Roll No _____ (To be filled in by the candidate)

(Academic Sessions 2017 – 2019 to 2019 – 2021)

CHEMISTRY 221-(INTER PART – II) Time Allowed : 2.40 hours

PAPER – II (Essay Type) GROUP – I Maximum Marks : 68

SECTION – I

2. Write short answers to any EIGHT (8) questions : **16**

(i) Why the ionic radii of negative ions are larger than the size of their parent atoms?

(ii) Why the graphite is a good conductor?

(iii) Complete and balance the equations : (a) $LiNO_3 \xrightarrow{Heat}$ (b) $NaNO_3 \xrightarrow{Heat}$

(iv) Why the aqueous solution of Na_2CO_3 is alkaline in nature?

(v) Give the chemical formulae of : (a) Kaolin (b) Feldspar

(vi) Give the four differences of boron from other elements of group IIIA.

(vii) Give four uses of borax.

(viii) Give four similarities of sulphur and oxygen.

(ix) Give four uses of sulphuric acid.

(x) Mention any four qualities of a good fertilizer.

(xi) Give the composition of a good Portland cement.

(xii) Define the term ' setting of cement '. Also describe reactions taking place in first 24-hours?

3. Write short answers to any EIGHT (8) questions : **16**

(i) Oxidizing power of halogen depends upon which factors.

(ii) What do you know about disproportionation reactions? Give example.

(iii) Give two uses of bleaching powder.

(iv) What are interstitial compounds?

(v) What is anode coating?

(vi) Give four examples of ortho-para directing groups.

(vii) Discuss catalytic oxidation of benzene.

(viii) What is iodoform test? Give its uses.

(ix) What do you know about silver mirror test?

(x) How would you prepare carboxylic acids from Grignard Reagents?

(xi) How would you prepare acid anhydride from acetic acid?

(xii) Why first four members of aliphatic acids are soluble in water?

4. Write short answers to any SIX (6) questions : **12**

(i) What are homocyclic and heterocyclic compounds? Give one example of each.

(ii) Write the structural formulas of two possible isomers of C_4H_{10}.

(iii) How is methane converted to ethane?

(iv) Ozonolysis of alkene is used to locate the position of double bond, comment.

(v) Why is sigma bond inert?