



॥ न हि ज्ञानेन यदृजं पवित्रमिह विद्यते ॥  
Dr. Vithalrao Vikhe Patil Foundation's  
**Dr. Vithalrao Vikhe Patil**  
**College of Engineering Ahmednagar**



DTE College Code: EN-5161

## Department of Civil Engineering

### Report of Event (Internship/Field Work/Industrial Visit)

Date:-11/09/2019

Time:-10.00am

Class:-BE Civil

Venue:-Ahmednagar

Nature of Event (Intern/FW/IV) :-Industrial Visit

Name of Company:-Fully climatic station, Newasa

Address of Company:-Newasa, Ahmednagar

Name of Staff and Delegates:- Prof.(Dr) M.P. Wagh, Prof.P.A.Chavan

Description of the Event : Technical visit for subject Hydrology and water resources Engg. was arranged for Third year Civil Engineering students on 11/09/19 to Fully climatic station & River stream gauging station. Newasa. Students visited projects like Fully Climatic Station, River Stream Gauging Station and Demonstration of Surface Water Data Entry Software(SWDES)

#### 1. Objective-

- To provide an awareness about new technologies.
- To provide an exposure about industrial practices.

#### 2. Outcomes : Students are able to

- Get exposure to current work practices
- Identify their prospective area of work.
- Enhance their interpersonal skills.

*Kaundik*

Head of Department  
Dept & Civil Engineering  
D.V.V.P.,C.O.E, Ahmednagar



*V. Patil*  
PRINCIPAL  
Dr. Vithalrao Vikhe Patil  
College of Engineering  
Ahmednagar



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DR. VITHALRAO VIKHE PATIL FOUNDATION'S

## DR. VITHALRAO VIKHE PATIL COLLEGE OF ENGINEERING

Vadgaon Gupta, Vilad Ghat, Post- M.I.D.C., Ahmednagar - 414 111. (M.S.) INDIA.

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Accredited by National Assessment and Accreditation Council (NAAC), Bangalore*

Ref.No. COL Civil 2019 2086

Date : 21/8/2019

To,

The Executive Engineer,

Hydrology Project Division,

Near Gajanan Maharaj Mandir, Garkheda road,

Aurangabad- 431005

Subject: **Permission for Technical Visit of T.E. Civil Students.**

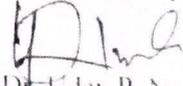
Dear Sir,

Dr. V.V. Patil College of Engineering was established in 1983 and is approved by AICTE New Delhi, Govt. Maharashtra and affiliated to Savitribai Phule University of Pune, Pune. As per the University Syllabus T. E. Civil Students are having subject Hydrology and Water Resource Engineering. To understand the concept of rain gauge station, evaporator pan, stream gauging visit is necessary.

Regarding this Students are interested to visit Fully Climatic Station Newasa, in Ahmednagar district. I promise you that this visit is only for technical purpose. Therefore, it is requested to kindly grant the permission and necessary assistance for the visit. The visit is proposed on 12<sup>th</sup> September 2019.

Thanking you.

Yours faithfully

  
(Dr. Uday P. Naik)  
Principal



  
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A

REPORT

ON

Study Tour of T.E. CIVIL  
STUDENTS

(11<sup>th</sup> September 2019)

Presented by

ALL T. E. (Civil) Students

Under the Guidance of

Dr. M. P. Wagh

(Tour In charge)

Department of Civil Engineering  
P.D.V.V.P. College of Engineering

Ahmednagar

(Year 2019-2020)



  
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## SYNOPSIS

Whatever we get the knowledge from the theory lectures is not sufficient to understand clear concept regarding actual structure and about actual site. So Civil Engineering department arranged technical study visit for Third year Civil Engineering students of batch 2019-20 to get the practical knowledge of the subject Hydrology & Water Resource Engineering. Visit was conducted on 11<sup>th</sup> September 2019

The students visited the following projects.

- 1. Fully Climatic Station**
- 2. River Stream Gauging Station**
- 3. Demonstration of Surface Water Data Entry Software(SWDES)**

The visit to above mentioned project helped the students to understand the Non recording Rain gauge, Self recording rain gauge, Open pan Evaporimeter, Meteorological Screen, wet bulb thermometer & dry bulb thermometer used for measuring Humidity, Hair hygograph used to measuring and recording atmospheric Humidity, Thermograph used to measuring and recording atmospheric temperature Sun shine recorder, Wind vane used for indicating the direction from which wind is blowing Cup Counter Anemometer used for measuring the wind speed. River Stream Gauging used to measure the discharge and different methods of determining discharge as well as different instruments used for measurement of discharge such as velocity current meter, pigmi meter, propeller type current meter. In order to record the details of the sites visited this tour report is prepared which can be used by the forth coming batches of students as a reference to plan similar visits.



  
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## Chapter No: -1

### Introduction

Third year civil engineering students have subject Hydrology & Water resource Engineering. This includes Hydrological data and its sources, hydrological cycle, application of hydrology. Precipitation Forms, types of precipitation, measurement, analysis of precipitation data. Elementary concepts of evaporation and infiltration, effect of infiltration on runoff and recharge of ground water, evapo-transpiration, consumptive use, factor affecting it, its measurement and computations for evaporation, infiltration and evapo-transpiration. Selection of site, various methods and instrument required for discharge measurements.

To get the core knowledge of the subject a technical visit is organized at Newasa Fully climatic station & River stream gauging station. Newasa taluka is in Ahmednagar district Maharashtra state. Ahmednagar city has been established by Malik Ahmed Shah in 1494 and located in the central part of Maharashtra. Ahmednagar lies between 18°02' and 19°09' North latitudes and 73°09' and 75°05' East longitudes. Ahmednagar district covers an area of about 17, 0448 sq.km, which is area wise largest district in the state covering 5.55 % area of the total area of Maharashtra state.

The district is bounded on the north by the districts of Nasik and Aurangabad, on the East by Beed & Osmanabad, on the south by Solapur and on the west by Thane and Pune Districts. Ahmednagar is growing city with proposed five star industrial areas. It is one of the biggest business towns in Maharashtra state. It is the central places on Pune Aurangabad four lane express way. It is biggest town nearest to very famous holy place Shirdi (Shri Sai baba temple), Shani-shinganapur (Shani temple). Fully climatic station is established in 1989.

### Objective of the Visit

- To learn the concept of rain gauge station and measurement of precipitation.
- To know about recording and non recording rain gauge station.
- To known about evaporimeters such as ISI – A pan meter, classified pan meter.
- To know about sunshine recorder.
- To measure the humidity.
- To understand the concept of stream gauging.



  
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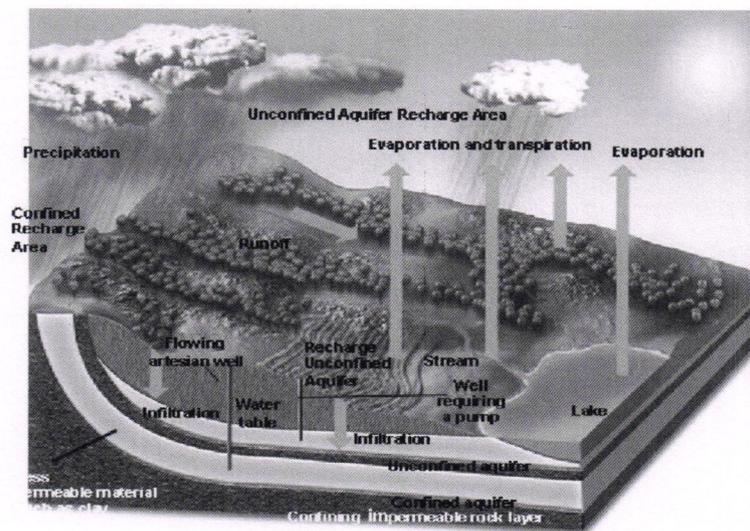
## Chapter No: -2

Fully climatic Station includes different parameters of hydrological cycles such as precipitation, evaporation, evapotranspiration, Humidity, temperature, atmospheric pressure, wind speed and direction of wind. All the parameter is very important to find out consumptive use of water, as well as to decide cropping pattern and design of canal.

### Hydrological cycles

Hydrology is defined by 'Wisler' and 'Brater' as the science that deals with processes governing the depletion and repletion of water resources of the land areas of the earth

General definition it is science deals with the occurrence, circulation and distribution of water of the earth and earth's atmosphere



### Precipitation

Precipitation is any form of solid or liquid water that falls from the atmosphere to the earth's surface. Rain, drizzle, hail and snow are examples of precipitation. In India, rain is the most common form of precipitation.

### Causes of precipitation

For the formation of clouds and subsequent precipitation, it is for necessary that the moist air masses to cool in order to condense. This is generally accomplished by adiabatic cooling of moist air through a process of being lifted to higher altitudes. The precipitation types can be categorized as.



*[Signature]*  
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### **Measurement of rainfall**

One can measure the rain falling at a place by placing a measuring cylinder graduated in a length scale, commonly in mm. In this way, we are not measuring the volume of water that is stored in the cylinder, but the 'depth' of rainfall. The cylinder can be of any diameter, and we would expect the same 'depth' even for large diameter cylinders provided the rain that is falling is uniformly distributed in space.

Now think of a cylinder with a diameter as large as a town, or a district or a catchment of a river. Naturally, the rain falling on the entire area at any time would not be the same and what one would get would be an 'average depth'. Hence, to record the spatial variation of rain falling over an area, it is better to record the rain at a point using a standard sized measuring cylinder.

In practice, rain is mostly measured with the standard non-recording rain gauge the details of which are given in Bureau of Indian Standards code IS 4989: 2002. The rainfall variation at a point with time is measured with a recording rain-gauge, the details of which may be found in IS 8389: 2003. Modern technology has helped to develop Radars, which measures rainfall over an entire region. However, this method is rather costly compared to the

### **Measurement of Precipitation**

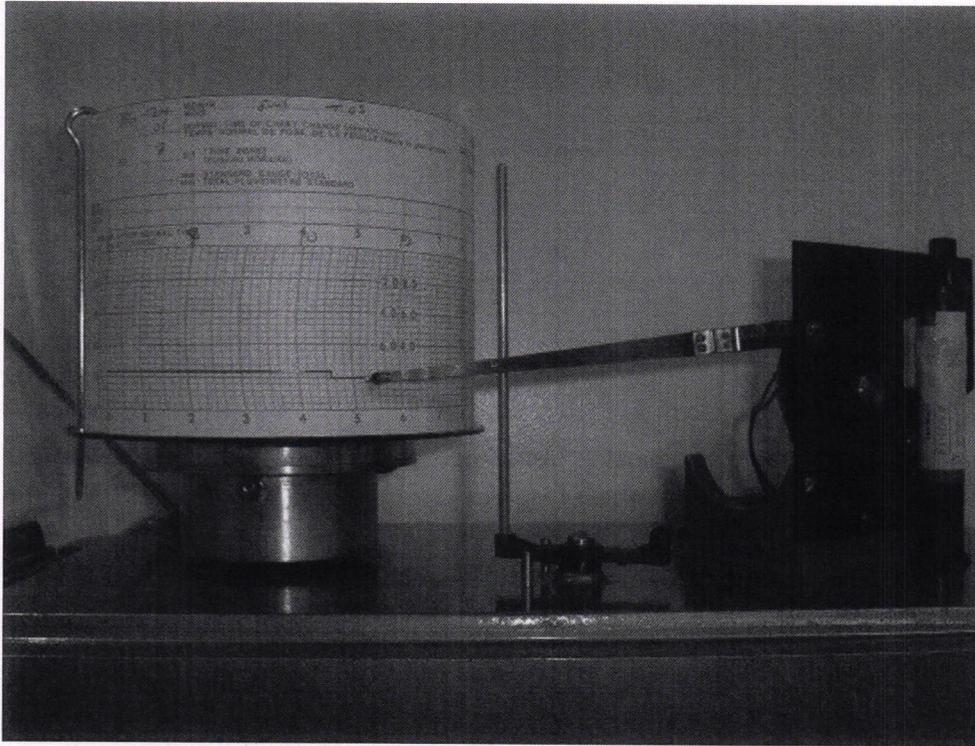
There are two types of rain gauges, non-recording type and recording type. Rain gauge is a type of instrument used by meteorologists and hydrologists to measure rainfall rate in a certain period of time. Rain gauges are also known as udometer, pluviometer and ombrometer.

#### **E.g. Tipping Bucket Type Rain Gauge**

Tipping bucket type rain gauge is a 30cm sized circular rain gauge adopted for use by US weather bureau. It has 30 cm diameter sharp edged receiver and at the end of the receiver is provided a funnel.

Pair of buckets are pivoted under this funnel in such a manner that when one bucket receives 0.25mm of precipitation (rainfall), it tips discharging its rainfall into the container, bringing the other bucket under the funnel.





### **Tipping Bucket Rain Gauge**

Tipping of bucket completes an electric circuit causing the movement of pen to mark on clock driven receiving drum which carries a recorded sheet. These electric pulses generated are recorded at the control room far away from the rain gauge station. This instrument is further suited for digitalizing the output signal.

Advantages of recording rain gauges:

1. Necessity of an attendant does not arise
2. Intensity of rainfall at anytime as well as total rainfall is obtained, where as non recording gauge gives only total rainfall.
3. Data from inaccessible places (hilly regions) can be continuously obtained once gauge is established.
4. Human errors are eliminated.
5. Capacity of gauges is large.
6. Time intervals are also recorded.

Disadvantages of recording rain gauges:

1. High initial investment cost.



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2. Recording is not reliable when faults in gauge arise (mechanical or electrical) till faults are corrected.

### **Measurement of evapotranspiration**

There are several methods available for measuring evaporation or Evapotranspiration, some of which are given in the following sub-sections.

#### Potential Evapotranspiration (PET)

- Pan evaporation

The evaporation rate from pans filled with water is easily obtained. In the absence of rain, the amount of water evaporated during a period (mm/day) corresponds with the decrease in water depth in that period. Pans provide a measurement of the integrated effect of radiation, wind, temperature and humidity on the evaporation from open water surface. Although the pan responds in a similar fashion to the same climatic factors affecting crop transpiration, several factors produce significant differences in loss of water from a water surface and from a cropped surface. Reflection of solar radiation from water in the shallow pan might be different from the assumed 23% for the grass reference surface. Storage of heat within the pan can be appreciable and may cause significant evaporation during the night while most crops transpire only during the daytime. There are also differences in turbulence, temperature and humidity of the air immediately above the respective surfaces. Heat transfer through the sides of the pan occurs and affects the energy balance.

Notwithstanding the difference between pan-evaporation and the Evapotranspiration of cropped surfaces, the use of pans to predict ETo for periods of 10 days or longer may be warranted. The pan

Evaporation is related to the reference evapotranspiration by an Empirically derived pan coefficient:

Where - ETo reference evapotranspiration [mm/day], Kp pan coefficient [-], Epan pan evaporation [mm/day].

#### **Evapotranspiration gauges**

The modified Bellani plate atmometer has been offered as an alternative and simpler technique to combination-based equations to estimate evapotranspiration (ET) rate from green grass surface.

### Chapter No. 3

#### River Stream Gauging Station

Discharge is also termed as rate of flow, is defined as the volume of water flowing through a cross-section in a time such as cubic meters per second (cumecs.). The objects of discharge measurement are accurate assessment of the available and dependable natural water resources of a river, their tributaries and streams for the development of irrigation and power potential, flood control, water supply, navigation etc.

Stream flow measurements techniques can be classified in to two categories

1. Direct determination 2. In Direct determination

- Direct determination
  - a. Area Velocity methods
  - b. Dilution Techniques
  - c. Electromagnetic methods
  - d. Ultra Sonic methods
- In Direct determination
  - a. Hydraulic Structures such as Weirs, Flumes, and Gated structures
  - b. Slope area methods

#### Notches and Weir

Notch is an opening in the side of tank extending above free surface and of any geometric shape

Weirs are large structures and may be sharp edged or may have substantial width in the direction of flow

Classification of notches based on shape

1. Rectangular (Discharge  $Q_1 = 2/3Cd(2g)^{1/2} .L. H^{3/2}$ )
2. Triangular or V notch (Discharge  $Q_2 = 8/15Cd(2g)^{1/2} \tan(Q/2) H^{5/2}$ )
3. Trapezoidal (Discharge  $Q_3 = Q_1 + Q_2$ )
4. Stepped or compound notch



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## Chapter No. 4

### Conclusion

**After the technical visit students can understand the following points**

- Rain gauge station and measurement of precipitation.
- Understand concept of recording and non recording rain gauge station.
- Learn concept of evaporimeters such as ISI – A pan meter, classified pan meter.
- Get the knowledge of sunshine recorder.
- Easily measure the humidity.
- Understand the concept of stream gauging.



  
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**Visit photograph**



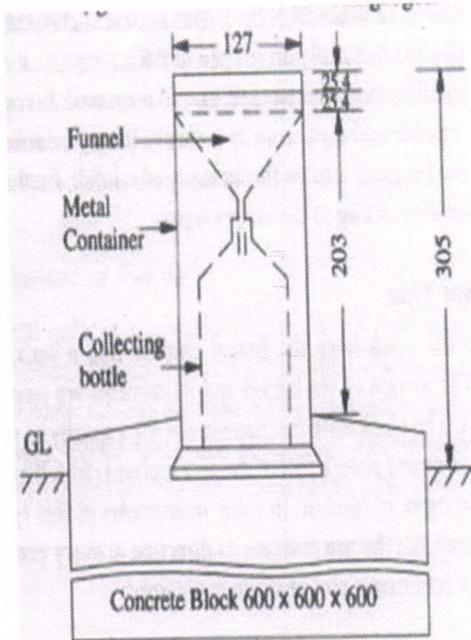
**Felicitation of Er. Suresh Bhange and Mr. Jaygude S.D by Dr. M. P. Wagh and Prof. D. S. Pathare Respectively(from Left)**



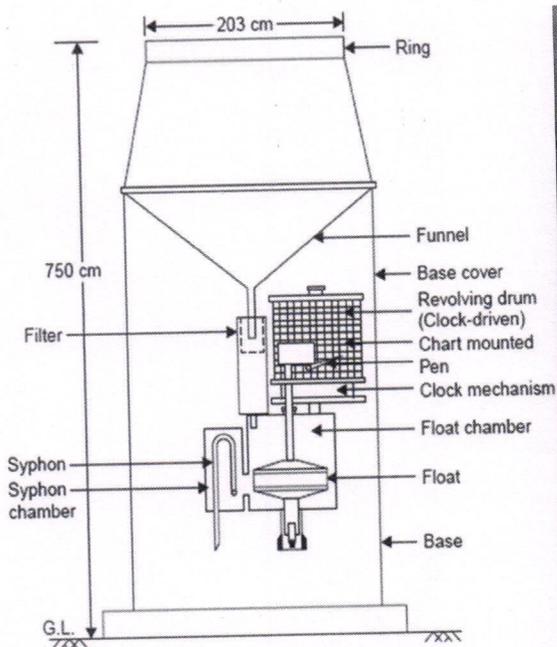
**Technical Visit to Fully Climatic Station Newasa, Ahmednagar.**



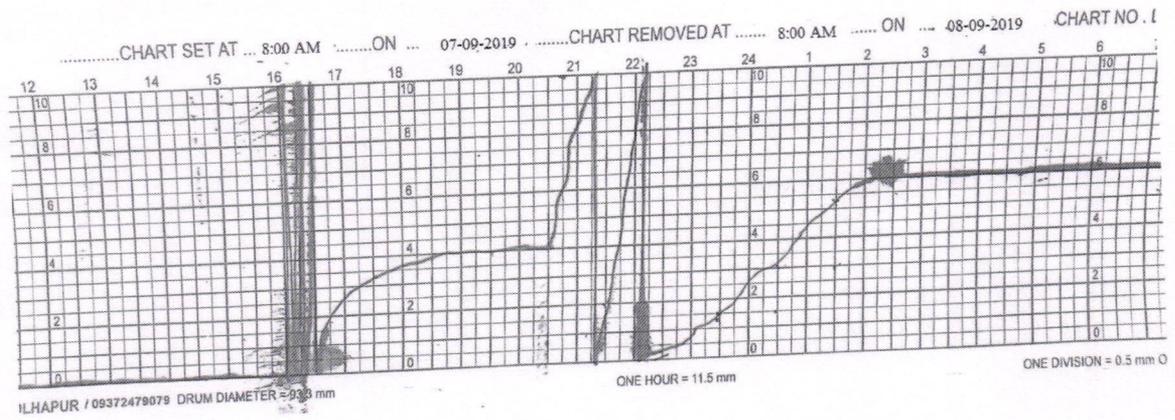
*V. Vikhe*  
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Non recording (Standard) Simon's Rain gauge



Recording Float Type rain gauge



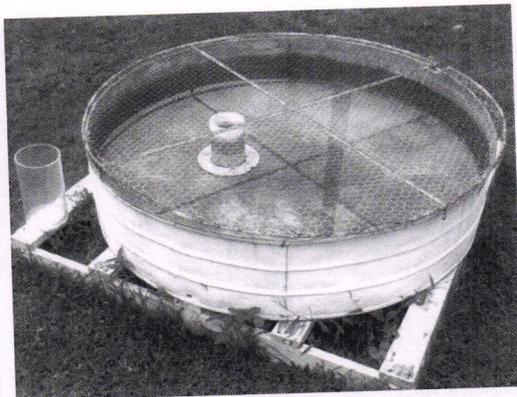
**Precipitation recorded by using Float type Recording Rain gauge**



**Propeller Type Current Meter**



**Sunshine Recorder to measure intensity of sunlight**



**ISI Pan Evaporimeter**



*D. M. B.*  
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 Ahmednagar



Equipment present in Full Climatic Station Newasa

कार्यकारी अभियंता,  
जलविज्ञान प्रकल्प विभाग,  
डॉ. हेडगेवार रुग्णालयाच्या बाजूस,  
गारखेडा परिसर, औरंगाबाद.

  
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"जलसंपदा विभागाच्या संकेतस्थळास कृपया भेट द्या- <https://wrd.maharashtra.gov.in>"

ईमेलद्वारे/

जा.क्र.जविप्रविऔ/प्रशा-1/ 1048 /सप

दिनांक :- 21/08/2019

प्रति,

उपविभागीय अभियंता,  
जलविज्ञान प्रकल्प उपविभाग,  
नेवासा.

विषय :- डॉ. विठ्ठलराव विखे पाटील, अभियांत्रिकी महाविद्यालयातील विद्यार्थ्यांना  
जलविज्ञान प्रकल्पासंबंधी आवश्यक तांत्रिक मार्गदर्शन करणे बाबत.

संदर्भ :- डॉ. विठ्ठलराव विखे पाटील, अभियांत्रिकी महाविद्यालयाचे पत्र क्र.  
CEA/Civil/2086/ 2018 दिनांक 21/08/2019

उपरोक्त संदर्भीय पत्रान्वये डॉ. विठ्ठलराव विखे पाटील, अभियांत्रिकी महाविद्यालयाचे पत्र प्राप्त झाले त्यानुसार महाविद्यालयांतर्गत विद्यार्थ्यांना जलविज्ञान प्रकल्पासंबंधी व हवामान केंद्रासंबंधी तांत्रिक मार्गदर्शन आवश्यक आहे.त्यासाठी त्यांनी दि.12/09/2019 रोजी हवामान केंद्रास भेट देण्याचे प्रस्तावीत केले होते.दि.21/08/2019 रोजी या कार्यालयाचे श्री.पोतदार क.अ. यांनी महाविद्यालयाच्या स्थापत्य विभागप्रमुखाशी चर्चा केली त्याअनुषंगाने ही भेट दि.12/09/2019 ऐवजी दि.11/09/2019 रोजी ठेवणे महाविद्यालय व क्षेत्रीय अभियंते यांच्या सोयीचे होईल.

करिता या भेटी दरम्यान आपण क्षेत्रीय अभियंत्यामार्फत आपल्या उपविभागातील नेवासा येथील हवामान केंद्रात असलेल्या उपकरणाची माहिती द्यावी व आवश्यक ते तांत्रिक मार्गदर्शन करावे.

सोबत :- 1) संदर्भांकित पत्र -

सहपत्रासह

उपकार्यकारी अभियंता,  
जलविज्ञान प्रकल्प विभाग,  
औरंगाबाद.

D: Com.No.5/ New 2018/ प्रशा-1/ डिसेंबर / 15 12 18



  
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College of Engineering,  
Ahmednagar

प्रतः-प्राचार्य, डॉ. विठ्ठलराव विखे पाटील, अभियांत्रिकी महाविद्यालय अहमदनगर यांना  
माहितीस्तव सादर.महाविद्यालयाच्या विनंतीनुसार दि.11/09/2019 रोजी आपल्या  
महाविद्यालयातील तृतीय वर्ष (स्थापत्य )विद्यार्थी व शिक्षकांना सकाळी ठीक 9:00 वाजता  
नेवासा येथे हवामान केंद्रात हजर राहण्याच्या सुचना द्याव्यात हवामान केंद्रात शास्त्रीय  
उपकरणे असल्या कारणाने विद्यार्थ्यांना योग्य ती खबरदारी घेण्याचे सुचित करावे  
विद्यार्थ्यांच्या सुरक्षीततेची जबाबदारी महाविद्यालयाने स्विकारावी.प्रस्तुतची परवानगी  
विद्यार्थ्यांना शैक्षणिक मार्गदर्शन व्हावे या हेतुने प्रेरित असल्यामुळे यासाठी कोणतेही अतिरिक्त  
शुल्क आकारण्यात येणार नाही.



  
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कार्यालय

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जलविज्ञान प्रकल्प उपविभाग  
मुळा पाटबंधारे वसाहत, मुकिंदपूर,  
नेवासा फाटा, जि. अहमदनगर



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दूरध्वनी क्र. 02427-244138  
sdehpsd.newasa@mahahp.org

"जलसंपदा विभागाच्या संकेतस्थळास कृपया भेट द्या- <https://wrd.maharashtra.gov.in>"

दि. १७/०९/२०१९

जा.क्र.जविप्रउपवि./नेवासा/प्रशा/२५३/सन २०१९

ईमेल द्वारे

प्रति,

मा.कार्यकारी अभियंता  
जलविज्ञान प्रकल्प विभाग  
औरंगाबाद

विषय :- अनुपालन अहवाल सादर करणे बाबत.

संदर्भ :- मा. कार्यकारी अभियंता जलविज्ञान प्रकल्प विभाग औरंगाबाद यांचे पत्र ईमेल द्वारे  
जा.क्र.जविप्रऔ/प्रशा-१/१०४८/सप दिनांक २१/०८/२०१९

उपरोक्त विषयानुसार दि ११/०९/२०१९ रोजी डॉ. विठ्ठलराव विखे पाटील अभियांत्रिकी  
महाविद्यालय अहमदनगर येथील स्थापत्य विभागातील तृतीय वर्षाचे विद्यार्थी व प्राध्यापक यांनी  
दिलेल्या तांत्रिक भेटीचा अनुपालन अहवाल सोबत सादर करण्यात येत आहे.  
हे आपल्या माहितीस्तव सविनय सादर.

सोबत-

- श्री. सुरेश भिमा भांगे कनिष्ठ अभियंता यांनी सादर केलेला अनुपालन अहवाल
- डॉ. विठ्ठलराव विखे पाटील अभियांत्रिकी महाविद्यालय अहमदनगर यांचे अभिप्राय पत्र.

उपविभागीय अभियंता  
जलविज्ञान प्रकल्प उपविभाग  
नेवासा

प्रत: मा. प्राचार्य, डॉ. विठ्ठलराव विखे पाटील अभियांत्रिकी महाविद्यालय अहमदनगर यांना माहितीसाठी  
सविनय सादर



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Ahmednagar

दि. १६/०९/२०१९

प्रति,  
कार्यकारी अभियंता  
जलविज्ञान प्रकल्प विभाग  
औरंगाबाद.

विषय: अनुपालन अहवाल सादर करणे बाबत.

संदर्भ: मा. कार्यकारी अभियंता जलविज्ञान प्रकल्प विभाग औरंगाबाद यांचे पत्र ईमेल द्वारे जा.क्र.जविप्रऔ/प्रशा-  
१/१०४८/सप दिनांक २१/०८/२०१९

महोदय,

उपरोक्त संदर्भीय विषयान्वये दि. ११ सप्टेंबर २०१९ रोजी डॉ. विठ्ठलराव विखे पाटील अभियांत्रिकी महाविद्यालय  
अहमदनगर येथील स्थापत्य विभागातील प्राध्यापक डॉ. एम. पी. वाघ, प्रा. पी. ए. चव्हाण, प्रा. डी. एस. पठारे यांच्या  
सोबत तृतीय वर्षातील ४३ विद्यार्थ्यांनी 'अ' वर्ग सरिता मापन केंद्र व हवामान केंद्र नेवासा बु. येथे तांत्रिक मार्गदर्शन  
घेण्यासाठी भेट दिली.

उपरोक्त भेटी दरम्यान विद्यार्थ्यांना खालील प्रकारचे तांत्रिक मार्गदर्शन केले.

१. सर्वप्रथम विद्यार्थ्यांना जलविज्ञान प्रकल्प संबंधित तांत्रिक कामकाज बद्दल माहिती देण्यात आली.
२. विद्यार्थ्यांना हवामान केंद्रातील प्रमाणित पद्धतीनुसार संकलित करावयाच्या आधार सामग्री बद्दल सखोल  
माहिती देण्यात आली.
३. विद्यार्थ्यांना स्वयंचलित पर्जन्यमापन केंद्र व साधे पर्जन्य मापन केंद्राबद्दल आधार सामग्री संकलित करण्याची  
पद्धत समजावून सांगितली, सोबत त्यांना विविध ठिकाणच्या केंद्राबद्दल माहिती देण्यात आली व WMO  
Norms बद्दल माहिती देण्यात आली.
४. विद्यार्थ्यांना बाष्पीभवन च्या आधार सामग्री संकलनाबद्दल माहिती देण्यात आली, प्रमाणित पद्धतीनुसार  
पर्जन्याची नोंद झाल्यास बाष्पीभवन मोजण्याची पद्धत समजावून सांगितली.
५. Minimum Thermometer, Maximum Thermometer, Dry Bulb आणि Wet Bulb  
याच्या कार्यपद्धतीची व आद्रता काढण्याची पद्धत समजावून सांगितली.
६. तसेच सूर्य प्रखरता, वायू वेग व वायू दिशा या बद्दल विद्यार्थ्यांना सखोल माहिती देण्यात आली.
७. आपल्या कडे असलेले SWDES या Software बद्दल विद्यार्थ्यांना तांत्रिक मार्गदर्शन करण्यात आले व  
सरिता मापन केंद्राबद्दल माहिती देण्यात आली.

हे आपल्या माहितीस्तव सविनय सादर.

सोबत :

१. भेटीचे छायाचित्र.

आपला विश्वासु  
श्री. सुरेश भिमा भांगे  
कनिष्ठ अभियंता  
जलविज्ञान प्रकल्प उपविभाग  
नेवासा.

प्रत:

१. उपविभागीय अभियंता, जलविज्ञान प्रकल्प उपविभाग नेवासा यांना माहितीस्तव व पुढील योग्य त्या कार्यवाहीसाठी  
सविनय सादर.



Dr. Vithalrao Vikhe Patil  
Principal  
College of Engineering  
Ahmednagar



Date of Visit: 11/09/2019

Full Chiamate Station Newasa

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Shot on Iealme 3 Pro  
By Suresh



**PRINCIPAL**  
Dr. Vitthalrao Vikhe Patil  
College of Engineering  
Ahmednagar



॥ नहि ज्ञानेन सदृशं पवित्रमिह विद्यते ॥  
DR. VITHALRAO VIKHE PATIL FOUNDATION'S  
**Dr. VITHALRAO VIKHE PATIL COLLEGE OF ENGINEERING**

Affiliated to SPPU, Pune ( ID. No. PU/AN/Engg./027/(1983)  
& recognized by A.I.C.T.E., New Delhi & Govt. of Maharashtra  
Accredited by NAAC, Bangalore



Ref : CEA/Civil/ 2019/

Date: 17/09/2019

To  
The Sub Divisional Engineer  
Hydrology Project  
Sub-Division  
Newasa.

Subject: Letter of appreciation and expression of gratitude for Technical visit

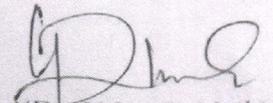
Respected Sir,

The Institute appreciates and expresses sincere gratitude for your kind permission for Technical visit to Fully Climatic Station Newasa. Technical visit able to understand core knowledge of measurement of precipitation, different types of rain gauges such as recording and non recording. Students also get knowledge of measurement of evaporation, wind velocity measurement, humidity measurement, stream gauging etc. We are also thankful to Er. Suresh Bange for giving information about meteorological equipments and application of surface water data entry software. We are also thankful to Mr. Jaygude S.D. for necessary help.

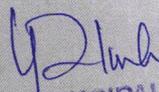
We look forward for constant collaboration with you for the benefit of students in future.

Thanking you,

Yours faithfully

  
(Dr. Uday P. Naik)  
Principal



  
PRINCIPAL  
Dr. Vithalrao Vikhe Patil  
College of Engineering  
Ahmednagar