IE(I) STUDENTS' CHAPTER – CIVIL
CHAPTER CODE: 388120/BVME/CVM
BIRLA VISHWAKARMA MAHAVIDYALAYA
VALLABH VIDYANAGAR – 388120, GUJARAT

Chairman: **Dr. S. D. Dhiman**

Faculty guide: **Prof. A. N. Bhavsar** Faculty Advisor :**Prof. N. F. Umrigar**

Report on

"Hands-on Training on Digital Surveying Instruments"

Total number of students :42 Faculty:3

Date: 06th January, 2024 (Saturday)
Time: 10:25 AM to 5:30 PM
Venue: E-106 (Surveying Lab)

DISTINGUISHED EXPERTS:

1. **ER. DEVANG VYAS** (Senior manager Lawrence Mayo(I) Pvt. Ltd.)
2. **ER. DHIRAJ JHA** (Area sales manager Lawrence & Mayo(I) Pvt. Ltd.)

FACULTY COORDINATOR:

1. Dr. H. J. Chauhan (Assistant Professor)
2. Dr. D. S. Modi (Assistant Professor)
3. Prof. Dhaval Parmar (Assistant Professor)

IE(I) Coordinators:

1. **Prof. N. F. Umrigar** (Assistant Professor)
2. **Prof. Amit Bhavsar (**Associate Professor)

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Objective:

The main objective of the workshop was to impart beneficiary and crucial knowledge of the various surveying instruments in the field of civil engineering. To enlighten the students and make them aware about the various advancements of the instruments well as their uses on the field. It was aimed that after attending the session the participants must acquire the knowledge of the various methods of surveying, instruments being used, data collection techniques, accuracy and error managements etc.

The program started at 10:25 a.m. and Dr. S.D. Dhiman sir welcomed the expert speaker's ER. Devang Vyas and Er. Dhiraj Jha. After welcoming the guests, he provided his valuable insights about the workshop and some content thus enlightening the participants about the same.

The experts started the session by providing the basic knowledge of surveying and levelling. The first instrument discussed by the experts was digital level. Information related to digital level, its working, salient features, components of digital level, its uses were provided. A digital level is a precision measuring instrument and provides highly accurate data for surveying. Its components are Sensors, Microprocessors, Display etc.

The next instrument which was discussed was Digital Theodolite. Three types of theodolite are there: Vernier theodolite, Digital theodolite, Optical theodolite. Digital theodolite gives the most accurate and precise value. The various characteristics of digital theodolite are Magnification: 26x to 30x

Shortest view distance: 1.0

Angle reading: 5'' to 20''

Another instrument on which training was provided was Total Station also known as (EDM).

A Total Station is a versatile and precise surveying instrument that combines theodolite and EDM technologies. It is widely used in various civil engineering related works for accurate measurement and data collection. The experts carried on the session by providing knowledge about drones to the participants. Surveying drones have become valuable tools in the field of surveying and mapping. These drones are equipped with various sensors and cameras that can capture high resolution imagery and collect data for surveying and mapping purposes. It consists of RGB cameras which captures standard color images for visual inspection and mapping. DCP (Drone Control Point) was also discussed. Advanced GPS and sensor technologies on drone allow for highly accurate mapping and surveying.

The second part of the session started around 2:10 p.m. and discussion on flight planning was accomplished. The various steps which were discussed by the experts were:

- Set the tripod first
- Set GPS on the tripod then connect with the laptop with cable
- Connect remote controller with laptop
- Connect the battery on the drone and turn on the software

These were the some of the few steps involved in the flight planning. Moving further towards the session the experts continued and provided a special lecture on GPS receiver.

A GPS (Global Positioning System) receiver is a device that receives signals from satellites in orbit to determine its precise location on Earth. GPS receivers are widely used in various applications, ranging from navigation and mapping to surveying and scientific research. The GPS receiver calculates its position by triangulating signals received from at least three satellites. The more satellites the receiver can communicate with, the more accurate the position determination. After all the sessions the workshop ended on a positive note.

Conclusion:

Overall it was an interactive and informative session and it also helped the students to gain knowledge about different types of digital surveying instruments, drone and GPS. After attending the session the participants were able to use various digital instruments and also they got to know about drones and its working conditions. At the end of the session certificate of appreciation was provided to the experts.

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Delineationon

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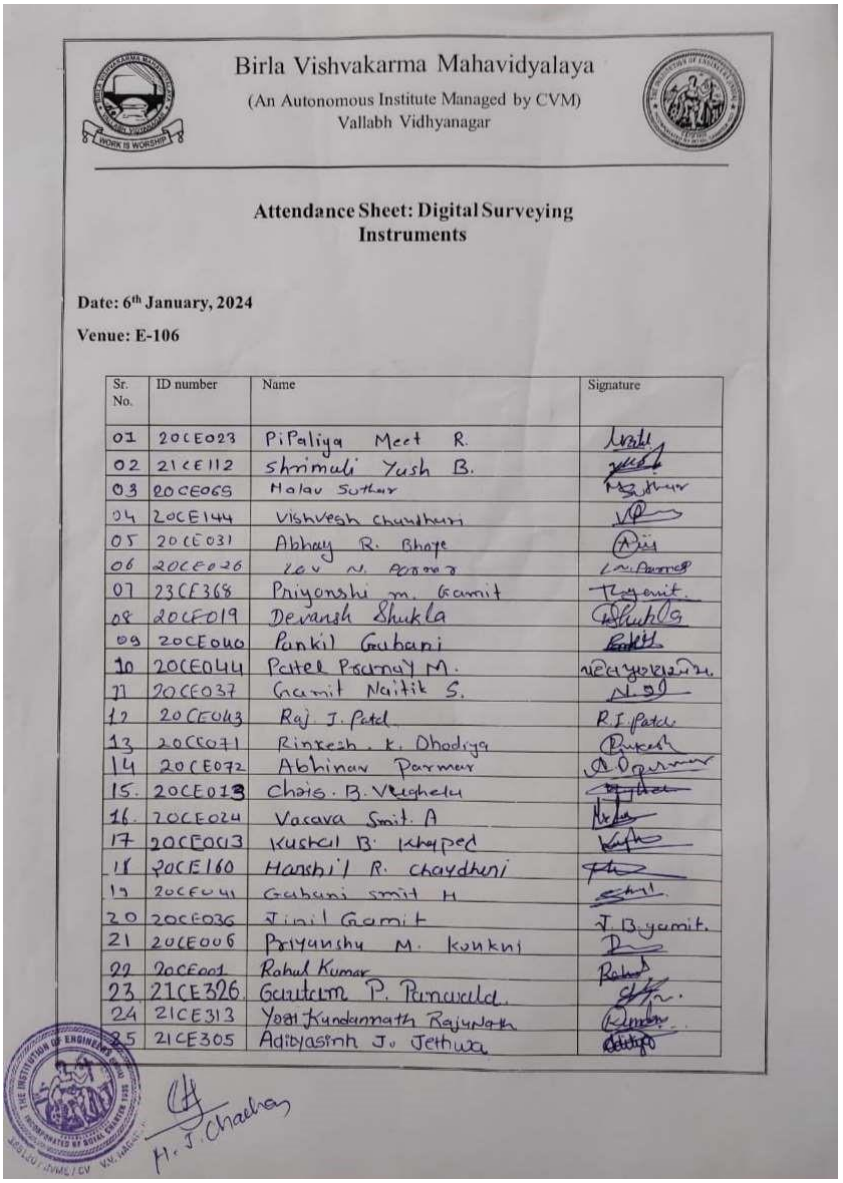
ATTENDANCE SHEET:



Birla Vishvakarma Mahavidyalaya
(An Autonomous Institute Managed by CVM)
Vallabh Vidhyanagar

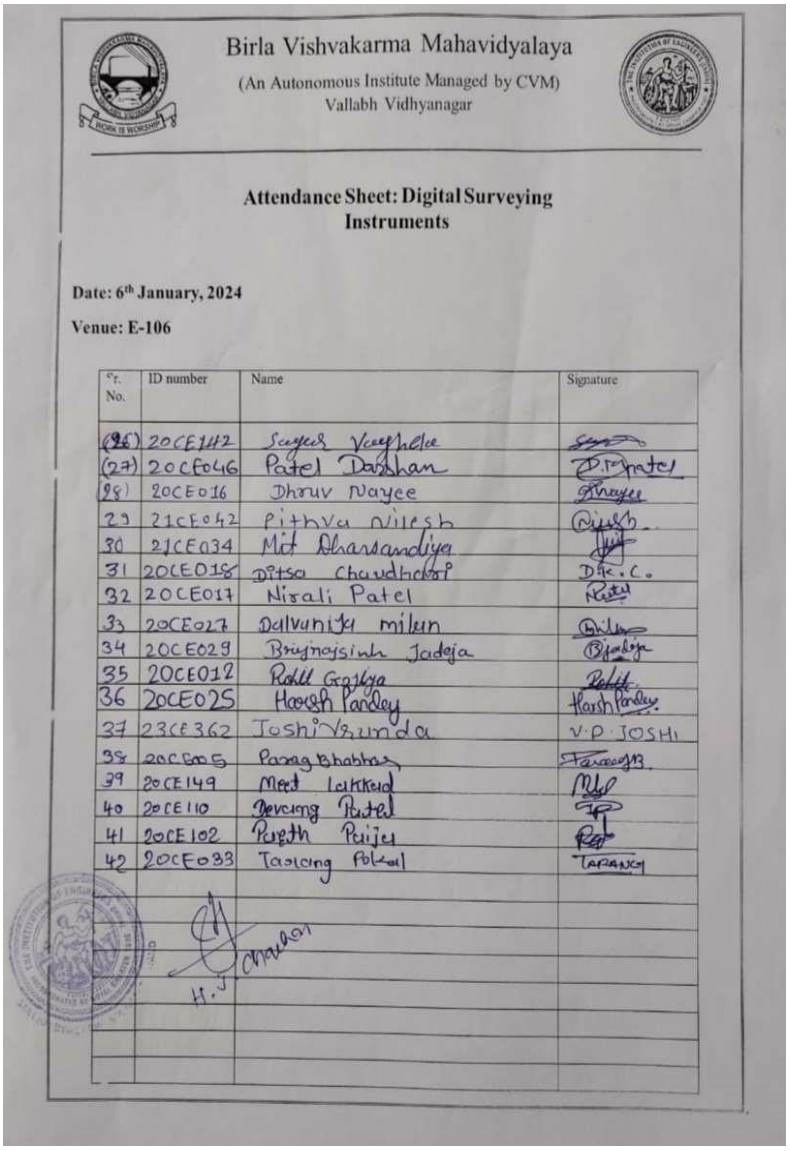
Attendance Sheet: Digital Surveying Instruments

Date: 6th January, 2024

Venue: E-106

Sr. No.	ID number	Name	Signature
01	20CE023	Pipaliya Meet R.	
02	21CE112	Shrimali Yush B.	
03	20CE065	Malav Suthar	
04	20CE144	Vishvesh Chaudhary	
05	20CE031	Abhay R. Bhoje	
06	20CE026	[illegible]	
07	23CE368	Priyanshi m. Gamit	
08	20CE019	Devansh Shukla	
09	20CE040	Pankil Gabani	
10	20CE044	Patel Pranay M.	
11	20CE037	Gamit Naitik S.	
12	20CE043	Raj J. Patel	
13	20CE071	Rinkesh K. Dhadiya	
14	20CE072	Abhinav Parmar	
15	20CE013	Chaig B. Vaghela	
16	20CE024	Vasava Smit A	
17	20CE043	Kushal B. Khapped	
18	20CE160	Harshil R. Chaudhari	
19	20CE041	Gabani Smit H	
20	20CE036	Jinil Gamit	
21	20CE006	Priyanshu M. Konkani	
22	20CE001	Rahul Kumar	
23	21CE326	Gauravm P. Panavelil	
24	21CE313	Yogi Kundanmath Rajunath	
25	21CE305	Adityasinh J. Jethwa	

H. J. Chauhan



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Sr. No.	ID number	Name	Signature
(26)	20CE142	Sayyed Veeqhelee	
(27)	20CE046	Patel Darshan	
(28)	20CE016	Dhruv Nayee	
29	21CE042	Pithva Nilesh	
30	21CE034	Mit Kharsandiya	
31	20CE018	Ditsa Chavdhari	
32	20CE017	Nirali Patel	
33	20CE027	Dalvaniya milan	
34	20CE029	Brijrajsinh Jadeja	
35	20CE012	Rahil Gajjar	
36	20CE025	Harsh Pandey	
37	23CE362	Joshi Vrunda	
38	20CE005	Parag Bhabhor	
39	20CE149	Meet Lakhani	
40	20CE110	Devang Patel	
41	20CE102	Pujith Pujari	
42	20CE033	Tanay Patel	

H.J. Chauhan