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SEAT No. :

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[5315] - 321

T.Y.B.Sc.

CHEMISTRY

CH-333 : Organic Chemistry

(2013 Pattern) (Paper - III) (Semester - III)

Time : 2 Hours]

[Max. Marks : 40

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw the structure and neat diagrams if necessary.*

Q1) Answer the following:

[10]

- a) Why amides are neutral?
- b) Trans 1, 3 - dimethyl cyclohexane is optically active explain.
- c) Which is a good nucleophile amongst $\overset{\theta}{\text{MH}}_2$ & MH_3 .
- d) Why cyclopropanone easily form hydrate with water?
- e) What is E_2 reaction?
- f) What is σ -complex?
- g) What is kinetic isotopic effect?
- h) Write the reaction of 2-butyne with Lindlar catalyst.
- i) How will you convert bad leaving group - OH into good leaving group.
- j) Write the reaction of acetaldehyde with hydroxylamine.

Q2) a) Answer any two of the following

[6]

- i) Guanidine is very strong base. Explain.
- ii) Discuss the mechanism of Reformatsky reaction.
- iii) What is ozonolysis? Explain the addition of ozone to 1-propene.

b) Answer any two of the following:

[4]

- i) Explain Steric effect with suitable example.
- ii) What are arynes? Give evidences for it.
- iii) Explain E_1CB mechanism with suitable example.

P.T.O.

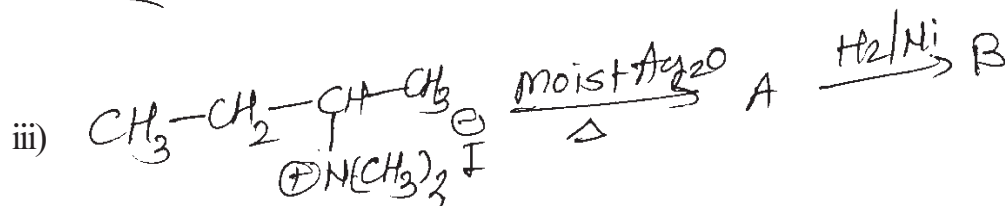
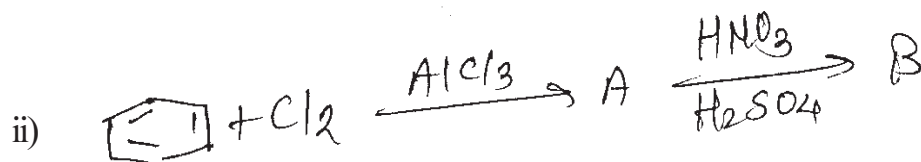
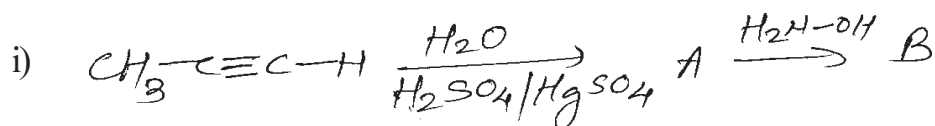
Q3) Answer any two of the following: [10]

- Draw the chair conformations of trans-1, 4-dimethyl cyclohexane and comments on their stability and optical activity.
- What is E_1 mechanism? Discuss the evidences for E_1 mechanism.
- What is SN^1 reaction? Discuss the stereo chemistry of SN^1 reaction.

Q4) a) Answer any two of the following: [6]

- Discuss the Friedel craft acylation? Give its applications.
- Trans 2-butene on hydroxylation by OsO_4 gives dl products. Why?
- Give the mechanism of benzaldehyde with hydrazine.

b) Predict the products with mechanism (any two): [4]



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