

# KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg) Degree programme 2015 Admission  
II<sup>nd</sup> Semester Final Examination- June/July-2016

Cat. No: Lwre.1202

Title: Surveying & Leveling (1+2)

Marks: 50

Time: 2 hours

## I -Fill up the blanks

10x1=10 marks

1. Number of brass tags in a 30 m chain is \_\_\_\_\_
2. The curvature of earth is considered in \_\_\_\_\_ surveying
3. In the QB system, a line is said to be free from \_\_\_\_\_, if the FB & BB are numerically equal
4. When consecutive contour lines run close together, it indicates a \_\_\_\_\_ slope
5. The level staff reading taken on a point of known elevation is termed as ---
6. As the distance between the tacheometer and staff increases, the staff intercept by stadia hair \_\_\_\_\_
7. The size of a theodolite is defined by the \_\_\_\_\_ of the graduated circle of lower plate
8. ----- leveling is done to connect the nearby GS bench mark with the starting point o the project
9. ----- survey is conducted to measure the depth of water near the shore line
10. The BM established by the Survey of India is known as the-----

## II Answer any five questions only:

5x2=10 marks

1. What are the sources of errors in chain surveying?
2. Differentiate geodetic surveying and Plane surveying
3. Surveyors compass
4. Different types of levelling operations
5. Methods of traversing by theodolite
6. What is City Surveying?
7. Briefly explain about Planimeter

## III Answer any five questions only:

5x4=20 marks

1. a. Distinguish between closed and open traverse  
b. The FB of the following lines arc given. Find the BB  
i.  $AB= 310^{\circ} 30'$     ii.  $BC= 145^{\circ} 15'$     iii.  $CD= 210^{\circ} 30'$   
iv.  $DE= 60^{\circ} 45'$     v.  $EF= 0^{\circ} 45'$
2. The following reading are successively taken with a level  
0.355, 0.485, 0.625, 1.755, 1.895, 2.350, 1.780, 0.345, 0.685, 1.230 & 2.150. The instrument was shifted after the fourth and seventh readings. Prepare a level book and calculate the RLs of different points. The RL of the first point is 255.500 m.
3. What are the characteristics of contour? Explain the methods of contouring

4. Describe the process of measuring the magnetic bearing of a line by theodolite
5. Explain the Trapezoidal and Simpson's rule of computation of areas.
6. Explain the Radiation and Intersection method of Plane tabling.
7. Explain different types of bench marks

**Write Essay on Any one :**

**1x10=10<sup>pts</sup> marks**

1.
  - a. Different types of leveling operations
  - b. Describe a dumpy level along with a sketch
  
2.
  - a. Discuss the methods of tachometry
  - b. Explain the theory of tachometry