

Roll No. _____

(To be filled in by the candidate)

(Academic Sessions 2017 – 2019 to 2019 – 2021)

CHEMISTRY

221-(INTER PART – II)

Time Allowed : 20 Minutes

Q.PAPER – II (Objective Type)

GROUP – I

Maximum Marks : 17

PAPER CODE = 8483

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Hydrogen bond is the strongest between the molecules of : (A) HF (B) HCl (C) HBr (D) HI
2	Formula of chloroform is : (A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$
3	Ketones are prepared by the oxidation of : (A) Primary alcohol (B) Secondary alcohol (C) Tertiary alcohol (D) All of these
4	Which is not a calcareous material : (A) Lime (B) Clay (C) Marble (D) Marine shell
5	Keeping in view the size of atoms, which order is the correct one : (A) $Mg > Sr$ (B) $Ba > Mg$ (C) $Lu > Ce$ (D) $Cl > I$
6	Rectified spirit contains ethyl alcohol : (A) 80% (B) 85% (C) 90% (D) 95%
7	Tinical is a mineral of : (A) Al (B) B (C) Si (D) C
8	For which mechanism the first step involved is the same : (A) $E1$ and $E2$ (B) $E2$ and S_N2 (C) S_N1 and S_N2 (D) $E1$ and S_N1
9	Which of the following is not a fatty acid : (A) Propanoic acid (B) Butyric acid (C) Valeric acid (D) Phthalic acid
10	Which one of the following is a typical transition metal : (A) Sc (B) Y (C) Ra (D) Co
11	Which of the following sulphates is not soluble in water : (A) Sodium sulphate (B) Potassium sulphate (C) Zinc sulphate (D) Barium sulphate
12	Linear shape is associated with which set of hybrid orbitals : (A) sp (B) sp^2 (C) sp^3 (D) dsp^2
13	Which halogen occurs in a positive oxidation state : (A) Fluorine (B) Chlorine (C) Bromine (D) Iodine
14	The electrophile in aromatic sulphonation is : (A) H_2SO_4 (B) HSO_4 (C) SO_3 (D) SO_3^+
15	Laughing gas is chemically : (A) NO (B) N_2O (C) NO_2 (D) N_2O_5
16	The carbon atom of a carboxyl group is hybridized : (A) sp (B) sp^2 (C) sp^3 (D) dsp^2
17	Which acid is used in the manufacture of synthetic fibre : (A) Formic acid (B) Oxalic acid (C) Carbonic acid (D) Acetic acid

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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) $\text{LiNO}_3 \xrightarrow{\text{Heat}}$ (b) $\text{NaNO}_3 \xrightarrow{\text{Heat}}$
- (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?

(Turn Over)