BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY Question Bank (K-Scheme)

Name of subject: Surveying Unit Test: I Subject code: 22301 Course: CE Semester: II

CHAPTER 1 (Overview and Classification of Surveying)

2 Marks

a) Define the term Surveying and state the purpose of surveying.

b) Differentiate between Plane Surveying and Geodetic surveying .

c) state the objectives of Surveying .

d) state the uses of surveying

e) why scales are made? State the different types of scales being used for Surveying.

4 Marks

a) Explain the principles of Surveying.

b) State and draw any four conventional symbol.

c) Explain secondary classification of Surveying.

CHAPTER 2 (Cross Staff and Compass Surveying)

2 Marks

a. Define-a)Arrows b)Pegs

b. Define Base line,Tie Line and check line.

c. Differentiate between Closed traverse and Open traverse.

d. Enlist instruments used for measuring distances.

e. Convert following W.C.B. into R.B.

i)280 ii)100 iii)160 iv)350

f. Convert following R.B. into W.C.B

i) N45E ii)S45E iii)N25W iv)S50W

4 Marks

a. Define the term Offset. Explain the types of Offset with neat sketches.

b. Explain different types of Tapes.

c. Explain Reciprocal Ranging.

d. explain the procedure of field work of chain survey .

e. A page of field book of cross staff Survey is given as following plot the required figure and calculate the relevant area

	100 D	
20 C	80	
	50	25 E
30 B	20	
	0 A	

g. The bearing of line AB is 153°30’ and the angle ABC is 135°40’,what is the bearing of BC.

f. Following bearings were observed in running a closed traverse ABCDE. Calculate the included angles of the traverse.

Line	F.B	B.B
AB	110 0’	290 0’
BC	30 15’	210 15’
CD	244 45’	64 45’
DE	310 0’	130 0’
EA	193 0’	13 0’

g. Following bearings were observed in running a closed traverse

Line	F.B	B.B
AB	124 30’	304 30’
BC	68 15’	246 0’
CD	310 30’	135 15’
DA	200 15’	17 45’

At what station local attraction is there? Find corrected bearing of lines.

CHAPTER 3 (Theodolite Surveying)

2 Marks

a. State any four uses of transit theodolite.

b. Define telescope inverted & telescope normal.

c. Define swinging and transiting in theodolite surveying.

d. Define face left and face right observations.

e. Write note on Latitude and Departure.

f. Enlist different component parts of Transit theodolite

(4 Marks)

a. Explain method of repetition of horizontal angle measurement.

b. Explain the procedure of measurement of Deflected angle.

c. A traverse survey was conducted and following data is received, find missing length and bearing of line DA.

Line	Length (m)	Bearing
AB	155.80	78° 30'
BC	175.00	155° 35'
CD	238.50	248° 42'
DA	?	?

d. Calculate consecutive co-ordinates of following traverse:

Line	Length (m)	WCB
AB	162	120° 30'
BC	142	17° 30'
CD	201	220° 30'
DA	120	333° 20'

e. Explain the function of lower tangent screw, upper tangent screw, lower clamping screw & upper clamping screw while measuring horizontal angle using theodolite.
f. Explain temporary adjustment of theodolite.
g. Find the length & bearing of line AB. If two co-ordinates A & B as below.

Point	Co-ordinates
A	970.50, 850.40

B	1200.40, 602.20

h. Following are the latitudes & departures for closed traverse ABCDE. Compute the missing length & WCB of side EA

Line	AB	BC	CD	DE	EA
Length	194.1	201.20	164.40	172.6	?
WCB	$85^0$30’	$15^0$30’	$285^0$30’	$195^0$30’	?

i. Calculate the corrected line consecutive coordinate for the following observations.Apply Bowditch rule.

Line	Length (m)	Consecutive Co-ordinate			
		N	S	E	W
AB	250	107.00		3.55	
BC	125	15		250.00	
CD	260		125.00	4.10	
DA	110	0			255.00