ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

BARAKUDA, PANCHAGAON, BHUBANESWAR, KHORDHA-752050



LECTURE NOTE

SUBJECT NAME- MINE SURVEY -II BRANCH – MINING ENGINEERING SEMESTER – 4TH SEM

ACADEMIC SESSION - 2022-23 PREPARED BY – DEBASISH PRADHAN

INUT-L F Date 20, 03, 23 2 Tacheometru Tacheemetry is a bromen of angulare surveying in under the hereitental and vertical diretance of points are obtained by optical means aring oppesed (Gibio) G. Statement als training a -y Jo and inarry slewer pressel of measurement. y Joerof knowy pressies of measurement thetape orienaily method is reapplied is very, although in accuracy tached metry in general compass unforcably with that of charlondy mm - min min m Instrument vsulles In Tacheometring survey and and and and Conclored y originary transilet theodolite firsted with a staddo olda phragm is generally used for facheemetrup. Survivey y The stadida deaphrappin essentially consist of one stad to have a serie and one ther equal outstorned below, the hord-contal creeshalt, y - sne stad da havre being meunted in the same reing and in the samer vertileal plane as the nereitzental and vertileal crees having should the of iff, forms of stad va deaphragin commony ceseof ; por - 將進行之所的 (1) - 靜靜的 正名。 221-1201- 201 101 - 111 - 101

Prunciple of Tacheometry survey and a second a 7 The principle of Tacheem etry surveying is based on the prepertiles of isto seeled trubongly I shat is the real to of the distance of the base From the apex length and the length of the bay is a ways "constant. of Theference for heredzental distance is oferer -mone. 14 = Ks cos20 Where , H = Hight / herercental delstance. K = Multiklites constant. 32 staft interesept = Cgeneralytaway . (top reading - bettern reading , 0= Hordzontal angle of tacheemetru y the fermilla for vertileaf distance is of every -mine. V= (KSSUn 20)/2 = H tano henere, y= veretleaf of istomere, is = multiplied constant. (generally taken has led ! 3 2 staff. Onteneret. 0= vertileaf onget at tachiermetre

of Thill after computing the vertical diftance value the reduced tevel of the Instrum ent (RL), The Hight of the Instrument (HI) , centreal veitre reading (R) y The RL of any point under observation Can be calculated as, RL efpert = RL of Instrument Station + HI of the Instar ument + (V-R) Veretiles and the second standard and the second olistance and a larger production and a centrical welling sie estada in proposition and in a proposition of a state and and Procedure of Tacheometry surveying the me we we we we we we -y set up the Instrument above specifiled station and prugulatere at with reference of undulide vervel. y set the vertical clicche verndert to 0' they weden two uttilledre venel medallie up ille reien. rused in a measuring tapemeasured the Instruct -ment night (The Veretilial distance frientop of the peck - y alternationely, the neght may beternal keering mestal in read first before tenserg and reading through object grass

- y the magnetic yeredof dan or real mendof dan Canbe weed the reference merild dan, y when the reference merild dan is magnetic merild dan, set one up the verence ted'. and retated the tenscepe arriered vertile axile. relaxing the bettern clamp until the Compass need le peints nerth.

I the connect bearing of the reference perh enanether, station of the traverbie with the reference the Einet station must be uneilen in order to orwent the instrument with refer -ence to real merulgion.

y Jake beauing, veretient angie, and the tep, better and axial have receaseding kinder heid ing the staff bench mark. (Jone where of sitte may be hererantal and Incidned).

-7 If there is no weat bench marine fly vener frem the nearly a cresoble bench marinand temporary bench marine concentrated near the reasen,

-y The bearedny, the Veretical angule, staff reading are used to fined an representative location under the Instrument station, command, Observation, y one seevend Station when the out the representa -twe spots have been odjent it if the fibret station record the vertical angle and staff recording relative top, bettom and axial haves.

g change the statilen of Dristreament to thesecond as beforce, To set up, centre and revel the Instrument and Measured Us hight.

- -y Take aback site of the first station also pay attention to the beareing, verifical angle and the statt reading, the top, bettom and axial hadred.
- I serve each station sitted twith to value for station distance and withted preduced which most be with in the sygnal similt, other wise the operation meet be readone.

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* Stad va and Ats principle?

A surveying wethod fore determination austance and diff. elivation. by means of terbscope Instrument having to norchziontal which through which its the mater greaduated tod are observed.

122112 Antiko, * Its principle of The stadua teennice of tacheemetry is a papelari Method adopted for calculation herebeental destonce and Verteleafeldration

7 The nonvontal destance bet the stall State and the Instrument statilon and the elimate staff statuten along the Instrument 1 une sile is computed using in the approach without one observation, from the Instrument Station > Duster there dovded into two types. is fixed nair Method. (" Monable have method. (1) FUXed Haure Method 48-1 F2. A Ь Ъ Horidzenta Q OU By P 7 Ine durle used for taning observation this form of survey ing a tel is copie is the extra cruss have, one above and enebelow the center hadre. I Thue the stad is have once that are equal spaced. in another hadron?

y where observed by the teldscope the etad : la haur are since Intersex aspecifie length statt Inde is the most upon uses 9 appreched facheem etry survey Same Strath UD Monable Haur Methe A ١/٩ B 12.12.13.0 TON down · · · · · · · · · P1 of In constrant to the stad ba technic the tells -copie connected to the Instrument on the monable have method comprise novable a for the second section of the cress hadres of she centre have can be also well be filted menable cross have , and land in his high -y The stad da Interenal US'C Ostumitable on this manner fered off. Staff position the noriviental outstance calculated. yourge is used the fitted austance target a the state of the generation of the state of the

active proverse in the structure the light freezers proved

* Delidne d'appricaging glorenriagen reprised in frient of eyepiece and any with It contailed cross have made of Darix metal are arrienged perpendiscend position triber have used by the eye preve to buselt the Obd -the through lense town which which which *Rectifentel > guilter security A ket culled d Orwheed Frien the lattin here

Retidented whiten means net also knowns greatilented. is a pattern of Edne Lines. Or marwing build into eye piece of as iting divice.

* Tacheom etrup 2 and a superior 6119 1 1112 > A tacheemetrup is essentially nothing more than a theodoldte filted with stadio haited is penerally is used metricity surveying. -> The stadio dua phriagen consists of one stadio have above and meether at equal distance beliew the hereirental creass hadre. Thestadis of have are wert in same vertical planest the hordzontal and vertilead creast havered. (electreanile obstance * Unstrument constant & > Measurement (edm) Putter will mit time The Instrument constants is the extra distance measurement the from the Instrument axis

to the measuring advice, se hallshining m proportional parts All Date-25,05,23 Enst-2 Tre Jange Water and Trellateration. : Sums THE P The nervicental peritien of peint in another - y developed prioriel ed a cureated control fer subsidiary survey can be obtained by threep Method is how many of the way of the mental of the (1) trulangulation it is mission and (i) Trulateriatiles. 1231, 313, 14 mars NAT F (ill) Travereslyg. プロログラモ つけたす しこう かいすう うりがく 小道 * (i) Trevangelatilers? Trivangeciation is process of determine the location of point by measuring only angul. to it frien known pount at either end ef afixed base while by using triggenemetry operation in tribangulation survey. am fur am The Evelop weren is carereded out in fencing eperentilon, Reconnailes ancie / Recennailes abiles (Beforce Friegaratilos 7 statilers prieparcatiles ofapiane - y Base when measurement y measurement of angul. Durpelle -YExtablishing accurate leaded control points for the plant and good etil survey charge

7 Extablished accurately control point in connected with area surveying. y accurate location of engg. prietect seen as centerelihed, tureninal points and shaff leng tierine or lenge brideofges, Prevneulply] 2 Daripit dug mmm 7 A system consulting of triangulation statil connected by a charlen of triangue, -y The complete figure is called Trubangul abil system. y The common type frequere are is used in tredompulation (is recompled (ii) suarcolacheterals, Will perygen. s the second sec up normal at problem 2 Loc (i) Trevangiel L ammenne -y The sum of Interedal angle shield be nzno. of sode of forgure. -y it all the angle are measuremed at a statute there are sum shellof be 3600 y Jue length of the site should be measuries threego more than one recelle. and national and print, and greaderic since the star

advantage : 高了43、南平 -y juis is simple are reappled method y economically cost wethed, and when when it is marked in and Disadvatage to have been to the way were y since it is used to survey along narrier Strup, A no. of base when must be intreduced friquency to readured, the accumulation of erereard, menieter as imply charlos of of tredangie is never permitted in nightered. - et trevarigelatelon, Quarofallaterical method of Jude effort and ex creat system since the varcifaced combination of site and anothe can be used to compute the length of Utrequat - ed site and cheek can be Made frederent - ly FARE & DAY N. C. M. C.D. -> The Bast Quarofailaberulat de square. Quared analital heith beth or dagenals havelog ne statuton at there interdedition it ubeau empleyed. ana summersila ロシトリなル AIN OF base i dre. 4 a . cu anard alge vieral and 121051 drandage. accurate yether asno. et cherrare Melt

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A DA ONTA OFFICE polypont. I When area that are vary, while in prop - door to there . bength are to be surneye then pentagonal and nexogenial figure ma be economiteal. references and 42 min works of long to an A. Thinks from Lou-A - 100 -のいいかんのしれる B C. Personal to a set a de la service of a John man of m of el changed the 7 This is more accurate as the wither barron bring have cheens are more, - Uginas of lester strag * Trevlateration 2 and my my -y still a survey ing method used ted etermin the hoursental position. In add itiles to othere Method when trelongulation, inter - section, revelicon. to is a state was Drun cople 2 · las prazantas amin -ytrulateriatiles Measured of Ustonie and net angre. unulite trubanquiatiles method -y indularly, the area to measure of ely tering to shape and the bength of the side of trubonger measured. It can be also cared pary geo, or deared anaberria or any Computere them, and station to the the

-y The Obstance are measurment using electronice instrument or a sultable inder -unent. - me angre of tradangre or corored unate of vertil s'e are of eter minung wing trugono -metric comparingiles, sur rule and col In rule are used to determine the triangu -> Jus means the Method deernet inverse the measurement et anglies. -> In orders to the check the accurate changie from the trangementering observation Heridra Varie semil time measure ed. -ntal angles Jonce the angles that tribings are computed the trulateration is addultied the co-originate ef the statiles are determine, of when truliationatiles used for remulcation astronomic, engry. or make byg, armety is an angular measurement of a sperileat Co- ored Unatel system that is measurement In Dery 2.1.9 Formula -0 cern 2 (b2+C2-az Cesy=la2+c2-b2) Zal. coszzla2+b2-c2) Sunz sunA = bus suns

etheof CF Tribangulation Survey man mark (1) predmarcy or Fibrest creater frulangulation metnest sudney (it's second ary on second ender tribon quelestics method survey. (1) Tert larry or thilred orders treelang leelable Method survey South La Pastimet . (i) Presmarcy / Files & wetweed survey y Inds system of triding election survey nignest terapriad its prioried es the field her for matilen control networky for seebsilon - y trubompellatilen & Hatilen, 201210101011 -> presmarcy treelangelation survey is general connected for of etermulation of shape and sure of earth, -> For earth crustal movement study in arread of selemite and alter deleger engige priestet of high prieceels and serve Connected to Metrickel illion ariead. (it) secondary Second method . I during prover - Jule system et tribangenation survey il of me grood subledy centred than that the presenarcy treelong cloffiles service system -y general a second tribongulation survey its preeveloked within a prelmany

tridangavaties system, - It provides contried poulost closer than these of the predmarcy trubangulatees surer - eysystem - y the second any trulanguestilan survey and connectues te the prulmary trulain prevalution system are variabled perfort -y This are used ford erall survey The area unerve ground accuracy in net refacelitied, -y at is used to extabusined centred for inter -state and inrand substituescient feret vary / thilred method) . million -y The system of trulangulation survey each of the gread is lower than second arely tredangity at den system, -y It is used to provide of control points bety statution of presmarcy and second arry trulance - quatilon survey 1 50 system, y Jentilary +rulangeration System are weated extablished control for real development , topoppaphile survey , netoppraphile survey and other such priodelt henere lewer accurrey campe accept the of It is and known as Topotrulang unaticon

is al it is normally used to ferr prievely in Centred in tepographie survey a provide sol 37- 122 - march 310 00 DO2 Reconnailsance survey. usan extensit The Reconnailsance survivery study in entire area that might beliese (tetal) for arroad or air fileld, Concept of Reconna De sign Develop mea m m -Staple Surve and Mits itary chariceter stills > Defigned should be considered during the pecenal - Stance survey keep it mind that future required and expanded areas opercation may net. -> A study of relef plane and specificeation its necessary, if this are unomailable y 10 cate peretilen afrew read along or over existing read, real read, trailis whenably to possible -y lecate arcord along reliqued and strubern Whie, Keeping about of trungled system tea minument, keep the grand herenabove the hegen heaters line in as them; ATTA WALLA SE

-y select a result as nearly tesourceft or material al priserileat and becale a read along centour une to avoid the unersarily to earth way y recate the recad surveyede at nuire and congoens entrat side of congress way venerie. me in clubratilen streater tends to! support theread reather than cause to the record side to carry und. + (100) to the factor 7 select lecation where consurve engq. accepts. avoid ing reck bearen and exceeding Clearing Date-06,04,23 50 Jypes OF theod culte used Allar alto A. M. trong ulatilen surveying - Inerce are Mailney Four type of the estentie is used in triangulation survey in (i) Repetationy the eddlifte. (ii) obreational theodolite. the electrical digital theodorite. (iv) Tetal statuen. (i) Repetating the of or ite. alone finden 120001 JED. amunun ann buun -y The Desurved faculated hereizental angle to be made any no. of times and added durectly to the instrumental cure che. 7 Juis type of instreament are nestucted per weather shere,

(1) The suppored usnot steely. Other such Unstrumer (1) area part using 1 unuted. アンションカフショナ みんや 三分法 (1) Obrectional theoderite? find and the first the first - y angle are obtained by deduction of the films directules reading from the second durient reading this reads durielt dom reathert than any -el non reepeting instruments are has no miner motilen. (11) Electridical duquetal theodolite ousing 1 -Y. Naturany interpriets and recercing hereizer -torry and Viverchicany angues, - y el unionents the standard reading of seares on graduated citricle. 3*1/10L Stand Land Hand Co (iv) total statulon add - Lander (1) Common and - The total station accored tes the fund of theodel ite per measuring angues, and "EDry" For measuring gaps : Dilgutal Oatdand inference and do even en woon are den un total statilen theodeliltue. EX + NUKEL DTM 801, TEPKEN and Over d'ameter reserves the receivent there

Descrube the Method & OF Base Libre Measurie min Base une 3 -y The line on whilen the flear one of the survey is putit it is known as basic while. -y Jne Base line is ness essential line et me survey and It is usually the longest of the marin survivery I chose and VI ver failing in the méstolle et the ground controls ut by angrelas areforvence une. - Thus line should bed reven or very level spreund and measured very care fing and presiled, selection of Base I une ? - The weather is chosen in such a way that the mails survey ing principal are strucking fellagere. -y The statelon point on site is inter visibly -y the terrian is sum what flat conserving supe suffey undulating y Ineselfe is selected that well condition trevangule restarmed, TY, Call Same y The longest of mail survey which is the basis line, The mails servery I use reen near the beendy - my While at avera survey.

How to measured the Base line But the marken of the second - y In surveying proceducil ouch as atrave -sing truling watchen, trulateration and setting out base whe measurement is Cruticeal solutions of 25 minutes 1 of the Univertiles of cheetris ingquetile of usto measuring Distrument, base line measure -ment linere eaulpment such as take, char and ebny NOTE STA NO STADIO -y There are mailong till method are used if measuring basie "line. (1) Conventional method, UNEDM Cesethand distance method 13 * conventional method ded duded the types! is hencedered method (in zadreeins weeked. . 11 1º 11 1 1: station formed on addition (I) EDM -Determination of EDM D' coursecture & of the apprech fere of eterming, the zero Conception of EDM is of indiversities into long streadynt lune into parts, - To apprece here of eterming zero correction let an EDM ved iv loved interent streadynt Une into parets,

of the apprecent ferre seender measured asien at the long time and the zero certilection is computed. of the made pression of bird of the 3 setting out of Base line 2 and former and . - A theodolite and realinging power are used toset but the basic line iset of the equite on the starting pount after a pullar has been placed. of the of drient don is define by pointing the the odde -te untre presidetermine Utred credition. - y used the EDM werey in condiction with the theodeldte and battary Filked Ut has to be then set over, pullare and Vievel to the reflectory too. -> The hight of EMD Instrument and reflectory hight are weasured with line take and recerco in the field book. END Measurement. y Jemeasured any distance schaple comparied to distance for example by be knewn cal l'briated (en and the to Measured the length using scale or tape of object in EDM the same comparent voo princi -ple is used the calibrated distance in this case the wave length of the modulation ofg Carender, wave.

⁷ mereden EDM used the presusition of sociar -tz crystal explation and the measurement of the shift sit. to determine distance.

7 The EDM issetup an one end of distance in / be neasured and a reflector of the other end 7 The EDM generated and intranate continue wave carribere beam under de reod de lated byg electrende shutter, (dolg, iourior) 7 The reeffector referren the beam to the received Optile Leherce the dreaming light is conver - ed tean electrical signal along a phase Cemportulsed bets treansmitted and Reculmed signal. of the amount by which athe treans melted and need heave length at out of phase can be measured electronically and Resulste on a meter to hearnen a millimeter or helden fued Mellinepetre. HAR ANTA JAK HARDAN (D.V.N) Tape Connection - (tape-synthetike recebber In surveying take connection referce to Cerviced ing measurement for the effect of sign anyque mee expanation or contraction due te temp and take sog henden narches welty the appuled tension Tape sage - (Elever) When tappling bets the Reints, The tape upen ende subprensilen above the greend olucto the hight of the marcher of

Tape connection is used in survey in or connection For standard ruleablen y convertion for siope, ~ correction for pull. y connection For temp? y connection for say. 3 Nr. 11 1y normal tensition. 11 1 a lain a y correction for musalisment -y reduction of length to reansbea level, * Correction For Standardrevisition. Connection (Cs) 2 1-l And P.M. where, I = nominal length of the tape l'= actual length et the tape, Connection is the when the actual length is greature than the nominal length, and the corer -ection is -ve when the actual length is smallert than the nominal length, * Connection For Slope - (always -ve) Corenection ference (CS) = B = L (1- cos O z J2L SUM20 - D

Where, Oz Heridzentaf eaulvalent. Le supe dustance 0= angle et slope, かったようひっちられ * correction for puil? - Il the pull is applied the applied of tare atend of the tape during measurement the filerof is of ith form the standard tens at which the tape was cal ibrate of a clerences A NEW COLLEG O & LEAN AND A STANK pull its required, Cp = (P-Po)L TO F COLLED DUN henere, pe pienapplilée during measures proliming por pull applied stand and piell. Le measured tength A 2 crossectional area of tape, E = Vourge 's medurous at material in metake ADDIE DR. 25 Martin * Connection of temp X(Tm-to)L) surrouses Where, de co-efficient of ilmear eqn, Tm 2 wear temps of the tapie To 2 standard Lemph. 2 measured benjoth.

7 A tope is supported at two ends at tance the
grape of the contrinery, the correction say
should be applied as the heriziental cut, length
is ation shutter than curve length,
7 when end of the tape are at insome level
the sog connection is diving.

$$C_{sg} = \frac{\ln (W/L^2)}{ayp2} = 2 \frac{W^2 L L^3}{ayp2}$$

where, $W = keedgat of the tape periodic longe
 $L = length of the tape subspeed of bell
the support.
 $P = applied pull.$
* Normal tension
 $C_N = \frac{(P_n - P_0)l_1}{AE} = \frac{l_1 L S^2}{ayp2}$
 $Zypn^2 (P_n - P_0) = M^2 AE$
 $\frac{P_n = \frac{0.204M}{VP_n - P_0}}{P_n - P_0}$
* Tape connection fort nubsal is ment s
 $C_M = \frac{(L_1(1 - cos 0) + L_2(1 - cos 0 2))}{(0)^2 + (0)^2 + (0)^2}$$$

If LizL2 then Cm= q2/L (ve) Simple Start Holling 14,504,52,42, 54,85% A St. Marking and the state of the for * Reduction or length tomeasured ment me montarium AN JOHNNE JUANIN Sea level 1 ALL CALCHART OF THE HATCH ALL ALL CM&L 2. The stand of the stand of the stand R+h $C_h = L_h \left(\frac{k}{2} \text{ value} = 6370 \right)$ Date: 13/04/23 * State Construction of trulangulation stat m ()amani Lam $\gamma\gamma\gamma\gamma$ $\sim m$ $\langle m m \rangle$ - on of permanent Mature. Lam mm mm The fenered points should be consider. EUXing trung cuatiles statiles. 7 Carebury study of all available service plan the oried, 7 The statilan pollul sheers be shew Chiesne the stateless of each triangle are Intere weeds 7 AU stateton shell be easily accusionable. of oney shell beforked on friangreeerid (prome surface) I shey shell be from well condition truly I station shell net be related in an areq under extraction,

7 After traceing our above Reliever into Considation, the station sneed be peremanen maren, y fore permanently marcy eng of statilon Cement periores, sand, centred, brucend may be used and the higher at pullar store should be 2+02,54, gian in the strategy of the of Course and of surface and up survey of and and and and and and Co-rerelation of surveying is anothed it Surneying by whiten the surchard survey and ubg survey are connected to the same baseling purper of Co-recelation survey ? -2 30 determine the high degree of recurrency -y. The relation perities of upprised and forces maybe convictedy left deven on the hearing plane -y Jo fixed the boundary while, for which ing of extained erican ilg hearing. - y Jetuxed the position of the railways, room and Important building and structured or mine planel sethat the statutary restruction Impered may strulp fourier during worung under them.

Youridag the marchel relivert, lake, soord or whe plance so as to take presuations inagura -tion counderry from the water bornelne.

y Jesielect subtable site for purpose prevents S, Drutt orebenend to connect weth upp won -Ung. Hadred Stranger And Antonia in The Anna # Classif deateren of co-recelation durine anno mar ann precise optical shaft engreeth Direct traveresing vig nagnetic transfor plumbeling -deut Metho Milne entruf method 1 22 for 10 124 10 Manual and Without second and one we drue in full wertie or and have small and each tweshaft mene un a sub Shaft. Realization and a long the second Nº1111 Weils Quard Co-planning wedsbanch or exact alignment on. -laterula approch methico and a sparter unable destination and allynment Method inter interior Co-planning on exact alignment method ? vallan non (lan ar The co-pranning or ourset traverselyg augmments methed consister setterny of treestelder in the plane or two plans Vines on a one shalt at the service and up, and thus transferencing the searching lein J and the largest stand and and the productor and the stand the west standing was 12 maly

ulp posie M RI attantion de Lanie Rus Ruy 2210 K and X set in 1 52 Section day R2 TI A B TI ARTICLE AND Lander Shar Instrument Regulated of million in havely - y Julo hariof plano whiles each 0.1 cm allametiere " brees wing strength of 1500 kg and of sufficient strength to cever the shall - 7 740 small of reems fifthed with brand on rachief y the secondial deader purmet weathing any each, y Two symmetricany shaped read plumb beth well niling 25kg eden and filted with while to dompen the tiers telong metiles when Immerched Inwater y Two small pleney. T-washered buevers of weater, -y A tweed alite preferably mileriephietypicedity felieep, e lens. " down have I and to but you Steel take, thermometer, 1 strugg balonce. 7 sealle for obstermining ownear poleutilos of lives og siles been , penell , ell paper isately 1 amps pege, noull poulants etc. A start and a start and a start and a proved une? Sectore inplacing of prion the Secretare traverle ties sta vol RI onal RZ are filmed as service. basie Incheedervice is set at statilen T. marines vear to the shaft , Judge by on the surface

named eyes in al ignment with neo winess, - The station to show be as coused to the neared plumb withe so may been the withes can cally - I the worked are dissing when ed by melan that the near wine is thicken. - 1 be any the temponary addustment at the station Trong set me vender vere, y sue ongre LATIR2 is measured and take the angle LRIRETI, DUSTAILLE RETLISTIA and AB are measured very precessing. -y the assumency of the plumb pidne AB and the correlations of A and B Wire + the surface bable time Rike and calculated. precoutions ? mm -> The two wednes in a snalt should be at convenito. -nal distance. -y read on breass plumb beb must be used in plumber a shaft to elimitmate magnetile, altreaction, I she plumbed much hang free ely and much be price from touted treat. -y Adre current shell be minumulsied by stopping the Fan duriding on atteast one heard before the observation - I she wedree must net still against the sides of succes of water, side that a care in a first

- The permanent adjustment of the theodolite must be cheened beforce me survey very y Of pessible of observation frem been selver of the shaft. - 1. d. 4 10 10 2 4 10 1 the mained stas wintows -y Avanque sheered be measuried correctly reportation Method -y AU siddes shoeld be ceselog biets using powers the instrument. ALOY HIT! Charles in a de Le vestach trulange Method 2 and arthitorio Relines house B 11 . L @ @ Rr ំចំ ខ្លាំងចំផ្លាំង RI SIF and the state of the state baso I when trowerching greenst verses a comerce under -ground by sceppingion two hedres, down a shaft Of its of it fileelt toget of the theodolithe exactly on line with them in detalling are with being nearier abstract the weite beijend, leading tean in a ceiviale by section y in weres baren method the theed elite stet up out of line permiting a small sicilaryophe with the two wednes . this trulangue demain out Neussbach Hubingle, and the azemety on she whe techning successed us founded sy som afsurangues saferns,

a same ta tha drive and a start Procedorie f > Freno the Surbace tranerell station & andle Fixed at the Severace base hereie aritmety 1 nerey carebeing ofeteremetricol. -y she' there of elutie is bet at T, out the surface of cusie to the near verices appendiale and alma in I dove when the puemb planie AB, preduced on Connecting Lathe surface basic, whe small ang CBTIA should be vour fear milnus and the DABTI devorenen as wellsbach tribongle I to measure the small progree LBTIA , the theoder is set up at thomat an the temperatury ad Justments are made -y The telescope is of creeted neward the heure! and the ongle LBTIR is abserved inthe let manner towing atteast three reastings evener of sne face of the instrument. - In a similar manner menalue changle LATIR is optailored and the dufference bets the tue omplue this abtailment is the connect angle of -y Jecalculate the acclimity of the plumb plane AB. the small angle LTIAS much be eal cierated, BTI AB Since Allerdand Modeling song here a lipition of and and the second starting

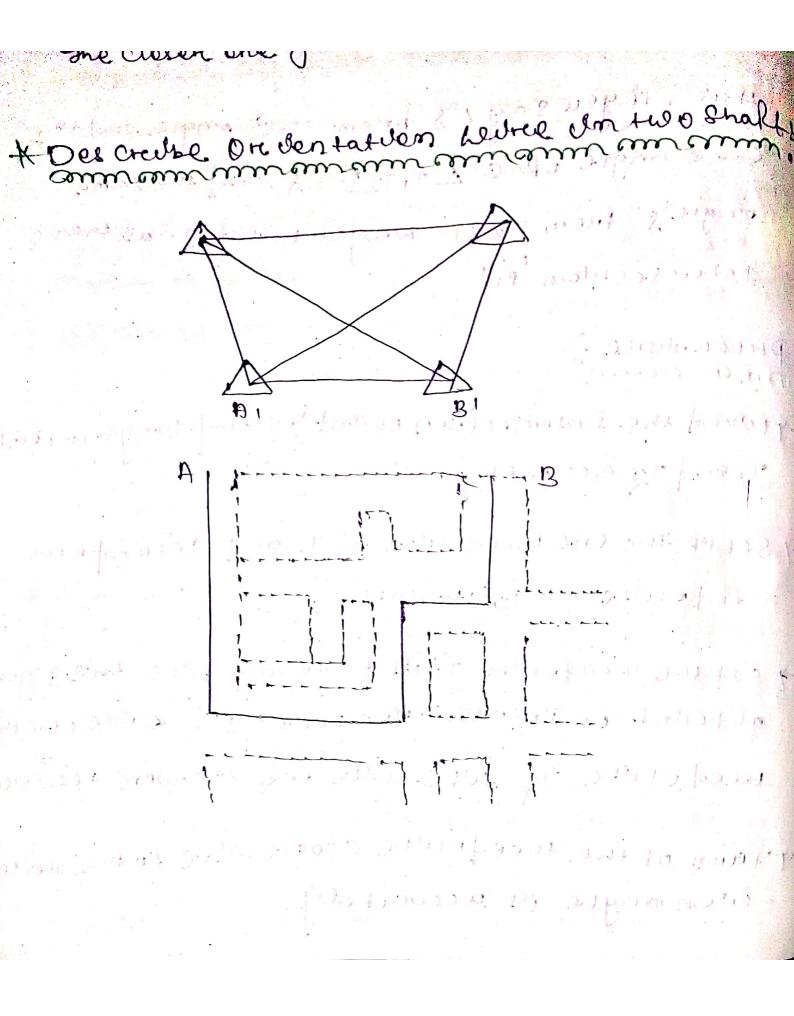
of sheangue LATE RE and leterearce also being measu -rued and to the oreimeth of the line tell combe calculation, precautileal 9 Spinis als Birth - gre plembudre must be veretleaf ond meetbe free from any obstract dass. J' the prembaldree much be asmeen dustined aparet as possible. y Jue weeksbach travonque meet net exceed somen - retes to average great presuever, insue measurement of seldes. -y jo ensure accuracy 2 ormerie perfectors of the plumb verter maybe Observed.

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- when the shalt are mailable Fire surveying cause one of the most subtable for co-oried inally enconstruction mast and up seeriney is to hang an pumb whe beth shalt . The pumb whe the try terendral station on the surchase and up survey and considence when the survey has been com -pieted mene rielature perutiten many bie detering - une the calculation. friend 140 and march I ming the survey Procedure ? annemm -> TO Make a triban geciatilen survey at the section to fore accurate fremwork for the statis survey of surchasse. of 30 sobbo Subtainded by two while shart. y Jolecale The D perduce of which accuratly the surface by connection them to the surface tribangulation great that the rength onof bearing of the whe Jedning the two wine at the co-or - of unales of the worke may be completed: -y Jo name and accurate alg tranered bet the werker (A) Let A' ond'B' trepresent the priemb line in the ties shall near trilong unation system. 'A', and B' are extablished hencey and Connected to mail this presidenticon system. (3) measuried the ongle and oldstomer presidency and calculate the co-originat of sumb pount

A' and B' are also the length and searching of Participations of the magnet the part of the AB? WING DOP THE (A trowerile is made vig where to where a long ing reportueays connecting the ties shaft weiling and asumied autrientitional basil Inn i makely () The correliance of second wedres B' relative to the first while A' one again Calculateling the from the up traverely and pilo the beareing and rength of plumb line AB, is completied. (e) The beareing of puemb line as calculated the sil co-originate of the wedreel taken from etsteling value and its compare - ce of to the bearing of the Plumb length calculate the covered inable on the ely traverle. TO LOCALE STORE STORE AND A COMPANY (F) The length AB' as computed triem officiner - se shell be agree closely with that obtails - eof that slf. (I is and my diffuenceast in beauting ferral then here of the vig tranerche as to be sheed on through -n' the trubongie to breaking the slf and 'ung' plump planie is consisted ence, KNULL WINK printing for the printing south of

Stated unelt Correctation by treaverility if vell avreum opticeal method & man million in the search the * O treet travereding via wines entry of when entry to a multie by level or drught, one method at co-invelation is contriber allt by maring privele theeder traversing Irevel Derillt Intil the moving starting from som one I une knewn bearding ren In the service trulang maturen of moning a meturen tranend & so, that the arrea should be crossed kelyperany 14:1 an 1 11 P. In the time Co-received survey one or two Up bases should be morde ferchaturie reforming when the siercinery at plated on plane the upp were - Ung should be shewn accorately with there position relating to the sit fearburned. -she treaver Sil most be cannoled out with groupe preversition and the tempercarcy, advied ments are dene, (settling inutilal statiliem. (iverelling which is the second of the second weaturing meleogth of each prulpt. (3) The second states and

The angle been each point of the should be mean -red attest & times, with face left and face reight. By memory of ruepetation. The bength of each Druth should be measured concreat, timel so, that no sage very octing Optileal method 2 Thus method converses extruct up and derien the menie shaft the transiel. Installation of seem special form of tenseope although het is used new, but this method had "celled on par in shanow. ALL PREAT Instals Set Training Presceolune 2 -usetup the base lime at put bettern connect te the upp slury intime positions the pount A' to'b' a cruss meshaft bettern, -> puts a tweedalite over a love of a site where the baseline and transist up to target Rito Cr1. of repetethe position of 2 & 3rof with the the expendent. of the line Jedning position of f, f & on the shaft ter is then prevoluced evener typine word undertensien or co-pronning inbern e onection

The opplead method of Co-revelation invoires the use also and the adamine him ing and clarry terms cope for treeming signal down world, donet give certification theself because shore base bet the two rechercience bound sites at the bottom of the shaft hours the Instrument situp the shaft tor. The optical method of - co-revelation net suitable for shaft exceeded any seem,

Singte westere in till veretslag straft? mmmmmmmmmmmmmm J If beth shafts are veretslag, convegations is coursed out by means of the placed uners one seespended in each shaft.

y Ineposition of the Rhund unes at the surlace is in care paraties (to include) to the surlace the langu -lation of the longth of bearies of the one Jouriel the two wines is calculated in relations to orof -ance or assumed mercied ian.

A traverele is their move inder graind between the two where of their co-ordinated and calculated by reference to on assumed merild bon The bear why of the plend Plane as colculated from the eff co-ordinated of the is taken as its true value of comparie with the bear of of the plind. Klone Calculated from the coordinates of the relig triombult.

The of Afterience in seawed istaken sepre. ennert ind includen of the assemned. My et me where at me up treavered hastabesuch tenore thits another to briding the secretare of rig a flotat all a hard the Reems promethoto. Junea hannes sent it martial If the surface corard mortes: up tomen as the point of origing for the transfer concuration the co-ord boated of the other where as obtain, from the up tranerole will not normally agrice aerth its sit values. while Unshalf weitrie commetted to 1 197.1 1 Suchael truboragenortion + eptorto metrickall co-erollyabel 0-planning on exact Alignment menod annem of On this method the abject is to proceeting and after theodowne exactly unlike with the plume plane. of The theodolite on the set would exactly allgmest of by observeling omgre been

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y Jne theodolittle mest be eet up close to one certice about 3 to 3.5 m away anymed filtestily by eye, "after any anymed filtestily by eye, "after any any metriciped by eye. - issue Dustrument reattached & acemenately level.

- There we were were be asserved, fire terrscope is polated to conder the first were, the rearrest where is then bries at intofaced if the telescope is out of the

A scale combie placed beneard the weather the apprecent small amount of movement of the tes thereased. w

- philes both widnes are like viden tarouertig teuseope winden meant that the id ime of signe uses in the prime plane, shis much be tready previce - of to the UP.

J Ende combe olonie by measuring the nerescental origil BT, R. House freem the Co. Rlanned Statiles below the greenod.

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RI S. S. Sold P R2 and Basela S. 1. T. 2 an a stan subjection F Devesbach Quand Material Method? I sure provide provide do And marine them fair and the start of Charles State 1 220 32 43 T -3 1 y 3 2 y the alevesbacy anarophateriral isferimedi the tule webers of meture inst-statileo, y shedder whee arice set up at statutes X& yand the my us hig of YXR are measured at X and the onguel 3. y & X yR are measured very carefuny by constan Repetations. 7 The leggthe of me sode of the derarcof Material & the dupperallarce measured at a creater onthe ongues although all the calculation converses but 1 aggular, measurements. L Cherry - I she organs at R, YRX, XRR, & YRR caremeal sufficient of intermative have neveren sealednied incosimily of the plans

prone at the Sith on the accometh of RIRI below ground. y shues the accomethil of the lunch and determitised of even todily the covered instep of the list of observational may be made friend but along observational the poseduce several friend proned may also be used.

Preudre magnetile correnelation ? Pormannen mannen Man truks method the mal break of slf of ely bale unel are determined and them a traverese is carried out friem each to actogre prime cutre suspended in the light.

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I the traverely will the the co-encidencies of the Vig stations.

- E Themethod wes the tobelar compals attacived to the theodowse to determine the may bearing of the lunes.

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Date-10/05/2B - Stope survey ong? am im lon · YY 《无论的》字中 Define stepe surveying? p stope surveying operation carried out during a few dougs before the end of the month to films out the exact amount of procend removed do oreder, that the stopp etc may received acrecet payment where payment of stoppered. Us basedon undtab werey accomprast and benused are awarded forenigh driving efficiency ond Low explosive consuppidon. PEURPOSE of Stepe Surveying ? -> TO acceptant amount of griscend removed during Agiven peruled. " Jodetermine ineposition of stepe faces relation -es to each other. , is it shaft puttat and the boundary on fleautures. of 30 calculatel the one reserved -y jo compline with of regulated meant of the routines reequipetion, Factores affecting of stope surveying on of DUP of the are body. 7 size and shape of orcebooly I method at stopping > Degree of aleraly

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Instruments Survey The Part of the Arth No. 1 11 18/145 of It is sum what feddeus beet readed for cheat survey ?? Scinen Proposition 除到户方 8 y specially cener theorie body chorplane centering - where the co-end small preavest and startion of the theodolite traverel are calculated of there positions are plated and horeizontal pestilos whill are After ward convertied to the plane OK theoree body. y peg te peg dustomer aire measure avester tape by nonitrontal of veretileal angre by tweedof - ete M.COLLINGON LAND AND ermune Stepe face Station Jone 30m take herd been the two stearer, Its zerio at statile statilion near the face and regationgle offset freem the tape to the susses - ave points at the have and and measure and booncof. (pount fixed means) J 144 10 11 20 a the contraction of the J.B. K. H. M of 14 the officers are less than 1.2m the grooly - ated may be cled instead of the 15 m derth. I Thetape I une shell be closer to facil It mary he sometimes necessary to convenied tetre here weath uts zero -a pound eristation peg.

I marry on the back then te the place beth sugerer Station of provide the further to work the be abtained I Thestation tevens ommitted may measuriements firemy. or werde base tribonarie with its affects at the staticon and cheary me reception omgie reasurcement may be ordelitelen. 7 The march mode on the face is used at zero. for the next station that and and with - 2 Dronder te optained marculale se the slope with an emer boy measurement of the harpy - ing wear to the pertural at taken unobservery - Thile measurements are based mode friem L.S. mte 3 m away frem the face . and made at regent omple. I te the plane et stepie. Date- 11/05/23 Dreeparcatiles of stepe plane &. 2411 - YAU measurement instere and made intrie Pla of the stope, for pletting is weasured, notifican 11 prefetiles which be incorrielt of there forg a certicetion. is applied teme pesition of peg s'ontre nordzental predectures, increte to extends the destance bet them, & along the dup like temerce connect inclused Loyelt

y The converse of servery stardon give meric relative position when pletted tograd at me given seale, in the and it is a more in the first - The two post ulan statilen on the stopic plane while on the line of the connection as given by the norwcontal position i bet at dustomere knowener other on the i one co- revespond to the Inculned distance reaserved bet them in the heritantal survey or obtailmed by the pretting bet the nervicental & veritical distanced chat relight angles trevenuel and be sealing of the Dreubourd at War by farming distances. Linital Delivera o fie source) the set of of the offset of measured friend take held bet the touestation during face measurements and pletted duriect on the stere plane, is in the y the permits governby offsets are Dered tegether te formed cut line measure a facé in print of Thearren verences eg bet mig current foremd prevident one i discourse format faistaire y measure of by placending meter. which represent the ancient of excavated the ground during the beth perded measurement of and parts I position of the server statilon from the store plane. and transport the wedueed scale. wing plane are treggelar Interval transport to reduce)

to bridge mune plan, upted ate ('undulating any Find out area of extraction by planimere V.V.I mmmm of planumeters is meet is sed in determine the anea by pressed toscale is securing when the boundary are ver equilant on cerive sue as neverele beindary etc. of stills consist of the areas himped at a kein one afthe two arms recalled ancho arm ono us filtered of rendry I still canaded a needle poilort carried an cher - padrit i venden ve fiked on the papier of herdy perities by small act. -y which is dulp attachable the ether arm it shew advise table length of caucilles them the - nong point whiley is neved arread the boundary of area to be measured. -y shetotal normal dusplacement weature by wheel which excess in parallel to trial who with portability over , of The wheel may be placeopubets the breakershy pound or persecont by and the beach point away from the equing points

y when the wheel carriled grownated friend devided into separits, the 10th of the parts of vernier scale

of the complete reversion of the wheel or reversed

y Jue countiling there are devided into Loth parts and admanced one line and ever such after of wheel and preper one the veluetilas every Le turn of the wheel,

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Jerere are roomany ties by per plandmetter are and

(1) Amster pelar plandmieter.

(1) reling plondmeter (i's commonly used in mines)

Date 02 03 21 ? Setting out Curves ? - y cradually and smeets change of deriver frien one strangent to another strangent is known as curve. y The mine surveyour is Frequently coned upper to set aut curve an surface or underground Haulage recard ways seas to over come any obstac -le intermining a straight pather in eredier to avoid of exactment of treath. ABBC ARCIGA 21 ELIEN Curve Class dE dealder of curine 5 144 14 2 193 mmmm There are maderly three types of currice. (i) sumplie curve (iii) compound currence (ili) Reverse curve. (i) Sumple curve ? A simple clevere may be defined as as ingle curcedare curve under doing two tangents wetteling at an omgir. tangent ('s Imple curve)

(1) compound curve? A compound ciercue is one in wonder a ciercy at one revolveus runs into anothier of the differ -ent readileus benofelnjog ensame direction with a common tangent and with the center up The sale of the second second Same site, 4 Arch commer * tangent compound curve (11) Revens curve ? Ominmon A REVERS CUreve consists of the o are is bendling In opposite of dreet vond. Their centrel ise on OPPoste stoke of the curry. Theirs readily maybe extruct equal or of other end one they have one Common tangent. Arce comment, (Reveres Cerrine) 1 ATCI * Elementes of selmpre concentry cours Tangent A θ F わ E * long enerce Radieus(R) T1 B

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(i) Stranghts ? The two stranght particens of realizing line or reading une one dase connected by acurry of read " R' are the strangent Here, AT and BT, are the two strangents.

and the second second

(in Tangent Pedat ? These are meende of the curve where the alug - nment changes friem a curive to a tangent. These are the begunding and end points of the every. Herce. Tanof T, and the tangent pernts, (11) Back tangents Jne tangent AT previeue te the curve is caugo

the back tongent are Rulet tangent. (in) porward tangent ? The tongent T's forwing the curve is carried the forcession tangent are second tangent.

W pount of intersection & If the tangent AT and BT' are preduced they they were much at a pound carred the pound of intersection or verifield. Heree, n'is the pertite intervierden,

MI) Long Chord 2 The energ Jount the two tongent pount isealled J.C. TTI long enored.

(Wil) Intersection angle / Angle of Detlectures & The angle LYKTIED been the tongent AK Preaker and XI' is comed the intersection angle or the external angles of deflectives beth the tubo tangent. Thus angle & is eauaf te me angle centre et cerevature 0 by the arelah LTOTI the certinature TETI . Stars David Stars. X23 195 이 내고 있지? 것 모두에 가지 한 이 가까? (Ville) Apex angue ? At is the apple at the apex of the clereve mode mom by two stranget. The angles LTKT, = q= 180°-0. (ix) Tongent Obstance 2. It is the of istance from the tangent point T or i tethe pedat of intersection Here TX and TIX avetangent diffance. (X) Apex duetances The dustomere FX friem the mod peint et the curves to the point of interesection is meaker. oluston ce, 计可操作 化试验检 家 医牙间间的 (X) RUSIC ? The of istance of bet the mud peut at the long cherce te the med pert of the ceruse is the rule of the certile, of is also known as mildolly ord inste on versed sign afthe cerve,

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gth of the chercol. Formula A. 9. 1. 1. 1. am the beng Inof the ET = 1 chereof = sun of so, chard = 2R sun of 3 tongent of vetomere = RX tan 0 puse of cerive = RX. CI- cos of 2 (3) (y) Apex dustomer = RX (sec = -1) length of current = 1 0 KaTR (5) * Designation of curve ? The snarepness or curve is designation either by its read veul by its degree of currat -are Ind Dequere et curinature are different definition. (A) Accoreditory terme are delination whilen is used in nighting practice. The degree of curere defin e the centre ompre et curere

that at 30 m veright that selbtomted

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(3) A cearding to the chored defination where used in nairway prea, fille Theolognee of Curive is define altre centreal angliech eur that subtail by its chered of som length, for som of length R= 1719 CAPPREN) * Defune Super elivation? and an an and and of Je aveild the danger of euter reall is reasiled is higher level than the inner real ono the amount by which At is reasiled Aseaned the supper elivation. * super elivation inem = Track gause inem KN2 henere, vespeed of vneumere in meterly 9= 9.81 m/s Re projuent of curine in meter. 的一种工作注意的工作也 a samparaka sara gun sanarah sa 1450 karangan * Transition Curve Man Maria St. Sam an an an and and 44 Tromentillan Clerine on Asiement Currine veril filmy revolutered Intried used bet a strangent orgi a envelopente Currence for the purpose of geling is changed the directules of a reach. - 1 At maybe Intreduced bet tubromened compained cereve or reveres cerie.

Necessity of prioritaling transition of many month and many to accumption graspially the ofriansition form of tangent two the circular curve are from the curcular curve te the tangent servat preetive are increase.

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- y Japrendole medulin gradually increase et guper elitration friem the zero on the tangent to the specification value on the mouth current curve.

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y stauer the nigher épéed at the turning and same vanet pessebble in ether ways.

* Setting out of a simple Curine ? The may be set out in narweels ways dependent of the presence of a curine into the setting of the Distriction on of shew on,

y depend ing upon the Instruement used the method abset out the event maybe denied to into fouried method.

1997年1月4月1日至1月1日 Advantaget ? -7 \$4 prilor yo () I Unear Metheof 7 ommenni 7 In this netwood any charles and take are used 7 I linear method are used when any degree of a centrality venet require and currie verhard (ii) Anguar Methed ? 言語がなった。多たらいないのなど -2 In this method on Instreement such as the ed duty is used with one without a charles on tape. * setting out by chord of an offset ? > In this wetned the ceinve is set elt by - altert measuring effset ·H continuetton of 9 Strangent, AB ono T succime cherds 10 arve BC, CE, EY, GD C NO angular, Dustry Q - ment clubed. Q R-Rodileus B Tomogent offset - The method consist of derid cong th inequal areas Be, CE, etc.

is substanding an angle X at the centre each sensitioning at the angle of centre and calculate the chercol length by using forming chored = 2R sun x] Q . Plain and and the amount and Wal mois lago pricedure 2 -y JO Elmof Out the first pelot C Towel A ond B are praced at ronge the DC cetable set and the rught omgive terme BD sethat tongent alon off--set BC = ceta MA MARKING B ar if the readileus of the curve it seem and the chared is 30m. thin the tongent ellset. (80)² 2 30x30 2 2 2 2 = 1.5. 6/0 2 2 22,300 ZXBOD <u>cherod</u> <u>303</u> = 3m -y reate that all the cherce attest arce peuble are tompent effet. -y. Joset out the curve The Zerro of the take any

the tongreat B onal on arresult pit put along the tongent line onal at pert D show that in the trilongle BBCD thereogth of BCCD Therength of tongreat DC = 1.5 m and BC is at relight ongre te the CD.

7 The pacy know firmarial and the zeria and ha the pack at the pount c'and its frient and is rcongeof in une co' ond arucoin is put using point of at the the tape is moved in ward the point B'. maning the of istomie FE: 30 the Sucreding text place are set det in which manner and until etwer end of curve is received ; system I feat i the * The theed oute method? Oate-03/05/23 7 In the two thereof elute method measuring dustance with a charts or take is not requerred. -> Thus Methed is part to certainly used in receipt green where chaining is Impossible or difficulte, of the method reachied the the edolite and the people hand! them thus naming method is more expensive. -> Reporting fethe 52 Endance - Tond 9 Let Trand T2 at the the troppent

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thus, it you say is freem T. I omgie and the Some omgile of &' LTIT2P = 8 and the same ongle's' frien T2 T1 We get revent T1 as there Anterisection (P1)

Procedure of mammann y riked the Intersection perent (1) and tongent recht T, and T2 accertation.

7 setup the one theodelite at TI and second and theoderite at T2' points.

- y set the theodorite Tick b' to ong sittle the signal atpoint of Intersection poulat D'. Our chethe theodorite Tz site with the verindere set zerce.

7 Taun af the thead and the Cloenturise tatue deflee - inter origine is accurately.

-> have pereren is realing read more such that person come intre line éfsite of the beth theosperite thereast at which this perchap start ena peint on the curve frien the defiel -tilen omgil sailof. - i repete me precedere weitnine other defiet den omgre with beth the Anstrument reading mesame angle locate a numbert of such persont et the curve mesmaller distance bet such peint, The cieser one gets teme actual pretire of while

Date-24/04/23 GJ.P.S and Total station -GI-Pad - Cilebal posultionetry system. total statution? 13-071-910 M2 39-21 7 A total station is an electricity transit theodoly that measures angues bet neretileat and Herubran and dustance bet the perfort i prove and and 7 It is the west advancing survey ing Instrum -ent with unsequated Long. 12201 20 - 1 2090 -y some companded and = Hexagon AB, NULLEDN, TOPU Halt & componation and proving prima of * punctulen of tetal statulen? - y ongle Measurement. is down a by - distance measurement. - Y co- oregunate measurement. y Data - proceeding. (A) Angle Measurement -- y Most total statuen Instrumentes measure angue by means of electric optical scanning of extremi preuse digital barcedes retation etened en restating glass cy curater are ause weithin inf instrument. Distonce Measurement S Measurement of distance is a ceangus hed with a modulated infrarcof courses signal , generated by a smart served state emilter

with in the instrument's optical path and

and reflection (undiere 8 ceremony. & The medulation pattern in the reterning signal is read and inter prulied by the computer Inthe total station - The of detorned is of etermine by emiliting ono receiving multiplied preasene des mothe determined by the integet no, et wowed rength to the target porceast frequency. (A) Co- ared small measurement -(muld - pount) 9 The co-ored unable of unknown point relative to known Co-orcal inothe can be deter millined using the total statution as importal and true t when a sugar canbe established been the petril. - y Angles and distance are measured prion the total statution to pounts under survey and co-ored inable (my and Z are calling - northely and elevation) of seering points relative to the total station pesultion are calculated trulgenemetry and trulangulation, A Data prever und y some modell uneitable unterenal electricante data starcoppe tercevercof distance, hereizantal angle ond vertileal angue measured, while asher models are exclumient to corculted these measured meats. to entermal data concettere, seenal hand held computer.

- y henen data is deien looded from a total station Onto a computer, appuleation softward comberies to compute rescuts and generate a map of the Surveyed area. - y The newelt generation alteral stations comain show the mat onteres served of the instrument immed latery after measuring the paints. + Appuleation of total station ? - y total station arecesed by rand Surveyetes and civil engineer, either, record features as in topog rathic survey ing or to server a

Treads, men heuses or boundarwes. I still also used by aneno eeleg ists to received excavations and by perice, crume seen e investigation.

- 4 Fotal station are also used in mining indust - rives to rie cored, the absolute location of the turnel wans, certuings and prover astrong rill of an wing milme, are of relven.

JEt is also cered in meinan deal and electricity construction utilities in to the found at don, bet pload of a strill and tooking penetriation because more commercial and industrial construction Jobs have become conserved around burlieury information modaling (BSM) y of is also used in methology, department to treacy weather barriel for determining upper level winds

* CIPS > (Cilobal poederconing system) y Cros is allo known as criobal poerticon impregeter J'e on the earth Un the adriand concerter. 7 A cros receptivere shares hemerce it is and salast mover Contraction of the second and second to be princiale of cress 7 A CIPS under takes readilo sugnal from the sateriles In the space in orebut areanof the earth, -y The readilo signall contactor information as out the tume and polituan of safeitte. - y cips is nothing bet as atelite novigation system that its celled to provided us weith information about the current realization and current time. Jone satelitie navigation system aled by aerps. united et aippro almate 24-33 sabelinez y cros works on the primulate of exchange of readilies weaved, been me greenoral statiles is a telites ond the receivered. - y Thus trionsmulssilers and reception of data prieter a trullational den menories of operation. The fruitatured menoniusm states that estimate the. priecesse location of an object endersel. of Thene, at satel that that trend metho and receive

data to omd frienthe asself is of treetily propaged it is of the internatives processed by erps,

Voule meand if you increase wend, of satelities that are able to communication cevery the device the aceveracy to estimate the location of the device Improved properties analy g the Huliateration menanils combil verillied in been 2-of imensional and 3- dimensional when - y The two of imensional frederiter ation mechanism marres use of long itude on of latitudes to obererening the location of a particular place, -y on the ether hand the 3-dumentional tributeras - den weenanvy makele use af long Steepel, lastitude and all titled values. At OUPS & Couldenand greeal Residering system -> Differential grebal possitioning system. 18 supplement and enhanced the pleutilenal state avidable friem global norvigation satelite sys, -9. OCIPS consulting of network of fixed position , Human based reference statiles. y each reference station calculation of referen - al been THE hughly alware waren perutien on It's less accurate satelite derildenes! position. 그는 것은 것은 것을 물었다. 여름을 들었다.

North Contraction and Pro-