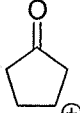
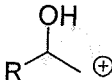
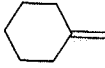
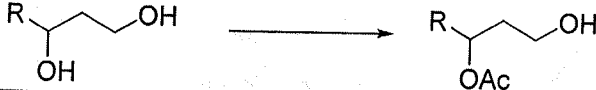
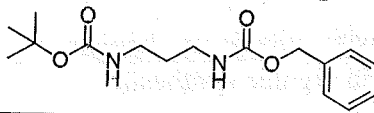
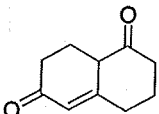
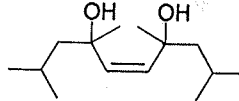


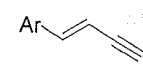
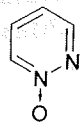
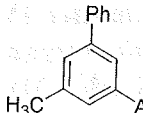
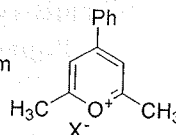
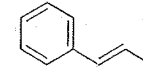
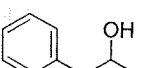
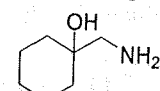
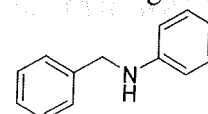
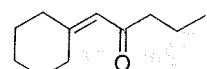
Department of Chemistry
School of Chemical & Life Sciences, Jamia Hamdard
M.Sc. Chemistry, Semester-IV Examination-May, 2024
Paper Title: Organic Synthesis-II
Paper Code: MCHCCO-402

Time 2½ hours

Maximum Marks 60

Abbreviations Used: CLO- Course Outcome, PLO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

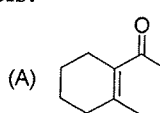
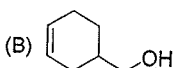
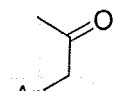
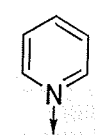
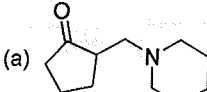
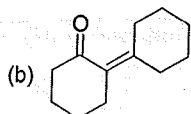
Q. No	Question	BTL	CLO	PLO
Section A				
Very Short Type Questions (attempt all)		(10x1.5=15Marks)		
A1.	Write the synthetic equivalents for the given synthons (a)  (b) 	2	1	1
A2.	Draw the synthetic route for the following: 	4	2	1/2
A3.	How do you carry out the selective acetylation of the following using protection/de-protection strategy? 	6	2	2/3
A4.	State the Sakurai reaction.	1	3	3
A5.	Draw the most stable conformation of Camphor.	3	2	3/4
A6.	What is enamine? State its role in retrosynthesis.	5	4	2/4
A7.	How do you selectively deprotect the Cbz group from the following? 	2	1	1/2
A8.	Explicate the application of CDI in amide bond formation.	1	2	2/3
A9.	Write the suitable reagents for the deprotection of the following functional group: 	4	2	1/2
A10.	What is Mum rearrangement?	1	5	3-5
Section B				
Long Type questions (Attempt any two out four)		(10x2=20 marks)		
B1.	Outline the synthesis of the following compounds using disconnection approach: (A)  (B) 	6	3/4	3-5
B2.	Outline the total synthesis of Longifoline using retrosynthetic analysis.	3-5	3-5	4/5

B3.	How do you obtain the following compounds from the given aromatic Heterocycles? (a)  from  (b)  from  (c)  from 	4	2-4	3-5
B4.	How do you prepare the following compounds using retrosynthetic analysis? i)  ii)  iii) 	5/6	5/6	6

Section C

Short Type questions. (Attempt all questions)

(5x5=25 marks)

C1.	Outline the synthesis of the following target molecules using retrosynthetic analysis: (A)  (B)  OR Predict the products formed in the following conversions with suitable mechanism: i)  $\xrightarrow[\text{(iii) } \Delta]{\text{(i) } \text{NH}_2\text{NH}_2, \text{(ii) } \text{Se}}$? ii)  $\xrightarrow[\text{Base or } \Delta]{\text{R-CH(Br)-COOH}}$?	3-6	3-6	3-6
C2.	Outline the enantioselective synthesis of juvabione from limonene. OR Write a short note on Biginelli Reaction with suitable mechanism.	3-5	3-5	3-5
C3.	Explain the importance of order of events in organic synthesis. OR What is two group C-X disconnection? Explain the 1,3-diX with suitable examples.	3-6	3-6	3-6
C4.	Explain the guidelines for choosing disconnections: OR Explain the following reactions with suitable mechanism. (i) Prins reaction (ii) Brook rearrangement	1-5	1-5	1-5
C5.	Outline the synthesis of the following target molecule using retro synthetic analysis: (a)  (b)  OR What is Umpolung reagent? Discuss about any two Umpolung reagents.	4-6	6	5

.....XXXX.....