

KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl. Engg) 2015 Admission

1st Semester Final Examination-February -2016

Cat. No: Chem.1101

Title: Engineering Chemistry (2+1)

Marks: 50.00

Time: 2 hours

I State True or False

(10 x 1=10)

1. Permanent hardness can not be removed by boiling
2. Dissolved oxygen in water is not responsible for the corrosion of boiler
3. Ozone is a powerful disinfectant
4. Bakelite is a thermosetting plastic
5. Neoprene is a natural rubber
6. A good lubricant should have a good viscosity index
7. A lubricant can reduce frictional heat
8. Pure metals have low corrosion resistance
9. Gaseous fuel can be used in IC engines
10. Anthracite coal contains about 94% carbon

II Write short notes on any FIVE questions

(5 x 2=10)

1. What is meant by soft and hard water? How is it caused
2. What is galvanization? Why is it done
3. What are silicones? Mention their uses
4. What is meant by inversion of cane sugar? Name the enzyme involved in the reaction
5. What is meant by essential amino acids. Give two examples
6. What is peptide bond. How is it important
7. What are the important sources of Vitamin C. Name the deficiency disease of Vitamin C

III Write short essay on any FIVE questions

(5 x 4=20)

1. What are proteins? Describe the primary structure of proteins
2. Explain Tyndall effect and electrophoresis
3. a) What are antioxidants? Give one example. What is the difference between a preservative and an antioxidant
b) What are artificial sweeteners?
4. Compare solid, liquid and gaseous fuels
5. Discuss the following properties of lubricants
a) Viscosity index b) Flashpoint

6. Write a note on the preparation and uses of the following

a) Nylon b) Bakelite

7. Describe briefly the refining of petroleum, indicating the principles involved

IV Write essay on any ONE ...

(1 x 10=10)

1. How do you estimate the hardness of water by EDTA method

2. What are enzymes? How are they used in the manufacture of ethanol and acetic acid by fermentation method?