

**MODEL TEST PAPER DA CODE STUDENT**

**Class:10+2**

**CHEMISTRY**

**TIME: 3 Hrs**

**Max. Marks: 70**

**Pass Marks: 23**

1. There will be one theory paper. The student has to attempt 29 questions as per the directions given below:
2. Question No. 1 to 20 will be of two marks each. Question numbers 1 to 5 are of multiple choice, 6 to 10 fill the blanks 10 to 15 true or false and 15 to 20 are match the column.
3. Question no 21 to 26 will be of three marks each. Candidate has to attempt any 6 questions out of 12 questions.
4. Question no 27-29 will be of four marks each. Candidate has to attempt any 3 questions out of 6 questions. There will be 100% internal choice in each question.

**Multiple Choice Questions**

1. The Molarity of pure Water is  
(a) 55.5      (b) 50.5      (c) 18      (d) 60.5      2
2. The units of Conductivity are  
(a)  $\text{ohm}^{-1}$    (b)  $\text{ohm}^{-1}\text{cm}^{-1}$    (c)  $\text{ohm}^{-2} \text{cm}^2\text{equiv}^{-1}$    (d)  $\text{ohm}^{-1}\text{cm}^{-2}$       2
3. The role of catalyst is to change \_\_\_\_\_  
(a) Gibbs Energy of reaction      (b) Enthalpy of reaction  
(c) Activation Energy of reaction   (d) Equilibrium Constant      2
4. Rate of physisorption increase with  
(a) decrease in temperature      (b) increase in temperature  
(c) decrease in Pressure      (d) Decrease in Surface Area      2
5. Dehydration of Formic Acid with Sulphuric Acid gives  
(a) CO      (b) C      (c) CO and CO<sub>2</sub>      (d) C<sub>2</sub>H<sub>4</sub>O<sub>4</sub>      2

**FILL THE BLANKS**

6. The general electronic configuration of transition element is -----  
 $((n-1)d^{1-10}ns^{0-2} / (n-1)d^{1-10}ns^0)$       2
7.  $[\text{Ni}(\text{CN})_4]^{2-}$  is diamagnetic and has \_\_\_\_\_ shape. (Square Planar /Pyramidal ) 2
8. For 100% dissociation of  $\text{K}_4[\text{Fe}(\text{CN})_6]$ , Van't Hoff factor  $i =$  \_\_\_\_\_. ( 1/3 )      2
9. Rate constant and Rate of reaction have the same Units for Reaction of \_\_\_\_\_  
Order ( ZERO / FIRST )      2

10 Three Moles of Acetone on refluxing with concentrated  $\text{H}_2\text{SO}_4$  give \_\_\_\_\_  
( Mesitylene / Formic Acid ) 2

**TRUE / FALSE**

- 11 All the ligands must contain at least one donor atom. 2
- 12 Both  $\text{La}^{+3}$  and  $\text{Lu}^{+3}$  are diamagnetic. 2
- 13 The Covalency of  $\text{N}_2\text{O}_5$  is Five. 2
- 14 Both Molality and mole fraction are independent of temperature. 2
- 15 Metallic Conductance decreases with increase in temperature 2

**Match the items given in Column I with the type of solutions given in Column**

- 16**
- | Column I                      | Column II                         |   |
|-------------------------------|-----------------------------------|---|
| (a) Soda Water                | (1) A Solution of gas in Solid    |   |
| (b) Sugar Solution            | (2) A Solution of gas in Gas      |   |
| (c) German Silver             | (3) A Solution of Solid in Liquid |   |
| (d) Air                       | (4) A Solution of Solid in Solid  |   |
| (e) Hydrogen Gas in Palladium | (5) A Solution Gas in Liquid      | 2 |

- 17**
- | Column I               | Column II              |   |
|------------------------|------------------------|---|
| (a) Fuel Cell          | (1) Maximum Efficiency |   |
| (b) Mercury Cell Giver | (2) Steady Potential   |   |
| (c) Secondary Cell     | (3) Are Chargeable     |   |
| (d) E0 Cell            | (4) Extensive Property | 2 |

- 18**
- | Column I (Catalyst)                             | Column II                 |   |
|---|---------------------------|---|
| (a) Ni in the presence of hydrogen              | (1) Ziegler Nata Catalyst |   |
| (b) $\text{Cu}_2\text{Cl}_2$                    | (2) Contact Process       |   |
| (c) $\text{V}_2\text{O}_5$                      | (3) Vegetable Oil to Ghee |   |
| (d) Finely divided Iron                         | (4) Sandmeyer Reaction    |   |
| (e) $\text{Ti Cl}_4 + \text{Al}(\text{CH}_3)_3$ | (5) Haber's Process       | 2 |

- 19**
- | Column I  | Column II                   |   |
|---|-----------------------------|---|
| (a) Antifreeze used in Car Engine                 | (1) Neutral ferric Chloride |   |
| (b) Solvent used in perfumes                      | (2) Glycerol                |   |
| (c) Starting Material for Picric Acid             | (3) Methanol                |   |
| (d) Wood Spirit                                   | (4) Phenol                  |   |
| (e) Reagent used for detection of phenolic group  | (5) Ethylene Glycol         |   |
| (f) By Product of soap industry used in cosmetics | (6) Ethanol                 | 2 |

<b>20</b>	<b>Column I</b>	<b>Column II</b>	
	(a) Chloromphenicol	1. Malaria	
	(b) Thyroxine	2. Anaesthetic	
	(c) Chloro Quine	3. Typhoid Fever	
	(d) Chloroform	4. Goitre	2

### THREE MARKS QUESTION

- 21 Derive Expression for rate constant for first order Reaction? 3  
**OR**  
 State and Explain Kohlrausch Law. 3
- 22 Write difference between Adsorption and Absorption. 3  
**OR**  
 Write difference between Physical Adsorption and Chemical Adsorption. 3
- 23 Phenol has higher boiling point than toluene .Explain. 3  
**OR**  
 The Boiling Point of ethers are lower than their corresponding alcohols. 3
- 24 Write the Wolf Kishner Reduction. 3  
**OR**  
 Write the Clemmensen Reduction. 3
25. From Ammonia and aliphatic amine which is more basic and why? 3  
**OR**  
 What is the difference between Isomoiis and diffusion? 3
- 26 What is the difference between DNA and RNA? 3  
**OR**  
**Give IUPAC Name of Following**  
 (a) K [Ag(CN)<sub>2</sub>]  
 (b) Na [Au(CN)<sub>2</sub>]  
 (c) [Ni(CO)<sub>4</sub>] 1+1+1=3

### FOUR MARKS QUESTION

- 27 (a) Why is H<sub>2</sub>O is Liquid and H<sub>2</sub>S a Gas?  
 (b) Draw the structure of IF<sub>7</sub> on the base of Hybridization 2+2=4  
**OR**  
 (a) HF is a Weaker Acid as compare to Halogen Acid?  
 (b) What are Interhalogens compounds? 2+2 =4
- 28 What is lanthanoid contraction? Give its causes. 4  
**OR**  
 Explain Chromium is a typical hard metal while mercury is a liquid. 4
- 29 Explain as to why Haloarenes are much less reactive than Haloalkanes towards nucleophilic substitution reaction. 4  
**OR**  
 How will you differentiate between Haloalkanes and haloarenes? 4