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AA—14—2022

FACULTY OF SCIENCE

B.Sc. (Second Year) (Third Semester) EXAMINATION

NOVEMBER/DECEMBER, 2022

(NEW COURSE)

CHEMISTRY

Paper-VI

(Organic and Inorganic Chemistry)

(Tuesday, 6-12-2022)

Time : 02.00 p.m. to 04.00 p.m.

Time—Two Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) Use separate answer-book for each paper.

1. Solve any three of the following : 15

(a) Define the terms : Qualitative analysis, Semimicroqualitative analysis, basic radicals.

(b) Write notes on :

(i) Use of solubility product

(ii) Common ion effect.

(c) How will you separate II and III B group radicals in qualitative analysis ?

(d) Explain autoionization and precipitation reactions in liquid SO₂.

(e) Write notes on :

(i) Dipole moment

(ii) Melting and Boiling point.

2. Solve any three of the following : 15

(a) Explain Perkin reaction with mechanism.

(b) Write a note on Clemmensen reduction reaction.

(c) What is Benzoin condensation ? Explain with mechanism.

(d) How will you prepare salicylic acid from :

(i) Kolbe's reaction

(ii) Reimer-Tiemann reaction.

P.T.O.

- (e) How will you prepare benzene sulphonic acid from benzene with mechanism.
3. Solve any *two* of the following : 10
- (a) Explain Claisen condensation reaction with mechanism.
- (b) What are Grignard reagents ? How will you prepare ethanol and 2-propanone from $\text{CH}_3\text{-MgBr}$?
- (c) Write notes on :
- (i) Saponification value of oil
- (ii) Mannich reaction.
- (d) What are detergents ? How are they classified ?