KERALA AGRICULTURAL UNIVERSITY

B.Tech. (Ag. Engg.) 2017 Admission

I Semester Final Examination-January-2018

Sacs.1103 **Engineering Chemistry (2+1)** **Marks:50**

Time: 2 hours

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

1 Temporary hardness arises due to ----------salts of calcium and magnesium.
2 When Fe and Zn are connected through a wire ----------metal will be protected.
3 The monomer of natural rubber is ----------
4 Scattering of light by the colloidal particles are called----------
5 Milk is an example of ----------type colloidal system.
6 α-glucose molecules undergo polymerization to give ----------
7 The prosthetic group of a nucleoprotein is----------
8 Give an example for a class II preservative ----------
9 If the concentration of the solution is doubled, its absorbance will be-----

State True or False

10 For machines working at high temperature, lubricants having lower flash point are preferred.

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

1 What are zeolites? Explain the use of zeolites in water treatment.
2 Differentiate between Gross calorific value and Net calorific value.
3 Explain the term Electrophoresis.
4 Explain microbial corrosion.
5 How Nylon-66 is prepared?
6 Give the names and functions of four oil soluble vitamins.
7 Explain the mechanism of enzyme activity.

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

Describe

1 i Ion-exchange resin method
ii Reverse osmosis method for reducing water hardness
2 Describe any three methods for the purification of colloidal solutions.
3 What is knocking? How it is minimized? Explain the term octane number.
4 Give an account on types of polymerization with suitable examples.
5 Explain cloud and pour point of a lubricant? Explain its significance. How it is measured?
6 Give an account on the classification of carbohydrates
7 Classify proteins based on their shape and function

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

1 Give a detailed account on the types of corrosion
2 a What are lipids? Explain their classification
b Explain the manufacture of ethanol and acetic acid

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