

DAY — 07

SEAT NUMBER

2008 III 07

1100

J - 72

(E)

CHEMISTRY PAPER - II (55)
(ORGANIC AND INORGANIC CHEMISTRY)
(REVISED COURSE)

Time : 2 Hrs.

(4 Pages)

Max. Marks : 40

- Note :*
- (i) All questions carry equal marks.
 - (ii) Give balanced equations and draw neat diagrams wherever necessary.
 - (iii) Figures to the right indicate marks.
 - (iv) Answer to every question must be started on a new page.

Q. 1. Select and write the most appropriate answer from the given alternatives [8]
for each sub-question :

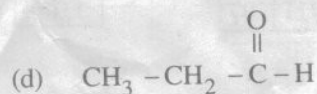
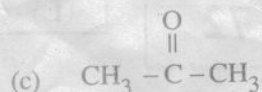
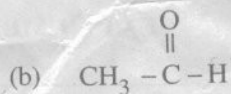
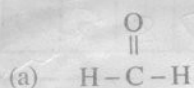
- (i) The inner transition elements belong to— (1)
 - (a) d - block
 - (b) f - block
 - (c) s - block
 - (d) p - block

- (ii) In carbonium ion, the central carbon atom is in following hybridised state— (1)
 - (a) SP
 - (b) SP²
 - (c) SP³
 - (d) dSP²

- (iii) Carboic acid is— (1)
 - (a) Carboxylic acid
 - (b) Picric acid
 - (c) Ortho-nitrophenol
 - (d) Phenol

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(iv) Which of the following compounds does NOT undergo aldol condensation – (1)



(v) Carboxylic acids on heating with P_2O_5 give – (1)

(a) Acid chlorides

(b) Alkyl halides

(c) Acid amides

(d) Acid anhydrides

(vi) Tertiary butyl amine is a – (1)

(a) Primary amine

(b) Secondary amine

(c) Tertiary amine

(d) Quaternary ammonium salt

(vii) Keratin is an example of – (1)

(a) Derived proteins

(b) Conjugated proteins

(c) Globular proteins

(d) Fibrous proteins

(viii) Terylene is – (1)

(a) Polyamide fibre

(b) Polyester fibre

(c) Vegetable fibre

(d) Protein fibre

Q. 2. (A) Attempt any ONE :

[8]

(i) Explain the term 'homolytic fission' with suitable examples. (2)

(ii) What are antacids? (2)

Write any 'two' side effects of antacids.

(B) Attempt any ONE :

(i) How is ethyl ethanoate prepared from – (2)

(a) Carboxylic acid

(b) Acid chloride

(ii) Give chemical reactions of glucose with –

(a) Hydroxyl amine

(b) Bromine water

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(C) Answer the following :

- (i) Write chemical reactions involved in preparation of Nylon-66. (2)
(ii) How is ethanamine prepared by using – (2)
(a) Acetaldoxime (b) Methyl cyanide

Q. 3. (A) Answer any ONE : [8]

- (i) What is the action of following reagents on acetaldehyde? (3)
(a) Na – Hg / H₂ O
(b) Ammonia
(c) Sodium bisulphite
(ii) Write IUPAC name of ethyl-methyl ether and explain action of Cold HI and Hot HI on it. (3)

(B) Answer any ONE :

- (i) How is cumene converted into phenol ? (3)
Give a test to distinguish between phenol and ethanol.
(ii) Write a note on Wurtz reaction and mention any two uses of Iodoform. (3)

(C) Answer the following : (2)
Distinguish between Lanthanides and Actinides.

Q. 4. (A) Answer the following : [8]

With the help of energy profile diagram explain the mechanism of alkaline hydrolysis of Bromomethane. (4)

(B) Answer any ONE of the following :

- (i) How will you obtain propan -2 - on using (4)
(a) CH₃ – CN (b) Ca-salt of fatty acid

What is the action of following reagents on propan - 2 - on

- (a) Hydrogen Cyanide (b) Hydrazine

(ii) How are monohydric alcohols classified? Give suitable examples.

Draw the structure of 2-methyl-propan-1-ol. (4)

Q. 5. (A) Attempt any ONE : [8]

(i) Define optical activity.

Explain optical activity of 2-chlorobutane. (4)

(ii) Write acetylation reactions of – (4)

(a) Ethyl amine, (b) Diethyl amine.

Explain Hardening of Oils.

(B) Attempt any TWO :

(i) Why do lanthanides form coloured compounds? (2)

(ii) Write a note on alkaline hydrolysis of an ester. (2)

(iii) Explain the terms – (2)

(a) Analgesics, (b) Proteins.

