

III SEMESTER B.TECH. (CIVIL ENGINEERING) END SEMESTER EXAMINATIONS, NOV/DEC 2017

SUBJECT: BASICS OF SURVEYING [CIE 2104]

REVISED CREDIT SYSTEM (/ 11/ 2017)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ALL the questions.

✤ Missing data may be suitably assumed.

1A.	Explain the different kinds of error that may arise in chain surveying. Also indicate									
	the type of error for each one of them.									
1B.	A river is flowing from west to east. For determining the width of the river, two points A and B are selected on the southern bank such that distance $AB = 120m$. Point A is westwards. The bearings at a tree C on the northern bank are observed to be 30° and 330° respectively from A and B. Calculate the width of the river.									
1C	Write a note on the classification of survey based on instruments used.									
2A.	Compare the construction, principle and working of Surveyor and Prismatic									
	Compass.									
	For the following traverse, compute the length of line CD so that A, D and E may be									
	in one straight line.	Line	Length (m)	Bearing						
				92012 [°]		7 3 7				
2 B .		AD DC	110	$\frac{03}{20042}$		5M				
			105	30.42						
			<i>!</i>	346-06						
		DA	212	16°18						
3A.	Explain in detail intersection method of plane tabling with relevant figure.									
3B.	List out any four differences between direct and indirect methods of contouring.									
4A.	A theodolite was set up at point I and the reading on a BM of RL 1583.55m was 1.875m. The staff was then held at two stations P and Q and the vertical angle of depression readings on the staff at the 4m mark were 4 ⁰ 30' and 7 ⁰ 34' 30'' respectively. The distances between the instrument and the stations P and Q were									
	300m and 500m, respective	ely. Fin	d the RLs of the	ne station p	points P and Q.					
4B.	Explain the relationships b	Explain the relationships between the fundamental lines of theodolite.								

	Fill the missing figures and complete the level book. Apply usual check								
5A.	Station	BS	IS	FS	HI	RL	Remark	5M	
	1	1.175			Х	100.000	BM		
	2		Х			98.975			
	3		1.47			X			
	4	2		X	X	98.100	X		
	5		1.9			X			
	6		Х			97.200			
	7	3.5		2.5	101.1	97.600	X		
	8			2.65		X			
5B.	What is sensitiveness of bubble tube? Derive and Explain field procedure for finding								
	sensitiveness of bubble tube								