



KERALA AGRICULTURAL UNIVERSITY  
B.Tech.(Food Engg.) 2018 Admission  
I Semester Final Examination-January-2019

Cien.1101

Basic Civil Engineering (2+1)

Marks: 50  
Time: 2 hours

**I Choose the correct answer** (10x1=10)

- 1 The weight of standard brick should be  
a 1000g b 1500g c 2500g d 3000g
- 2 The IS classification of bricks is based on  
i Statement I compressive strength  
ii Statement II water absorption  
iii Statement III dimensional tolerance of the above  
a only(i) is correct b (i) and (ii) are correct  
c (i)and(iii)are correct d (i),(ii) and (iii)are correct
- 3 Which of the following is hardest mineral?  
a Quartz b Felspar c Garnet d Amphibole
- 4 Plane survey is conducted for the area up to  
a 260 km<sup>2</sup> b 100 km<sup>2</sup> c 195.5 km<sup>2</sup> d 160 km<sup>2</sup>
- 5 In a chain surveying, perpendiculars to the chain line are set out by  
a A theodolite b a prismatic compass c a clinometer d an optical square
- 6 If the back bearing of a line is N30<sup>0</sup>W, its fore bearing is  
a S30<sup>0</sup>W b S30<sup>0</sup>E c N30<sup>0</sup>E d N30<sup>0</sup>W
- 7 Orientation of plane table is done by  
a Spirit level b Trough compass c Plumbing fork d Drawing sheet

**Fill in the blanks**

- 8 Organic nitrogen and ammonia-nitrogen, determined together, is usually known as \_\_\_\_\_ nitrogen
- 9 Permissible BOD of the sewage effluents, when discharge into the rivers, is \_\_\_\_\_ mg/l
- 10 The amount of oxygen consumed by sewage from potassium dichromate is termed as \_\_\_\_\_

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

- 1 Selection of building materials
- 2 Principles of surveying
- 3 Bonds in Brick-work
- 4 Differential leveling
- 5 Plumbing fork
- 6 Types of chains
- 7 Breakpoint Chlorination

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

- 1 How is the cement classified? Describe the wet process of manufacturing cement.
- 2 What are the properties of hardened concrete? Write the advantages of curing.
- 3 Explain how closing errors in compass survey is adjusted by Bowditch' method.
- 4 Name and discuss the four mechanisms thought to occur during coagulation.
- 5 Differentiate between prismatic compass and surveyor's compass.
- 6 Explain the sedimentation process used in a water treatment plant. Draw a neat sketch of a sedimentation tank.
- 7 Explain the term BOD.

**IV Answer ANY ONE of the following** (1x10=10)

- 1 Explain with sketches, the different methods of locating a point by plane table. Discuss the relative merits of these methods.
- 2 What do you understand by prestressed concrete? What are its advantages and disadvantages?

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