FIITJEE RANKERS STUDY MATERIAL

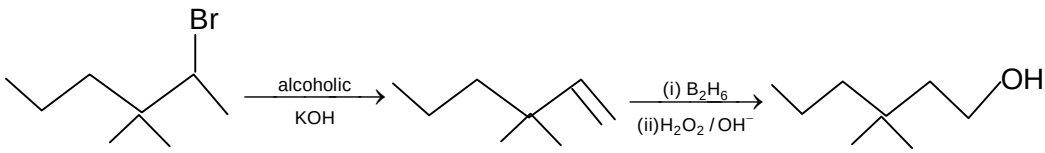
JEE(ADVANCED), 2017

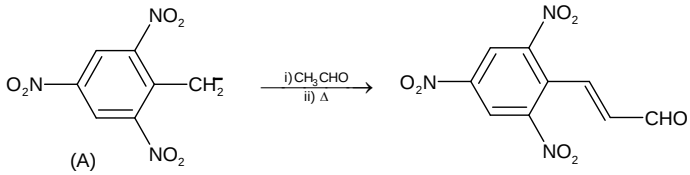
PHASE – IV

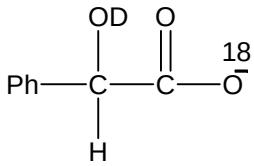
CHEMISTRY

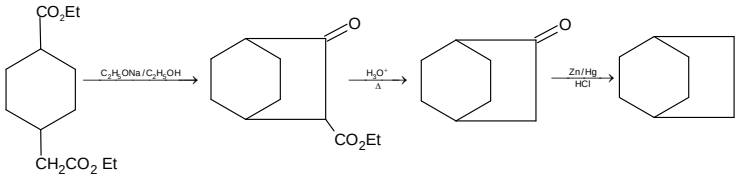
SOLUTIONS

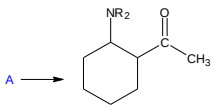
SECTION - A

1. 

2. 

3. A 

4. 

5. 

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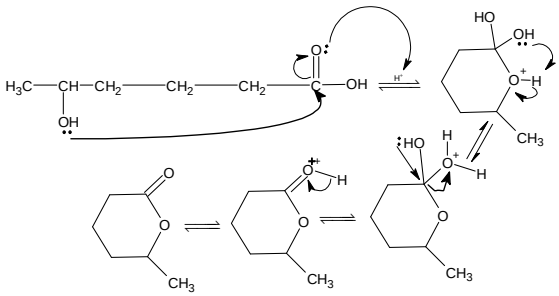
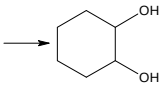


7. (A)



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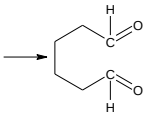
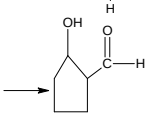


(C)



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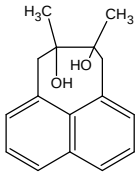

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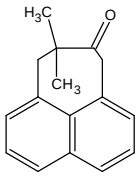

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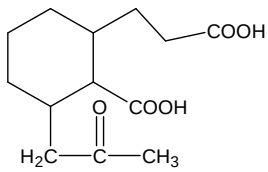

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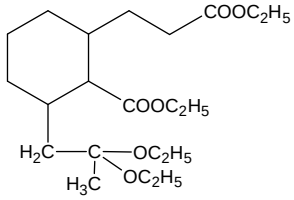

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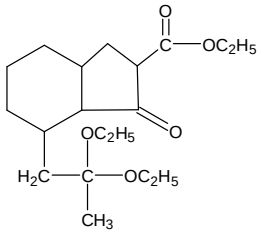

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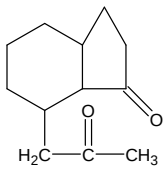

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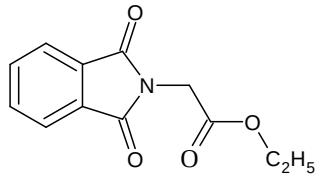
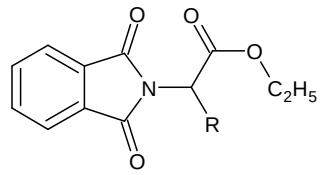
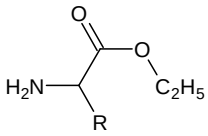
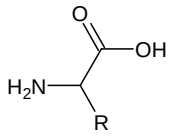
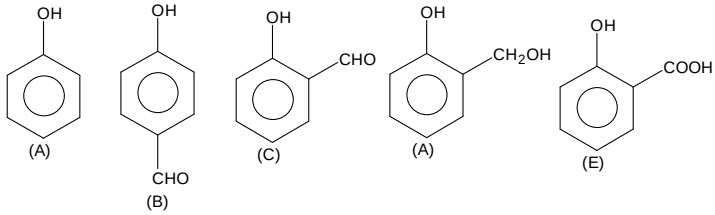
B = 

C = 

D = 

E = 

SECTION – B

11. 

12. (A) $CH_3CH_2CH_2CHO$

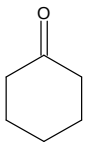
(B) $H_3CHC = CHCOOH$

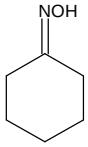
13. $H_3\overset{+}{N}-CH_2COO^-$ glycine

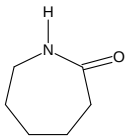
$p-H_2N-C_6H_4-COOH$
P – aminobenzoic acid

$P-H_3\overset{+}{N}-C_6H_4-SO_3^-$
Sulphanilic acid

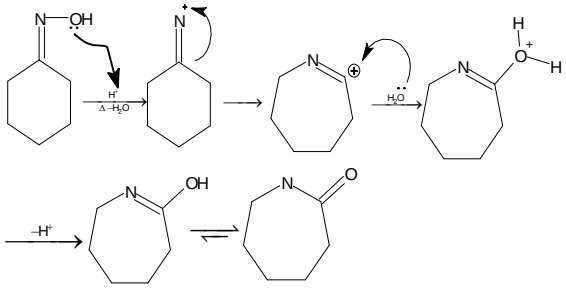
The aliphatic NH_2 is sufficiently basic to accept an H^+ from COOH. The COOH is not strong enough to donate H^+ to the weakly basic $ArNH_2$, but SO_3H is a sufficiently strong acid to do so.

14. (A) 

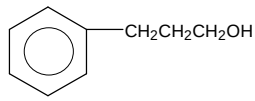
(B) 

(C) 

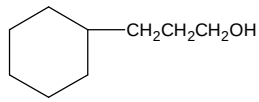
Mechanism



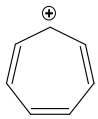
15. (A)



(B)



16. (a)

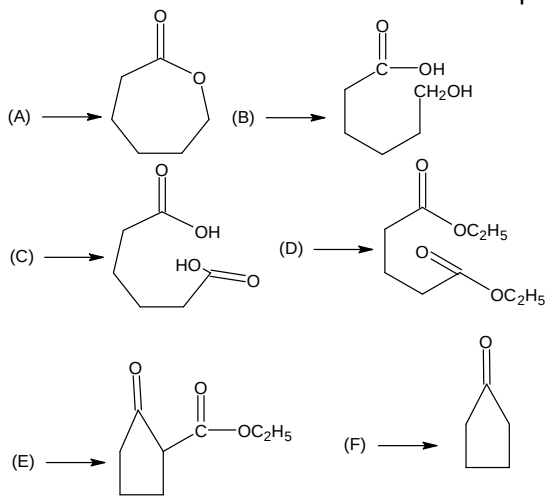


Which is stable due to attain aromaticity and AgBr will precipited.

(b) Products are $CH_3-COOH+COOH-COOH$

Three moles of NaOH need to neutralize the products form from one mole of reactants.

17.



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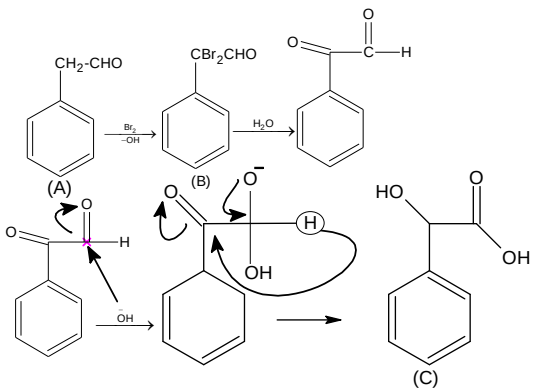
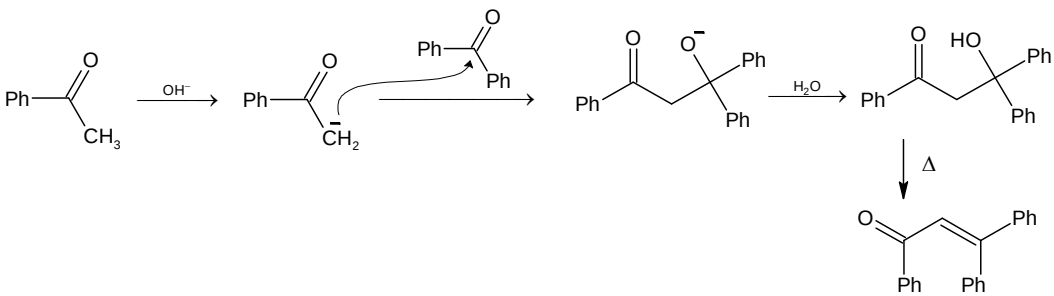
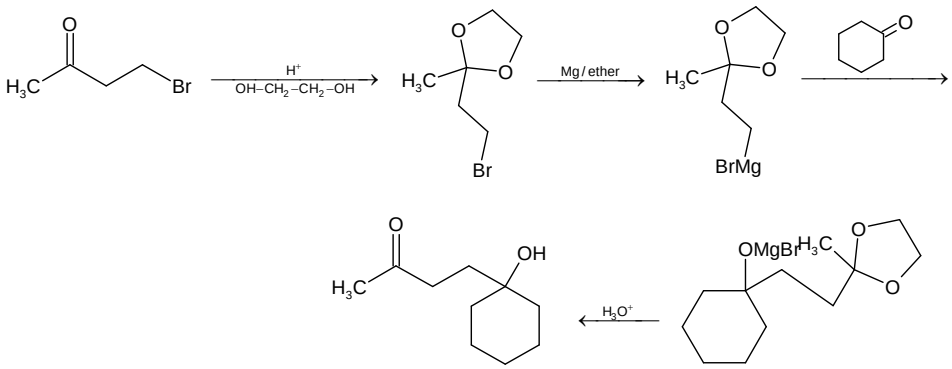


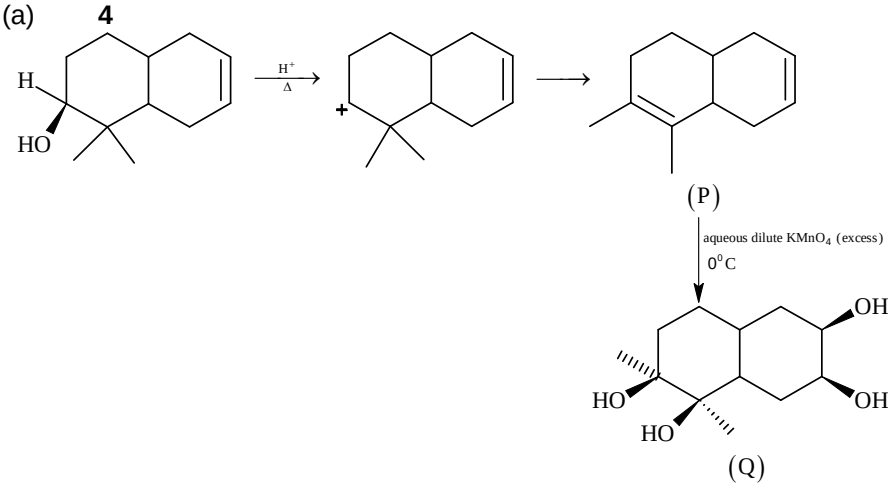
19. (i)



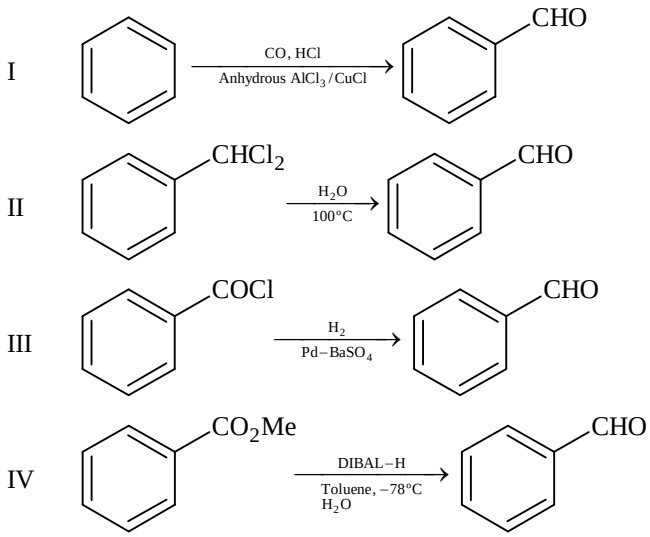
(ii)


O
H3C
Br
H+
OH–CH2–CH2–OH
O
O
H3C
Br
Mg / ether
O
O
H3C
BrMg
O
O
H3C
OH
H3O+
OMgBr
H3C
O
O

20. (a) **4**


H
HO
H+
Δ
+
(P)
aqueous dilute KMnO4 (excess)
0°C
OH
OH
HO
HO
(Q)

(b) **4**


I
CO, HCl
Anhydrous AlCl3 / CuCl
CHO
II
CHCl2
H2O
100°C
CHO
III
COCl
H2
Pd–BaSO4
CHO
IV
CO2Me
DIBAL–H
Toluene, –78°C
H2O
CHO