

Total No. of Printed Pages:3

SUBJECT CODE NO:- H-392
FACULTY OF SCIENCE AND TECHNOLOGY
S.E. (Civil)
Surveying-I
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- i) Q. No.1 & Q. No.6 are compulsory.
 - ii) Solve any two questions from the remaining questions from each section.
 - iii) Assume suitable data, if necessary.
 - iv) Figures to the right indicate full marks.

Section A

- Q.1 Solve any Five 10
- 1) What are the objects of surveying
 - 2) What are the principles of surveying.
 - 3) Define Ranging? What are the kinds of ranging?
 - 4) Define Offsets?
 - 5) What are the code of signals for ranging. Write any two signal with actions?
 - 6) Define (A) True Meridian
(B) True Bearing
 - 7) Define (a) F.B. (B) B.B.
 - 8) Define telescope normal.
 - 9) What do you mean by Transiting?
 - 10) Define plane table surveying? What is the principles of plane table surveying?
- Q.2 A) What are the types of chains? Explain Briefly? 07
 B) The distance between two stations was 1200m when measured with a 20M Chain the same distance when measured with 30M chain was found to be 1195M. If the 20M chain was 0.05 M too long. What was the error in the 30M Chain? 08
- Q.3 A) Explain field procedure for Measurement of deflection angle with the help of neat sketch 07
 B) The following are the Fore & Back Bearings of the sides of a closed traverse: 08

Side	F.B	B.B
AB	150° 15'	330°15'
BC	20° 30'	200° 30'
CD	295° 45'	115°45'
DE	218°0'	38°0'
EA	120°30'	300°30'

Calculate the interior angles of the traverse.

- Q.4 A) Explain field procedure for – measurement of Reiteration method with the help of neat sketch. 07
 B) A closed traverse conducted around an optical & following observation are made work out the omitted or Missing Data. 08

Line	Length	W.C.B
AB	500	98° 30'
BC	620	30° 20'
CD	468	298°30'
DE	?	230° 0'
EA	?	150°10'

- Q.5 A) What are the advantages and disadvantages of plane table surveying. 07
 B) Explain field procedure of the Horizontal distance between them two inaccessible points by Intersection method. 08

Section B

- Q.6 Solve any Five 10

- 1) Define Line of Collimation
- 2) Define (i) Change Point
(ii) Fore Sight
- 3) Give the formula for curvature correction.
- 4) Give any two difference between collimation & Rise & Fall System.
- 5) Define contour line
- 6) Give the Area formula by Simpson’s rule
- 7) Define stadia? What is the principle of tacheometer
- 8) Define (i) Elevation
(ii) level line
- 9) Give the volume formula by Trapezoidal rule
- 10) Define (i) B.M (ii) M.S.L.

- Q.7 A) What are the classifications of leveling. Explain any two in detail with neat sketch. 07
 B) The following consecutive readings were taken with a level & a 4Mt leveling staff. On-Continuously sloping ground at a common interval of 30 mt 0.585 on A.0.936 1.953, 2.846, 3.644, 3.938, 0.622, 1.035, 1.689, 2.534, 3.844, 0.956, 1.579, 3.016 on B the elevation of A=520.450 Make up a level book & Apply usual checks. 08

- Q.8 A) What are the uses of contour ? 07
 B) It was required to ascertain the elevation of two points P& Q & a line of levels was run from P to Q the leveling was then continued to a bench Mark of 83.500 the readings obtained being as shown below obtain the R.L of P&Q. 08

Station	B.S.	I.S	F.S	R.I	Remarks
1	1.622				P
2	1.874		0.354		
3	2.032		1.780		
4		2.362			Q
5	0.984		1.122		
6	1.906		2.824		
7			2.036	83.500	B.M

- Q.9 A) What do you mean by Planimeter? What are the uses of planimeter 07
 B) An Embankment of width 10m & side slope 1 ½ :1 is required to be made on ground which is level in a direction traverse to the centre line the central heights at 40M intervals are as follows:- 08
 0.90, 1.25, 2.15, 2.50, 1.85, 1.35 & 0.85. Calculate the volume of Earth work according to
 (i) The trapezoidal formula
 (ii) The prismoidal formula

- Q.10 A) (i) What are the characteristics of tacheometer. 07
 (ii) What are the advantages of tacheometric surveying.
 B) A Tacheometer was set up at station 'A' & following readings were obtained on a vertically held staff. 08

Instrument Station	Staff Station	Vertical angle	Hair reading
A	B.M.	-2°18'10"	3.225
			3.550
			3.875
B		+8°36'0"	1.650
			2.515
			3.380

Calculate horizontal distance from A to B & R.L of B.M if constants of instruments were K=100 C=0.40 B.M. of R.L = 437.655