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**Question Paper Code: 91007**

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

First Semester

Agriculture Engineering

19UCY107 - CHEMISTRY FOR AGRICULTURIST

(Regulation 2019)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

**(Answer any ten of the following questions)**

1. Define Hund's rule CO1- R
2. How will you express the hardness in terms of calcium carbonate equivalents CO2- R
3. Give examples for cation and anion exchange resin. CO3- R
4. Mention any two natural food preservatives. CO4- R
5. What is agriculture and its method? CO5- R
6. Which of the following salt is not responsible for hardness of water? CO2- R
7. The type of soil has the greater surface area is \_\_\_\_\_ CO3- R
8. All the type of soil contains\_\_\_\_\_, organic matter, water and air. CO3- R
9. Butter, vegetable oil, Cholesterol are examples for CO4- R
10. Which one of the following vitamin is soluble in water CO4- R
11. Write the electronic configuration of Fe<sup>2+</sup> ion. CO2App
12. Ice floats in water. Give reason. CO2 Ann
13. Suggest a method to convert sea water into drinking water. CO1 App
14. List the major components of sodic soil CO3 R
15. Write any two examples for proteins and carbohydrates used in food industry. CO4 U

PART – B (3 x 10= 30 Marks)

**(Answer any three of the following questions)**

16. Explain Valance Band Theory (VBT) in detail with examples. Discuss its applications and limitations. CO1- U (10)
17. Write the principle of EDTA method. Describe the estimation of hardness of water by EDTA method. CO2- U (10)
18. Write a note on mineral materials and organic matters present in the soil. CO3- U (10)
19. Explain the need and role of food preservatives, colouring agents and flavoring agents in food industry. Name few examples for each category. CO4- U (10)
20. Explain the carbonate, phosphate and Calgon conditioning of water to overcome the boiler troubles. CO2- U (10)