

This question paper contains 2 printed pages]

SB—14—2022

FACULTY OF SCIENCE

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

MAY/JUNE, 2022

(New Pattern)

CHEMISTRY

Paper—VI

(Organic & Inorganic Chemistry)

(Tuesday, 7-6-2022)

Time : 2.00 p.m. to 4.30 p.m.

Time— 2½ Hours

Maximum Marks—40

N.B. :— (i) Use Separate answer book for each paper.

(ii) Attempt All questions.

1. Solve any *three* of the following : 15

(a) Define the following terms :

(i) Micro qualitative analysis;

(ii) Solubility product;

(iii) Acidic radical.

(b) Explain the role of sodium carbonate extract in qualitative analysis.

(c) Explain the acid base reactions in liq. ammonia and in liq. SO₂.

(d) Write a short note on separation of IIA and IIB basic group radicals.

(e) Why water is called as universal solvent ?

2. Solve any *three* of following : 15

(a) Explain Aldol condensation reaction with mechanism.

(b) How will you prepare benzoic acid from ?

(i) Toluene;

(ii) Phenyl Cyanide.

What is the action of PCl₅ on benzoic acid ?

P.T.O.

- (c) How will you prepare methyl lithium ? What is the action of methyl lithium on acetone and acetaldehyde ?
- (d) Write a note on Baeyer—Villiger oxidation reaction with mechanism.
- (e) How will you synthesized succinic acid from ethyl acetoacetate ?
3. Solve any *two* of following : 10
- (a) What is the action of the following on benzene sulphonic acid ?
- (i) NaOH;
 - (ii) PCl_5 ;
 - (iii) Ethanol;
 - (iv) H_2O ;
 - (v) SOCl_2 .
- (b) Write notes on :
- (i) Hydrogenation of oil;
 - (ii) Reformatsky reaction;
- (c) What happens when benzaldehyde is heated with alcoholic KCN solution ?
- (d) What are Soap ? How is soap manufactured by Kettles process ?