



PROGRAM : BACHELOR OF ENGINEERING TECHNOLOGY

SUBJECT : SURVEYING A1

CODE : SURCIA1

DATE : 20th of JULY 2018
SSA EXAMINATION
(SESSION 2)

DURATION : (Y-PAPER) 8:00-11:30

WEIGHT : 40:60

FULL MARKS : 100

TOTAL MARKS : 100

EXAMINER : MR. Ali Vessal SAPSE NO

MODERATOR : MR. D.N. Wilson FILE NO

NUMBER OF PAGES : 4 PAGES

INSTRUCTIONS : CALCULATORS ARE PERMITTED (ONLY ONE PER STUDENT)

REQUIREMENTS : GRAPH PAPER, DRAWING EQUIPMENT

Surname and Initial

Student #

INSTRUCTIONS TO STUDENTS:

1. ANSWER ALL QUESTIONS.
2. Show all your calculations to get a full mark
3. Return your question paper and all loose sheets with your answer sheets to the examiner

QUESTION 1

The road intersects ground surface @ chainage 0 and 250 for the following long section.

1.1 Fill in the following reduced level table using Rise and fall to calculate the elevations. (20)

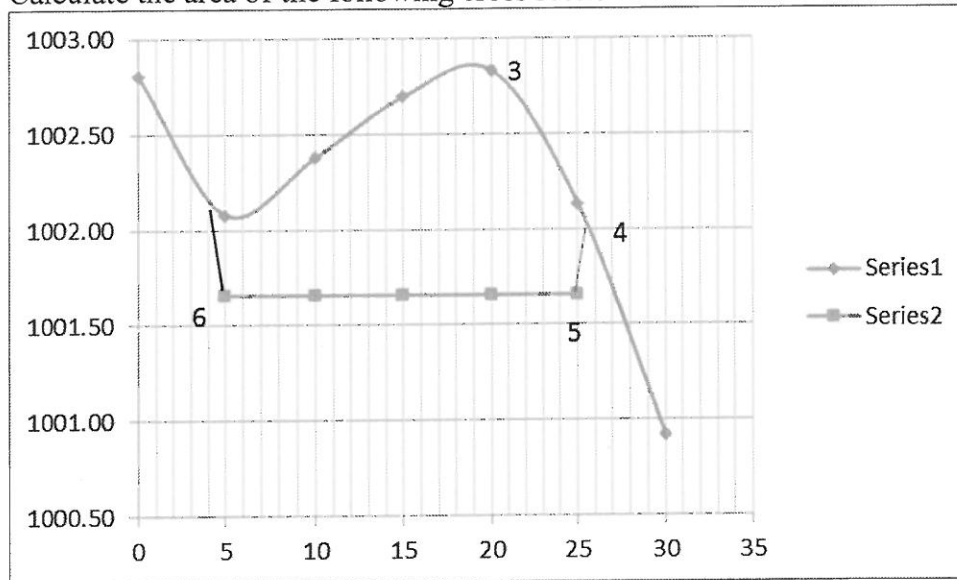
1.2 Draw the long section profile using scale for Horizontal 1:1250 and 1:20 for vertical. Your datum for drawing is 1198.4 m A.M.S.L. (25)

Chainage	BS	IS	FS	R/F	Reduced Level	Corr.	Final Elevation	Required Grade	Grade Elevation	C/F
0	2.45						1199.88			
50		3.66								
100		1.99								
150	4.01		3.85							
200		2.98								
250			3.89				1198.68			
	ΣBS=		ΣFS=				slope=			
				ΣR- ΣF=						
	ΣBS- ΣFS=					Corr.=				
						Error=				

[45]

QUESTION 2

Calculate the area of the following cross section.



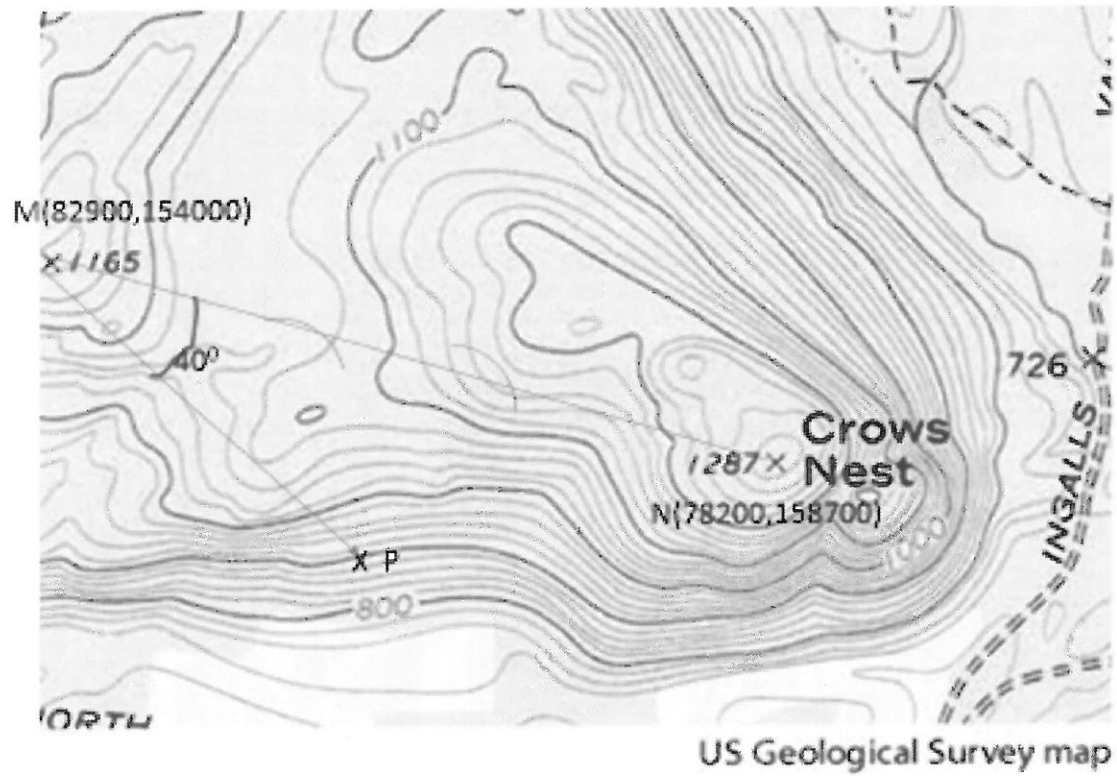
[20]

QUESTION 3

Do the following for the figure next page.

1. Determine the Coordinates of Peg P. The scale of the map is 1:70000 and the distance MP on the map is 53mm. The map in the figure is not to scale (20)
2. Determine the gradient of the line MP (10)
3. What is the contour interval of the map (5)

[35]



[35]

[TOTAL: 100]