KERALA AGRICULTURAL UNIVERSITY
B.Tech. (Food. Engg.) 2017 Admission
I Semester Final Examination-January-2018

Cien.1101   **Basic Civil Engineering (2+1)**   Marks: 50

Time: 2 hours

I   **Fill in the blanks:**   (10x1=10)

1 The portion of the structure immediately above the ground and between the surface of the floor and the surrounding ground is known as ....

2 The branch of surveying in which the curvature of earth is taken into consideration is known as............

3 Jar test is used in water treatment plants in order to determine the ....

Define the Following

4 What is the minimum initial setting time required for ordinary Portland cement?

5 Name the two methods of plane table surveying?

6 Give any four nominal mixes of concrete?

7 What is the use of anallatic lenses in tacheometer?

8 Define safe bearing capacity of soil?

9 What is meant by disinfection?

10 List out different methods for sludge disposal?

II   **Write Short notes on any FIVE of the following**   (5x2=10)

1 What are the qualities of good brick?

2 What are basic principles of surveying?

3 Distinguish between substructure and superstructure of a building?

4 Convert the following whole circle bearing into reduced bearing systems.
(i) 33° 20'   (ii) 157°30'   (iii) 221°40'   (iv) 303°0'

5 Give the breakup of various domestic water demands in general?

6 What is meant by sedimentation aided with flocculation?

7 What are the methods for the collection and conveyance of refuse?

III   **Answer any FIVE of the following.**   (5x4=20)

1 What are the physical and engineering properties of cement?

2 What are the properties of fresh and hardened concrete?

3 A 20m chain was found to be 10cm too long after chaining a distance of 1500m. It was found to be 18cm too long at the end of day's work after chaining a total distance of 2900m. Find the true distance if the chain was correct before the commencement of the work?

4 What are the advantages and disadvantages of plane table surveying?

5 What are the various methods for area and volume calculation?

6 Sketch and explain the functioning of a septic tank?

7 What are the characteristics of sewage?

IV   **Write an essay on any ONE of the following**   (1x10=10)

1 What are the various steps in water treatment? Explain with neat sketches and a flow chart?

2 The following observations were made in a leveling work. 0.355, 0.550, 0.860, 1.650, 1.785, 1.955, 1.750, 0.815, 0.650 and 1.535. The positions of instruments were changed after the third, fifth and eighth readings. Open a field level book and enter the readings. Compute the reduced levels of all the points by rise and fall method. The first reading was taken on a bench mark of R.L. 105.00. Apply arithmetic checks also.

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