



KERALA AGRICULTURAL UNIVERSITY
B. Tech. (Agrl. Engg.) 2022 Admission
I Semester Final Examination – March 2023

Sacs.1103

Engineering Chemistry (2+1)

Marks: 50
Time: 2 hours

- I Fill in the blanks (10x1=10)**
1. is a semi-synthetic fiber, made from natural sources of regenerated cellulose
 2. Chlorine reacts with water to form.....
 3. is a broad term assigned to any starch degradation product from conversion.
 4. is a method for the production of liquid hydrocarbons, such as gasoline, diesel, and jet fuel, for use as synthetic fuel.
- Define the following**
5. Cathodic protection
 6. Hardness of water
 7. Zeta potential
 8. Octane number
 9. Fire point
 10. Class I food preservative
- II Write short notes on ANY FIVE of the following (5x2=10)**
1. State Beer Lambert's law and write its differential form.
 2. Distinguish between gross and net calorific values.
 3. What is corrosion? State any two factors affecting corrosion.
 4. Distinguish between thermoplastic and thermosetting plastic.
 5. Discuss the origin of charge on colloidal solutions.
 6. Write short note on phospholipids.
 7. What is the basic principle of chromatography?
- III Answer ANY FIVE of the following (5x4=20)**
1. Explain ion-exchange process of water softening.
 2. Describe the synthesis of petrol by Fischer Tropsch processes.
 3. Discuss pitting corrosion. What are the countermeasures that can be adopted to prevent pitting corrosion?
 4. What are high polymers? Give their applications.
 5. Discuss cloud and pour points of lubricants.
 6. Discuss the preparation of colloids by dispersion and condensation methods.
 7. Discuss the classification of proteins.
- IV Write an essay on ANY ONE of the following (1x10=10)**
1. What is sterilization of water? Why sterilization of water is important? Explain the various methods of water sterilization.
 2. What are carbohydrates? Discuss the classification of carbohydrates with proper examples. Also discuss the important properties of each class.
