

14th May, 13

14/5/13

mk.53-1st hlf 13-C

Con. 1394-13.

Organic Chemistry - II

Sem - II (A.T.K.T)

Sem. II (ATKT) (Rev). - O.C. - II

DC-7195

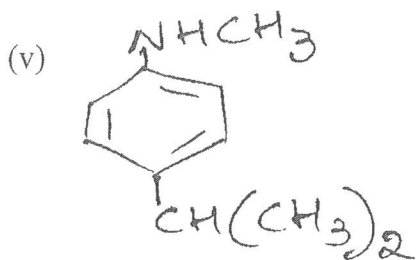
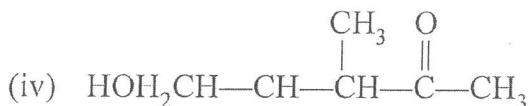
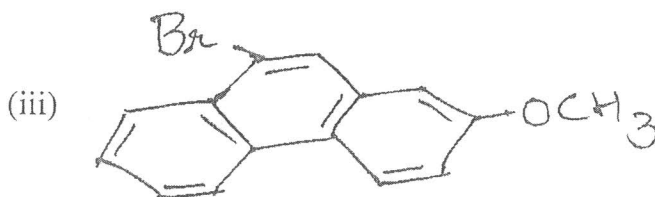
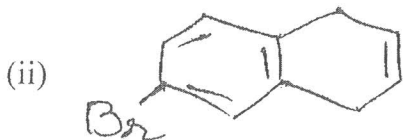
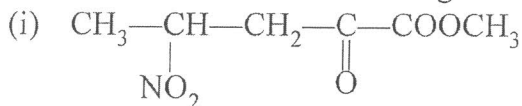
(REVISED COURSE)

(2 Hours)

[Total Marks : 40

- N.B.** (1) Question No. 1 is compulsory.
(2) Answer any **four** questions of the remaining **six** questions.
(3) Answer all sub-questions of **each** main question **together**.

1. (a) Give IUPAC name for the following structural formulas (any **four**) :— 4



(b) Draw the structures of the following compounds (any **four**) :— 4

- 4-Hydroxymethyl aniline
- N, N-Dimethylbutanamide
- 4-Bromo-2-naphthoic acid
- 9, 10-Anthraquinone-2-Carboxylic acid
- 3-Cyanohexanoic acid.

2. (a) Write resonating structures for the following compounds (any **four**) :— 4

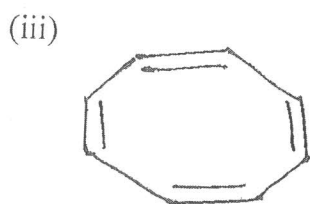
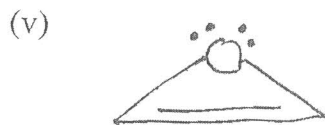
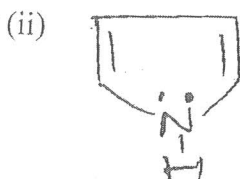
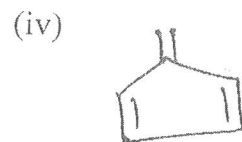
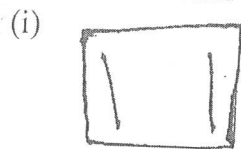
- Anisole
- Bromobenzene
- Anthracene
- Acetophenone
- Nitrobenzene.

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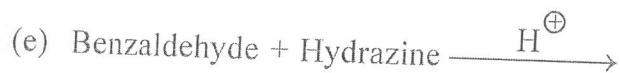
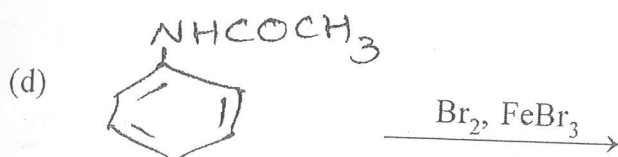
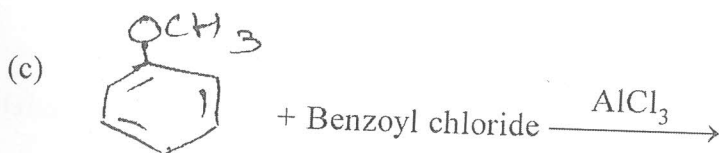
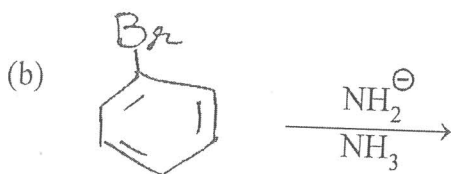
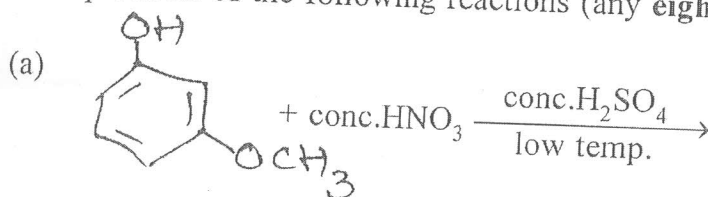
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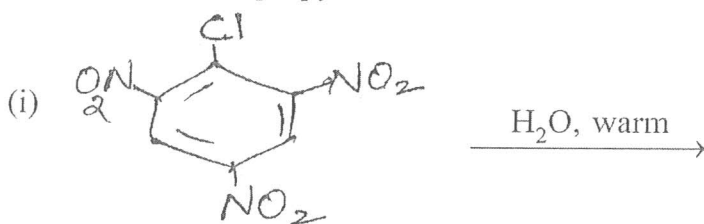
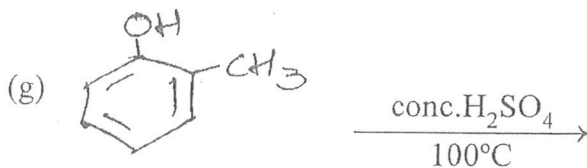
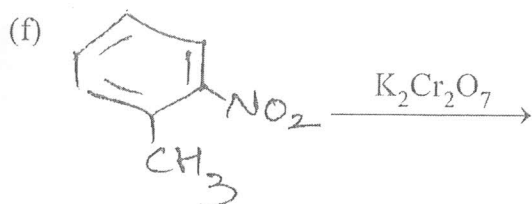
(b) Predict and justify which of the following compounds are aromatic or non-aromatic, based on the Hückel rule (any **four**) :— 4



3. Write the products of the following reactions (any **eight**) :—



8



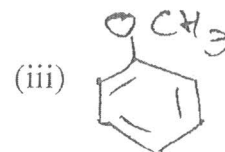
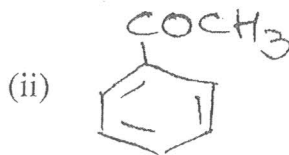
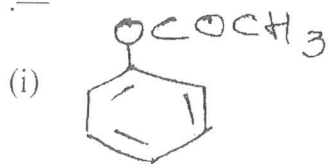
4. (a) Give mechanism with suitable example (any **two**) :—

6

- Nucleophilic aromatic substitution—Bimolecular displacement
- Electrophilic aromatic substitution—Sulphonation
- Aldol condensation.

(b) Write reaction and explain which of the following compounds will undergo Iodoform test :—

2



5. (a) Give reasonable explanation for the following (any **three**) :—

6

- Sulfonation of naphthalene with sulphuric acid gives two different products at two different temperatures of 80° and 160°C .
- Carbonyl group is deactivating and m-directing in Electrophilic Aromatic Substitution.
- Friedel Craft alkylation gives polysubstituted product whereas Friedel Craft Acylation does not.
- Aniline is less basic than ammonia.

(b) Give Grignard addition products for ethylene oxide and propanaldehyde using Ethyl-magnesium bromide.

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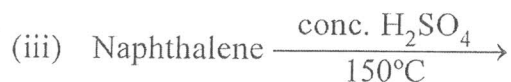
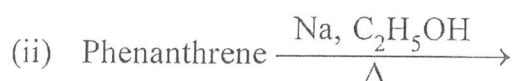
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6. (a) Write detailed reaction involved in the preparation of anthracene using Haworth Synthesis. 2

(b) Outline the synthesis of the following compounds (any three) :— 6

- (i) 9 - Cyanoanthracene
- (ii) 2 - Bromonaphthalene
- (iii) p - Hydroxyacetanilide
- (iv) p - Bromoethylbenzoate.

7. (a) Write products for the following (any four) :— 4



(b) Complete the following synthetic sequence and identify A, B, C and D :— 4

