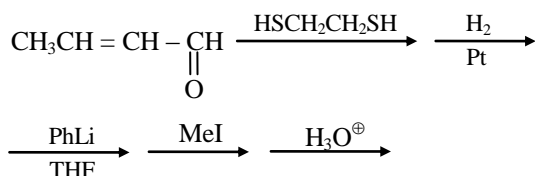


Single Correct Answer Type

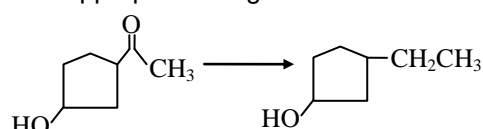
1.



gives major product -

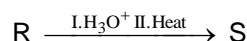
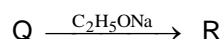
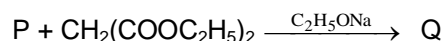
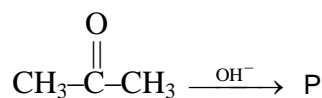
- (A) $\text{CH}_3\text{CH}=\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{Ph}$ (B) $\text{CH}_3\text{CH}_2\text{CH}_2\underset{\text{OH}}{\text{CHPh}}$ (C) $\text{CH}_3\text{CH}_2\text{CH}_2\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{Me}$ (D) $\text{MeCH}_2\text{CH}_2\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{Ph}$

2. The appropriate reagent for the transformation -

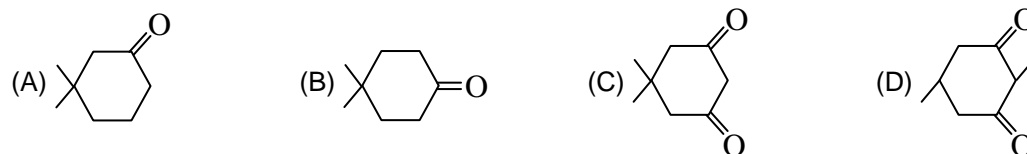


- (A) Zn(Hg), HCl (B) $\text{NH}_2\text{NH}_2, \text{OH}^-$ (C) H_2/Ni (D) NaBH_4

3.



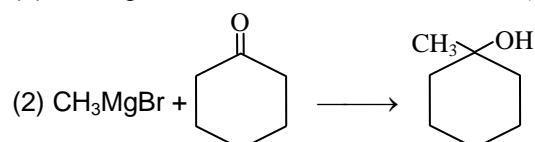
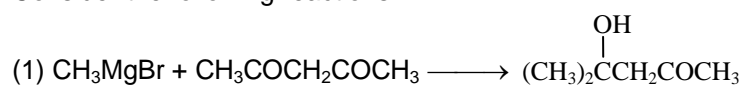
The final product 'S' is -

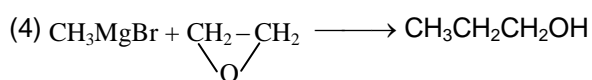
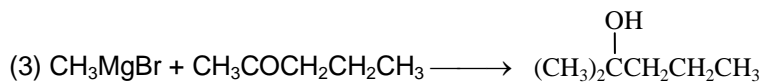


4. An optically active compounds (X) reacts with phenyl hydrazine to form phenylhydrazone derivative. The compound X, gives a yellow precipitate of iodoform with I_2 and NaOH . The compound X is -

- (A) $\text{CH}_3\text{CH}_2\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{CH}_2\text{CH}_3$ (B) $\text{CH}_3\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{CH}_2\underset{\text{CH}_3}{\text{CH}}-\text{CH}_3$
 (C) $\text{CH}_3\underset{\text{O}}{\underset{\parallel}{\text{C}}}\underset{\text{CH}_3}{\text{CH}}-\text{CH}_2\text{CH}_3$ (D) $\text{CH}_3\underset{\text{CH}_3}{\text{CH}}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}\text{CH}_3$

5. Consider the following reactions :

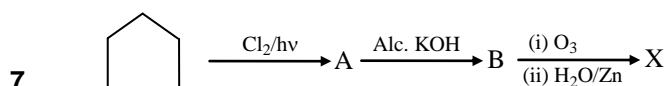
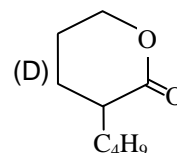
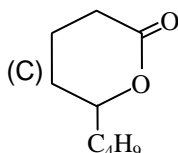
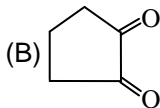
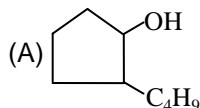
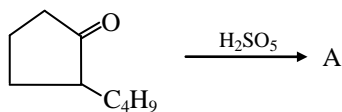




Which of the above products would be obtained after hydrolysis ?

- (A) (1), (4) (B) (2), (3), (4) (C) (2), (3) (D) none of these

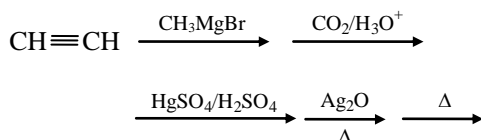
6. Identify the product A in the following reaction:



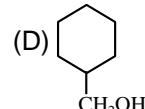
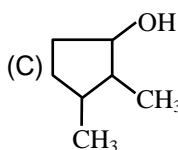
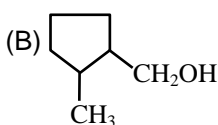
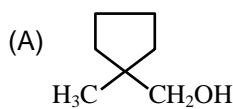
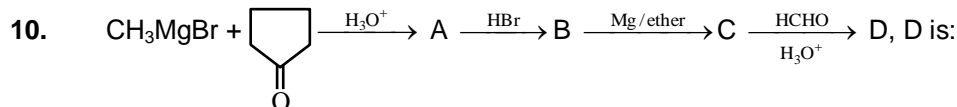
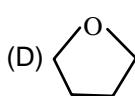
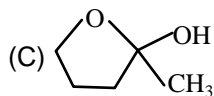
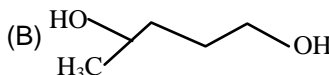
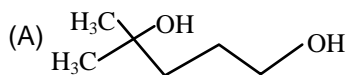
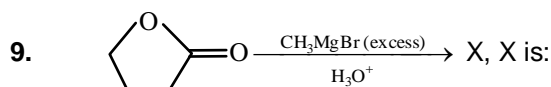
X is -

- (A) $\text{CHO} - (\text{CH}_2)_3 - \text{CHO}$ (B) $\text{CHO} - (\text{CH}_2)_2 - \text{CHO}$
 (C) $\text{CHO} - (\text{CH}_2)_3 - \text{CH}_3$ (D) $\text{CHO} - \text{CHO}$

8. End product of the following sequence of reaction is :



- (A) $\text{CH}_3\overset{\text{O}}{\parallel}\text{CCOOH}$ (B) CH_3COOH (C) $\text{CH}_3\overset{\text{O}}{\parallel}\text{CCHO}$ (D) $(\text{CH}_3\text{CO})_2\text{O}$



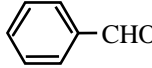
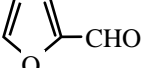
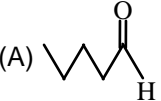
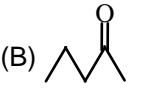
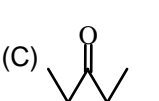
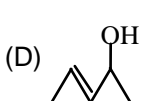
11. $(\text{HCOO})_2\text{Ca} + (\text{CH}_3\text{COO})_2\text{Ca} \xrightarrow{\text{on dry}}$ "A" - Product A is -

- (A) Propanone (B) Methanal (C) Ethanal (D) One of the above

12. The general order of reactivity of carbonyl compounds for nucleophilic addition reactions is -
 (A) $\text{H}_2\text{C}=\text{O} > \text{RCHO} > \text{ArCHO} > \text{R}_2\text{C}=\text{O} > \text{Ar}_2\text{C}=\text{O}$
 (B) $\text{ArCHO} > \text{Ar}_2\text{C}=\text{O} > \text{RCHO} > \text{R}_2\text{C}=\text{O} > \text{H}_2\text{C}=\text{O}$
 (C) $\text{Ar}_2\text{C}=\text{O} > \text{R}_2\text{C}=\text{O} > \text{ArCHO} > \text{RCHO} > \text{H}_2\text{C}=\text{O}$
 (D) $\text{H}_2\text{C}=\text{O} > \text{R}_2\text{C}=\text{O} > \text{Ar}_2\text{C}=\text{O} > \text{RCHO} > \text{ArCHO}$
13. The reaction,

$$2\text{RCHO} \xrightarrow{\text{Al-ethoxide}} \text{RCOOCH}_2\text{R}$$
 is called-
 Ester
 (A) Tishenko reaction (B) Knoevangel reaction
 (C) Cannizzaro reaction (D) HVZ reaction
14. A carbonyl compound gives a positive iodoform test but does not reduce Tollen's reagent or Fehling's solution. It forms a cyanohydrin with HCN, which on hydrolysis gives a hydroxy acid with a methyl side chain. The compound is:
 (A) Acetaldehyde. (B) Propionaldehyde (C) Acetone (D) Crotonaldehyde.
15. Consider the following sequence of reactions

$$\text{CH}_3\text{C}\equiv\text{CH} \xrightarrow[\text{Hg}^{2+}]{\text{H}_3\text{O}^+} \text{A} \xrightarrow[2.\text{H}_2\text{O}]{1.\text{CH}_3\text{MgI}} \text{B}$$

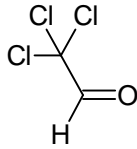
 The final product (B) is -
 (A) $\text{CH}_3\text{C}\equiv\text{CCH}_3$ (B) $\text{CH}_3\text{COCH}_2\text{CH}_3$ (C) $\text{CH}_3\text{CH}_2\text{CHOHCH}_3$ (D) $(\text{CH}_3)_3\text{C}-\text{OH}$
16. Cannizzaro reaction does not take place with -
 (A) $(\text{CH}_3)_3\text{CCHO}$ (B) -CHO (C) -CHO (D) CH_3CHO
17. Phenylglyoxal, $\text{C}_6\text{H}_5\text{COCHO}$, on heating with concentrated NaOH gives
 (A) $\text{C}_6\text{H}_5\text{COONa}$ and CH_3OH (B) $\text{C}_6\text{H}_5\text{CH}_2\text{OH}$ and HCOONa
 (C) $\text{C}_6\text{H}_5\text{CHOHCOONa}$ (D) $\text{C}_6\text{H}_5\text{COONa}$ and HCOONa
18. An organic compound (A), $\text{C}_5\text{H}_{10}\text{O}$, reacts with hydrazine to form a hydrazone derivative (B). The hydrazone (B) on being heated with KOH at about 180°C , gives n-pentane. The compound (A) does not respond positively to Tollens reagent and to the iodoform test. The compound (A) is
 (A)  (B)  (C)  (D) 
19. The reaction of $\text{C}_6\text{H}_5\text{CH}=\text{CHCHO}$ with NaBH_4 gives
 (A) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ (B) $\text{C}_6\text{H}_5\text{CH}=\text{CHCH}_2\text{OH}$
 (C) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{CHO}$ (D) $\text{C}_6\text{H}_5\text{CH}_2\text{CHOHCH}_3$
20.
$$2\text{D}-\overset{\text{D}}{\text{C}}=\text{O}+\text{OH}^- \xrightarrow{\text{Cannizzaro reaction}} \text{X and Y (alcohol X and Y are :}$$

 (A) $\text{D}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}^-$, $\text{D}-\overset{\text{D}}{\underset{\text{D}}{\text{C}}}-\text{OH}$ (B) $\text{D}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}^-$, $\text{D}-\overset{\text{D}}{\underset{\text{H}}{\text{C}}}-\text{OH}$ (C) $\text{H}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}^-$, $\text{D}-\overset{\text{D}}{\underset{\text{D}}{\text{C}}}-\text{OH}$ (D) None

Numerical based

21. The number of carbonyl compounds among the following which form stable hydrates among the following is

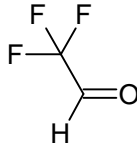
(i)



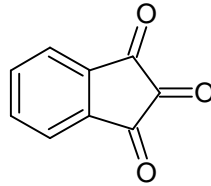
(ii) HCHO

(iii) PhCHO

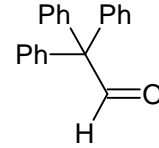
(iv)



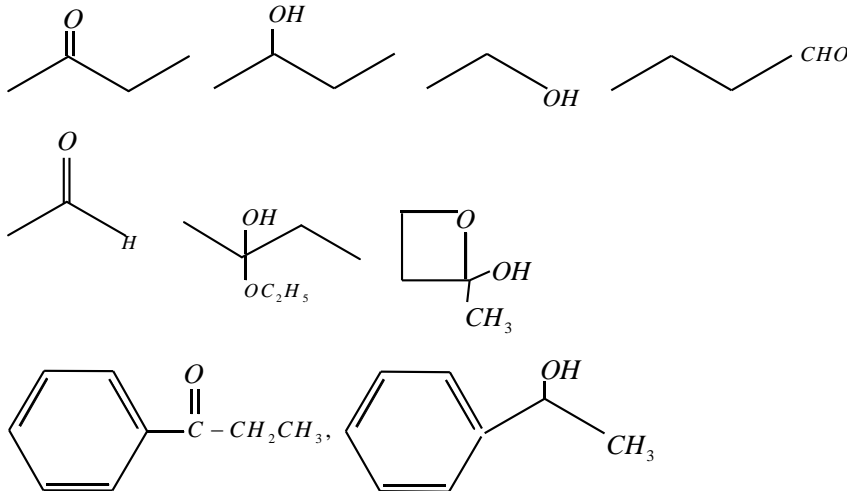
(v)



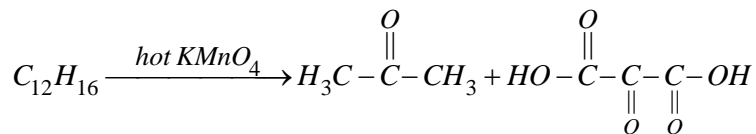
(vi)



22. How many of the following will produce visible change when treated with $I_2 / NaOH$ solution



23.




(A)

(1mole)

(2mole)

(2mole)

Number of π bonds present in A.

24. 10 moles of  are treated with 8 moles of CH_3MgBr followed by hydrolysis. How many moles of diol will be obtained?

25. Acetone on treatment with dry HCl gives W. The number of sp^2 carbons in W are _____

KEY

1.	C	2.	B	3.	C	4.	C	5.	B
6.	C	7.	A	8.	B	9.	A	10.	A
11.	D	12.	A	13.	A	14.	C	15.	D
16.	D	17.	C	18.	C	19.	B	20.	A
21.	4	22.	7	23.	4	24.	0	25.	5