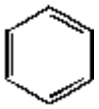
Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Amines

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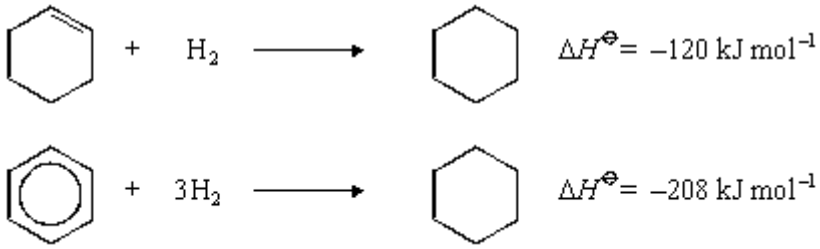
Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Q1.

(a) Use the following data to show the stability of benzene relative to the hypothetical cyclohexa-1,3,5-triene.



Give a reason for this difference in stability.



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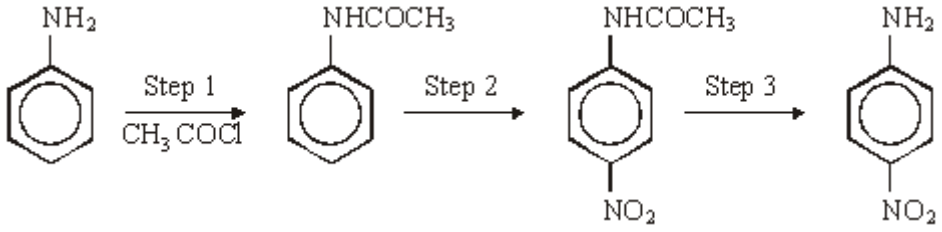
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(4)

(b) Consider the following reaction sequence which starts from phenylamine.



(i) State and explain the difference in base strength between phenylamine and ammonia.

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(3)

(ii) Name and outline a mechanism for the reaction in Step 1 and name the organic product of Step 1.

(6)

(iii) The mechanism of Step 2 involves attack by an electrophile. Give the reagents used in this step and write an equation showing the formation of the electrophile.
Outline a mechanism for the reaction of this electrophile with benzene.

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_____

(6)

(iv) Name the type of linkage which is broken in Step 3 and suggest a suitable reagent for this reaction.

_____

_____

_____

_____

(2)

(Total 21 marks)

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