



Chemsitry previous year paper

Chemistry (SRM Institute of Science and Technology)



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Reg. No.

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

UBT18105 – CHEMISTRY

(For the candidates admitted during the academic year 2018-2019 onwards)

Time: Three hours

Max. Marks: 100

Answer **ALL** Questions

PART – A (10 × 2 = 20 Marks)

- Find the type of reaction
 - $C_6H_6 + NO_2^+ \rightarrow C_6H_5-NO_2 + H^+$
 - $CH_3-Cl + KOH \rightarrow CH_3-OH + KCl$
- What is the order of strength of formic acid and chloroacetic acid? Why?
- How will you prepare glucosazone?
- What is mutarotation? Give the pyranose structure of the two forms.
- What is quartz? How will you convert quartz and cristobalite?
- Discuss the structure of ClF_3 .
- Define order and molecularity of a reaction.
- What are the demerits of collision theory?
- What are the types of hardness of water? Define them.
- Define BOD and COD.

PART – B (5 × 16 = 80 Marks)

11. a.i. Give a detailed account of electrophilic substitution reaction of pyridine. (7 Marks)
- ii. Write a detailed note on Friedel crafts alkylation and acylation. (6 Marks)
- iii. Explain why benzoic acid forms methyl ester with methanol and hydrogen chloride but under the same condition di-ortho substituted benzoic acid fails to form ester. (3 Marks)

(OR)

- b.i. Give a detailed account of mesomeric effect.
- ii. Discuss the hybridization in alkenes taking ethylene as an example.
12. a.i. How will you convert fructose into glucose? (5 Marks)
- ii. Discuss the structure of fructose. (5 Marks)
- iii. Give two preparation methods, two properties and uses of glycine. (6 Marks)

(OR)

- b.i. Briefly outline the Gabriel phthalimide and strecker synthesis of glycine. (6 Marks)
- ii. How hippuric acid and glycolic acid is prepared from glycine? (5 Marks)
- iii. How will you convert glucose into fructose? (5 Marks)
13. a.i. How will you extract cobalt from its ore? (7 Marks)
- ii. What are the isotopes of Hydrogen? Discuss about them. (5 Marks)

- iii. Give a brief account of the structure of IF_7 . (4 Marks)

(OR)

- b.i. How will you extract copper from pyrite ore? (7 Marks)
- ii. Justify the position of Hydrogen in the periodic table. (5 Marks)
- iii. Give two preparation and properties of SiCl_4 . (4 Marks)
14. a.i. Give a detailed account of Arrhenius theory of activation energy.
- ii. How will you determine the rate of the reaction using half life method?

(OR)

- b.i. Write a short note on pseudo first order reaction and zero order reaction.
- ii. What are the assumptions of collision theory and explain?
15. a.i. Explain the reverse osmosis process of softening of hard water. (5 Marks)
- ii. Give the composition and advantages of LPG gas. (5 Marks)
- iii. What are the disadvantages of hard water? (6 Marks)

(OR)

- b.i. Explain in detail zeolite and demineralization process of purification methods of hard water. (10 Marks)
- ii. What is Gobar gas? How is it produced? (6 Marks)

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