

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous) Dundigal, Hyderabad - 500 043

CIVIL ENGINEERING

ASSIGNMENT QUESTIONS

Course Name	:	SURVEYING
Course Code	:	A30108
Class	:	II- I - B. Tech
Branch	:	CIVIL ENGINEERING
Year	:	2016 - 2017
Course Faculty	:	Mr. B. Suresh, Assistant Professor Civil Engineering Department

OBJECTIVES:

Successful completion of the course will enable the students to:

- 1. Understand angle and distance measurement; and differential, profile, cross-section, and topographic levelling procedures and apply them to field conditions
- 2. Prepare proper field notes and data collection approaches
- 3. Use standard survey tools
- 4. Understand and apply measurement error, accuracy, precision and techniques to improve accuracy of surveys
- 5. Work effectively in groups for field survey and data interpretation
- 6. Analyze and synthesize survey data
- 7. Understand (introductory level) geographic information systems (GIS)

S. No.	Question	Blooms Taxonomy Level	Course Outcomes					
UNIT-1								
1	State the Principle of surveying	Understanding	2					
2	State the two Primary division of surveying	Understanding & remembering	1					
3	Define Magnetic Meridian	Understanding & remembering	1					
4	What is local Attraction	Understanding & remembering	2					
5	A 30m chain used for a survey was found to be 20.10 m at the beginning and 20.50 m at the end of the work. The area of the plan drawn to a scale of 1cm= 6m was measured with the help of a planimeter and was found to be 32.56 sq.cm find the true area of the field.	Apply & evaluate	2					
6	A 20m chain was found to be 10cm too long after chaining a distance of 1500m. It was found to be 18 cm too long at the end of the day's work after chaining a total distance of 2900m. Find the true distance if the chain was corrected before the commencement of the work.	Apply & evaluate	3					
7	A 30m chain was found to be 15cm too long after chaining a distance of 1800m. It was found to be 18 cm too long at the end of the day's work after chaining a total distance of 3900m. Find the true distance if the chain was corrected before the commencement of the work	Apply & evaluate	3					

S. No.		Blooms Taxonomy Level	Course Outcomes								
8	The area of the f 30m length if the area.	Apply & evaluate	3								
	Line	Fore Bearing	Back Bearing								
	AB	71 ⁰ 05'									
	BC	$110^{0} 20^{\circ}$	1								
	CD	Apply &									
9	DA	$220^{\circ} 50^{\circ}$	evaluate	3							
	EA	$300^{\circ} 50^{\circ}$									
	The following Determine the co	The following bearings were observed in running a closed traverse.									
10	Give the classific	Understanding & remembering	3								
			UNIT – II		-						
1	Define Levelling			Understanding	4						
2	Define level surf	face		Understanding &	4						
3	Define Datum	Understanding &	4								
4	Define Bench M	Understanding &	5								
5	Define Mean Sea	Understanding &	5								
6	Define contours	Understanding & remembering	4								
7	The following st instrument havin 1.606, 0.988, 2.0 the above readin if the first readin	Apply & evaluate	4								
8	Classify the diffe	Apply & evaluate	4								
9	The following st instrument havin 0.875, 1.235, 2.3 The first reading elevation 132.13	Apply & evaluate	4,5								
10	Write the tempor	Understanding & remembering	4,5								
			UNIT – III		1						
1	Write the formul	Understanding & remembering	6								
2	Write the formul	ge ordinate rule	Understanding & remembering	6							
3	Write the formul	Understanding &	6								

S. No.	Question											Blooms Taxonomy Level	Course Outcomes		
													remembering		
4	The following perpendicular offsets were taken at 10m intervals from a survey line to an irregular boundary line3.25,5.60,4.20,6.65,8.75,6.20,3.25,4.20,5.65 calculate the area enclosed between the survey line , the irregular boundary line , and the first and last offsets, by the application ofi)Trapezoidal rule ii)ii)Simpson's rule											Apply & evaluate	6		
5	A series of offsets were taken from a chain line to a curved boundary line at intervals of 15m in the following order 0,2.65,3.80,3.75,4.65,3.60,4.95,5.85m compute the area between the chain line, the curved boundary line and the end offsets by i) Trapezoidal rule ii) Simpsons rule											ne at ain	Apply & evaluate	6	
	The followi	ng off	sets wei	e take	n fror	n a c	hain l	ine to	b hed	lge					6
6	offset	0 6.4	20 10.8	18	.6	60 21.	80 9.6	1 (6.	2) 4	160 7.5	22 0 3.	2 2	80 .6	Apply &	
	Compute th Simpson's r	e area rule	include	d betw	een ti	2 he ch	nain li	ne, tł	ne he	dge a	3 and c	offset	by	evaluate	
	The followi	owing offsets we		e take	taken from a chain			ine to	ne to hedge						
7	uistance	0	20	40	0	0	80	120	0	0	220	2	80	Apply &	6
/	offset 9.4 10.8 13.6 11.2 9.6 8.4 7.5 6.3 4.6											.6	evaluate	U	
	Compute th	e area	include	d betw	een t	he ch	nain li	ne, th	ne he	dge a	nd c	offset	by		
	The followi	ing per	pendicu	lar off	sets v	vere	taken	from	a ch	nain li	ine t	o a h	edge		
	chainag	chainag 0		30	45	6	50	70	80	10	0	120	20 140		
8	e offset	76	85	10.7	12.8	1	0	95	8	7	9	64	44	Apply &	6
0	onset	0	0.5	10.7	12.0	(6. 6		3	/.	/	0.4	т.т	evaluate	
	Compute th	e area	include	d betw	een tl	he ch	nain li	ne, tł	ne he	dge a	ind c	offset	by		
	Simpson's i	rule.													
	Determine	the are	a of the	closed	l trave	erse A	ABCI	DE by	y the	D.M	.D. r	netho	od		
	Lin	e		Departure in m Latitude in m									Apply & evaluate	6	
9	AB	3		220 120 230 250											
	CE)		-100 -250											
	DE	1		-290 100											
	A railway e	mbank	mont is	10m 1	-60 vide v	with	sida s	lone	15t	01 90	28	30 Na tha			
10	ground to be level in a direction traverse to the centre line, calculate the volume contained in a length of 120m, the centre height at 20m intervals										S	Apply & evaluate	6		
	UNIT – IV														
1	Define centring													remembering	7
2	Define tran	siting												remembering	7
													Understanding		
3	3 Define swinging of telescope									& remembering	7				

S. No.	Question	Blooms Taxonomy Level	Course Outcomes
4	Define telescope inverted	Understanding & remembering	7
5	Define transit theodolite	Understanding	7
6	Define Non-transit theodolite	Remembering & Understanding	7
7	Explain the steps involved in measuring horizontal angle with a theodolite.	Remembering & Understanding	7
8	Explain briefly the possible instrumental errors in theodolite work and the precautions that should be taken to eliminate them.	Remembering & Understanding	7
9	Define the terms i) transiting ii) swinging of telescope iii) face left observation iv) face Right observation	Remembering & Understanding	7
10	Define triangulation method in detail	Remembering & Understanding	7
	UNIT – V		
1	What is a simple curve	Remembering	8
2	What is a compound curve	Remembering & Understanding	8
3	What is a reverse curve	Remembering & Understanding	8
4	What is forward tangent	Remembering & Understanding	8
5	What is backward tangent	Remembering & Understanding	9
6	What are the merits and demerits of total station	Remembering & Understanding	9
7	State the advantages of GPS	Remembering & Understanding	8
8	Describe briefly the advantages of electronic theodolite	Remembering & Understanding	8
9	Describe briefly the salient features of total station	Remembering & Understanding	8
10	Write short notes on electronic theodolite	Remembering & Understanding	9

Prepared by: Mr. B Suresh, Assistant Professor

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