MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)
UGC Autonomous Institution, Approved by AICTE, New Delhi &Affiliated to JNTUH, Hyderabad). Accredited 2nd time by NAAC with 'A' Grade,
Maisammaguda (H), Medchal-Malkajgiri District, Secunderabad,
Telangana State – 500100, www.mrec.ac.in

Ref /MREC/CE/VCA/2016/04

Department of Civil Engineering

CIRCULAR

Date:23/09/2016

All the students are hereby informed that Value Added Courses on "Surveying using Total Station" on date 3rd October to 6th November, is being organized by the civil engineering department. The resource person for the course is Dr.Ashok Kumar.

Students are advised to register their names to the programme coordinator "Mr.B.Vamshi", on or before September 30th and utilize this opportunity to hence their skills by attending the programme.

The detailed schedule of the programme will be displayed in the notice board.

HOD/CE

Copy to
1) Circulation in student classroom
2) All HOD'S
3) Notice boards
4) PA to Principal for filling

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Advisory Committee:

Chief Patrons: **Sri. Ch. Malla Reddy,**
Founder Chairman
Malla Reddy Group of Institutions

Patrons: **Sri.Ch. Mahender Reddy**
Secretary, MRGI
Dr.Ch.Bhadra Reddy
President, MRGI

Co-Patrons: **Dr. Sudhakar Reddy**
Principal, MREC (A)

Convener: **Dr. M. Kameswara Rao**
HOD CIVIL

Coordinator: **Mr. B. Vamshi Krishna**
Assistant Professor, CIVIL

Organizing Committee:

Dr.J. Selwyn Babu,Professor,Civil
Dr.C.Srinivas Gupta, Professor, Civil
Dr.P.Saritha, Associate Professor, Civil
Dr.R. Prasanna Kumar,Professor,Civil
Dr.G.Suresh, Associate Professor, Civil
E.Rakesh Reddy, Assistant Professor, Civil
A. Naga Saibaba, Assistant Professor, Civil
R. Sumathi, Assistant Professor, Civil
K. Harshada, Assistant Professor, Civil
B. Vamsi Krishna, Assistant Professor, Civil
K. Naga Sujatha, Assistant Professor, Civil
Ch. Sanjeeva Sagar, Assistant Professor, Civil
C.Naga Chaitanya, Assistant Professor, Civil
A. Vinod Reddy, Assistant Professor, Civil

A Thirty One Hour Skill development Course
(Value added Course)
On
"Surveying using Total Station"
(3rd October to 6th November, 2016)
In Association with

THE ART OF LIVING

Organized by
Department of Civil Engineering
MALLA REDDY ENGINEERING COLLEGE
(AUTONOMOUS) MAIN CAMPUS
An UGC Autonomous Institution, Approved by AICTE & Affiliated to JNTUH-Hyderabad
Reaccredited by NAAC with 'A' Grade (II Cycle)
Maisammaguda(H), Gundlapochampally (V), Medchal (M), Medchal - Malkajgiri District
Telangana - 500100, India.

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500 100
Hyderabad

Registration Form:

A Thirty One Hour Skill development Course
(Value added Course)
On
"Surveying using Total Station"
(3rd October to 6th November, 2016)

1.Name……

2.Roll No……

3.Department……

4.Mailing address……

5.Mobile……

6.Email……

Signature of the Applicant

Date:
Place:

This is to certify that
Mr/Ms……..of……..
Is sponsored to attend the Value Added Course

Signature of the Institution with Seal

Date:
Place:

About the Institution

Malla Reddy Engineering College (Autonomous) is one of the reputed engineering colleges in Hyderabad, Telangana. **MREC (A)** is part of Malla Reddy Group of Institutions (MRGI), founded by Sri. Ch.Malla Reddy. The college is situated in a serene lush green environment in Maisammaguda, Gundlapochampally, Medchal(M), Mechal-Malkajgiri District, Telangana-500100.

The college was established in 2002 and is an autonomous institution approved by UGC and affiliated to JNTUH. The college is re-accredited by NAAC with 'A' Grade (II Cycle) and was conferred autonomous status by JNTUH in 2011 and by UGC in 2014 for a period of 6 years. Our eligible UG and PG programs received NBA accreditation and some of them received reaccreditation too. Along with programs in various streams of Engineering & Technology and Management. It boasts of world-class infrastructure and well-equipped laboratories in all departments and is skillfully and smartly guided by **Dr. Sudhakar Reddy, Principal, MREC (A)** who have a rich teaching and industrial experience.

About the Department:

The Department of Civil Engineering at MREC has been producing high quality technical manpower needed by industry, R&D organizations, and academic institutions since 2004 with an Intake of 60. The intake has been increased to 120 in the year 2009 and 180 in the year 2014. The Department started offering M.Tech with Structural Engineering specialization in 2010 with an intake of 18, two more courses at P.G level- geotechnical engineering and transportation engineering are being offered from the academic year 2013-2014 with an intake of 24 each. The department was accredited by NBA in the year 2014.

Overview of the Programme:

The primary responsibility of student is not only to study towards a higher vision but also create a strong sense of bonding between the institution and the students to nurture a stress-free holistic environment. To enhance the quality of life for the students enabling them to introspect and learn techniques that imbibe ethics & morals in their teaching and help pre-pare students for active and successful participation in a modern society, producing individuals of high character, probity and honor.

Proposed VAC is helping to imbibe the skills and competencies required to achieve goals directed by values, to maintain and enhance faculty effectiveness by inculcating dynamism and leadership qualities and to develop commitment and ethical approach towards work, and instill a sense of responsibility towards the institution. Also to enhance communication and soft skills by introducing innovative teaching methodologies and developing an inter-personal connection with students. To achieve this goal, Art of Living foundation is conducting this workshop through ATAL.

Objectives of the Programme:

- To imbibe the skills and competencies required to achieve goals directed by values.
- To maintain and enhance student effectiveness by inculcating dynamism and leadership qualities.
- To develop commitment and ethical approach towards work, and instill a sense of responsibility towards the companies.
- To enhance communication and soft skills of the students by introducing innovative methodologies and developing an interpersonal connection.

Topics to be covered:

- Average of multiple angles measured
- Average of multiple distance measured.
- Horizontal distance
- Distance between any two points

Test and Certificate:

A test will be conducted at the end of the program and the certificates shall be issued to those participants

Outcome of the Program:

After completing the Course, the student will itself feel the difference in terms of:

- Enhanced Potential, Fair-mindedness
- Empathetic behavior & Optimistic attitude
- Dynamism, Commitment and Confidence
- Ethical Leadership & Risk taking ability.

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Department of Civil Engineering

Syllabus On
"SURVEYING USING TOTAL STATION"

Total station is a surveying equipment combination of **Electromagnetic Distance Measuring Instrument** and electronic theodolite. It is also integrated with microprocessor, electronic data collector and storage system. The instrument can be used to measure horizontal and vertical angles as well as sloping distance of object to the instrument.

Capability of a Total Station

Microprocessor unit in total station processes the data collected to compute:

1. Average of multiple angles measured.
2. Average of multiple distance measured.
3. Horizontal distance.
4. Distance between any two points.
5. Elevation of objects and
6. All the three coordinates of the observed points.

Data collected and processed in a Total Station can be downloaded to computers for further processing.

Total station is a compact instrument and weighs 50 to 55 N. A person can easily carry it to the field. Total stations with different accuracy, in angle measurement and different range of measurements are available in the market. Figure below shows one such instrument manufactured by SOKKIA Co. Ltd. Tokyo, Japan.

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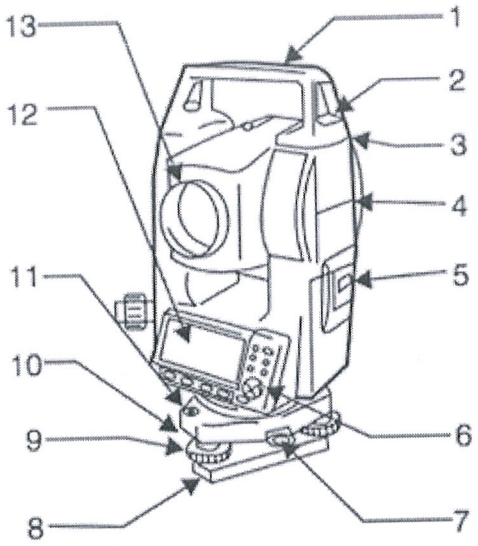
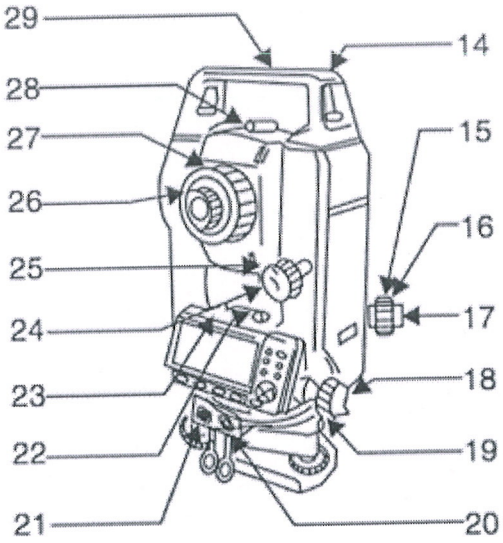
(Post Via Kompally), Sec'bad-500100.



1. Handle
2. Handle securing screw
3. Data input/output terminal (Remove handle to view)
4. Instrument height mark
5. Battery cover
6. Operation panel
7. Tribrach clamp (SET300*S*/500*S*/600S: Shifting clamp)
8. Base plate
9. Levelling foot screw
10. Circular level adjusting screws
11. Circular level
12. Display
13. Objective lens
14. Tubular compass slot
15. Optical plummet focussing ring



16. Optical plummet reticle cover
17. Optical plummet eyepiece
18. Horizontal clamp
19. Horizontal fine motion screw
20. Data input/output connector (Besides the operation panel on SET600/600*S*)
21. External power source connector (Not included on SET600/600*S*)
22. Plate level
23. Plate level adjusting screw
24. Vertical clamp
25. Vertical fine motion screw
26. Telescope eyepiece
27. Telescope focussing ring
28. Peep sight
29. Instrument center mark

Important Operations of Total Station

Distance Measurement

Electronic distance measuring (EDM) instrument is a major part of total station. Its range varies from 2.8 km to 4.2 km. The accuracy of measurement varies from 5 mm to 10 mm per km measurement. They are used

with automatic target recognizer. The distance measured is always sloping distance from instrument to the object.

Angle Measurements

The electronic theodolite part of total station is used for measuring vertical and horizontal angle. For measurement of horizontal angles any convenient direction may be taken as reference direction. For vertical angle measurement vertical upward (zenith) direction is taken as reference direction. The accuracy of angle measurement varies from 2 to 6 seconds.

Data Processing

This instrument is provided with an inbuilt microprocessor. The microprocessor averages multiple observations. With the help of slope distance and vertical and horizontal angles measured, when height of axis of instrument and targets are supplied, the microprocessor computes the horizontal distance and X, Y, Z coordinates.

The processor is capable of applying temperature and pressure corrections to the measurements, if atmospheric temperature and pressures are supplied.

Display

Electronic display unit is capable of displaying various values when respective keys are pressed. The system is capable of displaying horizontal distance, vertical distance, horizontal and vertical angles,

difference in elevations of two observed points and all the three coordinates of the observed points.

Electronic Book

Each point data can be stored in an electronic note book (like compact disc). The capacity of electronic note book varies from 2000 points to 4000 points data. Surveyor can unload the data stored in note book to computer and reuse the note book.

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VAC ENROLLED LIST

SURVEYING USING TOTAL STATION

3rd October to 6th November 2016

Sl.No	Roll No	Name
1	13J41A0127	KANDULA PRANAY KUMAR REDDY
2	13J41A0128	KOLIPAKA SHIVA NANDINI
3	13J41A0129	KOMARAM KALPANA
4	13J41A0130	KRISHNA ASISH KONDAPALLY VENKATA
5	13J41A0131	L. SRIKANTH
6	13J41A0132	M. SRINATH KUMAR
7	13J41A0133	M. SHRAVAN KUMAR
8	13J41A0134	MADAMACHI MANI CHAKRAVARTHY
9	13J41A0135	MOHAMMAD AMEIR
10	13J41A0136	MOHAMMAD RAYYAN
11	13J41A0137	MOHAMMED WASIM AKRAM
12	13J41A0138	MOHAMMED YASEEN
13	13J41A0139	MORAPALLY SRIVANI
14	13J41A0140	M. GANESH
15	13J41A0141	MUZAVAR RUHUL BAIG
16	13J41A0142	NANDYALA MANITH REDDY
17	13J41A0143	PANYALA SAI TEJA
18	13J41A0144	PATLOLLA BHAVANI
19	13J41A0145	PHULJALE ROHITH KUMAR
20	13J41A0146	PINGILI RAVEEN REDDY
21	13J41A0147	PINNABATLA BHARADWAJ
22	13J41A0148	P. SRIKAR
23	13J41A0149	PULLIVARTHI YESUBABU
24	13J41A0150	PUPPALA SATHVIK KUMAR
25	13J41A0151	PUTTAMONI HARITHA
26	13J41A0152	S. ASLAMBASHA
27	13J41A0153	S. MAHENDER REDDY
28	13J41A0154	SARGAM VIKAS
29	13J41A0155	SHAIK MAHAMMAD IRFAN
30	13J41A0156	SINGURU KALYAN RAO
31	13J41A0157	TARLADA SRI HARSHA
32	13J41A0158	TATIPALLY ARAVIND RAO
33	13J41A0159	YAPARU PRANAVI

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34	13J41A0160	Y. PRAVEEN
35	13J41A0161	ALETI. RAJSHEKAR
36	13J41A0162	ACHANNAGARI SHRAVAN
37	13J41A0163	A.BHIM RAO
38	13J41A0164	AVVOLLA MAHESHWARI
39	13J41A0165	B.SRINATH
40	13J41A0166	BUDDE AJAY KUMAR
41	13J41A0167	CH SAI CHARAN NAIK
42	13J41A0168	CHANDAN MEHRA
43	13J41A0169	CHINTALA PRAVEEN
44	13J41A0170	D MAHESH
45	13J41A0171	DVIJAY KUMAR
46	13J41A0172	DAKA VASANTH NATH REDDY
47	13J41A0173	ELURI SANJAY
48	13J41A0174	GADDAM NITHIN KUMAR
49	13J41A0175	GAJULA SHIVAGANESH
50	13J41A0176	G.RAVI TEJA

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Maisammaguda (H), Medchal-Malkajgiri District, Telangana State – 500100

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR: 2016-17

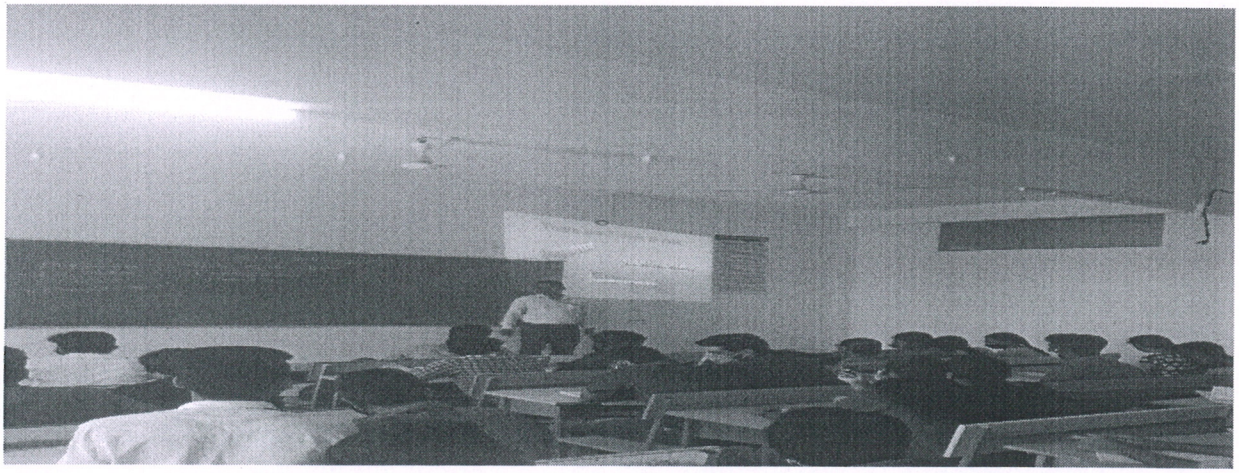
SUMMARY REPORT

Value Added course name: Surveying using Total Station

Value Added course Instructor: Dr.Ashok Kumar.

A total station (TS) or total station theodolite (TST) is an electronic/optical instrument used for surveying and building construction. It is an electronic transit theodolite integrated with electronic distance measurement (EDM) to measure both vertical and horizontal angles and the slope distance from the instrument to a particular point, and an on-board computer to collect data and perform triangulation calculations.

Robotic or motorized total stations allow the operator to control the instrument from a distance via remote control. This eliminates the need for an assistant staff member as the operator holds the retro-reflector and controls the total station from the observed point. These motorized total stations can also be used in automated setups known as Automated Motorized Total Station (AMTS).



Co-Ordinator **HOD**

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. *KRISHNA ASISH* bearing Roll No. *13J41A0130* has successfully completed Certificate / Value Added Course / Workshop in *Surveying Using Total Station* conducted by the Department of Civil Engineering from *03/10/2016 to 06/11/2016*

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. *KOMARAM KALPANA* bearing Roll No. *13J41A0129* has successfully completed Certificate / Value Added Course / Workshop in *Surveying Using Total Station* conducted by the Department of Civil Engineering from *03/10/2016 to 06/11/2016*

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. K SHIVA NANDINI bearing Roll No. 13J41A0128 has successfully completed Certificate / Value Added Course / Workshop in *Surveying using Total Station* conducted by theDepartment of Civil Engineering from *03/10/2016 to 06/11/2016*

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. *L. SRIKANTH* bearing Roll No. *13J41A0131* has successfully completed Certificate / Value Added Course / Workshop in *Surveying Using Total Station* conducted by the Department of Civil Engineering from *03/10/2016 to 06/11/2016*

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CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms. *KANDULA PRANAY KUMAR* bearing Roll No. *13J41A0127* has successfully completed Certificate / Value Added Course / Workshop in *Surveying Using Total Station* conducted by the Department of Civil Engineering from *03/10/2016 to 06/11/2016*

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