



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
Time: 3 Hours

JEE-ADVANCE
2012-P1-Model

Date: 16-08-15
Max Marks: 210

PAPER-I KEY & SOLUTIONS

PHYSICS

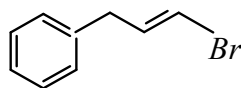
1	D	2	B	3	A	4	B	5	D	6	C
7	C	8	A	9	B	10	D	11	ABCD	12	AB
13	BD	14	ACD	15	AB	16	1	17	1	18	6
19	7	20	4								

CHEMISTRY

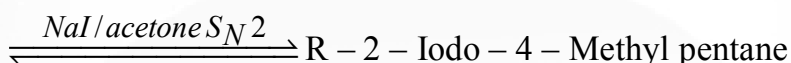
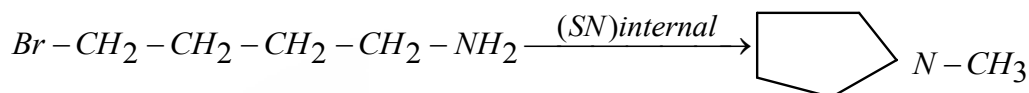
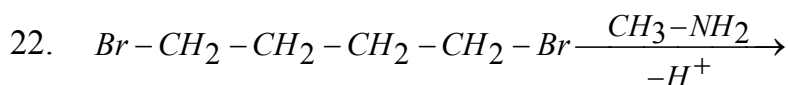
21	B	22	A	23	C	24	A	25	A	26	C
27	D	28	C	29	D	30	C	31	BD	32	ABCD
33	BD	34	BCD	35	BCD	36	6	37	5	38	4
39	4	40	2								

MATHS

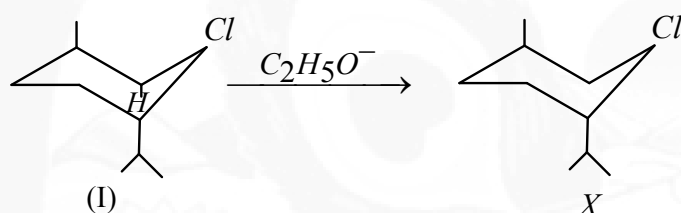
41	D	42	B	43	D	44	B	45	C	46	B
47	B	48	C	49	C	50	D	51	A,B,C,D	52	A,C
53	B,C	54	A,B,C	55	A,B,C,D	56	8	57	0	58	1
59	4	60	2								

CHEMISTRY

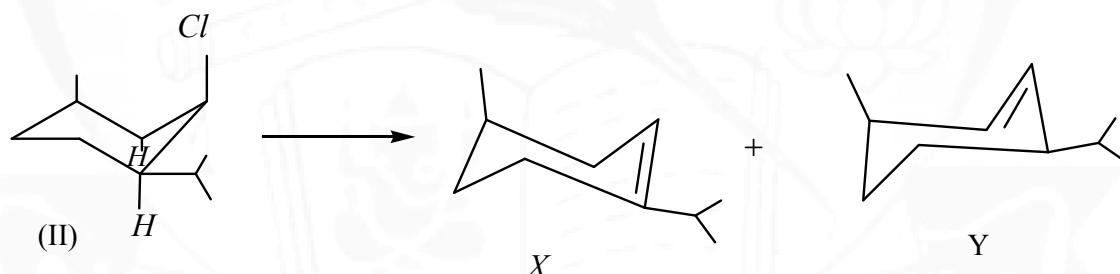
is vinylic halide.

21. Vinyl halides are less reactive in 'S_N2' reactions.24. Reactivity in s_N1 solvolysis increases with increase in stability of intermediate carbocation.

25.



I is O less stable conformer, so rate of reaction is less

26. Give reaction follows S_N2 mechanism

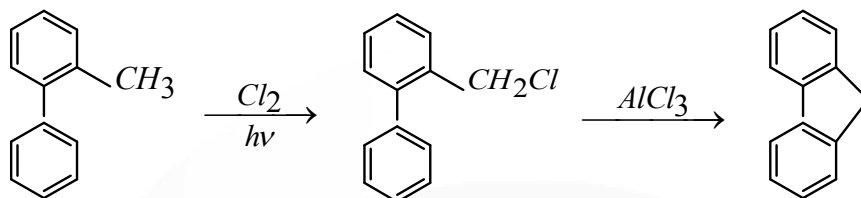
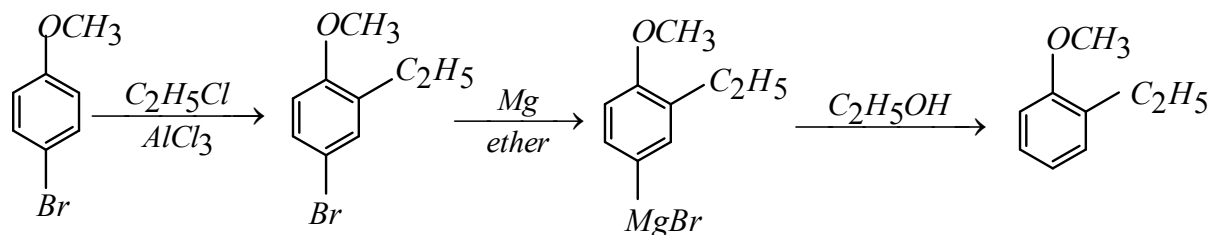
$$\therefore r = K[BrCH_2-CH_3][NaCN]$$

As [NaCN] is doubled and [BrCH₂-CH₃] is tripled so rate is increased by 6 times

27. Vinyl chloride are not suitable halogen derivatives for Friedel-Crafts alkylation

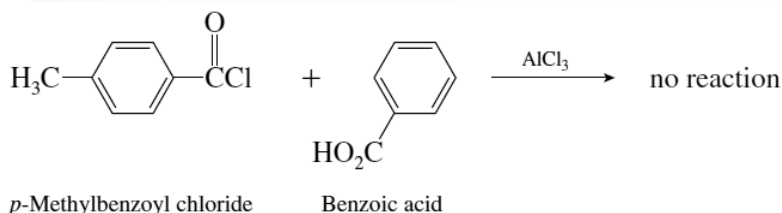
28. It is one of resonance structure of arenium ion formed by attack of Br⁺ at para position of isopropyl benzene.

29.

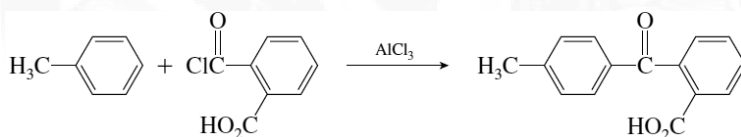


30.

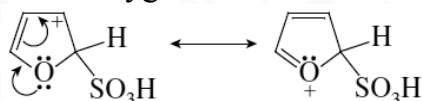
31. The combination that follows is not effective, because it involves a Friedel–Crafts reaction on a deactivated aromatic ring



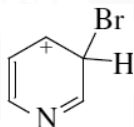
The following combination, utilizing toluene, therefore seems appropriate:



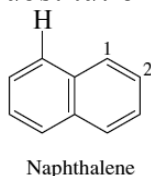
32. Sulfonation of furan takes place at C-2. The cationic intermediate is more stable than the cyclo-hexadienyl cation formed from benzene because it is stabilized by electron release from oxygen.



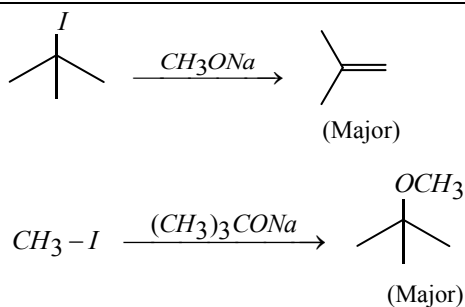
Pyridine reacts with electrophiles at C-3. It is less reactive than benzene, and the carbocation intermediate is less stable than the corresponding intermediate formed from benzene



C-1 of naphthalene is more reactive than C-2 toward electrophilic aromatic substitution.



33.

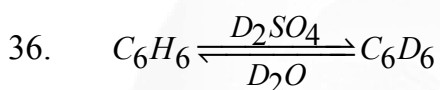


34. A, B - S_N1 is more favorable, if carbocation is more stable.

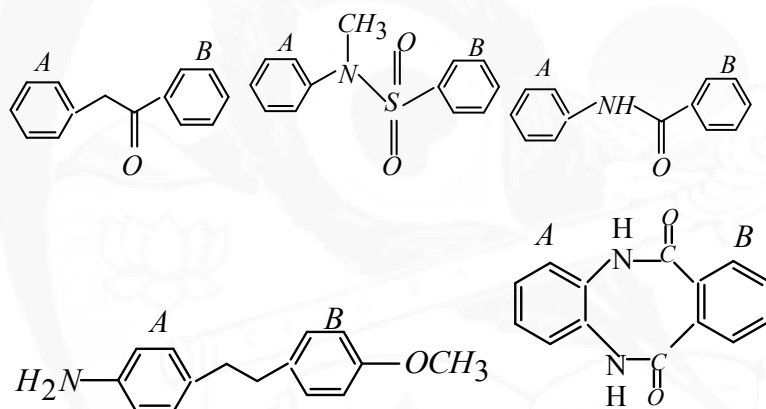
C - Weak base is good leaving group

D - Sulphur atom act as good neighboring group

35. Conceptual



37. In the following compound ring A is more reactive



38. Carbocation is electrophile in Friedel-Crafts alkylation, imagine structure of carbocation has to attack to get given product. If it is the cation which does not rearrange, given compound is major product of Friedel-Crafts alkylation.

