gratitude to our respected Internship coordinator **Prof. Deepali Phadatare & Prof. Manoj Pillai** for their constant interest, encouragement and valuable guidance during completion of internship.

We would like to extent our gratitude to **Prof. Roshni John** HOD Civil Engg. Dept. (Shift-I) and **Dr. Manjusha Deshmukh** Principal who gave us valuable suggestion and all the required facilities for internship and to everyone who in their own special way helped us in our internship.

Finally we express our sincere thanks to all those people who offered valuable time, suggestions and assistance directly or indirectly to us to achieve our aim.

NAME OF STUDENTS:-

Mr. Zende Rajani

Mr. Borkar Sakshi

CONTENTS

SR. NO	TITTLE	PAGE NO
1.	INTRODUCTION	7
2.	SCHEME DETAILS	8
3.	PRODUCTION OF	9
	PRECAST ELEMENTS	
	1. QUALITY OF	
	MATERIAL	
4.	CASTNG OF	11
	STRUCTURAL	
	COMPONENTS	
	• PPRECAST	
	BEAM	
	• PPRECAST	
	COLUMNS	
	• PPRECAST	
	SLAB	
	• PPRECAST	
	STAIRCASES	
	(RAKERS)	
5.	ERECTION	16
6.	SITE EXECUTION	17
7.	CONCUSION	19
8.	REFERENCES	20

LIST OF FIGURES

SR No.	Caption	Page No.	
4.1	Hydraulic Mould	13	
4.2	Beam Reinforcement	13	
4.3	Chajja Beam	13	
4.4	Manual Casting	13	
4.5	Reinforcement with Notch Plate	14	
4.6	Concrete Pouring	14	
4.7	Finishing with Foater Machine	15	
4.8	Casted Column	15	
4.9	Reinforcements with Electrical Conduits	16	
4.10	Uniform Spreading	16	
4.11	Stacking	16	
4.12	Precast Staircase	16	
5.13	Erection 1	17	
5.14	Erection 2	17	
6.15	Beam Resting Over column	18	
6.16	Notch Connection	18	
6.17	Column to Beam Connection	19	
6.18	Beam to Beam Connection	19	
6.19	Slab to Slab Connection	19	

•

LIST OF TABLES

Table No.	Caption	Page No.
1.	Process Flow Chart for monitoring and measurement of quality of material	10

CHAPTER:-1 INTRODUCTION

Migration from rural to urban area has caused unplanned urbanization and poor quality building stock. To overcome these problems mass housing was introduced. The basic concept of mass housing is speedy construction which is a major advantage of precast technology and cost is reduced if similar construction work can be grouped and techniques can be employed in precast at a location where skilled labor is available, while congestion at the assembly site, which wastes time, can be reduced. The method finds application particularly where the structure is composed of repeating units or forms, or where typically same basic structure are being constructed.

CHAPTER:-2 SCHEME DETAILS

For promoting fast rate growth, The Building Materials and Technology Promotion Council (BMTC) under the Ministry of Housing and Urban Affairs (MOHUA) has been supporting innovative housing technologies for affordable housing. About 1.2 million houses are being constructed with such innovative technologies in India under PMAY (U) and other state-run schemes. Pradhan Mantri Awaz Yojana (PMAY) is an initiative taken by Government of India in which affordable housing will be provided to the poor with a target of building 20 million affordable houses by 31 March 2022.

Three Phases of PMAY considered starting and completing the house construction work as follows:

PMAY Phase-1 from April 2015 to March 2017 to roof 100 cities..

PMAY Phase-2 from April 2017 to March 2019 to envelope additional 200 cities.

In NAVI MUMBAI, under Pradhan Mantri Awas Yojana (PMAY), The City and Industrial Development Corporation of Maharashtra (CIDCO) has already initiated the construction of residential buildings. It is approved by Maharashtra RERA and built to cover LIG and EWS housing units with all modern amenities. The location of the project is Taloja, spanning across 21.32 Acres with 64 towers, the project offers 4194 housing units.

CHAPTER:-3 PRODUCTION OF PRECAST ELEMENTS

1.QUALITY OF MATERIAL

As soon the pre-production materials such as crushed sand, cement, coarse aggregate reaches the factory, these materials are monitored and measured as per the specification of contract. The inspection result is then recorded in the register. The test on these materials are conducted as per Indian Standard Codes. For this purpose a material testing laboratory is provided with the essential and required apparatus given in IS Codes.

Following are the quality control test:

Moisture Correction
Workability Testing
Cube Testing
Aggregate Testing
Silt Content Test
Water Test
Temperature Testing
Slump Cone Test
Fly Ash Testing
Cement Testing

Process Flow chart for monitoring and measurement of quality of materials



CHAPTER:-4

CASTING OF STRUCTURAL COMPONENTS

Each building in this project consists of their own prefabricated components and each has different specifications. The site engineer refers the plan of the required floor and determines the number of components required, this is then sent to the factory for the fabrication of the required component. As per the required specifications the moulds are constructed, these moulds are only allowed to be placed in factory if they are certified. Proper inspection is done. In the factory the engineers are provided with the schedule section and plan of the required component. With the help of these drawings the engineers construct the reinforcements which are then placed in the moulds, after which the concrete is poured with the help of bucket which is moved by gantry or overhead girders. After the component has gained the required strength it is then removed and undergoes proper curing. The partially prefabricated component is then transported to the specified building.

The factory unit consists of manufacturing prefab segments as follows;

A) PRECAST BEAMS:

As per the requirement of the building the various types of beam such as chajja beam, roof beam, floor beam, plinth beam, are manufactured in the provided section of the factory. The construction of the beams initiate by arranging the reinforcements as per the designs. After this the cover is attached to the reinforcements and then placed in to the certified moulds. The mould is oiled from inside before the placement of the reinforcements. After placing the reinforcement the concrete is poured in the mould. The slump of the concrete is 70mm. To eliminate the voids which are present in the concrete, compaction is done by vibration either manually or hydraulical arrangement. The period of 15 hours is provided so that the concrete gains its required strength, after which the mould is dismantled and beam is lifted with the

help of gantry cranes, placed on the trailer truck and transported to the stacking yard. For identification purpose marking on side face of the beam is done. In stacking yard, proper curing is done for 15 days and dispatched for erection purpose at site. The total





Figure 3.Chajja Beam Figure 4.Manual Casting capacity of the beam unit is 165 beams per day.





Figure 1. Hydraulic Mould Figure 2.Beam Reinforcement

B) RECAST COLUMNS:-

The columns are manufactured in the factory as per the requirements includes single core and multi-core columns. The construction of the columns initiated by arranging the reinforcements as per the design. Before placing the reinforcement the pallet should be oiled properly. These columns reinforcement is placed on the pallet along with the plates at the end to provide opening for the notches. After this, the pallet is moved forward with the help of lorry. The core is then inserted hydraulically. This is followed by pouring of concrete in the pallet with the help of bucket. The capacity of bucket is 1.5 cubic meters. The concrete in bucket is poured from the adjacent batching plant. Two buckets are required to fill one single pallet.

After pouring, uniform spreading of concrete is done manually. For removing the voids hydraulic vibrators are provided below the pallet. Core is taken out after the setting of the concrete. Proper surface finish is achieved with the help of floater machine. Further, the pallet is moved forward with the help of lorry and the entire pallet is covered with the plastic, so as to use the moisture generated by the heat of concrete is for curing. For identification purpose the columns are marked and then moved further for curing in the stacking yard. Before dispatching the concrete 7 day curing is done. The total capacity of this unit is 40 columns in 24 hours.







Figure 6. Concrete Pouring



Figure 7. Finishing with floater machine



Figure 8. Casted Column

C) PRECAST SLAB

The slabs are also constructed as per the requirement. Before placing the reinforcement the pallet should be oiled properly. The reinforcement of the slab consists of a mesh and lattice girder. The mesh and the lattice girder are manufactured with the help of machines. These are the tied manually. After this the covers are provided and electrical conduits are placed. These reinforcement are placed on the pallet and moved forward with the help of lorry. The concrete is poured with the help of bucket having capacity of 3 cubic meters. The slump of concrete maintained is 55mm. For removing the voids hydraulic vibrators areprovided below the pallet. For a single pallet 4 vibrators are provided. After pouring, uniform spreading of concrete is done manually. After the concrete is compacted the pallet is moved forward in the curing chamber for thermal curing for a period of 24 hours. For identification purpose the slabs are marked and then moved further for curing in the stacking yard. Before dispatching the concrete 7 day during is done. The total capacity of this unit is 160 columns in 24 hours. The slab is also casted manually, the only difference is that curing is done conventionally instead of thermal curing. The total capacity this unit is 30 slabs per day.



Figure 9. Reinforcements with electrical conduits



Figure 10. Uniform Spreading



Figure 11. Stacking

D) PRECAST STAIRCASE (RACKERS)

The pre-casted staircase consists two flights which includes floor landing to mid landing and mid landing to floor landing. According to design the reinforcements are arranged and while placing the reinforcements the moulds are oiled. The mould is designed in such a way that 2 flights staircase are casted at a time. The reinforcements are inserted in the mould manually. After this concrete is poured from the bucket with the help of remote control cranes. After 24 hours the moulds are removed and then lifted with the help of cranes and placed in the stacking yard. Curing is done for 7 days for dispatching the batch for erection to site. The total capacity of this unit is 40 rackers per day. Water leakage problem is eliminated by providing sleeves.



Fig 12. Precast staircase

CHAPTER:-5 ERECTION

a) Erection

It is a process of the structure is erected in accordance with the sequential erection procedure, pre –assembly of member and the movement and location of heavy members are considered perior to installation.

(b) Overview of erection

An erection cycle is a series of operations for placing a component in its design position. The operations requiring an erecting crane and, therefore, consumption of machine time are as follows: slinging, lifting and delivering the component to a point of erection, guiding, positioning and placing it in design position, temporary fastening of components, unslinging and returning load-lifting hook to the initial position. The operations which require no cranes and are performed.



Fig 13 .Erection 1



Fig 14. Erection 2

CHAPTER:-6

SITE EXECUTION

The prefabricated components after the curing are dispatched with proper inspection and registration along with its date and time. These components are then transported to the specified building site for erection purpose. The erection and construction of the buildings are done according to the design.

For its perfect erection. In order to get no eccentricity in columns, these are temporarily attached to the slab below with the help of wire rope arrangement as shown. Then the dowel bars are inserted in these columns and grouting is done until the column is half filled with high strength self compacting concrete. Primary beams are then allowed to rest on these columns at the notches as shown below.

Construction of foundation is done using conventional cast-in-situ method. Isolated type of foundation is constructed resting on the hard strata. The precasted plinth beam is placed and erection of prefabricated hollow core column is done. The column is lifted with the help of tower cranes and then placed at their precise position according to the design. Small grooves are provided at bottom of the columns so as to make smaller arrangements.

In order to check the level of beam, level flushing is done in which, the floor to floor height is measured. If the level of beam is lower by significant amount then steel pads is used. After proper alignment, further four 20mm diameter steel bars are passed through the stirrups of beam with the lap length equal to (46*rod diameter) placed inside the core of the column.



Figure 15. Beam resting over column



Figure 16. Notch connection

Secondary beams if present are then placed keeping in view the location of notches. Similarly alignment is checked and then further reinforcements are tied. Then the prefabricated slabs are allowed to rest on the beams. Props are placed beneath so as to avoid formation of cracks due to self-weight. Further, reinforcements are provided which connects slab, beam, and columns together providing a stable and monolithic structure. This is followed by constructing shuttering for the entire floor and screeding is done in which the partially casted component attains there final dimensions.



Figure 17. Column to beam connection



Figure 18. Beam to Figure 19.slab beam connection to slab connection

For the installation or erection of staircase, notches are made in the columns while casting in which the beams are allowed to rest. These beams are provided for supporting the mid-landing of the staircase. The beam should be arranged properly so that the level of mid landing is exactly at a distance equal the half of floor to floor height. After this the mid landing is allowed to rest on these beams and reinforcements are then provided. Then the prefabricated staircase are placed between floor landing to mid landing and then mid landing to floor landing.

CONCLUSIONS

- The fundamental objectives of the work have been accomplished.
- The aggregate cost and length have been resolved for both prefab and ordinary development And additionally we had thought about the focal points and detriments of both construction and traditional development by the overview directed.
- The examination shows there isn't a colossal cost contrast between the techniques (6%), prefab being . more temperate in tall structures when contrasted with regular. In the meantime the prefab development diminishes the undertaking length, lessened by 335 days when contrasted with the ordinary.
- Because of overview we had Study on Comparison between Prefabricated and Conventional Structures realized that the prefab development have more points of interest and obtainment in industrialized, substantial frameworks.
- Materials that have turned out to be profoundly particular, with specialist vacillations in cost and accessibility, can be accumulated at construction shops or processing plants. Moreover, the institutionalization of building segments makes it workable for development to occur where the crude material is minimum costly.
- To decide if construction is a decent choice you have to consider. Proper cost analysis and planning can help to achieve at an economical estimate for prefab construction. Educating student's trainers and even labourers more about prefabrication in depth will help provide more trained and educated work force for prefabrication.
- It can also change the conventional mindset of people and accept to try modern construction methods. Use of standardized elements from companies that have variety of options to choose from can help make structure unique.
- One time investment in good quality lifting machines and proper maintenance can help in further saving.

REFERENCES

1. https://en.wikipedia.org/wiki/Pradhan Mantri Awas Yojana

2. <u>http://www.builtconstructions.in/OnlineMagazine/Bangalore/Pages/3-S-Precast-</u> <u>Components-From-B-G-ShrikeConstruction-Technology-353.aspx</u>

HEAD OF DEPARTMENT CIVIL ENGINEERING SARASWATI COLLEGE OF ENGINEERING