

Question 1: (10 points)

A) Define the following:

Cadastral Surveying

Cadastral Surveying = land surveying
 (المساحة) هي المساحة التي يتم فيها تحديد حدود الأرض وقياسها وتقسيمها إلى قطع صغيرة.

B) List only the conditions needed during the choice of chain lines while mapping a building. 7 Points

building. 7 Points

120° 30° chain line

2. أفصح charin line أفصح ما أملك من العيشة والنعمة المراد منها

اختار شلالا متعرجا chain lines
يا مثل المسافة بين قنطرة الجسر ومنه ليرة 3

ای معوقان چین chain
lines مند / منی / بیره

آفتاب، chain lines، تارهای کربن، الماس، CH_4 ، CH_2 ، CH ، C_2H_2 ، C_2H_4 ، C_2H_6 ، C_3H_8 ، C_4H_{10} ، C_5H_{12} ، C_6H_{14} ، C_7H_{16} ، C_8H_{18} ، C_9H_{20} ، $C_{10}H_{22}$ ، $C_{11}H_{24}$ ، $C_{12}H_{26}$ ، $C_{13}H_{28}$ ، $C_{14}H_{30}$ ، $C_{15}H_{32}$ ، $C_{16}H_{34}$ ، $C_{17}H_{36}$ ، $C_{18}H_{38}$ ، $C_{19}H_{40}$ ، $C_{20}H_{42}$ ، $C_{21}H_{44}$ ، $C_{22}H_{46}$ ، $C_{23}H_{48}$ ، $C_{24}H_{50}$ ، $C_{25}H_{52}$ ، $C_{26}H_{54}$ ، $C_{27}H_{56}$ ، $C_{28}H_{58}$ ، $C_{29}H_{60}$ ، $C_{30}H_{62}$ ، $C_{31}H_{64}$ ، $C_{32}H_{66}$ ، $C_{33}H_{68}$ ، $C_{34}H_{70}$ ، $C_{35}H_{72}$ ، $C_{36}H_{74}$ ، $C_{37}H_{76}$ ، $C_{38}H_{78}$ ، $C_{39}H_{80}$ ، $C_{40}H_{82}$ ، $C_{41}H_{84}$ ، $C_{42}H_{86}$ ، $C_{43}H_{88}$ ، $C_{44}H_{90}$ ، $C_{45}H_{92}$ ، $C_{46}H_{94}$ ، $C_{47}H_{96}$ ، $C_{48}H_{98}$ ، $C_{49}H_{100}$ ، $C_{50}H_{102}$ ، $C_{51}H_{104}$ ، $C_{52}H_{106}$ ، $C_{53}H_{108}$ ، $C_{54}H_{110}$ ، $C_{55}H_{112}$ ، $C_{56}H_{114}$ ، $C_{57}H_{116}$ ، $C_{58}H_{118}$ ، $C_{59}H_{120}$ ، $C_{60}H_{122}$ ، $C_{61}H_{124}$ ، $C_{62}H_{126}$ ، $C_{63}H_{128}$ ، $C_{64}H_{130}$ ، $C_{65}H_{132}$ ، $C_{66}H_{134}$ ، $C_{67}H_{136}$ ، $C_{68}H_{138}$ ، $C_{69}H_{140}$ ، $C_{70}H_{142}$ ، $C_{71}H_{144}$ ، $C_{72}H_{146}$ ، $C_{73}H_{148}$ ، $C_{74}H_{150}$ ، $C_{75}H_{152}$ ، $C_{76}H_{154}$ ، $C_{77}H_{156}$ ، $C_{78}H_{158}$ ، $C_{79}H_{160}$ ، $C_{80}H_{162}$ ، $C_{81}H_{164}$ ، $C_{82}H_{166}$ ، $C_{83}H_{168}$ ، $C_{84}H_{170}$ ، $C_{85}H_{172}$ ، $C_{86}H_{174}$ ، $C_{87}H_{176}$ ، $C_{88}H_{178}$ ، $C_{89}H_{180}$ ، $C_{90}H_{182}$ ، $C_{91}H_{184}$ ، $C_{92}H_{186}$ ، $C_{93}H_{188}$ ، $C_{94}H_{190}$ ، $C_{95}H_{192}$ ، $C_{96}H_{194}$ ، $C_{97}H_{196}$ ، $C_{98}H_{198}$ ، $C_{99}H_{200}$ ، $C_{100}H_{202}$ ، $C_{101}H_{204}$ ، $C_{102}H_{206}$ ، $C_{103}H_{208}$ ، $C_{104}H_{210}$ ، $C_{105}H_{212}$ ، $C_{106}H_{214}$ ، $C_{107}H_{216}$ ، $C_{108}H_{218}$ ، $C_{109}H_{220}$ ، $C_{110}H_{222}$ ، $C_{111}H_{224}$ ، $C_{112}H_{226}$ ، $C_{113}H_{228}$ ، $C_{114}H_{230}$ ، $C_{115}H_{232}$ ، $C_{116}H_{234}$ ، $C_{117}H_{236}$ ، $C_{118}H_{238}$ ، $C_{119}H_{240}$ ، $C_{120}H_{242}$ ، $C_{121}H_{244}$ ، $C_{122}H_{246}$ ، $C_{123}H_{248}$ ، $C_{124}H_{250}$ ، $C_{125}H_{252}$ ، $C_{126}H_{254}$ ، $C_{127}H_{256}$ ، $C_{128}H_{258}$ ، $C_{129}H_{260}$ ، $C_{130}H_{262}$ ، $C_{131}H_{264}$ ، $C_{132}H_{266}$ ، $C_{133}H_{268}$ ، $C_{134}H_{270}$ ، $C_{135}H_{272}$ ، $C_{136}H_{274}$ ، $C_{137}H_{276}$ ، $C_{138}H_{278}$ ، $C_{139}H_{280}$ ، $C_{140}H_{282}$ ، $C_{141}H_{284}$ ، $C_{142}H_{286}$ ، $C_{143}H_{288}$ ، $C_{144}H_{290}$ ، $C_{145}H_{292}$ ، $C_{146}H_{294}$ ، $C_{147}H_{296}$ ، $C_{148}H_{298}$ ، $C_{149}H_{300}$ ، $C_{150}H_{302}$ ، $C_{151}H_{304}$ ، $C_{152}H_{306}$ ، $C_{153}H_{308}$ ، $C_{154}H_{310}$ ، $C_{155}H_{312}$ ، $C_{156}H_{314}$ ، $C_{157}H_{316}$ ، $C_{158}H_{318}$ ، $C_{159}H_{320}$ ، $C_{160}H_{322}$ ، $C_{161}H_{324}$ ، $C_{162}H_{326}$ ، $C_{163}H_{328}$ ، $C_{164}H_{330}$ ، $C_{165}H_{332}$ ، $C_{166}H_{334}$ ، $C_{167}H_{336}$ ، $C_{168}H_{338}$ ، $C_{169}H_{340}$ ، $C_{170}H_{342}$ ، $C_{171}H_{344}$ ، $C_{172}H_{346}$ ، $C_{173}H_{348}$ ، $C_{174}H_{350}$ ، $C_{175}H_{352}$ ، $C_{176}H_{354}$ ، $C_{177}H_{356}$ ، $C_{178}H_{358}$ ، $C_{179}H_{360}$ ، $C_{180}H_{362}$ ، $C_{181}H_{364}$ ، $C_{182}H_{366}$ ، $C_{183}H_{368}$ ، $C_{184}H_{370}$ ، $C_{185}H_{372}$ ، $C_{186}H_{374}$ ، $C_{187}H_{376}$ ، $C_{188}H_{378}$ ، $C_{189}H_{380}$ ، $C_{190}H_{382}$ ، $C_{191}H_{384}$ ، $C_{192}H_{386}$ ، $C_{193}H_{388}$ ، $C_{194}H_{390}$ ، $C_{195}H_{392}$ ، $C_{196}H_{394}$ ، $C_{197}H_{396}$ ، $C_{198}H_{398}$ ، $C_{199}H_{400}$ ، $C_{200}H_{402}$ ، $C_{201}H_{404}$ ، $C_{202}H_{406}$ ، $C_{203}H_{408}$ ، $C_{204}H_{410}$ ، $C_{205}H_{412}$ ، $C_{206}H_{414}$ ، $C_{207}H_{416}$ ، $C_{208}H_{418}$ ، $C_{209}H_{420}$ ، $C_{210}H_{422}$ ، $C_{211}H_{424}$ ، $C_{212}H_{426}$ ، $C_{213}H_{428}$ ، $C_{214}H_{430}$ ، $C_{215}H_{432}$ ، $C_{216}H_{434}$ ، $C_{217}H_{436}$ ، $C_{218}H_{438}$ ، $C_{219}H_{440}$ ، $C_{220}H_{442}$ ، $C_{221}H_{444}$ ، $C_{222}H_{446}$ ، $C_{223}H_{448}$ ، $C_{224}H_{450}$ ، $C_{225}H_{452}$ ، $C_{226}H_{454}$ ، $C_{227}H_{456}$ ، $C_{228}H_{458}$ ، $C_{229}H_{460}$ ، $C_{230}H_{462}$ ، $C_{231}H_{464}$ ، $C_{232}H_{466}$ ، $C_{233}H_{468}$ ، $C_{234}H_{470}$ ، $C_{235}H_{472}$ ، $C_{236}H_{474}$ ، $C_{237}H_{476}$ ، $C_{238}H_{478}$ ، $C_{239}H_{480}$ ، $C_{240}H_{482}$ ، $C_{241}H_{484}$ ، $C_{242}H_{486}$ ، $C_{243}H_{488}$ ، $C_{244}H_{490}$ ، $C_{245}H_{492}$ ، $C_{246}H_{494}$ ، $C_{247}H_{496}$ ، C_{24

6. $\frac{1}{2} \times 5 \text{ chas}$

chain lines

illustrate how to drop a perpendicular from C to AB using equilateral triangles

Illustrate how to drop a perpendicular from C to AB using equilateral triangle method. 5 Points

~~1. B, A, C (1)~~

(2) ما أنتج الحمار خلال 10 أيام 400 صنف

EB River

و ۱۵ م کی ایک خط AB میں نقطہ E پر

وبما حدد الضغط D و F عن نصف المتر المستورد

(1) پیشہ (F)

(3) با مقیاس المسافتة من B إلى D.

والمسألة في F, B المسألة في F, B

1. b BF ١٠٠٠ (٩) ٢٥٠٠

3

(فقه) محکم اقلیہ امام احمد رضا رحمہ اللہ / عند صاحبہ / نسۃ = ۱۰

[illegible]

اس کا نام ہے اس کا نام ہے
اس کا نام ہے

Question 2: (15 Marks)

A 30 m tape, with a cross sectional area 0.02 cm^2 , is used with a 80 N force instead of the standard tension of 50 N and in a field temperature 42°C when supported for its full length. If a distance of 325.6 m is measured with this tape under these conditions, determine the corrected length of this distance. Given that $E = 20 \times 10^{10} \text{ N/m}^2$, the standard temperature 18°C and the average weight of the tape is 0.3 N/m .

$$\textcircled{1} C_T = 0.0000116 (T - T_0) L_m$$

$$= 0.0000116 (42 - 18) \times 325.6 = \boxed{0.00906} \text{ m}$$

$$\textcircled{2} C_P = \frac{(P - P_0) L_m}{AE}$$

$$= \frac{(80 - 50) \times 325.6}{0.02 \times 20 \times 10^{10}} = \frac{9768}{4 \times 10^5} = \boxed{0.0244} \text{ m}$$

$$\textcircled{3} C_S = -\frac{w^2 L^3}{24 P^2}$$

$$= \left(-10 \times \frac{(0.3)^2 \times 30^3}{24 \times 80^2} \right) + \left(-\frac{(0.3)^2 \times (25.6)^3}{24 \times 80^2} \right)$$

$$= (-1.58) + (-9.8 \times 10^{-3})$$

$$= \boxed{-0.1678} \text{ m}$$

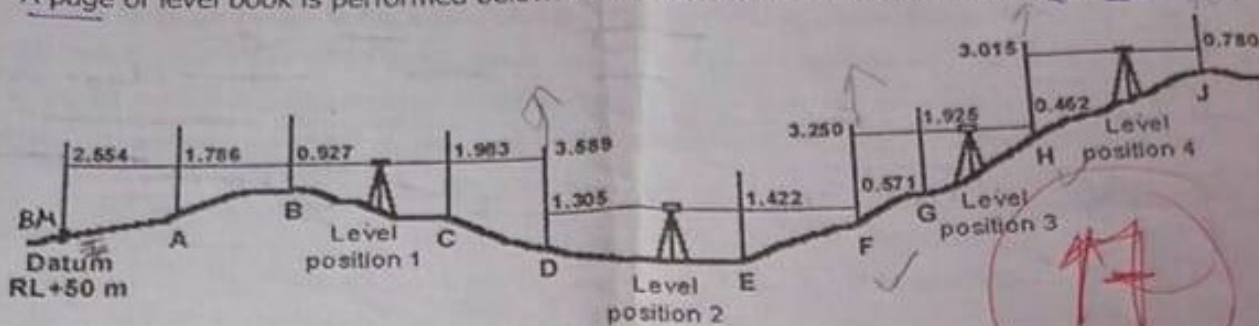
$$L_{\text{cor}} = L_m + C_T + C_P + C_S$$

$$= 325.6 + 0.00906 + 0.0244 - 0.1678$$

$$= \boxed{325.54} \text{ m}$$

Question 3: (17 Marks)

A page of level book is performed below. Fill the level data in the table sheet with HI checks.



Station	B.S.	I.S.	F.S.	HI	R.L.	Remarks
BM	2.554			52.554	50	
A		1.786			50.768	
B		0.927			51.627	
C		1.983			50.571	
D	1.305		3.589	50.27	48.965	
E		1.422			48.848	
F	3.250		0.571	52.949	49.699	
G		1.925			51.024	
H	3.015		0.462	55.502	52.487	
J			0.780		54.722	
Σ	10.124	8.043	5.402			

checks:-

* $\Sigma B.S = \Sigma F.S = 4$ ✓

* $\Sigma B.S - \Sigma F.S = 10.124 - 5.402 = 4.722$ ✓

* $R_{last} - R_{first} = 54.722 - 50 = 4.722$ ✓

* $\Sigma R.L_{last} - first = 458.711$ ✓

* $[52.554 \times (3+1) + 50.27 \times (1+1) + 52.949 \times (1+1) + 55.502 \times 1] - \Sigma B.S + \Sigma F.S$

$= 472.156 - 8.043 - 5.402 = 458.711$ ✓

BEST WISHES