

Date 8/3/2010

## H. S. C. CHEMISTRY - PAPER II

Time : 2 Hrs.)

Question Paper : March 2010

(Max. Marks : 40)

Note : Please See to Question Paper March 2008.

Q. I. Select and write the most appropriate answer from the given alternatives for each sub-question. [WWW.UNIVERSITYQUESTIONPAPERS.COM](http://WWW.UNIVERSITYQUESTIONPAPERS.COM) (8)

(i) The f-block elements belonging to the 5 f series are all ....

- (a) Radioactive            (b) Non-radioactive            (c) Metalloid            (d) Inert

(ii) Molecular formula of chloropicrin is .... .

- (a)  $C_6H_5NC$             (b)  $(CH_2)_6 N_4$             (c)  $CCl_3NO_2$             (d)  $COCl_2$

(iii) Primary alcohols are prepared by catalytic hydrogenation of aldehydes in presence of .... as a catalyst.

- (a) Aluminium bromide            (b) Fluoboric acid            (c) Dry ether            (d) Palladium

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(iv) In urotropine, the number of C-C single bonds is .... .  
(a) 9 (b) 6 (c) 4 (d) 0

(v) Which of the following compounds does **NOT** give acetic acid on oxidation?  
(a) Ethanol (b) Propan - 1 - ol (c) Propan - 2 - ol (d) 2 methylpropan-2-ol

(vi) A secondary alkyl halide is heated with excess of ammonia, the major product obtained is .... .  
(a) Primary amine (b) Secondary amine  
(c) Tertiary amine (d) Quaternary ammonium salt

(vii) The carbon atoms of glucose molecule which take part in osazone formation are ....  
(a) C<sub>4</sub> and C<sub>5</sub> (b) C<sub>2</sub> and C<sub>3</sub> (c) C<sub>3</sub> and C<sub>4</sub> (d) C<sub>1</sub> and C<sub>2</sub>

(viii) Diethyl ether is a metamer of .... .  
(a) methoxy methane (b) 1-ethoxy propane  
(c) 1-methoxy propane (d) Butan - 2 - ol

**Q. 2. (A) Attempt any ONE :** (4)

(i) How is acetic acid prepared from - (a) Dry ice (b) Methyl cyanide

(ii) Explain why are amines basic in nature. (2)

**(B) Attempt any ONE :** (2)

(i) Explain Homolytic fission. (ii) How is Nylon - 66 prepared? (2)

**(C) Answer the following.** (2)

(i) How is phenol prepared from - (a) Aniline (b) Chlorobenzene

(ii) What is the action of the following reagents on ethanal?  
(a) Fehling's solution (b) Tollen's reagent (3)

**Q. 3. (A) Attempt any ONE.** (3)

(i) Define optical activity. Discuss the optical activity of Lactic acid.

(ii) How are simple ethers and mixed ethers prepared by Williamson's Synthesis?

How is pinacol obtained from acetone? (3)

**(B) Attempt any ONE.** (3)

(i) What is the action of sulphuric acid at different temperatures and different concentrations on the following compounds?  
(a) Ethanol (b) Propan - 2 - ol (c) 2 - methyl propan - 2 - ol

(ii) What are conjugated proteins? How is peptide linkage formed in proteins? (2)

**(C) Answer the following :** (2)

What is the action of ethyl magnesium iodide on ethyl methanoate, in equimolar quantities? (4)

**Q. 4. (A) Answer the following :** (4)

With the help of Energy Profile Diagram, explain the mechanism of alkaline hydrolysis of tertiary butyl bromide.

**(B) Attempt any ONE.** (4)

(i) Write the general outer electronic configuration of lanthanides and actinides. Give the differences between lanthanides and actinides.

(ii) Write the uses of : (a) Terylene (b) Aspirin

What are food preservatives? Mention any 'two' chemical methods for the preservation of food. (4)

**Q. 5. (A) Attempt any ONE.** (4)

(i) How is chloroform prepared from ethanol?

(ii) Explain Aldol condensation. (4)

**(B) Attempt any TWO :** (4)

(i) What are Phenols? How will you distinguish between ethanol and phenol?

(ii) How is ethanamine prepared by using (a) Acetaldoxime (b) Nitroethane

(iii) Distinguish between Oils and Fats. (4)