

<b>CHEMISTRY (Fresh) Part-II</b> Time: 20 Minutes Multiple Choice Questions 01 Mark for each	Paper Code <input type="radio"/> 1 <input checked="" type="radio"/> 2 <input type="radio"/> 3	Roll No. of the Student _____ Serial No. Of the Answer Book _____
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Note:

- 1) Attempting all MCQs is compulsory. This paper along with the OMR sheet must be returned to the superintendent after due time.
- 2) Fill the circle (A) (B) (C) (D), which one is correct with blue or black ball point, in this sheet as well as in separate OMR Sheet like
- 3) If more than one circle in the OMR sheet is filled then no credit will be given to such answer.

### SECTION-A

1. Which one of the following is more acidic?  
 (A)  $Al_2O_3$                        (B)  $P_2O_5$                        (C)  $SO_3$                        (D)  $Cl_2O_7$
2. Crowing within the molecule of a s substrate generally favors \_\_\_\_\_  
 (A) Elimination                       (B) Substitution                       (C) Addition                       (D) both A and B
3. The general formula of Alkyne is \_\_\_\_\_  
 (A)  $C_nH_nO$                        (B)  $C_nH_{2n}$                        (C)  $C_nH_nO_2$                        (D)  $C_nH_{2n}O$
4. Which gas is not a pollutant?  
 (A)  $SO_2$                        (B)  $NO_2$                        (C)  $CO$                        (D)  $CO_2$
5. The compound with light boiling point is \_\_\_\_\_  
 (A) Acetic acid                       (B) Water                       (C) Ethyle alcohol                       (D) Ether
6. Material known as plaque, which sticks to our teeth is caused by \_\_\_\_\_  
 (A) Sucrose                       (B) Lactose                       (C) Glucose                       (D) Maltose
7. Fe (II) compounds are \_\_\_\_\_ in geometry  
 (A) octahedral                       (B) tetrahedral                       (C) rhombic                       (D) square planner
8. The optimum  $P^H$  of pepsin is \_\_\_\_\_  
 (A) 1.5                       (B) 1                       (C) 2.5                       (D) 2.0
9. Hydrolysis of acid anhydrides form \_\_\_\_\_  
 (A) Acetic acid                       (B) Ethanol                       (C) Methanol                       (D) Ether
10. The final stage of conversion of decaying plants into coal is \_\_\_\_\_  
 (A) Anthracite                       (B) Lignite                       (C) peat                       (D) Bituminous
11. The marsh gas mainly consists of \_\_\_\_\_  
 (A)  $C_2H_4$                        (B)  $CH_4$                        (C)  $H_2S$                        (D)  $SO_2$
12. Alkenes react with Oxygen to form epoxides in the presence of catalyst \_\_\_\_\_  
 (A) Ag                       (B) Fe                       (C) Zn                       (D) Ni
13. The charge on Co in  $[Co(CN)_6]^{-3}$  is \_\_\_\_\_  
 (A) +4                       (B) +3                       (C) +6                       (D) -3
14. Which of these polymers is an addition polymer?  
 (A) Nylon                       (B) Epoxy resins                       (C) PVC                       (D) Trylene
15. Both carboxylic acids and esters can be reduced by  $LiAlH_4$  to a product \_\_\_\_\_  
 (A) Tertiary alcohol                       (B) Secondary alcohol                       (C) Primary alcohol                       (D) None of these
16. Which one of the alkali metal react with nitrogen to form nitride?  
 (A) Li                       (B) Na                       (C) K                       (D) Rb
17. A carboxylic acids on reaction with  $LiAlH_4$  are reduced to \_\_\_\_\_  
 (A) Alcohol                       (B) Aldehyde                       (C) Ketone                       (D) Alkenes
18. Grignard reagent can be represented by general formula \_\_\_\_\_  
 (A)  $R-Mg-N$                        (B)  $R-Mg-O$                        (C)  $R-Mg-OH$                        (D)  $R-Mg-X$

## CHEMISTRY (Fresh) P-II

Note: Time allowed for section B and C is 2 hours and 40 minutes.

SECTION "B"

Marks: 40

II. Attempt any TEN Parts out of the following. Each Part carries equal marks.

- i. Briefly discuss the Lucas test for the differentiation of primary, secondary and tertiary alcohol.
- ii. Why methanoic acid is stronger acid than ethanoic acid?
- iii. How halogens are detected in the organic compound?
- iv. Differentiate between Homolytic and Heterolytic fission.
- v. What is the role of Ozone in the upper atmosphere?
- vi. Why vegetable oil is sensitive to rancidity?
- vii. Explain the reaction of ethyl acetate with Grignard reagent.
- viii. How do you detect the unsaturation in alkene.
- ix. Enlist the physical properties of ethers.
- x. Describe the fractional distillation of petroleum.
- xi. How you will prepare carboxylic acid from aldehydes and alkyl benzene.
- xii. Define Contaminants, Pollutants, BOD, Smog.
- xiii. Discuss Hydroxide of period 3 elements.

SECTION "C"

Marks: 27

Note: Attempt any THREE questions of the following. Each question carries equal Marks.

- III. (a) Write down the structure of the following compounds
 

(i) Mesitylene	(ii) Methyl phenyl ether	(iii) Cresol
(iv) Benzyl alcohol	(v) Durene	
- (b) Explain Ozonolysis of alkene and alkyne.
- IV. (a) Discuss the effect of temperature and  $p^H$  on enzyme activity.
- (b) Compare  $SN^2$  and  $E^2$  reaction.
- V. (a) Write down the main function of IR, UV visible and NMR spectroscopy.
- (b) Explain the role of potassium manganite as an oxidizing agent in titration.
- VI. Write short note on any two of the following
 

(i) Acidity of phenols	(ii) Carbohydrates	(iii) Inert pair effect
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