

## P38/HSC256/EE/20160522

Time : 3 Hours

Marks : 80

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### Instructions :

1. All Questions are Compulsory.
  2. Each Sub-question carry 5 marks.
  3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
  4. Question paper of 80 Marks, it will be converted in to your programme structure marks.
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1. Solve any **four** sub-questions.
  - a) What is Process Development? Explain its aim and goal in brief. 5
  - b) Write a note on Grignard Reagent. 5
  - c) Write the criteria for solvent selection. 5
  - d) Explain Friedel craft acylation with example. 5
  - e) Write a note on Hughes-Ingold rules and solvent effects on reaction rates. 5
  
2. Solve any **four** sub-questions.
  - a) Give a brief account on solvent effects on reaction course. 5
  - b) Write a note on ionic liquids as solvent. 5
  - c) Write following reactions:
    - i) Diels Alder reaction
    - ii) Aldol reaction 5
  - d) How reaction work up is simplified? 5
  - e) Write examples for:
    - i) Solvolysis
    - ii) Thermolysis
    - iii) Menshutkin reaction 5

3. Solve any **four** sub-questions.
- a) Draw a neat labelled diagram of stages in development of manufacturing process and explain in brief. 5
  - b) Enlist and explain methods used for preparation of acid chlorides. 5
  - c) Write a note on solvent effect on selectivity. 5
  - d) Write a note on Cr<sup>VI</sup> oxidation of alcohol. 5
  - e) Write environmental problems encounter in classical workup procedure. 5
4. Solve any **four** sub-questions.
- a) Explain aqueous medium for organic reactions. 5
  - b) Explain effects of solvent impurities on reaction. 5
  - c) Write catalyst used for Friedel Craft acylation with their properties. 5
  - d) Give brief account on Phase Transfer Catalyst. 5
  - e) Give brief account on scaling up consideration. 5

