KERALA AGRICULTURAL UNIVERSITY

B.Tech. Food Engg. 2016 Admission

1st Semester Final Examination- February 2017

Cat. No: Cien.1101   Marks: 50

Title: Basic Civil Engineering (2+1)   Time : 2 hours

I. State True or False: (10 x 1=10)

1. Rocks which are formed by the cooling of magma are known as igneous rocks.

2. Scales of maps are usually very large.

3. Metallic cloth tapes are used for high precision surveying.

4. The angle between the true meridian and magnetic meridian is called magnetic declination.

5. Solid part of sewage is commonly known as sludge.

6. For structures which are regularly wetting and drying, the water-cement ratio by weight should be around 0.95.

7. Trough compass is an accessory of plane table surveying.

8. Sewers should be designed to ensure self cleansing velocity of 0.75 m/s.

9. Optical square is used for setting out right angles.

10. Two point problem and three point problem are two cases of compass surveying.

II. Write short notes/answers on ANY FIVE: (5x 2=10)

1. Composition of cement.

2. Indirect ranging.

3. Types of chains.

4. Convert the following whole circle bearings to quadrantal bearings.

    i) 67° 24′   ii) 134° 12′   and   iii) 336° 52′

5. Methods of sewage disposal.

6. Functions of septic tank.

7. Coagulation.

III Write answers on ANY FIVE: (5 x 4=20)

1. Describe the classification of buildings.

2. A field is surveyed with a 30 m chain and the area was found to be 472.38 hectares. If the chain used in measurement was 6 cm too long, what is the correct area of the field?

3. Find the angle between the lines AB and BC, if their respective bearings are (a). 147° 12′ and 67° 24′ ; (b) 71° 38′ and 127° 18′

4. Explain the procedure of i) setting up the plane table ii) Orienting the table.

5. Distinguish between stadia method and tangential method.

6. List out all the tests for assessing the quality of water.

7. Describe the properties of freshly prepared concrete.

IV. Write essay on any ONE (1 x 10=10)

1. The following perpendicular offsets were taken at 10 m interval from a survey line to an irregular boundary are 3.82, 4.37, 6.82, 5.26, 7.59, 8.90, 9.52, 8.42 and 6.43 m. Calculate the area enclosed between the survey line, irregular boundary line and the first and last offsets by the application of i) Simpson's rule and ii) Trapezoidal rule.

2. The following readings were extracted from a level field book. Reconstruct the page by filling up missing quantities using height of collimation method and apply the usual checks.

Point	B.S	I.S	F.S	H.I	Reduced Level	Remarks
A	3.125			126.805	X	B.M
B	X		X	127.270	125.005	C.P
C		2.320			X	
D		X			125.350	
E	X		2.655	125.655	X	C.P
F	1.620		3.205	X	X	C.P
G		3.625			X	
H			X		122.590	

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