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**DHANALAKSHMI SRINIVASAN COLLEGE  
OF ARTS & SCIENCE FOR WOMEN  
(AUTONOMOUS)**

(For Candidates admitted from 2020-2021 onwards)



**UG DEGREE EXAMINATIONS APRIL - 2021**

**B.Sc., - PHYSICS**

**GENERAL CHEMISTRY-II**

**Time: 3 Hrs**

**Max.Marks: 75**

**PART - A**

**CHOOSE THE CORRECT ANSWER**

**(10X1=10)**

- EDTA is \_\_\_\_\_  
a) An indicator                      b) a rubber                      c) a metal                      d) a chelating agent
- Selenium serves as an example for  
a) Bad – conductor                      b) semi-conductor                      c) good conductor                      d) super conductor
- \_\_\_\_\_ is the sweetest of all sugars.  
a) Glucose                      b) fructose                      c) sucrose                      d) maltose
- Proteins are \_\_\_\_\_  
a) Acidic                      b) basic                      c) amphoteric                      d) neutral substance
- Identify chiral molecule among the following  
a) isopropyl alcohol                      b) isobutyl alcohol                      c) 2-pentanol                      d) 1-bromo-3-butene
- Furan is  
a) An alcohol                      b) a hetero cyclic compound                      c) vitamins                      d) a disaccharides
- Fog is a colloidal solution of \_\_\_\_\_  
a) Gas in liquid                      b) liquid in gas                      c) gas in solid                      d) solid in gas
- An example for a lyophilophilic sol is \_\_\_\_\_  
a) Gelatin                      b)  $As_2S_3$                       c)  $Fe(OH)_3$                       d) colloidal gold
- The unit for equivalent conductance is  
a) mho cm                      b) ohm cm                      c)  $mho\ cm^2\ equ^{-1}$                       d)  $ohm^{-1}\ cm^2\ equ^{-1}$
- pH of an acidic solution is \_\_\_\_\_  
a) 7                      b)  $>7$                       c)  $<8$                       d) 14

**PART - B**

**ANSWER ALL THE QUESTIONS**

**(5X7=35)**

11. a) What is the difference between bonding and antibonding molecular orbitals?

**(OR)**

b) How is intrinsic semiconductor converted in to n-type and p-type semiconductor?

12. a) Discuss the properties and structure of fructose.

(OR)

b) How are amino acids classified? Give example.

13. a) Discuss the geometrical isomerism of maleic acid and fumaric acid.

(OR)

b) Write the preparation and properties of pyridine.

14. a) Distinguish between physical and chemical adsorption.

(OR)

b) What are ultra filters? How are they made?

15. a) Explain Ostwald's dilution law.

(OR)

b) Explain the different types of buffer solution.

### PART - C

#### ANSWER ANY THREE QUESTIONS

(3X10=30)

16. Explain the molecular orbital energy profile diagram of  $O_2$  molecule.

17. Narrate the physical properties and biological functions of protein.

18. Describe the preparation, properties and uses of furan.

19. Explain Freundlich – Langmuir adsorption isotherm.

20. Discuss the various types of conductometric titration.