



PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Max Marks: 60

Max Time: 180 Mins

Weightage: 30 %

Set B

COMPREHENSIVE EXAMINATION

I Semester 2016-2017

Course: CE A 207 Surveying

12 December 2016

Instructions:

- Scientific and non-programmable calculators are permitted
- Closed book exam comprises Parts A, B and C and open book exam involves only part D.
- Separate answer booklet must be used for open book examination.
- Only prescribed text book is permitted for open book examination.

Part A

Answer the following questions

(4 Q x 4 M= 16 Marks)

- Define Leveling. What are the uses of leveling?
- Reduced level of Bench Mark A = 50.00 m
Reading on staff held at A = 2.435 m
Reading on staff held at station point B = 1.650 m
Find: (a) Height of collimation. (b) Reduced level of station point B
- Define theodolite surveying and state its uses?
- List the various types of curves.

Part B

Answer the following questions

(2 Q x 8 M= 16 Marks)

- A distance of 2000 m was measured by 30 m chain. Later, it was detected that the chain was 0.1 m too long. Another 500 m was measured and it was detected that the chain was 0.15 m too long. If the chain was correct initially, determine the exact length that was measured.
- The following bearings were taken in running a closed compass traverse, while surveying in Jhansi, Allahabad:

Line	Fore bearing	Back bearing
AB	48° 25'	230° 00'
BC	177° 45'	356° 00'
CD	104° 15'	284° 55'
DE	165° 15'	345° 15'
EA	259° 30'	79° 00'

- State the stations which are affected by local attraction.
- Determine the correct bearings.

Part C

Answer the following questions

(1 Q x 8 M= 8 Marks)

1. The following consecutive readings were taken with a level and a 4 m leveling staff on a continuously sloping ground at a common interval of 30 m on line AB.
0.585 m, 0.930 m, 1.95 m, 2.845 m, 3.645 m and 3.93 m.
The reduced level of station A is 50.00 m. calculate the reduced levels at all the points where the staff is placed. Tabulate the results and apply usual checks

Part D (Open Book)

Answer the following questions

(5 M + 5 M + 10 M = 20 Marks)

1. Define the following with an example
 - a) Constant error
 - b) Counteracting error
2. List the methods for detection and elimination of errors
3. Two tangents intersect at chainage 1200 m, the deflection angle being 40° .

Find out a) Length of a curve

b) Tangent length

c) Chainage of back tangent and forward tangent.

Take radius of a curve as 400 m.

Station	Backsight	Intermediate	Fore-sight
AB	0.585		
BC		0.930	
CD		1.95	
DE		2.845	
EA		3.645	3.93



PRESIDENCY UNIVERSITY, BENGALURU
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Max Marks: 50

Max Time: 50 Mins

Weightage: 25 %

Set B

MID TERM EXAMINATION

I Semester 2016-2017

Course: CE A 207 SURVEYING

17th October 2016

Instructions:

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

Part A

Answer the following questions

- 1) What are the objects of Surveying?
- 2) Write the types of bench mark.
- 3) Define a) Contour
b) Contour interval
- 4) Define the following terms
a) Leveling b) Datum

(4Q x 4M = 16 M)

Part B

Answer the following question

- 1) The length of a survey line when measured with a chain of nominal 20 m length was found to be 841.5 m. When the chain was compared with a standard it was found to be 0.1 m too long. Compute the correct length of the line.

(1Q x 10M = 10 M)

Part C

Answer the following questions

- 1) The following readings were observed with a leveling instrument, the instrument was shifted after 5th and 11th reading.
0.585, 1.010, 1.735, 3.295, 3.775(5th)
0.350, 1.300, 1.795, 2.575, 3.375
3.895 (11th), 1.735, 0.635, 1.605
1st reading was taken on a B.M of R.L – 200 m. Fill the level book and calculate R.L of different points by height of instrument method and show the usual check.

(2Q x 12M = 24M)

- 2) Below are the observed bearings of the lines of a traverse ABCDE with a compass in a place where the local attraction was suspected. Find the corrected bearing of the line.

Line	Fore bearing	Back bearing
AB	191° 45'	13°
BC	39° 30'	222° 30'
CD	22° 15'	200° 30'
DE	242° 45'	62° 45'
EA	330° 15'	147° 45'