Roll No. _____ Annual 2019

**Chemistry ( New Scheme )** **(INTER PART II CLASS 12th)( III)** **Time : 20 Minutes**
**Paper : II** **Objective** **Marks : 17**
**Code : 8485**

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 with marker or pen. Cutting or filling two or more circles will result in zero mark in that question.

1. 1. Which one is not a nucleophile?
(A) $H_2O$ (B) $H_2S$ (C) $BF_3$ (D) $NH_3$

2. Methyl alcohol is not used as
(A) solvent (B) antifreezing agent (C) substitute of petrol (D) denaturation of alcohol

3. Which one has the highest boiling point?
(A) Methanal (B) propanal (C) Ethanal (D) 2-Hexanone

4. Acetamide is prepared by :
(A) heating of $CH_3COONH_4$ (B) heating of $CH_3CN$
(C) heating of $CH_3COOC_2H_5$ (D) hydrolysis of $CH_3CN$

5. Hydrolysis of Fats occur by enzyme.
(A) Urease (B) maltase (C) Zymase (D) Lipase

6. Which one is not a calcarious material?
(A) lime (B) clay (C) marble (D) marine shell

7 Coagulant used for purification of potable water is :
(A) $NiSO_4$ (B) $BaSO_4$ (C) $CuSO_4$ (D) Alum

8. Reaction between Fat and NaOH is called as:
(A) esterification (B) hydrogenolysis (C) fermentation (D) sponification

9. Mark the correct statement.
(A) $Na^+$ is smaller than Na - atom (B) $Na^+$ is larger than Na - atom
(C) $Cl^-$ is smaller than $Cl$ - atom (D) $Cl^-$ and $Cl$ - atom are equal in size

10. Compound obtained when Na burns in excess of air
(A) $NaO_2$ (B) $Na_2O_2$ (C) $Na_2O$ (D) $Na_2O_3$

11. Chief ore of aluminium is
(A) $Na_3AlF_6$ (B) $Al_2O_3 2H_2O$ (C) $Al_2O_3$ (D) $Al_2O_3.H_2O$

12. Catalyst used in contact process is
(A) $NO / NO_2$ (B) $Fe_2O_3$ (C) $SO_3$ (D) $V_2O_5$

13. Formula of Haematite is
(A) $FeS_2$ (B) $Fe_2O_3$ (C) $FeCO_3$ (D) $Fe_3O_4$

14. Weakest acidic solution will be of
(A) HF (B) $HBr$ (C) HI (D) $HCl$

15. Both $CH_3COOH$ and $HCOOCH_3$ show isomerism
(A) position (B) chain (C) geometric (D) functional group

16. Conversion of unsaturated hydro carbons to saturated hydrocarbons in the presence of catalyst is called as:
(A) halogenation (B) hydrogenation (C) hydroxylation (D) dehydrogenation

17. The most reactive compound is :
(A) Benzene (B) Ethene (C) Ethane (D) Ethyne

Roll No._____ Annual 2019

**Chemistry (New Scheme)** **(INTER PART II – CLASS 12th)** **Time: 2 . 40 Hours**
**Paper : II** **Marks : 68**

## SUBJECTIVE

**Note:- Section I is compulsory. Attempt any 3 questions from Section II.**

**( Section – I )**

**2. Write short answers to any Eight parts.** **( 8 x 2 = 16)**

i. Lanthanide contraction controls the size of elements of 6th and 7th periods. Explain the statement.
ii. Give reason for order of hydration energies $Al^{3+} > Mg^{2+} > Na^{+}$
iii. How lime mortar is prepared from lime? Explain chemical equations.
iv. What is chemical garden?
v. How does weathering of potassium feldspar occur? Explain with the help of chemical equation.
vi. Give chemical formula of soapstone and its two uses.
vii. Complete and balance the given chemical equations. (a) $H_2S + NO \rightarrow$ (b) $HNO_3 + HN_3 \rightarrow$
viii. Give two examples to prove $NO_2$ as a strong oxidizing agent.
ix. How is orthophosphoric acid converted to metaphosphoric acid? Give complete chemical reaction.
x. Name various steps involved in the manufacturing of Portland cement by wet process.
xi. Write four essential qualities of a good fertilizer.
xii. Describe role of chlorofluorocarbons (CFC s) in removing ozone in stratosphere by mean of chemical reactions.

**3. Write short answers to any Eight parts.** **( 8 x 2 = 16)**

i. Why is there no free rotation about a double bond but a free rotation about a single bond?
ii. What is mustard gas? How it is produced?
iii. Write structural formulas of the following compounds:
(i) 3-methyl -1 – pentene - 4 – yne (ii) But -1-en – 3 – yne
iv. Describe X-ray structure of Benzene.
v. What are mono cyclic aromatic hydrocarbons? Give two examples.
vi. What is a Nucleophilic substitution reaction? Give example.
vii. Why $SOCl_2$ is the best reagent to get alkyl halides from alcohols? Explain with reaction.
viii. Define fermentation. Write essential conditions for fermentation.
ix. Write structural formulas of the given compounds:- (i) Tartaric acid (b) Lactic acid
x. What is Ninhydrin test? Give its use.
xi. What are essential and non essential amino acids?
xii. What is a peptide bond? Write formula of a dipeptide.

**4. Write short answers to any Six parts.** **( 6 x 2 = 12)**

i. Why iodine has metallic luster?
ii. What are Freon's and Teflon's?
iii. The bleaching action of bleaching powder is due to its oxidative character, justify it.
iv. Damaged tin plated iron gets rusted quickly, give reason.
v. Write chemistry of silver mirror test.
vi. Write reaction for the conversion of methanol to ethanol.
vii. Make difference between fat and oil.
viii. Write importance of DNA.
ix. What is iodine number?

## Section-II

**Note:- Attempt any three (3) questions:** **(3 × 8=24)**

5. (a) Write any two similarities and two differences between hydrogen and halogens. 4
(b) Describe with diagram the manufacture of sodium by Down's cell. 4
6. (a) Give any two methods for the preparation of potassium chromate? 4
(b) Explain the process of incineration of industrial waste. 4
7. (a) What are homocyclic and heterocyclic compounds? Give suitable examples in each case. 4
(b) Discuss how X- Rays studies confirmed hexagonal structure for benzene. Also discuss objections to Kekule's structure. 4
8. (a) Write a note on halogenations of alkanes by explaining all the steps involved. 4
(b) Explain following properties with reference to phenol. (i) Esterification (ii) Sulphonation 4
9. (a) What products are formed when the following compounds are treated with ethylmagnesium bromide, followed by hydrolysis in the presence of acid?
(i) $CH_3CHO$ (ii) $CO_2$ (iii) $(CH_3)_2CO$ (iv) $ClCN$ 4
(b) Explain the mechanism of the reaction of phenylhydrazine with acetone.