

KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food .Engg) 2013 Admission
Ist Semester Final Examination-January 2013

Cat. No: Cien.1101

Title: Basic civil Engineering (2+1)

Marks: 50

Time: 2 hours

I Fill in the blanks

(10 x 1=10)

1. _____ is a representation on the paper in true proportion of the outline and internal features of a piece of land
2. Azimuth is also known as _____
3. The horizontal angle which the magnetic meridian makes with the true meridian is known as the _____ of the needle
4. A plumbing fork or U-frame with a plumb bob is used for _____ the plane table
5. Lines connecting points with zero declination is called _____
6. The _____ rule for calculating areas assumes that the boundaries between the extremities of the ordinates are portions of parabolic arcs
7. _____ is the underground conduit used for the removal of sewage
8. Solid part of sewage is commonly known as _____
9. The standard size of brick in India is _____
10. Two basic ingredients of ordinary cement are _____ and _____

II Write short note on any FIVE questions

(5 x 2=10)

1. Water cement ratio
2. Metamorphic rocks
3. Ranging
4. Temporary adjustments of a dumpy level
5. Stadia tachometry
6. Whole circle bearing and quadrantal bearing
7. Biological oxygen demand
8. Water pollution

III Answer any FIVE questions**(5 x 4 = 20)**

1. Describe the qualities of a good building stone
2. Explain how the consistency of cement is determined
3. The following perpendicular offsets were taken at 25 m interval from a survey line to an irregular boundary;
4.2, 15.6, 21.5, 17.4, 13.5, 26.2, 21 and 15.3 m. Calculate the area enclosed between the base line, irregular boundary line and the first and last offsets by average ordinate rule.
4. Rule out a sample page of a leveling field book, enter the following readings and find out the reduced levels by the height of collimation method. Apply the usual arithmetic checks; 3.260, 1.250, 0.370, 6.530, 9.210, 3.160, 1.390, 4.320 and 2.910m. The instrument was shifted after the 3rd and 7th observations. The reduced level of the first point is 90.560m.
5. The following is the data relative to observations made on a vertically held staff with a tachometer fitted with an anallatic lens. The constant of the instrument was 100. Calculate the distance AB and the reduced levels of A and B.

Instrument station	Height of axis	Staff station	W.C.B	Vertical angle	Hair readings	Remarks
O	1.56	A	12°25'	0° 0'	1.88, 2.25, 2.62	R.L of O = 130.25
		B	60°45'	+15°10'	1.83, 2.15, 2.47	

6. Explain the working of a trickling filter.
7. Explain the different methods of sewage disposal.

IV. Answer ANE ONE question**[1 x 10 = 10]**

1. List all tape/ chain corrections and explain them in detail.
2. List all the accessories of plane table survey and explain their use. Also explain the various methods of orienting the plane table.