

Roll No.

LHR-G1-12-19

(To be filled in by the candidate)

(Academic Sessions 2015 – 2017 to 2017 – 2019)

CHEMISTRY

219-(INTER PART – II)

Time Allowed : 20 Minutes

Q.PAPER – II ( Objective Type )

GROUP – I

Maximum Marks : 17

PAPER CODE = 8487

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	The fibre which is made from acrylonitrile as monomer : (A) PVC (B) Rayon fibre (C) Acrylic fibre (D) Polyester fibre
2	Vinyl acetylene combines with $HCl$ to form : (A) Chloroprene (B) Benzene (C) Poly acetylene (D) Divinyl acetylene
3	Hydrogen bond is the strongest between the molecules of : (A) $HCl$ (B) $HBr$ (C) $HI$ (D) $HF$
4	Which enzyme is not involved in fermentation of starch : (A) Urease (B) Zymase (C) Invertase (D) Diastase
5	Aromatic hydrocarbons are the derivatives of : (A) Alkene (B) Benzene (C) Cyclohexene (D) Normal series of paraffins
6	Chile saltpetre has the chemical formula : (A) $NaNO_3$ (B) $KNO_2$ (C) $Na_2B_4O_7$ (D) $Na_2CO_3 \cdot H_2O$
7	The pH range of the acid rain is : (A) 7 – 6.5 (B) 6.5 – 6 (C) 6 – 5.6 (D) Less than 5
8	The percentage of carbon in different type of iron products is in the order of : (A) Cast iron > wrought iron > steel (B) Wrought iron > steel > cast iron (C) Cast iron > steel > wrought iron (D) Cast iron = steel > wrought iron
9	Which acid is used in the manufacture of synthetic fibre : (A) Formic acid (B) Acetic acid (C) Oxalic acid (D) Carbonic acid
10	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) $Cl^-$ (ion) and Cl (atom) are equal in size
11	Elimination bimolecular reactions involve : (A) Zero order reactions (B) First order reactions (C) Second order reactions (D) Third order reactions
12	Boric acid cannot be used : (A) An antiseptic in medicine (B) For washing eyes (C) In soda bottles (D) For enamels and glazes
13	Which of these polymers is an addition polymer : (A) Nylon - 6,6 (B) Polystyrene (C) Terylene (D) Epoxy resin
14	Which of the following will have the highest boiling point : (A) Methanal (B) Ethanal (C) Propanal (D) 2-Hexanone
15	Which woody raw material is used for the manufacture of paper pulp : (A) Cotton (B) Bagasse (C) Poplar (D) Rice straw
16	Which set of hybrid orbitals has planar triangular shape : (A) $dsp^2$ (B) $sp^3$ (C) $sp^2$ (D) $sp$
17	Laughing gas is chemically : (A) NO (B) $N_2O$ (C) $NO_2$ (D) $N_2O_4$

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

- (i) Define periodic table. How many groups and periods are present in it?
- (ii) Define (i) Mendeleev's periodic law (ii) Modern periodic law.
- (iii) Differentiate between alkali metals and alkaline earth metals. Give one example in each case.
- (iv) Write down the formulas of the following minerals : (i) Borax (ii) Colemanite
- (v) Write down four uses of borax.
- (vi) Define chemical garden.
- (vii) Write down two similarities and two dissimilarities of oxygen and sulphur.
- (viii) Write four differences of nitrogen from its family.
- (ix) Why does aqua regia dissolve gold and platinum?
- (x) Write down four essential qualities of a good fertilizer.
- (xi) What are raw materials for the manufacture of cement?
- (xii) Define environmental chemistry. Name components of environment.

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

- (i) Define organic chemistry. What is vital force theory?
- (ii) Write down structural formulas of the following :  
(a) 2-Methyl propane (b) Neopentane (c) 3-Ethyl pentane (d) 2,2 – Dimethyl pentane
- (iii) Write down four uses of methane.
- (iv) Define aromatic hydrocarbons. How they are classified?
- (v) What happens when (a) Benzene is heated with conc.  $H_2SO_4$  at  $250^\circ C$ .  
(b) Chlorine is passed through benzene in sunlight.
- (vi) Define alkyl halides. What are primary alkyl halides? Give one example.
- (vii) Define Grignard reagent. Give one example.
- (viii) How ethanal is prepared from Molasses? Write chemical reaction as well.
- (ix) Define : (a) Absolute alcohol (b) Methylated spirit (c) Rectified spirit.  
(d) Denaturing of alcohol.
- (x) Write down the structural formulae of the following :  
(a) Propanoic acid (b) Oxalic acid (c) Benzoic acid (d) Acetic anhydride
- (xi) How acetic acid is converted into the methane?
- (xii) Define amino acids. Give two examples.

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

- (i) What is iodized salt?
- (ii) Why iodine has metallic luster?
- (iii) Give four applications of noble gases.
- (iv) What are interstitial compounds?
- (v) How will you convert ethanal into lactic acid?

(Turn Over)

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(2)

4. (vi) How will you distinguish between ethanal and benzaldehyde? Give respective chemical reaction.  
(vii) How is polyvinyl chloride prepared and give its uses?  
(viii) How is nylon - 6, 6 prepared?  
(ix) What is function of DNA and RNA?

**SECTION - II**

**Note :** Attempt any THREE questions.

5. (a) Write eight points to describe role of lime in industries. 4  
(b) What are hydrides, describe different types of hydrides? 4  
6. (a) Define corrosion. Explain electrochemical theory of corrosion. 4  
(b) How water is disinfected by chlorine? Write down harmful effects of chlorination of water. 4  
7. (a) What is orbital hybridization? Explain  $sp^3$  hybridization with an example. 4  
(b) Discuss atomic orbital treatment to explain structure of benzene. 4  
8. (a) How can following conversions be carried out : 4  
(i) Ethane  $\rightarrow$  Methane (ii) Methane  $\rightarrow$  Ethane  
(b) How can ethers be prepared by Williamsons method and from  $Ag_2O$ ? 2,2  
9. (a) How does ethyl magnesium bromide react with : 4  
(i)  $CO_2$  (ii)  $H_3C-CHO$  (iii)  $H_2O$  (iv)  $CH_3OH$   
(b) Describe with mechanism aldol condensation reaction. 4

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