Seat No.: _____ Enrolment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPLAN – SEMESTER II– • EXAMINATION – WINTER 2016

Subject Code: 1025502 **Date: 18/11/2016**

Subject Name: Surveying and Photogrammetry

Time:02:30 PM to 04:30 PM **Total Marks: 50**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Fill in the blanks **05**

1) If the graphical presentation is carried out in small scale is called_____.
2) The length of one link in metric chain is_____.
3) In chain surveying the subsidiary station is denoted by_____ symbol.
4) The difference between fore bearing and back bearing is ____.
5) The line connecting equal point of elevation is called_____.

(b) Define the following term **05**

1) Surveying
2) Bearing of line
3) Bench Mark
4) Base line
5) Line of Collimation

Q.2 **(a)** Explain fundamental principles of surveying. **05**

(b) Explain with neat sketch instruments use in chain surveying. **05**

OR

(b) Explain diagonal scale and draw a diagonal scale of 1cm=5m to read meter and decimeter and represent 45.3m on scale. **05**

Q.3 **(a)** List out types of obstacles in chain surveying and explain any two in detail. **05**

(b) Explain Reduced Bearing and convert the 240^0 and 133^0 in to reduced bearing system **05**

OR

Q.3 **(a)** The distance between two station was measured with 20 m chain and found to be 1500 m. The same distance was measured with 30 m chain and found to be 1450 m. If the 20m chain was 5 cm short then what was the error in 30 m chain? **05**

(b) The following are bearing observed in traverse ABCDEA with a compass an area where local attraction was suspected. Calculate the interior angle of the traverse and correct them if necessary. **05**

Line	FB	BB
AB	$150^0$00’	$330^0$00’
BC	$230^0$30’	$48^0$00’
CD	$306^0$15’	$127^0$45’
DE	$298^0$00’	$120^0$00’
EA	$49^0$30’	$229^0$30’

Q.4	**(a)**	List out method of plain table surveying and explain method of traversing in detail.	**05**
	(b)	Discuss characteristics of contours with sketch.	**05**

OR

Q.4	**(a)**	The following offsets were taken at 10m intervals from a survey line to an irregular boundary line. Calculate the area enclosed between survey line, the irregular boundary line and first and last offset by (i) Trapezoidal rule and (ii) Simpson's rule. 5.00, 8.80, 13.20, 11.00, 14.80, 17.40, 15.60, 13.00, 8.60, 6.40 m .	**05**
	(b)	Explain direct method of leveling.	**05**
Q.5	**(a)**	Explain process of remote sensing.	**05**
	(b)	What is principle of stereoscopic? Explain mirror stereoscope.	**05**

OR

Q.5	**(a)**	What is GPS? Explain three segment of GPS.	**05**
	(b)	Discuss the application of modern surveying instrument in urban planning.	**05**

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