

End Semester Examination, May 2018

Program: B-Tech APE-UP
Subject (Course): Surveying
Course Code : GNEG-261
No. of page/s : 3

Semester – IV
Max. Marks : 100
Duration : 3 Hrs

All the questions of section A & B are compulsory. Attempt any TWO questions from section. C. Wherever necessary do with neat sketches.

SECTION –A

Q.1 Write a note on the following terms. **2 x 5 = 10 M**

- a) Inverted eyepiece b) GTS c) Retrograde Vernier d) Optical square e) Astrolabe

Q. 2 Fill in the blanks with suitable word **1 x 10 = 10 M**

- i) The..... Level is used in astronomical observation for levelling the horizontal axis
- ii) is the processes of rotating the telescope over the horizontal axis through 180 degree in the vertical plane.
- iii) The diffraction pattern resulting from a uniformly illuminated circular aperture has a bright region in the center, known as the
- iv) rod is the special type of target staff commonly used in measurement and the graduation are in feet, tenth and hundreds.
- v) means the absences of spherical aberrations.
- vi) The of a telescope is its ability to produces a sharp image and good the object are seen clearly through the telescope.
- vii) needle is used in a surveyor compass
- viii) are the oblique offset's taken along the line of the wall of a building.
- ix) The..... of the Alidade should be in a straight line.
- x) lens is generally provided in the external focusing telescope.

SECTION –B

Q.3 Discus in briefly the different methods of direct and indirect leveling and their significance

In surveying. **8 M**

Q.4 Enumerate with suitable diagram of various parts of theodolite and their application in Theodolite survey. **10 M.**

Q.5 Write a short note on the procedure, advantages and disadvantages of Global Positioning System in surveying **8 M**

Q.6 The river is flowing from east west. The surveyor fixes the base line **AB** on the southern bank of the river and measured length between **AB** is **100 m**. The bearing of a assumed point **C** on the northern bank to set a triangle and using compass reading was taken from **A to C is 40°** and **B to C is 220°** respectively. Determine the width of river. **4 M**

Q.7 Describe in briefly the procedure, merits and demerits of different type of Tachometric Survey in surveying. **10 M**

SECTION –C

Q.8 is compulsory from Q.9 attempt part.1 or part.2 questions only **2 x 20 = 40**
M

Q. 8 a) The following readings were observe with a dumpy level the instrument was shifted after 5th and 10th reading. Determine the Reduce level of all the points using both HI (height instrument) and rise and fall methods if the assumed **BM/RL is 200 M**. **0.585, 1.010, 1.735, 3.295, 3.775, 0.350, 1.300, 1.795, 2.575, 3.375, 3.895, 1,735 and 0.635.** **13 M.**

b) The Incomplete page of level book is given below work out the missing entry and complete the level book and give usual arithmetic check. **7 M**

BS	IS	FS	HI	RL	Remarks
4.390			X	X	
	X			192.000	
3.910		6.520	X	X	
	5.390			191.620	
	4.730			X	
	X			203.300	
4.330		X	X	X	
		2.900		194.830	

Q.9 i) Define Plane table? Discuss briefly the types of plane table and their significance. **8 M**

ii) Discuss briefly procedure, merits and demerits of the different methods of plane table surveying used in linear measurement and planning **12 M.**

Part.1

OR
Part.2

iii) The anticlockwise compass traverse were done the following bearing were taken for ABCDEA. Find the local attraction and calculate interior and exterior angles with correction of all the bearings.

14 M

Line	Forward bearing	Backward bearing
AB	150° 0'	329° 45'
BC	77° 30'	256° 0'
CD	41° 30'	222° 45'
DE	314° 15'	134° 45'
EA	220° 15'	40° 15'

iv) Three ships A B C started sailing from Mumbai at the same time in three directions. The speed of all the ships was the same i.e., is 30 KM/Per hour and the bearing were measured to be N 50 E, S 60 E and S 20 E. After an hour the captain of ship B determine the bearings and distance of other two ships with respect to his own ship. Calculate the value of bearing and distance which might have been determine by ship B captain.

6 M

Q.No.	1	2	3	4	5	6	7	8	9
COS	1	2	3	4	5	5	5, 4	4,5,6	1, 4.6

Roll No: -----



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