

M.Sc.I, Sem. I Seat No.

MARCH - 2022 (Summer session) Examination

Subject Code: 84509

(विद्यार्थी को दिए गए OMR पर लिखें / Student should fill this code on OMR sheet)

Subject Name: Master Of Science (New CBCS)_84509_61358/71522/79245/84509 - Organic Chemistry - II_22.08.2022_04.00 PM

Date: 22-08-2022

Time: 16:00:00 to 17:00:00

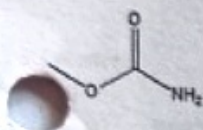
QP Code: 10164QP

Total Marks : 50 Each Question 2 Marks, Total 25 Ques, Duration 1 Hr

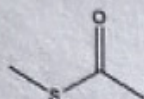
1. Question

Identify the carbamate functional group from the following.

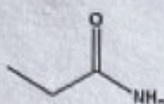
A)



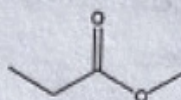
B)



C)



D)



a. A

c. C

b. B

d. D

2. Question

Identify the reducing agent which proceeds through hydride ion (H^-) formation mechanismA) $NaBH_3CN$ B) Na in Liq NH_3

C) Na in EtOH

D) NH_2NH_2

a. A

c. C

b. B

d. D

3. Question

----- is the synthetic equivalence for synthon CH_3^- A) CH_3Br B) CH_3MgBr C) CH_3OH D) CH_3NH_2

a. A

c. C

b. B

d. D

4. Question

Match the following:

Column A

1. Birch reduction
2. Wolff-Kishner reduction
3. Adam's Catalyst
4. Lindlar catalyst

Column B

- i) Na in liq. NH_3
- ii) NH_2-NH_2
- iii) $Pd-CaCO_3, Pb(OCOCH_3)$
- iv) $PtO_2.H_2O$

A) 1) ii 2) i 3) iv 4) iii

C) 1) iv 2) iii 3) ii 4) i

B) 1) i 2) ii 3) iv 4) iii

D) 1) iii 2) i 3) iv 4) ii

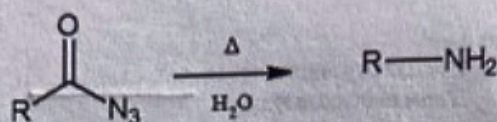
a. A

b. B

c. C

d. D

5. Question



The above reaction is known as:

- A) Ortan rearrangement
- B) Curtius rearrangement
- C) Witting rearrangement
- D) Lossen rearrangement

a. A

b. B

c. C

d. D

6. Question

Mechanism of Heck coupling involves-----sequential steps.

- A) Oxidative addition, carbopalladation, β -hydride elimination, reductive elimination
- B) reductive elimination, carbopalladation, β -hydride elimination, oxidative addition
- C) carbopalladation, oxidative addition, β -hydride elimination, reductive elimination
- D) Oxidative addition, carbopalladation, reductive elimination, β -hydride elimination

a. A

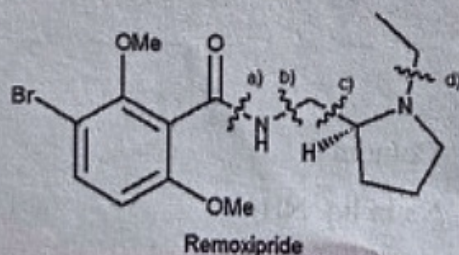
b. B

c. C

d. D

7. Question

For the following structure, which of the disconnections (A-D) is likely to be the best option?



- A) Disconnection a
- B) Disconnection b
- C) Disconnection c
- D) Disconnection d

a. A

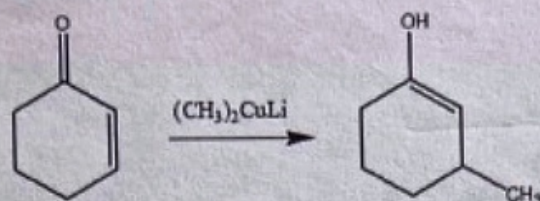
b. B

c. C

d. D

8. Question

Identify the following transformation.



- A) 1,2-addition B) 1,4-addition C) 1,3-addition D) Manich reaction

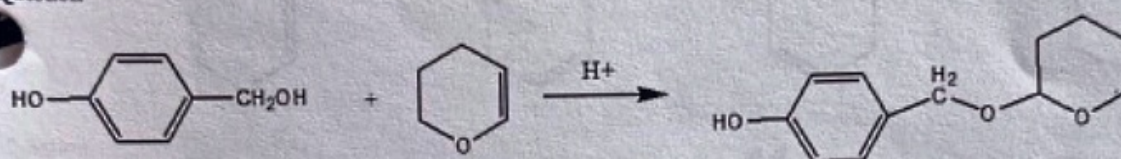
a. A

c. C

b. B

d. D

9. Question



This is an example of -----

- A) Chemoselectivity B) Regeioselectivity
C) Enantioselectivity D) None of above

a. A

c. C

b. B

d. D

10. Question

Which organic compound among the following exhibits highest ISC efficiency?

- A) Aldehyde B) Ketone C) Carboxylic acid D) Alcohol

a. A

c. C

b. B

d. D

11. Question

Which intermediate is formed in photochemical reaction?

- A) carbocation B) carbanion C) free radical D) none of these

a. A

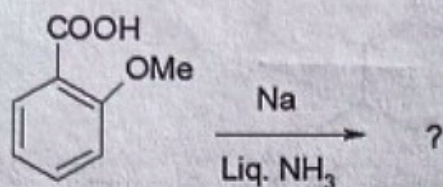
c. C

b. B

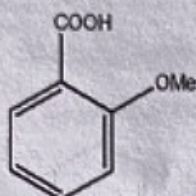
d. D

12. Question

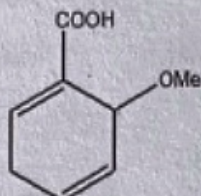
Identify the product.



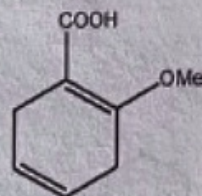
A)



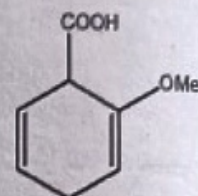
B)



C)



D)



a. A
c. C

b. B
d. D

13. Question

t-BOC is used to protect

A) Carboxylic acid group

B) Hydroxy group

C) Amino group

D) Carbonyl group

a. A
c. C

b. B
d. D

14. Question

Hydroxamic acid is used as reactant in rearrangement

A) Curtius

B) Lossen

C) Orton

D) Neber

a. A
c. C

b. B
d. D

15. Question

The reaction of primary amines with nitrous acid produce alcohols is known as rearrangement.

A) Neber

B) Hofmann-Martius

C) Ortan

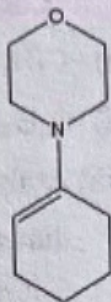
D) Demjanov

a. A
c. C

b. B
d. D

16. Question

The following compound can be formed fromand reactants.



- A) cyclohexanone and pyridine B) cyclohexanone and n-butylamine
 C) cyclohexylamine and cyclohexanone D) cyclohexanone and morpholine

b. B
 d. D

c. C

17. Question

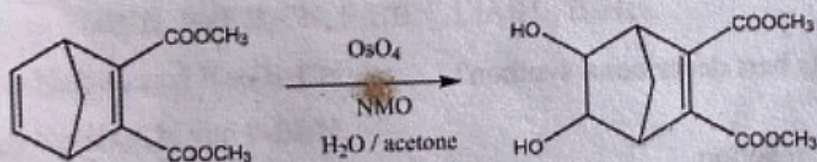
What product is formed when cyclic ketones reacts with secondary amines

- A) imine B) enamine C) Schiff base D) oxime

a. A
 c. C

b. B
 d. D

18. Question



This is an example of -----

- A) Chemoselectivity B) Regioselectivity
 C) Enantioselectivity D) None of above

a. A
 c. C

b. B
 d. D

19. Question

Match the following:

Column A

1. Swern oxidation
2. Corey's reagent
3. Cornforth reagent

Column B

- i) $C_5H_5NHClCrO_3$
- ii) $[C_5H_5NH]_2[Cr_2O_7]$.
- iii) oxalyl chloride, an organic base, and dimethyl sulfoxide

A) 1) iii 2) i 3) ii

B) 1) i 2) ii 3) iii

C) 1) iii 2) ii 3) i

D) 1) ii 2) i 3) iii

a. A

b. B

c. C

d. D

20. Question

TMSI is used as a protecting reagent for.....

A) Amines

B) Alcohols

C) Aldehydes

D) Carboxylic acids

a. A

b. B

c. C

d. D

21. Question

Which of the following statements best describes a synthon?

A) A synthetic reagent used in a reaction

B) A key intermediate in a reaction sequence

C) A technique for solving problems in the planning of organic syntheses

D) A structural unit within a molecule which is related to a possible synthetic operation

a. A

b. B

c. C

d. D

22. Question

Sonogashira coupling involves reaction of and

- A) arylboronic acid and aryl halide
- B) aryl halide and amine
- C) terminal alkyne and aryl halide
- D) olefine and arylboronic acid

1. A
2. C

b. B
d. D

23. Question

Find the false statement about hydroboration among the following.

- A) It involves markovnikov addition and stereoselectivity is anti
- B) Hydroboration involves antimarkovnikov addition
- C) It is regioselective syn addition process
- D) both A and C

a. A
c. C

b. B
d. D

24. Question

Hydroborating agents among the following are

NaBH_4 , NaBH_3CN , 9-BBN, LiAlH_4 , B_2H_6

- A) NaBH_4 and NaBH_3CN
- B) NaBH_3CN and 9-BBN
- C) LiAlH_4 and B_2H_6
- D) 9-BBN and B_2H_6

b. B
d. D

25. Question

..... hydrogen is migrated during Norrish type II rearrangements.

- A) alpha
- B) beta
- C) gamma
- D) delta

a. A
c. C

b. B
d. D