QP CODE: 22102523

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Reg No : .....

Name : .....

B.VOC DEGREE REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, JUNE 2022

Second Semester

B.VOC RENEWABLE ENERGY TECHNOLOGY AND MANAGEMENT

RETTG202 - FUNDAMENTALS OF ELECTROCHEMSITRY

2019 Admission Onwards

40BAA60B

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Give reason for lower ionic mobilities of lithium and sodium ions.
2. Define electrochemical equivalent.
3. Why Cd^{2+} shows anomalously high negative transport number at higher concentrations?
4. What is Salt bridge? Give peculiarities of material used as salt bridge.
5. What is SHE and SCE?
6. Draw a reprsentative figure for a concentration cell and mark its components?
7. What are the advantages of condutometric titration over conventional titration?
8. Draw and explain amperometric titration curve ehen only titrant is reducible.
9. What are the two basic categories of energy and how are they differentiaed?
10. What is the main use of ozone layer in the atmosphere?
11. What is meant by internal conversion?
12. Give two examples for commonly used photo-sensitizers.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. The resistance of 0.01M solution of an electrolyte was found to be 210 ohm at 25 degree Celsius. Calculate the molar conductance of the solution at the same temperature. Cell constant =0.88 cm^{-1}

14. What is solubility product for water? Give its significance. How can it be calculated by conductance measurement?

15. Give the relationship between EMF of a cell and equlibrium constant for the cell reaction.

16. Give a note about liquid Junction Potential.

17. What are the advantages of coloumetric titrations?

18. Write a short note on laws of photochemistry.

19. Define and explain Beer-Lambert's law with illustrations.

20. What is chemiluminescence? Give an example. Give 5 applications of chemiluminescence.

21. Discuss what all things will happen if the process of photosynthesis stops altogether.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. State and explain Kohlrausch's law of independent migration of ions. Explain its different applications.

23. Write the overall cell reactions and give the cell representation for (i) Daniel Cell (ii) H_2-Zn cell (iii) H2- Calomel cell. Write the overall oxidation - reduction reaction in all the three cells.

24. Write notes on different types of electrodes used in polarography and different types of polarographic methods.

25. Give examples and discuss the steps for the following, i) rearrangement reaction, ii) secondary photochemical reaction, iii) photosensitized reaction, and iv) chain reaction

(2×15=30)