LHR-II-21

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 – II Maximum Marks : 17

PAPER CODE = 8482

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	Mark the correct statement : (A) All lanthanides are present in the same group (B) All halogens are present in the same period (C) All the alkali metals are present in the same group (D) All the noble gases are present in the same period
2	Which ion will have maximum value of heat of hydration : (A) Na^+ (B) Cs^{+1} (C) Ba^{+2} (D) Mg^{+2}
3	Which element forms an ion with charge +3 : (A) Be (B) Aℓ (C) C (D) Si
4	Laughing gas is chemically : (A) N_2O_4 (B) N_2O_2 (C) N_2O (D) NO
5	Which halogen will react spontaneously with Au(s) to produce Au^{3+} : (A) Br_2 (B) I_2 (C) $Cℓ_2$ (D) F_2
6	Chlorine heptaoxide reacts with water to form : (A) $HCℓO$ (B) $HCℓO_4$ (C) $HCℓO_3$ (D) $HCℓO_2$
7	The strength of binding energy of transition elements depends upon : (A) Number of electron pairs (B) Number of unpaired electrons (C) Number of neutrons (D) Number of protons
8	Select from the following which one is an alcohol : (A) CH_3-O-CH_3 (B) CH_3-CH_2-OH (C) CH_3COOH (D) CH_3-CH_2-Br
9	Formula of chloroform is : (A) $CH_3Cℓ$ (B) $CCℓ_4$ (C) $CH_2Cℓ_2$ (D) $CHCℓ_3$
10	During nitration of benzene, the active nitrating agent is : (A) NO_3 (B) NO_2 (C) NO_2^+ (D) HNO_3
11	Elimination bimolecular reactions involve : (A) First order kinetics (B) Second order kinetics (C) Third order kinetics (D) Zero order kinetics
12	Ethanol can be converted into ethanoic acid by : (A) Hydrogenation (B) Oxidation (C) Hydration (D) Distillation
13	Which of the following reagents will react with both aldehydes and ketones : (A) Tollen's reagent (B) Fehling's solution (C) Grignard's reagent (D) Benedict solution
14	Ketones are prepared by the oxidation of : (A) Primary alcohol (B) Tertiary alcohol (C) Secondary alcohol (D) All of these
15	Which of the following is not a fatty acid : (A) Propanoic acid (B) Acetic acid (C) Phthalic acid (D) Butanoic acid
16	Rectified spirit contains ethyl alcohol : (A) 80% (B) 85% (C) 90% (D) 95%
17	Which is not a calcarious material : (A) Lime (B) Clay (C) Marble (D) Marine shell

LHR-GII-21

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 – II Maximum Marks : 68

SECTION – I

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

(i) What do you know about period 6 of the periodic table?

(ii) Why Na^+ is smaller than Na atom?

(iii) What are alkali metals? Give name of alkali metals.

(iv) Give two differences between lithium and other alkali metals.

(v) Give chemical formulas of mica and bauxite.

(vi) How would you prepare borax from colemanite?

(vii) Give two uses of aluminium.

(viii) Draw structural formulas of dinitrogen pentoxide and dinitrogen oxide.

(ix) " Sulphuric acid is a dehydrating agent". Justify.

(x) Write different steps involved in the manufacturing of urea.

(xi) Why potassium fertilizers are important for plants?

(xii) What reactions take place between 1 to 7 days during setting of cement?

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

(i) Write any two uses of bleaching powder.

(ii) What is disproportionation reaction? Give one example.

(iii) Why HF is weaker acid than HCl?

(iv) Why does damaged tin plated iron get rusted quickly?

(v) Give the prevention of metals from corrosion.

(vi) What are polycyclic aromatic hydrocarbons? Give examples.

(vii) What information do we get from X-ray study of benzene?

(viii) How does formaldehyde react with the following reagent : (a) HCN (b) $NaHSO_3$

(ix) How will you distinguish between methanal and ethanal?

(x) Write any two reactions of carboxylic acids in which hydrogen atom of carboxylic group is involved.

(xi) What is meant by oxidative cleavage of alkenes? Give an example.

(xii) Write down the mechanism of ester formation.

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

(i) Define catalytic cracking.

(ii) Define homocyclic and heterocyclic compounds.

(iii) Define hydrogenolysis. Give one example.

(iv) Why sigma bond is inert?

(v) How are cis and trans alkenes prepared from alkyne?

(Turn Over)