Sri Chaitanya IIT Academy, India

A.P, TELANGANA, KARNATAKA, TAMILNADU, MAHARASHTRA, DELHI, RANCHI

A right Choice for the Real Aspirant

ICON CENTRAL OFFICE, MADHAPUR-HYD

Sec: Sr. IPLCO **JEE ADVANCED** **DATE : 06-09-15**
TIME : 3:00 **2013_P1 MODEL** **MAX MARKS : 180**

KEY & SOLUTIONS

PHYSICS

1	**D**	2	**D**	3	**C**	4	**D**	5	**A**	6	**A**
7	**B**	8	**C**	9	**D**	10	**D**	11	**AC**	12	**ABCD**
13	**ABCD**	14	**AD**	15	**BD**	16	**5**	17	**2**	18	**5**
19	**3**	20	**4**								

CHEMISTRY

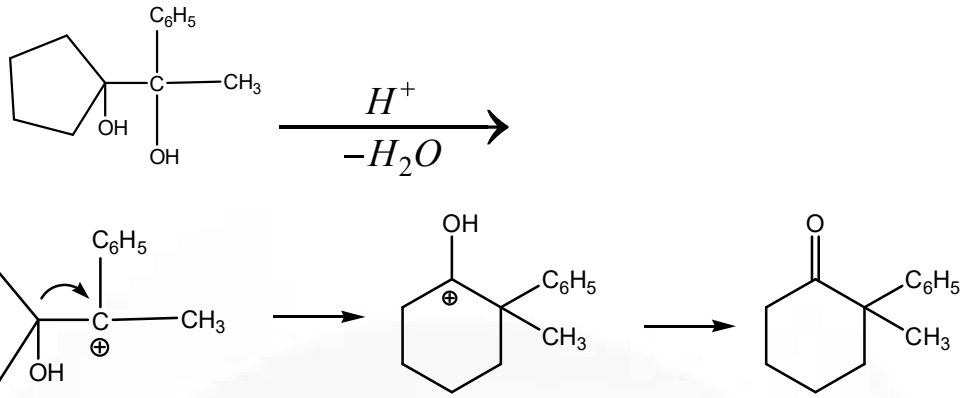
21	**C**	22	**D**	23	**A**	24	**C**	25	**C**	26	**A**
27	**D**	28	**D**	29	**B**	30	**D**	31	**AB**	32	**AB**
33	**ABCD**	34	**AC**	35	**ABCD**	36	**4**	37	**1**	38	**3**
39	**1**	40	**4**								

MATHEMATICS

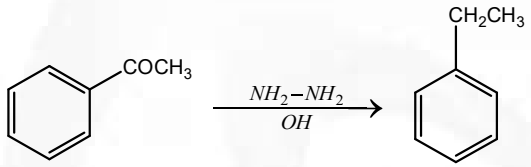
41	**D**	42	**B**	43	**C**	44	**D**	45	**D**	46	**A**
47	**C**	48	**D**	49	**A**	50	**B**	51	**AC**	52	**ABD**
53	**AB**	54	**CD**	55	**ABCD**	56	**5**	57	**9**	58	**3**
59	**9**	60	**5**								

CHEMISTRY

21.



22. H_2/Ni AND m.p.v reduction reduce it to alcohol



Birch reduction is affected in the ring it is not correct answer.

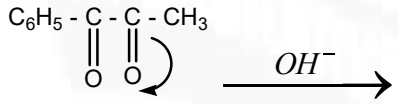
23. Aldehydes and ketones give hemiacetal with alcohol. In presence of acid-hemiacetal interacts with excess alcohol and gives acetal

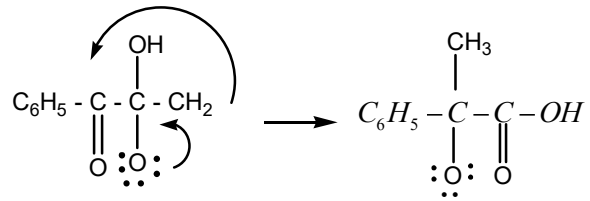
24. The carboxyl group is planar CN^- can attack on it from either side. So two product molecules with opposite configuration are formed. A racemic mixture is obtained.

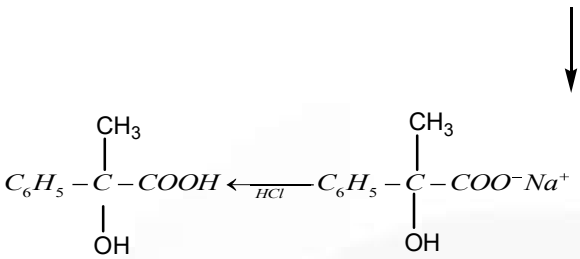
25. Condensation reactions take place in acid medium. But the solution should not be very strongly acidic has H^+ may be accepted by $-NH_2$ group and prevents condensation .

26. A base affects dihydrohalogenation. Ethane dithiol affects substitution. So only Clemmensen reduction is useful.

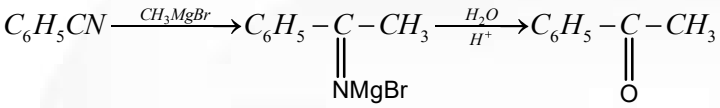
27. If is benzilic acid rearrangement.

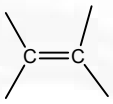




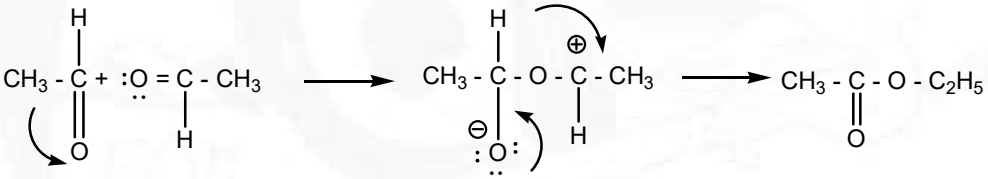


28.

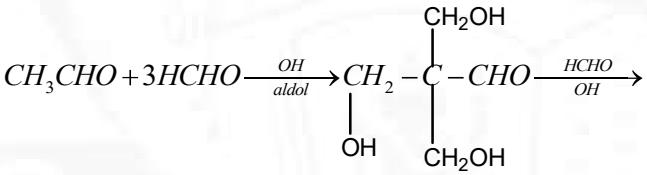


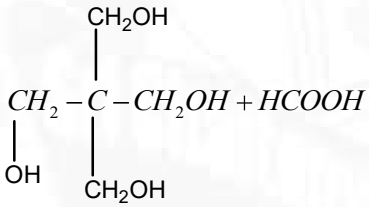
29. $NaBH_4$ does not reduce  so the products is $C_6H_5CH=CH=CH_2OH$

30. It is Tischenko reaction



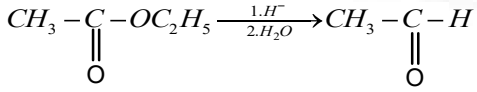
31. Conversion of acetaldehyde to pentaerythritol involves both aldol and cannizzaro reactions

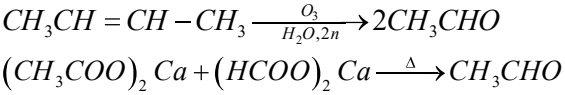




32. With Cl_2,NaOH – acetaldehyde gives chloroform HCHO cannot give $K_2Cr_2O_7$, H_2SO_4 oxidises HCHO to CO_2. CH_3 CHO is oxidized to CH_3COOH. HCHO is a reducing agent.

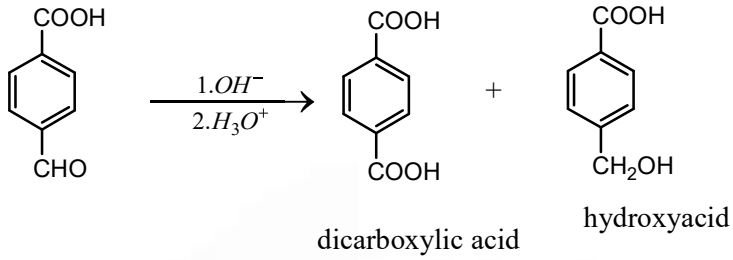
33.





$$CH_3 - C \equiv N \xrightarrow[HCl]{SnCl} CH_3 - CH = NH \xrightarrow{H_3O^+} CH_3CHO$$

34.

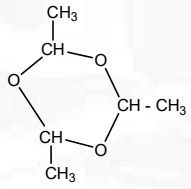


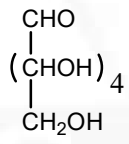
dicarboxylic acid hydroxyacid

35. All these reagents give products with specific m.p and used to identify aldehydes and ketones.

36. Formaldehyde cyclopropanone, ninhydrine, hexafluroacetone form stable hydrates

37. only p-nitro benzaldehyde is more reactive than benzaldehyde. The other two with releasing groups are less reactive

38. $3CH_3CHO \xrightarrow{con.H_2SO_4}$ 

39. 

$\xrightarrow{5HIO_4} 5HCOOH + HCHO$

40. 4 alcohols CH_3OH CD_3OH CD_2HOH CH_2DOH