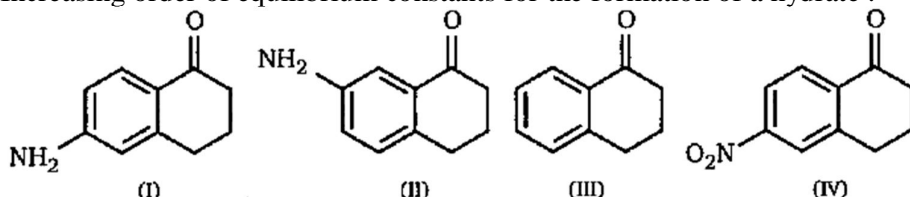


SECTION-I (Multiple Choice Questions)

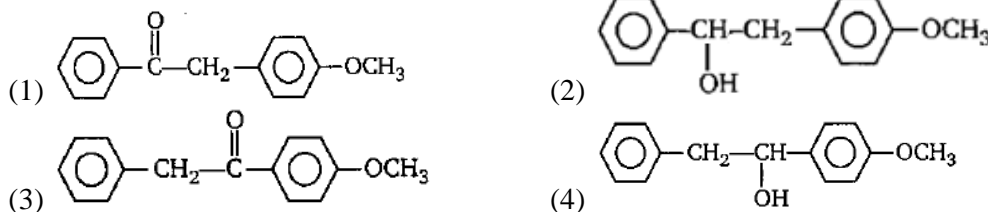
This section contains **30 multiple choice questions**. Each question has 4 choices (1), (2), (3) and (4) for its answer, out which **ONLY ONE** is correct.

1. Increasing order of equilibrium constants for the formation of a hydrate :



- (1) IV < III < II < I (2) IV < III < I < II (3) I < III < II < IV (4) II < III < I < IV

2. Major product Product (A) is :

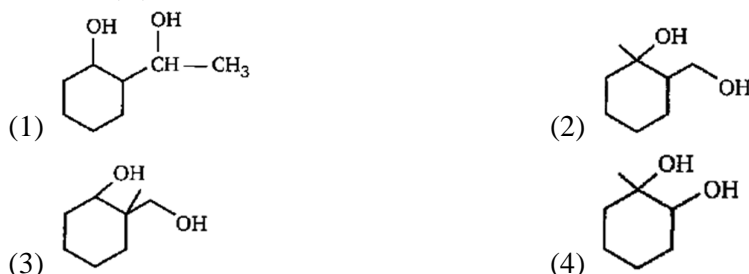


3. and Above compounds can be differentiated by following reagent :

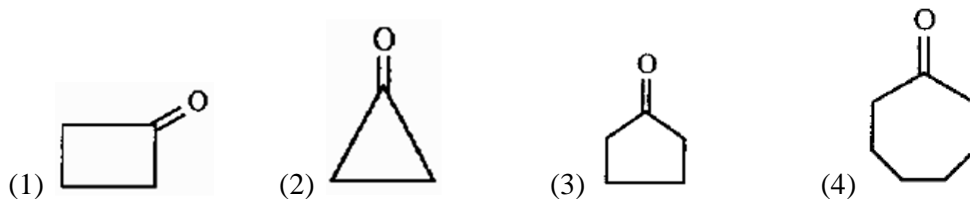
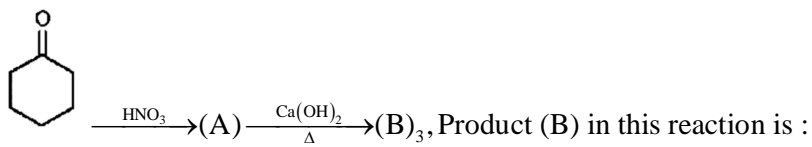
- (1) 2-4 DNP (Brady reagent) (2) Tollen's reagent
(3) Lucas reagent (4) NaHSO₃

4. PCC (excess) → (A) $\xrightarrow[\text{H}^+]{\text{1 equivalent ethylene glycol}}$ (B) $\xrightarrow[\text{H}_3\text{O}^+]{\text{CH}_3\text{MgBr}}$ (C) $\xrightarrow[\text{H}_2\text{O}]{\text{NaBH}_4}$ (D)

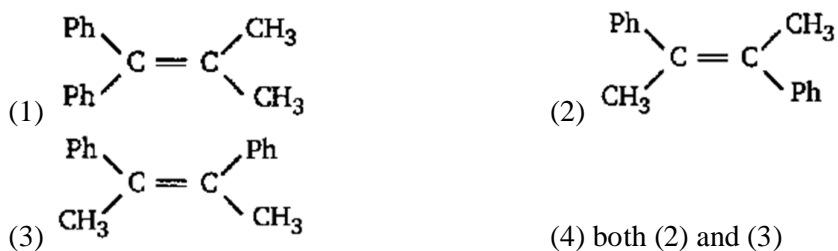
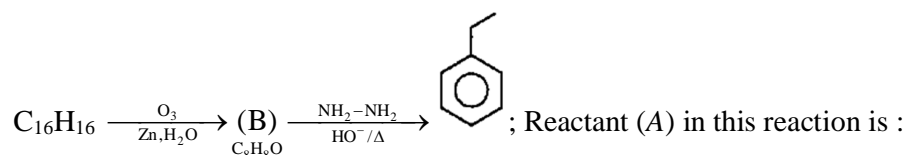
Product (D) will be :



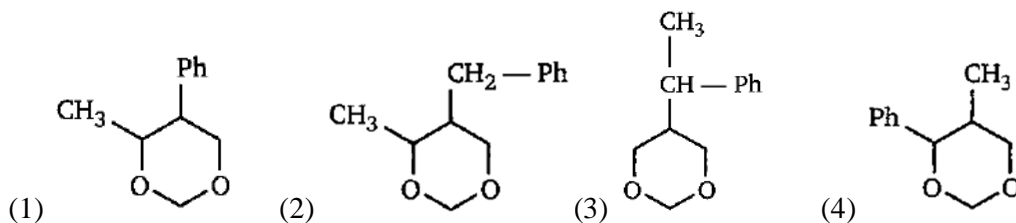
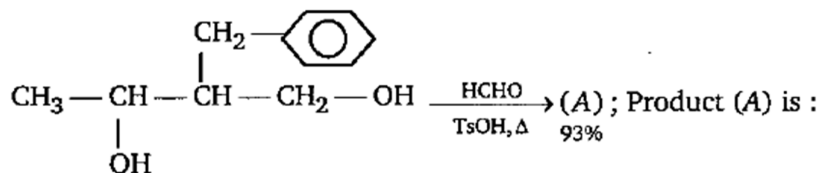
5.



6.

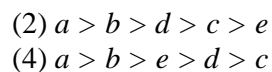
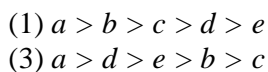
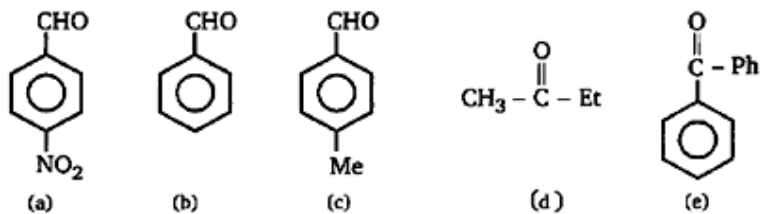


7.



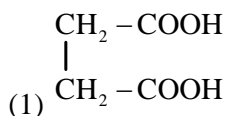
8.

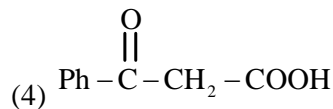
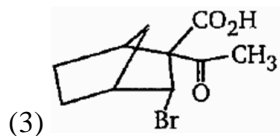
The correct order of rate of reaction toward nucleophilic addition reaction :



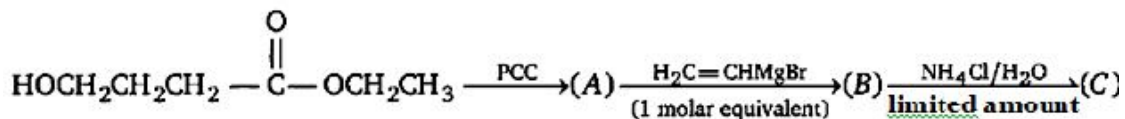
9.

Which of the following β -keto carboxylic acid does not undergo decarboxylation on heating ?

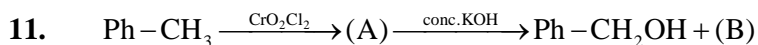
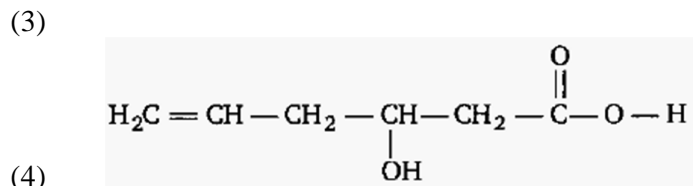
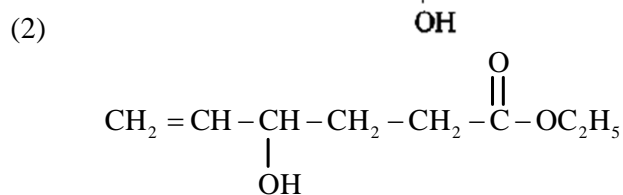
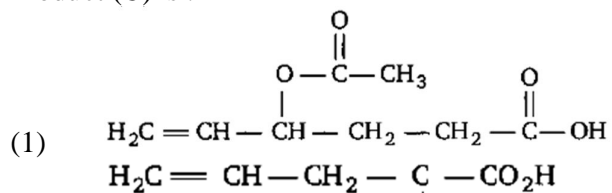




10.



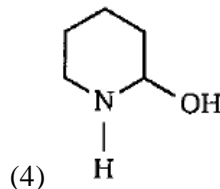
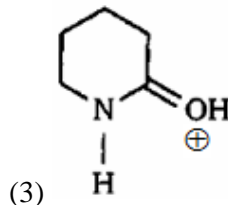
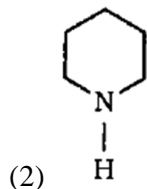
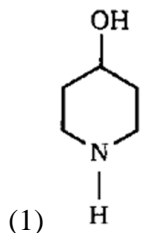
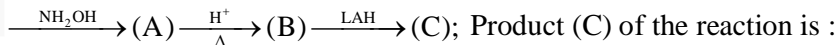
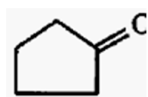
Product (C) is :

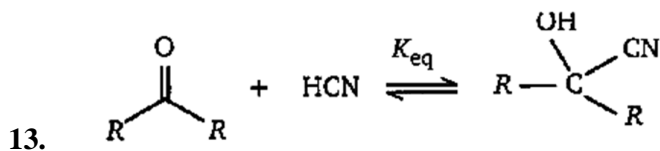



Product (B) of above the reaction is :

- (1) $\text{Ph}-\text{CO}_2\text{H}$ (2) $\text{Ph}-\text{CO}_2^-$ (3) $\text{Ph}-\text{CHO}$ (4) $\text{Ph}-\text{CH}_3$

12.



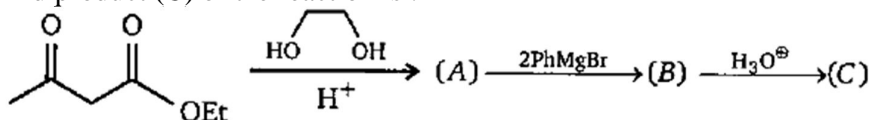


Reactant	K_{eq}
PhCHO	a
	b
Ph-C(=O)-CH ₃	c
CH ₃ -C(=O)-H	d

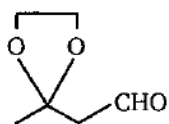
The correct order of decreasing value of K_{eq} is :

- (1) $a > b > c > d$ (2) $d > a > b > c$ (3) $d > b > a > c$ (4) $d > a > c > d$

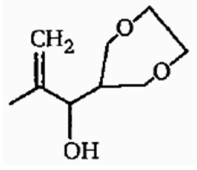
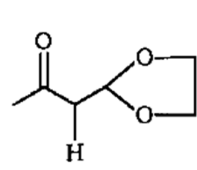
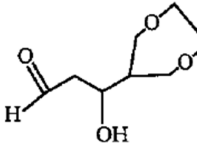
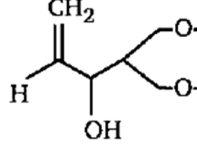
14. End product (C) of the reaction is :



- (1)  (2) 
- (3)  (4) 



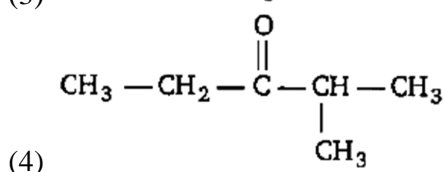
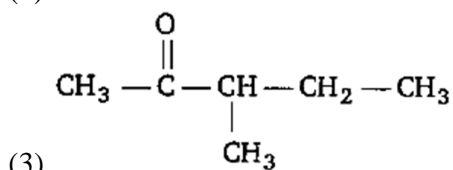
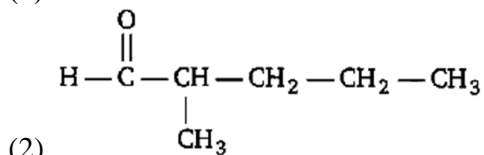
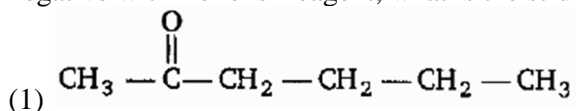
(A) $\xrightarrow{\text{H}^{\oplus}}$ (B); (A) & (B) are isomers ; Isomer (B) is :

- (1)  (2) 
- (3)  (4) 

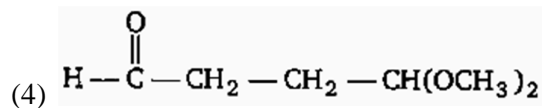
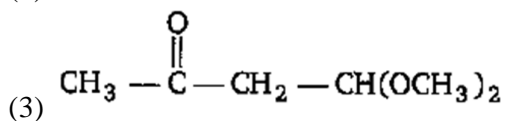
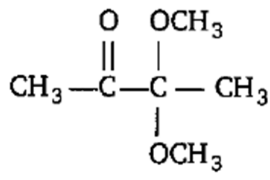
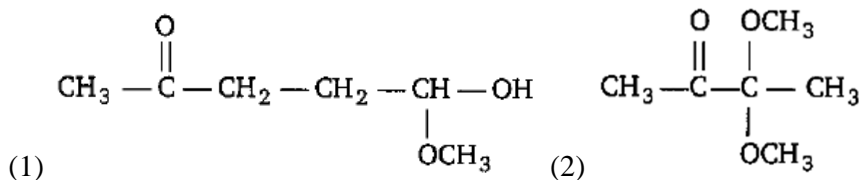
16. Which of the following pairs cannot be differentiated by Tollens' reagent ?

- (1) Benzaldehyde and benzyl alcohol (2) Hexanal and 2-hexanone
 (3) 2-Hexanol and 2-hexanone (4) Pentanal and diethyl ether

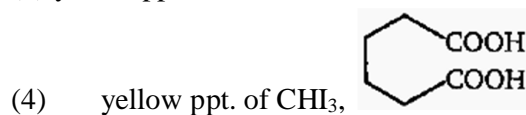
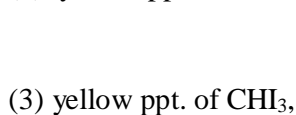
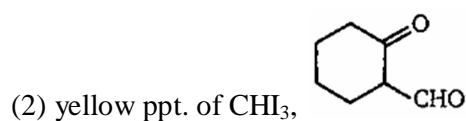
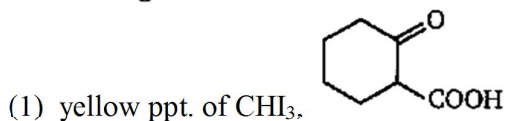
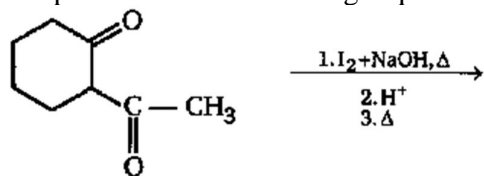
17. An optically active compound $C_6H_{12}O$ gives positive test with 2,4-dinitrophenyl hydrazine, but negative with Tollens' reagent, what is the structure of the compound ?

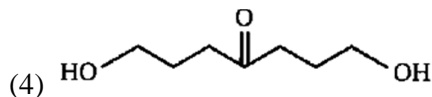
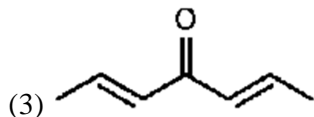
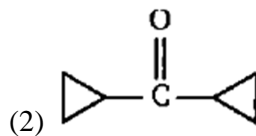
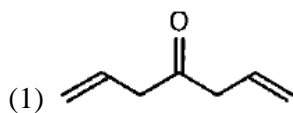
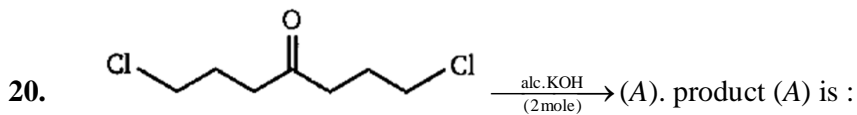


18. Compound (A) $C_6H_{12}O_3$, when treated with I_2 in aqueous sodium hydroxide gives yellow precipitate. When A is treated with tollens reagent no reaction occur. When A is hydrolysed and then treated with tollens reagent, a silver mirror is formed in test tube. Compound (A) will be :

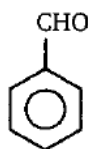
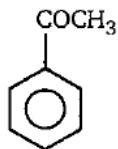
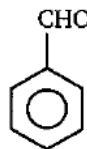
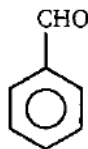


19. End products of the following sequence of reactions are :





21. Arrange the following carbonyl compounds in decreasing order of their reactivity in nucleophilic addition reaction.



(i)

(ii)

(iii)

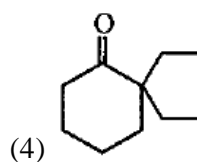
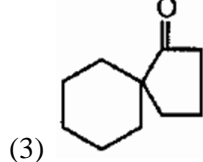
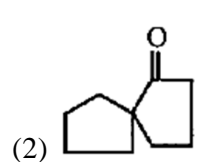
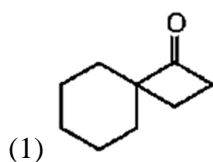
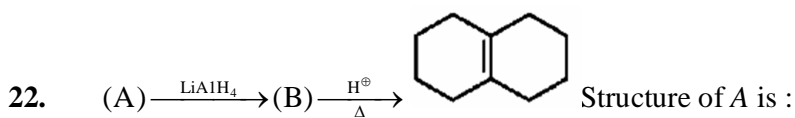
(iv)

(1) ii > iii > i > iv

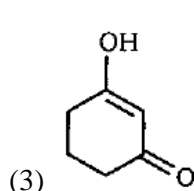
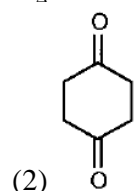
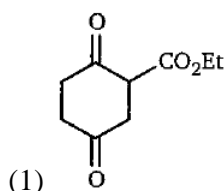
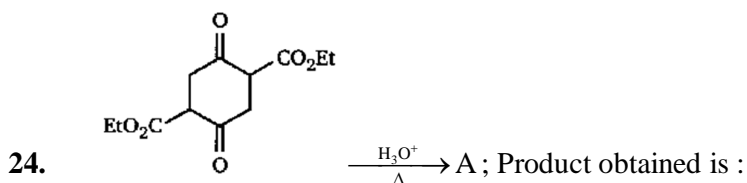
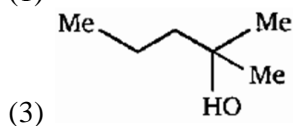
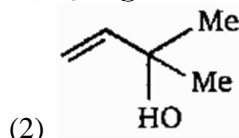
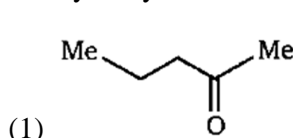
(2) ii > i > iv > iii

(3) iii > ii > i > iv

(4) iii > i > iv > ii



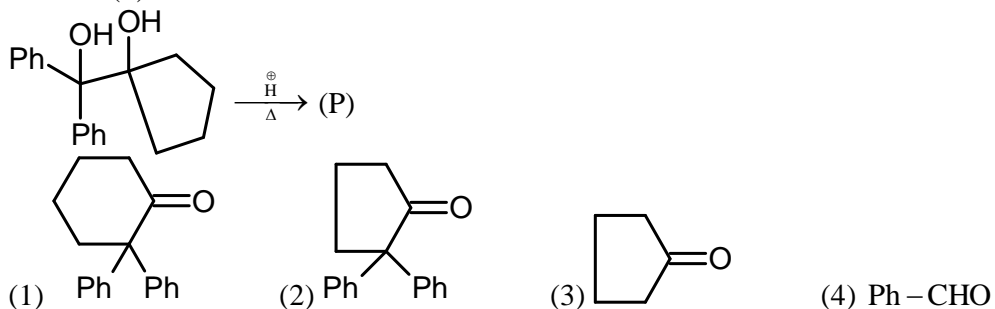
23. Methyl vinyl ketone on reaction with LiCuMe_2 , H_3O^+ gives a major product, whose structure is :



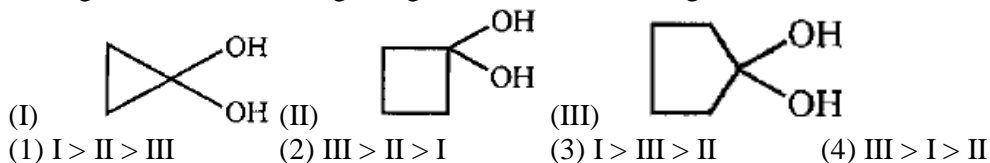
(4) None of these

25. Product P is
 $6\text{HCHO} + 4\text{NH}_3 \xrightarrow{\Delta} (\text{P})$
 (1) Urotropine (2) Aldimine (3) acetophenone (4) Benzophenone

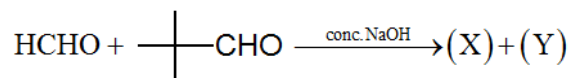
26. Product (P) is



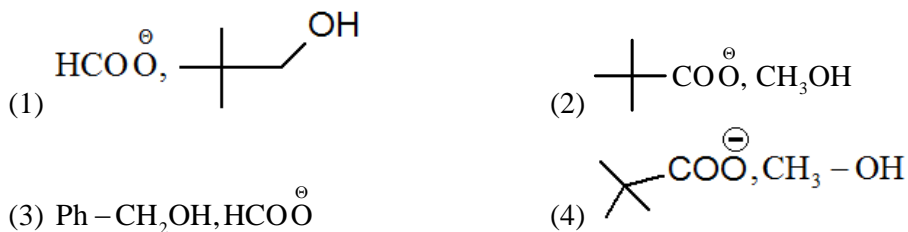
27. Arrange their stabilities of given gem-diols in decreasing order.



- 28.



X & Y is



29. Two isomeric ketones, 3-pentanone and 2-pentanone can be distinguished by :

- (1) I_2/NaOH only (2) NaSO_3H only (3) NaCN/HCl (4) Both (1) and (2)

30. Acetaldehyde cannot give :

- (1) Iodoform test (2) Lucas test (3) Benedict test (4) Tollen's test

PACE-IIT & MEDICAL

ANDHERI / BORIVALI / DADAR / CHEMBUR / THANE / MULUND/NERUL / POWAI

IIT – JEE - 2019

CRASH COURSE (MAIN)

TOPIC: ALDEHYDES & KETONES

DATE:15/11/18

ANSWER KEY

- | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | (3) | 2. | (3) | 3. | (2) | 4. | (2) | 5. | (3) | 6. | (4) | 7. | (2) |
| 8. | (1) | 9. | (1) | 10. | (3) | 11. | (2) | 12. | (2) | 13. | (2) | 14. | (2) |
| 15. | (2) | 16. | (3) | 17. | (3) | 18. | (3) | 19. | (3) | 20. | (2) | 21. | (2) |
| 22. | (4) | 23. | (1) | 24. | (2) | 25. | (1) | 26. | (1) | 27. | (1) | 28. | (1) |
| 29. | (4) | 30. | (2) | | | | | | | | | | |