



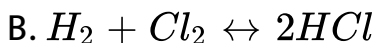
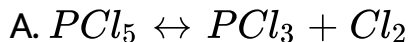
## CHEMISTRY

### BOOKS - SHARAM PUBLICATION

### 2011 QUESTION PAPER

#### Exercise

1. For which of the following reactions  $K_P$  is less than  $K_C$ ?



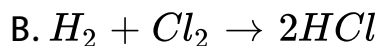
D. None of the above

**Answer:**

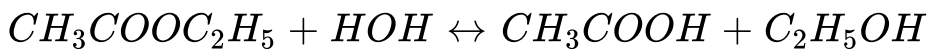


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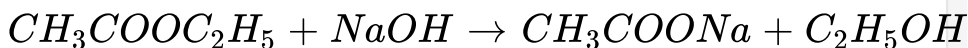
2. Which of the following reaction is a zero order reaction?



C.



D.



**Answer:**



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3. Which of the following conditions is correct for a spontaneous reaction ?

A.  $\Delta G_{is} - ve$

B.  $\Delta G_{is} + ve$

C.  $\Delta G_{is} 0$

D. None of the above

**Answer:**



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4. To which isomers the following compounds belong?



A. Geometrical isomers

B. Linkage isomers

C. Ionisation isomers

D. Ligand isomers

**Answer:**



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5. The electrophile in the nitration of benzene is

A.  $NO_2^+$



**Answer:**



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**6.** the colour of the transition metal or its ion is due to

A. d-d transition

B. p-p transition

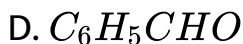
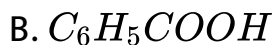
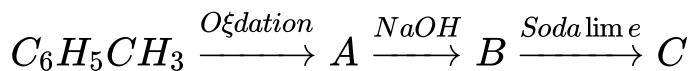
C. paired electrons

D. None of the above

**Answer:**

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7. Name the product C in the following reactions



**Answer:**

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8. Find the number of coulombs required for conversion of one mole of  $MnO_4^-$  to one mole of  $Mn^{2+}$ .

A. 96500

B.  $96500 \times 3$

C.  $96500 \times 5$

D.  $96500 \times 7$

**Answer:**



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9. At room temperature HCl is gas, while HF is a liquid. This is because

- A. H- F bond is covalent
- B. H- F bond is ionic
- C. H- F has metallic bond
- D. H- F has hydrogen bond

**Answer:**

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**10. Which of the following is not a condensation polymer?**

- A. Bakelite
- B. Nylon
- C. Decron



D. Teflon

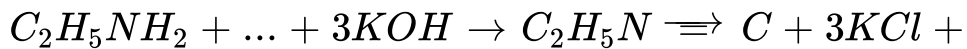
**Answer:**

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11. Fill in the blanks : Acid rain contains ..... And ..... acid.

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12. Complete the following reaction,



...

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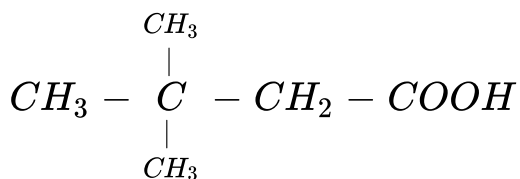
13. Fill in the blanks : pH of  $1MNa_2SO_4$  solution is .....

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14. The unit of rate constant for a zero order reaction is \_\_\_\_\_

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15. Name the following compound by IUPAC system :



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16. Write Gibb's Helmholtz equation ?

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17. Write down the composition of German silver.

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18. What is vinegar?

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19. Write the IUPAC name of  $Na[Al(OH)_4]$

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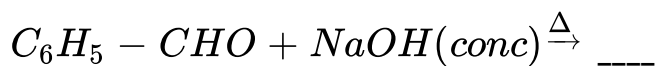
20. How can convert benzene to benzoic acid ?

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21. What are soaps and detergents?

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22. Complete the equation



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**23.** What is the difference between Solubility and Solubility product ?

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**24.** State and explain Huckel' s rule with an example .

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**25.** Give two applications of Kohlraush's law

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26. Explain why  $CuSO_4$  solution cannot be stored in Zn vessel ?

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27. What is Rosenmund reduction reaction?

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28. Write Henderson equation for finding pH of acidic and basic buffer .

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**29.** Suggest two tests to distinguish between ethanol and phenol.

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**30.** What happens when chlorine gas is passed through cold solution of NaOH?

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**31.** How is methylamine converted to trimethyl amine?

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32. What happens when  $SO_2$  gas is passed through  $H_2S$  dissolved in water ?

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33. Explain why  $ClF_3$  exists where as  $FCI_3$  does not.

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34. How is acetaldehyde converted to acetone ?

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35. Name two rhodenticides and two antipyretic drugs.





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**36.** Define 'specific and equivalent conductance'. How are they related ?  $0.05M NaOH$  solution offered a resistance of  $31.6ohm$  in a conductivity cell at  $298K$ . If the cell constant of the cell is  $0.376cm^{-1}$ , calculate the molar conductance of the  $NaOH$  solution.



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**37.** Write short notes on : Molecularity and order of reaction



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**38.** Write short notes on :

Le - Chatellier 's principle.

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**39.** Discuss the principle of manufacture of sulphuric acid by contact process. Why is  $H_2S$  not dried over concentrated  $H_2SO_4$ ?

How does concentrated  $H_2SO_4$  react with (i) copper and (ii) sugar?

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**40.** Discuss the principle of manufacture of sulphuric acid by contact process. Why is  $H_2S$  not dried over concentrated  $H_2SO_4$ ?

How does concentrated  $H_2SO_4$  react with (i) copper and (ii) sugar?

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**41.** Name two important ores of iron. Describe the principle of extraction of iron from an important ore. How does iron react with dilute and concentrate nitric acid separately ?

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**42.** How is acetaldehyde prepared from calcium salt of organic acid ? Suggest a test to distinguish between acetaldehyde and formaldehyde. How does it react with dilute  $NaOH$

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**43.** How is acetaldehyde prepared from calcium salt of organic acid ? Suggest a test to distinguish between acetaldehyde and formaldehyde. How does it react with Tollens' reagent

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**44.** How is acetaldehyde prepared from calcium salt of organic acid ? Suggest a test to distinguish between acetaldehyde and formaldehyde. How does it react with  $NaHSO_3$ ?

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**45.** How is phenol obtained from benzene ? Explain the acidic character of phenol

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**46.** Write short notes on: Carbyl amine reaction

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47. Write short note on : Friedel-Craft's reaction



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