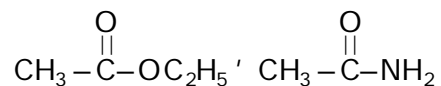
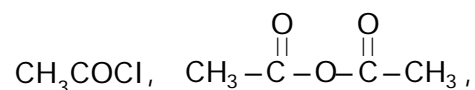


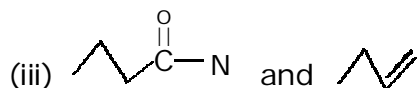
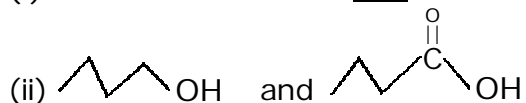
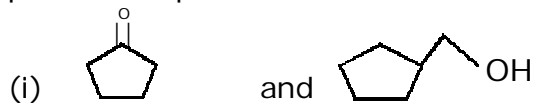
(4)



Unit - I

Section - I

2. (a) Benzene and aniline show  $\lambda_{\text{max}}$  at 203 and 235 respectively. Explain why higher  $\lambda_{\text{max}}$  value is exhibited by aniline. 2
- (b) How would the IR spectrum of following pair of compounds differ 4½



- (c) Give IR values of C=O group in saturated aliphatic ketone and  $\alpha, \beta$  unsaturated ketone. 1

- (a) *[Faint Hindi text]*

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A

(Printed Pages 11)

Roll No. \_\_\_\_\_

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B.Sc. (Part-II) Examination, 2015

CHEMISTRY

Second Paper

(Organic)

*Time Allowed : Three Hours ] [ Maximum Marks : 50*

Note : Answer five questions in all. Question No.

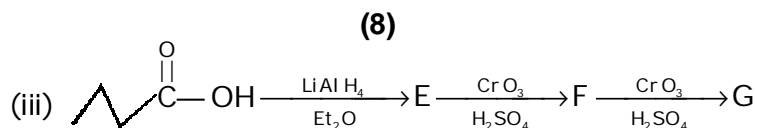
1 is compulsory. Attempt one question from each unit.

*[Faint Hindi text]*

1. Attempt all parts : 2×10
- (a) 2, 4, 6 trinitrophenol is referred as picric acid, although it does not contain any carboxylic group. Explain.
- (b) 2, 2, 2 trifluoroethanol is a stronger acid in comparison to ethanol. Explain.
- (c) Arenediazonium salts are more stable than alkanediazonium salts. Why.
- (d) Amines have higher boiling point in comparison to hydrocarbon of comparable

P.T.O.





(b) Give the mechanism of autoxidation of ethers. 1 ½

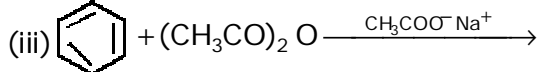
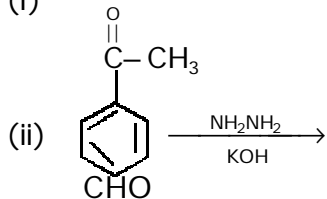
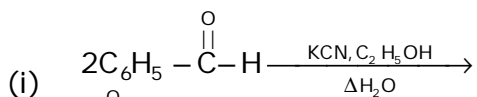
Fle j kea mJele: - Deekameekaj Ce keaer of calJeeleedDe oepelEs

(c) With the help of reaction show that claisen reaction is intramolecular. 2 ½

Deef eef calJee Deek keaer ceo o mesmecaPeeF UeskeareUemere Deef eef calJee FvŠe ceuehgeuj nw (DeeCJeevleej kea)

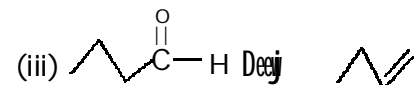
7. Complete the reaction and suggest the most probable mechanism. 2 ½ × 3

Deef eef calJee keaer heCe& keaj WleLe meVeelele of calJeeleedDe eueeKeS-



(5)

(b) efrecveeueKele Ueelekeá peesl Ueelekeá DeeF&Deej . mhekešCe keá yeede Dehej eueeKeles :

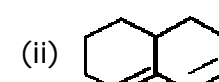
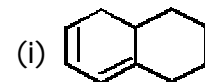


(c) mellehe SreeheŠkeá keašere SJe Deuhea, yeese Demellehe keašere ceWC=O «he kea DeeF&Deej ceve eueeKeS-

3. (a) The IR spectrum is split into two main regions. What are they? Give the importance of each region. 3

(b) What are the different transitions observed in UV spectrum. Arrange these transitions in order of decreasing energy. 2 ½

(c) Calculate the  $\lambda_{max}$  of following compounds using woodward Fieser rule. 2

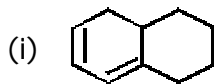


(a) DeeF&Deej . mhekešCe oes ceK Ue #ešeeWceVdeYeep ele nw Je keelee nP DeUekea #eše keaer cenIJe oes

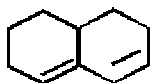
(b) ekaeves lej n kea mebaeCe JUeeer mhekešCe ceWhees peeles nP Fve mebaeCeeW keaer Tpe& kea leŠles eaece ceWJUeeemLele keaepes-

(6)

(c)  $\lambda_{\max}$  of the following compounds is given. Identify the compound.



(ii)

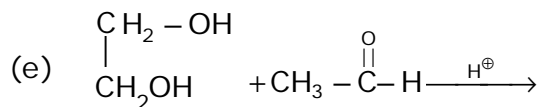
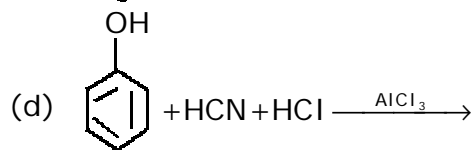
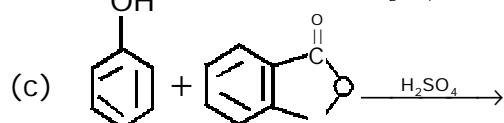
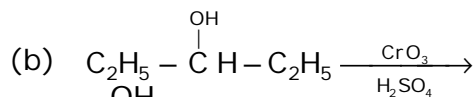
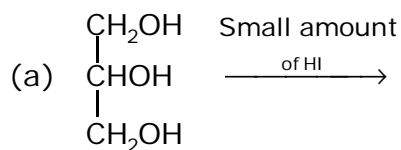


Unit - II

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4. Give the name and structure of the products :

For the following reaction:  $1\frac{1}{2} \times 5$

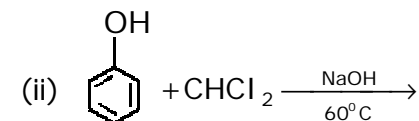
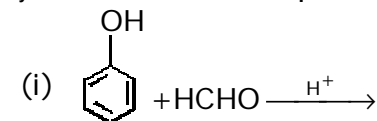


5. (a) Predict the product and give the mechanism of following reactions. 6

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(7)

(c)  $\lambda_{\max}$  of the following compounds is given. Identify the compound.



(b) With the help of reactions using Lucas reagent explain how the three category of alcohols can be identified.  $1\frac{1}{2}$

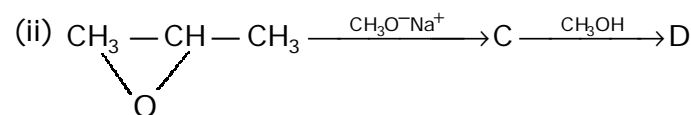
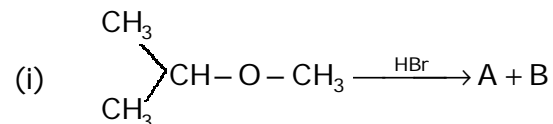
For the following reaction:  $1\frac{1}{2}$

Unit - III

Page - 11

6. (a) Identify the products formed in the following reactions.  $3\frac{1}{2}$

For the following reaction:  $3\frac{1}{2}$



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P.T.O.

(9)

Unit - IV

Fluorination - IV

8. (a) Synthesize the following compounds from aniline. 3

(i) 1, 3, 5 tribromobenzene

(ii) Fluoro benzene

- (a) Synthesize the following compounds from aniline. 3

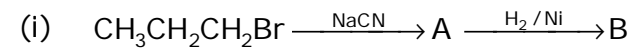
(i) 1, 3, 5 tribromobenzene

(ii) Fluoro benzene

- (b) Complete the reaction. Give the name and structure of the product formed.

$\text{C}_6\text{H}_5\text{NO}_2 \xrightarrow{\text{Fe/HCl}} \text{C}_6\text{H}_5\text{NH}_2$  Give the name and structure of the product formed.

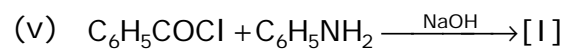
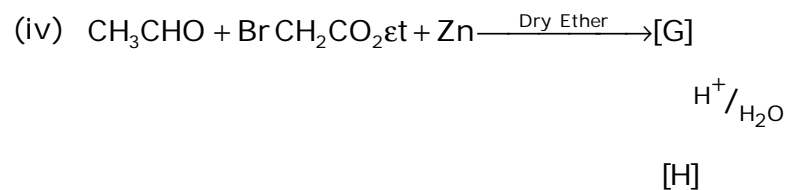
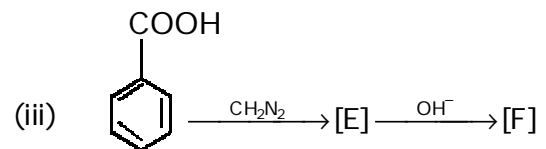
Reaction of  $\text{C}_6\text{H}_5\text{NO}_2$  with  $\text{Fe/HCl}$  : 4 1/2



$\text{H}^+/\text{H}_2\text{O}$

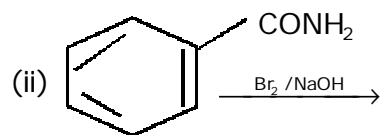
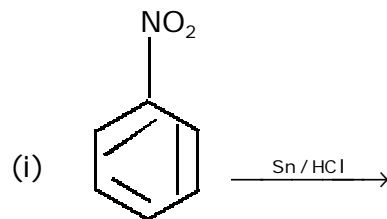
(D)

(10)



9. Give the product and mechanism of the following reaction :

2½ × 3



(11)

