KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agrl. Engg.) 2021 Admission
I Semester Final Examination - May 2022

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

I   **Fill in the blanks**   (10x1=10)
1. Hardness is classified as ………………….. and …………………..
2. The process of removing salts from the water is known as ………………..
3. Calorific value is expressed in …………………..
4. The two types of polymerization are ………….. and …………….
5. ………….. is the extraction of energy from carbohydrates in the absence of oxygen.
6. Cataphoresis is also called as ………………..
   State True or False
7. Flue gas refers to the combustion exhaust gas that is produced at the power plant.
8. A polymer having high atomic weight is called High polymer.
9. A colloidal mixture is insoluble particles suspended throughout the liquid.
10. Draw the structure of Ethanol and Acetic acid.

II   **Write short notes on ANY FIVE of the following**   (5x2=10)
1. Define Beer-Lambert's law.
2. Give two examples each of:
   (i)   Natural food colourants
   (ii) Artificial food colourants
3. What is the net calorific value?
4. Define Octane number.
5. How to prevent corrosion?
6. Write the uses of high polymers.
7. What is food chemistry?

III   **Answer ANY FIVE of the following**   (5x4=20)
1. Draw the diagram for the water softening process by Lime-soda process.
2. Write briefly on hardness of water, types, advantages and disadvantages.
3. Explain about Bergius process with a diagram.
4. Write about the classification of fuels.
5. What is corrosion and explain its types?
6. Define plastics and write their properties and applications.
7. Define the following:
   a.   Viscosity
   b.   Viscosity index
   c.   Flash poin

IV   **Write an essay on ANY ONE of the following**   (1x10=10)
1. Write in detail about flue gas analysis.
2. Explain chromatography and its types in detail.

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