



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.( Agri. Engg.) 2020 Admission**  
**I Semester Final Examination-November 2021**

Sacs.1103

**Engineering Chemistry (2+1)**

**Marks:50**

**Time: 2 hours**

**(10x1=10)**

**I Fill in the blanks**

1. During corrosion of metals, the oxygen present in water will reduce at cathodic sites to form \_\_\_\_\_ ions.
2. The variation of viscosity with temperature of the lubricant can be expressed in terms of \_\_\_\_\_ parameter.
3. Terephthalic acid and \_\_\_\_\_ undergo condensation polymerization to obtain Terylene.
4. Give the full name of the synthetic rubber SBR: \_\_\_\_\_
5. If the dispersed phase is solid and the dispersion phase liquid \_\_\_\_\_ type colloidal solutions are formed.
6. Sucrose is an example of \_\_\_\_\_ saccharide.
7. Monomer of cellulose is \_\_\_\_\_.
8. Ascorbic acid is the name of \_\_\_\_\_.
9. A thermogram is a plot of temperature against \_\_\_\_\_.
10. Removal of electrolytic impurities from a colloidal solution is called \_\_\_\_\_.

**II Write short notes on ANY FIVE of the following**

**(5x2=10)**

1. State and explain Beer-Lambert law.
2. What is meant by pitting corrosion?
3. What is Rayon? How it is prepared?
4. What is meant by phospho lipid? Give its function.
5. What are poly saccharides? Give examples.
6. Define cloud and pour point of a lubricant.
7. Give the expression for viscosity index. Explain the terms.

**III Answer ANY FIVE of the following**

**(5x4=20)**

1. Explain the principle and application of Polarography.
2. Write a note on origin of charge on colloidal particles and zeta potential.
3. Give the structure of natural rubber. What is meant by vulcanization of rubber? How it is performed?
4. What is meant by flash and fire point of a lubricant? Explain its importance. How it is measured?
5. Write a short note on the natural and synthetic flavouring and colouring agents used in food chemistry.
6. Give an account on thermo gravimetric analysis.
7. Write a note on the structure of proteins.

**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Illustrate the various steps involved in the water treatment.
2. Explain
  - a. Any two methods for the preparation of synthetic petrol.
  - b. Write a note on fractionation of petroleum.

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