

GROUP - C

6. Write notes on (*any two*) 4×2
- Silicones
 - Phosphazenes and cyclophosphazenes
 - Interhalogen compounds
 - Hydrazine
7. Write *any two* questions 4×2
- Discuss briefly about the structures of trimethylamine and trisilylamine. Comment on their basic character.
 - Discuss briefly about different oxoacids of sulfur.
 - Write the hydrolysis products of PCl_5 and PCl_3 and discuss about the mechanism.

INTER B. SC. EXAMINATION, 2019

(2nd Semester, Old Syllabus)

CHEMISTRY (SUBSIDIARY)**PAPER - VIII-S**

Time : Two hours

Full Marks : 50

Use a separate Answer-Script for each group.

GROUP - A

- Describe differences in schematic representation of the potential energy diagrams associated with Physisorption and Chemisorption phenomena.
 - Describe the rate expression for the surface catalytic reaction following the Eley-Rideal mechanism along with the corresponding low and high pressure results.
 - State only the basic assumptions associated with the derivation of the Langmuir adsorption isotherm of the form, $\theta = \frac{KP}{1+KP}$ (symbols having usual meaning) ;
Elaborate on the dependence of the constant, K in it on temperature, mass of the adsorbate molecules and the desorption energy. 3+3+4


[2]

2. a) Briefly describe with example the preparation of a colloidal dispersion by any one of the following methods :
- i) Chemical reduction
 - ii) Peptization
 - b) Describe briefly the phenomenon of 'Sol Protection' and define 'Gold number'.
 - c) Describe briefly any one of the following properties of colloids :
 - i) Tyndall effect
 - ii) Electro-osmosis

$2+2\frac{1}{2}+2\frac{1}{2}$

[3]

GROUP - B

3. a) Draw the resonance structures of furan and predict which position is more susceptible for electrophilic substitution. 3
- b) Draw the structure of the product for the following reaction 2
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- c) Discuss the Haworth synthesis of naphthalene. 2
4. Discuss the synthetic method and application of the following dyes 2×2
- a) Phenolphthalein
 - b) Congo Red

5. a) What is anomeric effect? Predict the major product when D-glucose is treated with methanol in the presence of acid under refluxing condition. 3
- b) How would you prove that

i) D-mannose is a C-2 epimer of D-glucose.

ii) Glucose molecule contains an aldehyde functional group

[Turn over