

**www.Padasalai.Net Common Half Yearly Examination –**  
**2022**

**Model Question Paper - 02**

Std : XII

Marks : 70

Subject : Chemistry

Time : 3 hrs

**PART - I**

**Choose the best answer :**

**15 x1 = 15**

- 1) Pyrogallol is
  - a) 1,2,4 – trihydroxy benzene
  - b) 1,2,3 - trihydroxy benzene
  - c) 1,3,5 - trihydroxy benzene
  - d) 1,3 – dihydroxy benzene
- 2) The composition of Limonite is
  - a)  $\text{Fe}_2\text{O}_3$
  - b)  $\text{Fe}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$
  - c)  $\text{Fe}_3\text{O}_4$
  - d)  $\text{FeCO}_3$
- 3) The fraction of total volume occupied by atoms in a bcc is
  - a)  $\pi/6$
  - b)  $\pi/4$
  - c)  $\sqrt{2} \pi/6$
  - d)  $\sqrt{3}/8\pi$
- 4) How many faradays of electricity are required for the following reaction to occur  $\text{MnO}_4^- \rightarrow \text{Mn}^{2+}$ 
  - a) 5F
  - b) 7F
  - c) 1F
  - d) 8F
- 5) Which kind of isomerism is possible for a complex  $[\text{Co}(\text{NH}_3)_4 \text{Br}_2] \text{Cl}$  ?
  - a) geometrical and ionisation
  - b) geometrical and optical
  - c) optical and ionization
  - d) geometrical only
- 6) Which of the following is weakest acid among all ?
  - a) HI
  - b) HF
  - c) HBr
  - d) HCl
- 7) Which one of the following will not undergo Hoffmann bromamide reaction.
  - a)  $\text{CH}_3\text{CONHCH}_3$
  - b)  $\text{CH}_3 - \text{CH}_2\text{CONH}_2$
  - c)  $\text{CH}_3\text{CONH}_2$
  - d)  $\text{C}_6\text{H}_5\text{CONH}_2$
- 8) Amide linked local anaesthetic is
  - a) lidocaine
  - b) procaine
  - c) isoflurane
  - d) propofol
- 9) The formation of cyanohydrin from acetone is an example of
  - a) nucleophilic substitution
  - b) electrophilic substitution
  - c) electrophilic addition
  - d) nucleophilic addition
- 10) \_\_\_\_\_ are newly synthesised allotropes of carbon.
  - a) fullerece
  - b) nanotube
  - c) graphite
  - d) graphene
- 11) In Arrhenius equation, the term A is
  - a) Threshold energy
  - b) frequency factor
  - c) activation energy
  - d) collision rate
- 12) The blue colour of the sky is due to \_\_\_\_\_ of air particles.
  - a) Tyndall effect
  - b) Brownian movement
  - c) Electrophoresis
  - d) electroosmosis
- 13) The most common oxidation state of actinoids is
  - a) +2
  - b) +4
  - c) +3
  - d) +6
- 14) The salt does not undergo hydrolysis is \_\_\_\_\_

- a) Sodium acetate
- b) ammonium chloride
- c) ammonium acetate
- d) sodium nitrate

15) Match the following

1. Sucrose - a)  $\alpha - 1, 4 -$  glycosidic bond
  2. Lactose - b)  $\alpha - 1,6 -$  glycosidic bond
  3. Maltose - c)  $\alpha - 1,2 -$  glycosidic bond
  4. Starch - d)  $\beta - 1,4 -$  glycosidic bond
- a) 1-d, 2-c, 3-a, 4-b
  - b) 1-c, 2-d, 3-b, 4-a
  - c) 1-c, 2-d, 3-a, 4-b
  - d) 1-d, 2-c, 3-b, 4-a

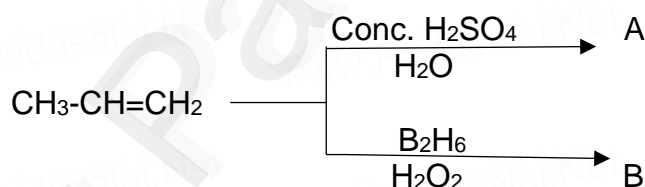
**PART – II**

**Answer any 6 questions :**

**Q.No. 24 is compulsory**

**6 × 2 = 12**

- 16) How is nitrogen prepared ?
- 17) What are interstitial compounds ?
- 18) Write any two hydrate isomers of the complex with molecular formula  $CrCl_3 \cdot 6H_2O$ .
- 19) Distinguish b/w isotropy and anisotropy.
- 20) Define buffer index ( $\beta$ ).
- 21) Gas in gas colloid does not. Why ?
- 22) How you prepared benzoic acid using Grignard reagent ?
- 23) How is chloropicrin prepared ?
- 24) Complete the following reaction and identify A and B



**PART - III**

**Answer any 6 questions :**

**Q.NO. 33 is compulsory**

**6 × 3 = 18**

- 25) Write chromyl chloride test.
- 26)  $[Ni(H_2O)_6]^{2+}$  is green colour. Explain.
- 27) Explain the common ion effect with an example.
- 28) Explain the factors that affect electrolytic conductance.
- 29) What is deemulsification ? give any 2 methods of deemulsification.
- 30) How are proteins classified based on their structure? Explain.
- 31) Explain the oxidation of unsymmetrical ketone ?
- 32) Write a note on antioxidants.
- 33) 0.1 M solution of HF is weak acid, but 5M solution of HF is stronger acid. Why?

**Kindly Send me your district Questions & Keys to email id - Padasalai.net@gmail.com**

**PART – IV**

**Answer the following :**

**5 × 5 = 25**

- 34) a) i) Explain the principle of electrolytic refining with an example.  
ii) What is royal water ? give the equation for dissolving platinum.  
(or)  
b) i) How is potash alum prepared ?  
ii) What is the structure and hybridisation of XeOF<sub>4</sub>.
- 35) a) Write the postulates of Werner theory.  
(or)  
b) i) Explain metal deficiency defect.  
ii) Give an example for i) phase transfer catalyst ii) Nano catalyst
- 36) a) i) Explain pseudo first order reaction with an example.  
ii) Classify the following into Lewis acid and Lewis base.  
a) CO<sub>2</sub>    b) FeCl<sub>3</sub>    c) CH<sub>3</sub><sup>-</sup>    d) CaO  
(or)  
b) Derive an expression for Nernst equation.
- 37) a) i) How will you detect the change of sol particles ?  
ii) Give the mechanism of Williamson ether synthesis.  
(or)  
b) i) Write dehydration reaction of glycerol.  
ii) How the tranquilizers work in body.
- 38) a) Write the mechanism of Cannizzaro reaction.  
(or)  
b) i) Write Gattermann reaction.  
ii) Why aniline is less basic than ammonia ?

**By,**

**L. FRANCIS KUMAR**

**PGT CHEMISTRY**

**CK SCHOOL, CUDDALORE-1**