

Warning:- Please write your Roll No. in the space provided and sign. Roll No. _____
Inter Part – II) (Session 2017-19 to 2019-21) 540-II-21 Sig. of Student _____

Chemistry (Objective)

Group – II

Paper (II)

Time Allowed:- 20 minutes

PAPER CODE 4488

Maximum Marks:- 17

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q.1

- 1) Which reagent is used to reduce a carboxylic acid to an alcohol.
(A) H_2/Ni (B) H_2/Pt (C) $NaBH_4$ (D) $LiAlH_4$
- 2) An aqueous solution of an organic compound reacts with Na_2CO_3 to produce CO_2 gas. Which one of the following could be organic compound
(A) $CH_2=CH_2$ (B) CH_3CH_2COOH (C) CH_3COCH_3 (D) CH_3CHO
- 3) Phosphorous helps the growth of
(A) Root (B) Leave (C) Stem (D) Seed
- 4) Mark the correct statement.
(A) Cl^- (ion) and Cl (atom) are equal in size (B) Cl^- ion is smaller than Cl atom (C) Na^+ is larger than Na -atom (D) Na^+ is smaller than Na -atom
- 5) The mineral $CaSO_4 \cdot 2H_2O$ has the general name.
(A) Dolomite (B) Calcite (C) Epsom (D) Gypsum.
- 6) The Chief ore of Aluminium is
(A) Na_3AlF_6 (B) $Al_2O_3 \cdot H_2O$ (C) Al_2O_3 (D) $Al_2O_3 \cdot 2H_2O$
- 7) Which of the following species has the maximum number of unpaired electrons.
(A) O_2 (B) O_2^{+2} (C) O_2^{+1} (D) O_2^{-2}
- 8) Which is the strongest acid.
(A) $HClO_3$ (B) $HClO_2$ (C) $HClO_4$ (D) $HClO$
- 9) Which halogen occurs naturally in a positive oxidation state.
(A) Bromine (B) Iodine (C) Chlorine (D) Fluorine
- 10) The colour of transition metal complexes is due to
(A) d – d transition of electrons (B) Paramagnetic nature of transition of elements (C) Ionization (D) Loss of s-electrons
- 11) Linear shape is associated with which set of hybrid orbitals
(A) dsp^2 (B) sp^3 (C) sp (D) sp^2
- 12) Vinyl acetylene combines with HCl to form
(A) Phenyl acetylene (B) Benzene (C) Chloroprene (D) Divinyl acetylene
- 13) Benzene cannot undergo
(A) Substitution reactions (B) Addition reactions (C) Oxidation reactions (D) Elimination reactions
- 14) For which mechanism, the first step involved is same.
(A) $E1$ & $E2$ (B) $E2$ & S_N2 (C) S_N1 and $E2$ (D) $E1$ & S_N1
- 15) Which compound is called a universal solvent.
(A) H_2O (B) CH_3OH (C) C_2H_5OH (D) CH_3-O-CH_3
- 16) Which of the following will have the highest boiling point.
(A) Methanal (B) Ethanal (C) 2-Hexanone (D) Propanal
- 17) Acetone reacts with HCN to form a cyanohydrin. It is an example of
(A) Electrophilic addition (B) Electrophilic substitution (C) Nucleophilic addition (D) Nucleophilic substitution

1281 -- 1221 ALP -- 12000 (4)

Warning:- Please, do not write anything on this question paper except your Roll No.

221 (Inter Part - II)

(Session 2017-19 to 2019-21)

Chemistry (Subjective)

(Group II)

Paper (II)

Time Allowed: 2.40 hours

SCG-II-21

Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$
- Why Second ionization Energy is higher than First ionization Energy?
 - Define Hydration Energy. Give example also.
 - Give chemical formula of Carnallite and Barite.
 - What is Plaster of Paris? (v) Give two Points regarding Peculiar behaviour of Boron.
 - Give two important uses of Boric Acid. (vii) "Boric Acid is a weak Acid". Justify.
 - What do you know about Ring Test?
 - How H_2SO_4 acts as oxidizing Agent? Give two reactions.
 - How would you prepare Diammonium Phosphate fertilizer?
 - What do you know about Slurry? (xii) Write down two qualities of a good fertilizer.
3. Answer briefly any Eight parts from the followings:- $8 \times 2 = 16$
- Why HF is weaker acid than HCl? (ii) What are disproportionation reactions? Give one example
 - What is meant by available chlorine? (iv) Define interstitial alloys.
 - A damaged tin plated iron get rusted quickly comment.
 - Define resonance energy. Give one example. (vii) Describe Wurtz-Fitting reaction with one example.
 - Give the use of Tollen's test. (ix) How $NaHSO_3$ is added to acetone, give mechanism.
 - Write any two methods of preparation of Acetic acid.
 - Give reactions of acetic acid with (a) PCl_5 (b) $NaOH$
 - Explain oxidative cleavage of alkene briefly.
4. Answer briefly any Six parts from the followings:- $6 \times 2 = 12$
- How octane number of alkanes can be improved.
 - Define tautomerism by giving one example.
 - Why alkanes are called paraffins?
 - Give the formation of formic acid by catalytic oxidation of alkane.
 - Define electrophile. Give examples.
 - What is β - Elimination reaction? Give an example of β - $E2$ elimination reaction.
 - What is meant by denaturing of Alcohol?
 - Why Absolute Alcohol cannot be prepared by fermentation method?
 - How acetaldehyde can be prepared from an alkyne?

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

5. (a) Define oxidation state. Give its trend in the Periodic Table.
(b) How Down's Cell is used to prepare pure Sodium metal?
6. (a) Describe the chemistry of the industrial preparation of sulphuric acid from sulphur by the contact process
(b) Give any Four properties of Transition Elements.
7. (a) Discuss in detail cis-Trans Isomerism.
(b) Describe with mechanism Aldol condensation reaction. Why Formaldehyde does not give this reaction?
8. (a) Give Kolbe's Electrolytic Method for the preparation of Alkanes with Mechanism.
(b) Write a detailed note on S_N2 reactions of alkyl halides.
9. (a) Explain the structure of Benzene by Resonance Method.
(b) Write the reaction of phenol with following.
(i) $NaOH$ (ii) CH_3COCl (iii) Zn (iv) Br_2

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