

JEE MAIN ANSWER KEY & SOLUTIONS

SUBJECT :- CHEMISTRY

CLASS :- 12th

PAPER CODE :- CWT-9

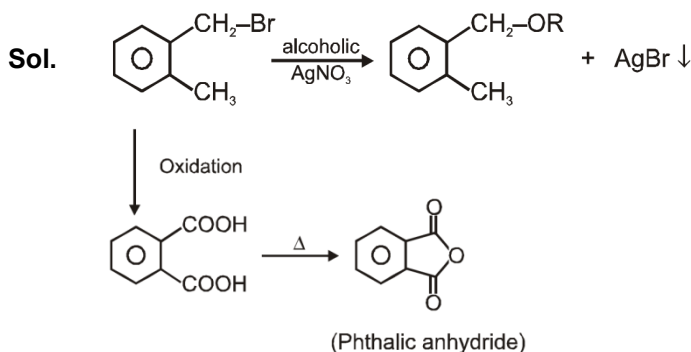
CHAPTER :- ALDEHYDE, KETONES & CARBOXYLIC ACIDS

ANSWER KEY

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

SOLUTIONS

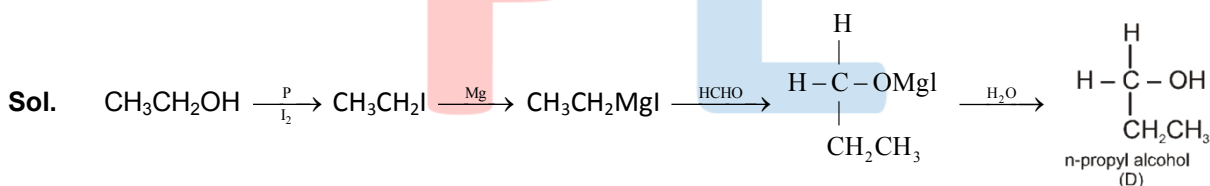
1. (D)



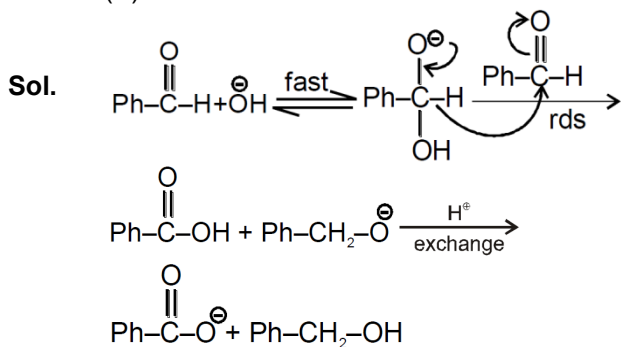
2. (B)

Sol. It is aldol condensation reaction.

3. (A)

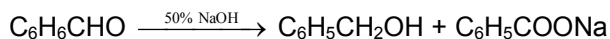


4. (A)



5. (D)

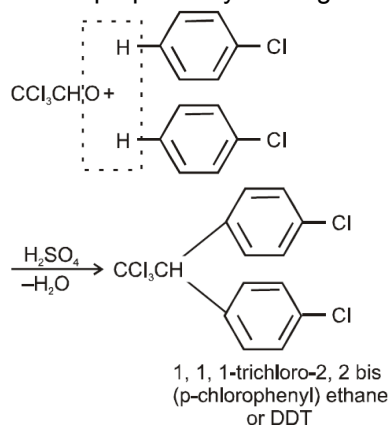
Sol. Benzaldehyde undergoes disproportionation with 50% NaOH to give benzyl alcohol and sodium benzoate



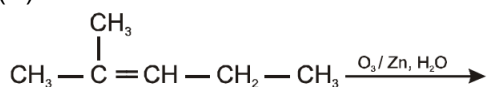
This is Cannizzaro's reaction.

6. (B)

Sol. DDT is prepared by heating chlorobenzene and chloral with concentrated sulphuric acid.

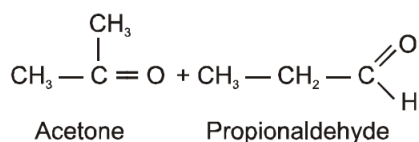


7. (C)

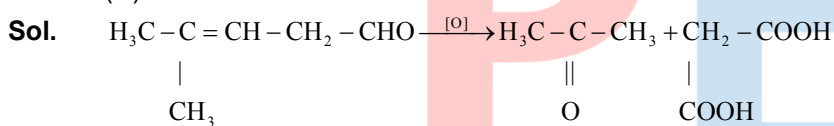


(2-Methyl-2-pentene)

Sol. (A)



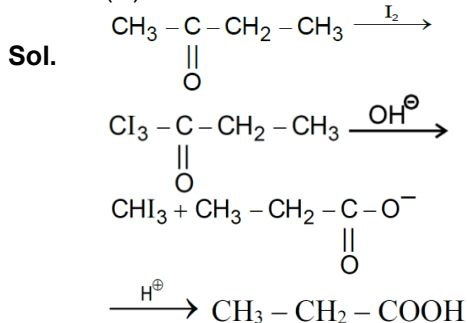
8. (D)



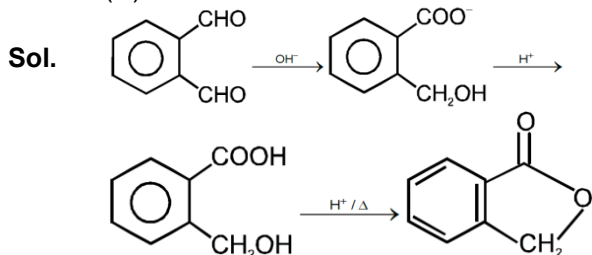
9. (C)

Sol. When two electron releasing groups are present the incoming group will occupy para or ortho position to the group which has more + R effect.

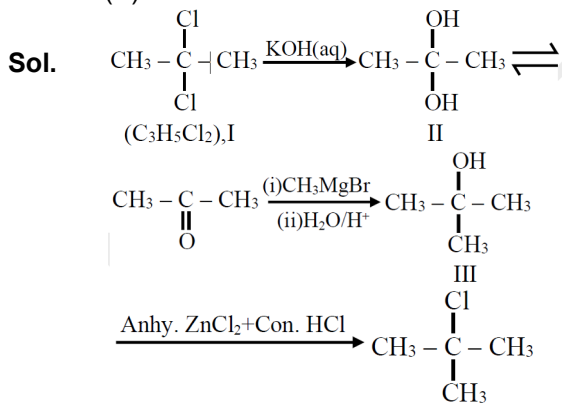
10. (C)



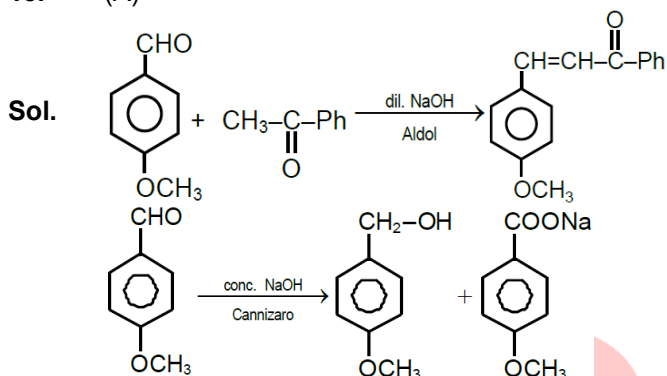
11. (C)



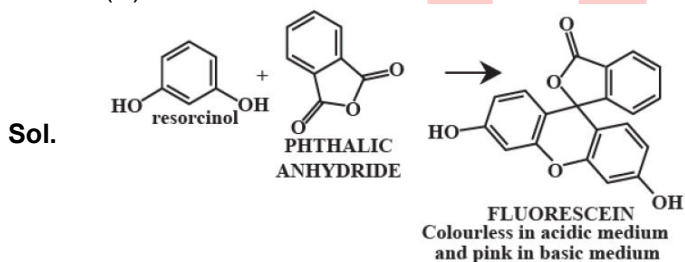
12. (B)



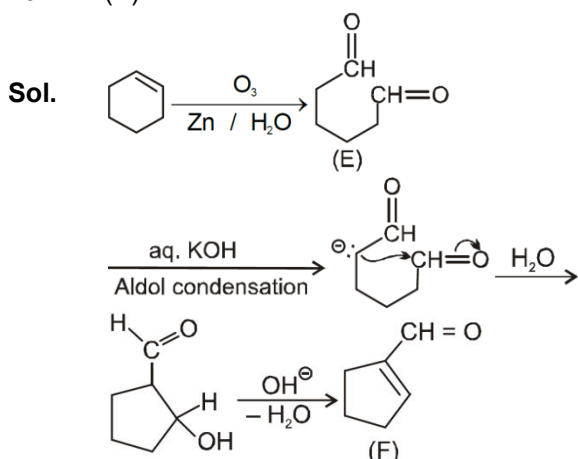
13. (A)



14. (D)



15. (A)



Ozonolysis product of cyclohexene will give hexandial and this undergoes intramolecular aldol condensation in presence of alkali to give cyclic α,β -unsaturated aldehyde.

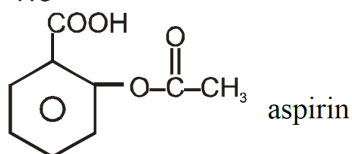
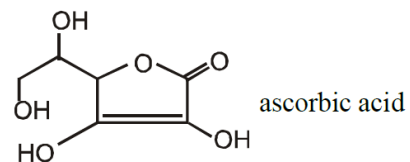
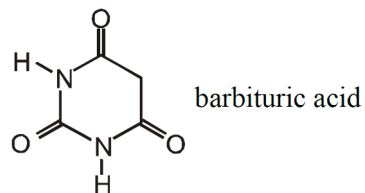
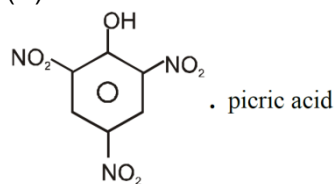
16. (D)

17. (A)

Sol. Benzamide on treatment with POCl₃ gives benzonitrile (phenyl cyanide) because in this reaction POCl₃ acts as dehydrating agent.

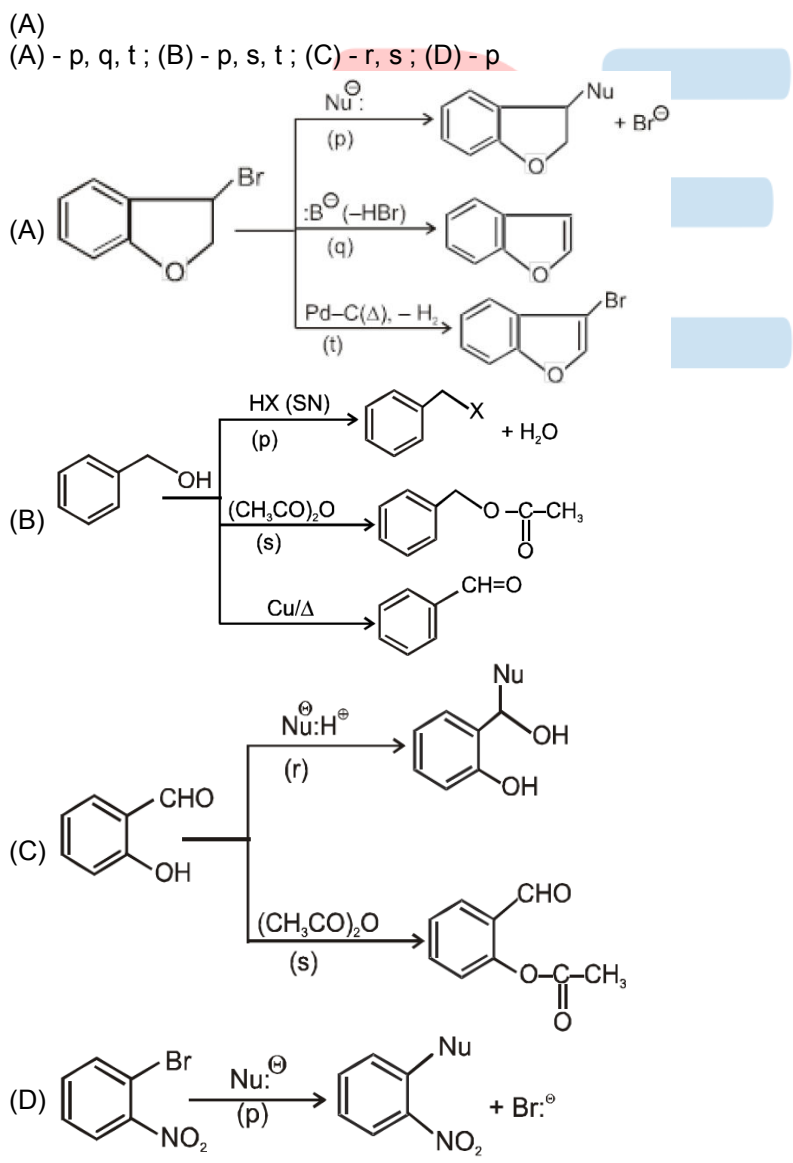
18. (D)

Sol.



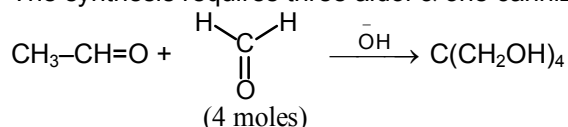
19. (A)

Sol.



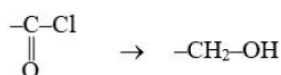
20. (D)

Sol. The synthesis requires three aldol & one cannizzaro reaction.



21. 7

Sol. $-\text{CH}=\text{O} \rightarrow -\text{CH}_2\text{OH}$

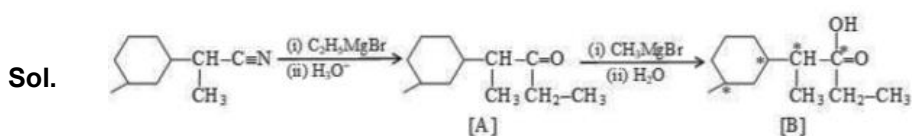


(1°/2° halide)

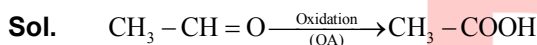
$-\text{C}=\text{NH} \rightarrow -\text{CH}_2-\text{NH}_2$

Thus (i), (iv), (v), (vi), (vii), (ix), (x) are reduce by NaBH₄.

22. 4



23. 5



O.A. →

(2) Fehling soln.

(4) Tollens reagent

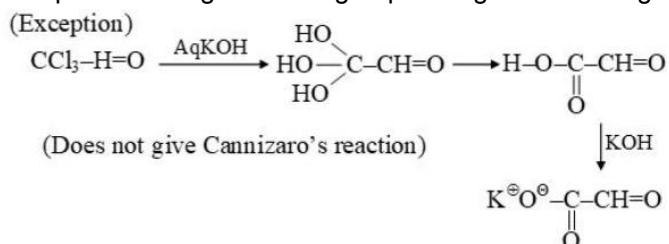
(5) I₂/NaOH

(6) H⁺/KMnO₄/D

(7) H⁺/K₂Cr₂O₇.

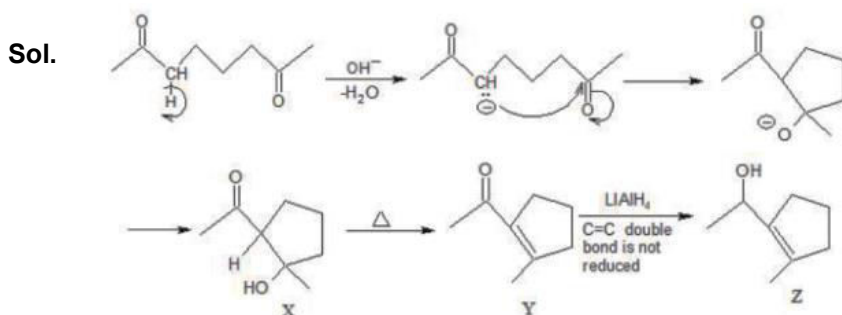
24. 4

Sol. Compound having $-\text{CH}=\text{O}$ group having no α -H will give Cannizzaro's reaction.



So that, (c), (d), (f), (g) do not given Cannizzaro's reaction.

25. 1



26. 8

Sol. Because of acidic hydrogen of $-\text{CH}_2$ -group 8 moles of CH₄ will be obtained.

