

***Sincerity, Nobility and Service***

**TERMINAL EXAM - JULY 2019- 20**

 **CLASS: XII CHEMISTRY MARKS: 70**

 **DATE: 29 - 07 - 2019 TIME: 3 Hrs**

**General Instructions:**

(a) All questions are compulsory.

(b) Section A: Q.no. 1 to 20 are very short answer questions and carry 1 mark each.

(c) Section B: Q.no. 21 to 27 are short answer questions and carry 2 marks each.

(d) Section C: Q.no. 28 to 34 are also short answer questions and carry 3 marks

 each.

(e) Section D: Q.no. 35 to 37 are long answer questions and carry 5 marks each.

1. Why are aquatic species more comfortable in cold water in comparison to warm

 water?

1. State the main reason advantage of molality over molarity as the unit of

 concentration.

1. What an azeotropic mixtures? Give examples.
2. Give reason when 30ml of ethanol and 30ml of water are mixed the volume of

 resulting solution is more than 60 ml.

1. Can you store copper sulphate solution in zinc pot?

 

1. Consider the reaction :

#  Cr2O72- + 14H+ + 6e- -> 2Cr3+ + 7H2O. What is the quantity of electricity in

#  coulombs needed to reduce 1 mol of Cr2O72–?

1. How will pH of the brine solution be affected when it is electrolyzed?
2. Under what condition is E cell= 0 or = 0?
3. Give the reagents to bring about the following transformations:

 a. Phenol to Picric acid

 b. Ethanol to 1, 1- dichloroethane.

 10. Calculate the mass percentage of carbon in carbondioxide.

 11. Complete the following equations

 a. C6H5O H + FeCl3 ->

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 12. Write the structure of Cyclohexylmethanol.

 13. Give the equation of the reaction between bromine in CS2 with Phenol.

 14. Write the structure of the optically active isomer of alcohol with molecular formula

 C4H10O.

 15. Why is sulphuric acid not used in the reaction of alcohols with KI?

 16. Write a test to identify double bond in a molecule.

 17. Identify the products A and B formed in the following reaction:

 CH3-CH2-CH=CH-CH3 + HCl -> A + B

 18. Predict the order of the reactivity of the isomeric bromobutanes in SN1 reaction.

 19. What is the repeating structural unit in polythene polymer?

 20. Give any two difference between Buna-S and Buna-N.

 21. Out of o- and p-dibromobenzene which one has higher melting point. Why?

 22. Why iodoform has appreciable antiseptic property?

 23. Discuss the role of Lewis acids in the preparation of aryl bromides and

 chlorides in the dark?

 24. Vapor pressure of water is 12.3 kPa at 300 K. Calculate the vapour pressure of a

 one molal solution of a volatile, non-ionic solute in water.

 25. (i) Calculate the potential of hydrogen electrode in contact with a solution

 whose pH is 10.

 (ii) How much charge in terms of Faraday is required for reduction of 1 mol of

 Cr2O72- to Cr.

26. Draw the molecular structure of the monomers of

 a. PVC

 b. Teflon

27. Calculate the emf of the cell in which the following reaction takes place:

 

 Given that E0cell= 1.05 V

28. The conductivity of 0.20 M solution of KCl at 298 K is 0.0248 Scm−1. Find its

 molar conductivity.

29. Define ambident nucleophiles. Explain with a suitable example.

30. What happens when?

 (i) n-butyl chloride is treated with alcoholic KOH.

 (ii) bromobenzene is treated with Mg in the presence of dry ether.

 (iii) chlorobenzene is subjected to hydrolysis.

31. Give reasons for the following statement:

 a. Hydrocarbon, butane has a lower boiling point than propanol.

 b. While separating a mixture of para & ortho nitro phenols by steam

 distillation mention the isomer which will be steam volatile. Reason your

 solution.

32. **Differentiate between condensation and addition polymerization?**

**33. Vapor pressure of pure water at 298 K is 23.5 mm of Hg. 50 g of urea is dissolved**

 **in 850 g of water. Calculate the vapour pressure of water for this solution and its**

 **relative lowering.**

**34. T**he cell in which the following reactions occurs:

 

 has Eo cell = 0.236 V at 298 K. Calculate the standard Gibbs energy and

 the equilibrium constant of the cell reaction.

35. a. The molar conductivity of 0.025 mol L−1 methanoic acid is

 46.1 S cm2 mol−1. Calculate its degree of dissociation and dissociation

 constant. Given λ °(H+) = 349.6 S cm2 mol−1 and

 λ °(HCOO−) = 54.6 S cm2 mol.

 b. Find the molar conductivity of acetic acid if its conductivity is given to be

 0.00241 M. Also, if the value of *Λ0m* is given to be390.5 S cm2 mol−1,

 calculate its dissociation constant?

36. a. Write the mechanism of hydration of ethene to yield ethanol.

 b. Give the equations of preparation of phenol from cumene.

37. Write a note on:

 a. Kolbe’s Reaction

 b. Wurtz fittig reaction.

 c. Reimer Tiemann reaction.