

## P48/HSC267/EE/20160520

Time : 3 Hours

Marks : 80

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### Instruction :

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) Explain the following terms- 5
    - i) Percent by weight
    - ii) Percent by volume
    - iii) Mole fraction
  - b) Write short note on electrolytes and non-electrolytes. 5
  - c) Explain nucleophilic substitution reaction for alcohol. 5
  - d) Describe different types of analysis. 5
  - e) Write short note on types of fluids. 5
2. Solve any **four** sub-questions.
  - a) Define and give different types of amines. 5
  - b) Explain different factors affecting conductivity. 5
  - c) Give uses of Rheology in pharmaceutical area. 5
  - d) Write short note on Esterification Reaction. 5
  - e) Explain titration of sulphate with Barium ions. 5

3. Solve any **four** sub-questions.
- a) Complete the following reaction: 5
    - i) P-nitrophenol when react with alcohol and Bromine it gives \_\_\_\_\_.
    - ii) Show the reaction of preparation of Bromonaphthalene from naphthalene.
  - b) Write short note on Hydrolysis reaction. 5
  - c) What is mean by Rheology give details of its fundamental. 5
  - d) Write short note on t-test. 5
  - e) Write short note on Densities of particles. 5
4. Solve any **four** sub-questions.
- a) What are the different methods Expressing concentration of solution. 5
  - b) A Car rental company kept the following record of the numbers of miles a rental car was driven. What are the mean median and mode of this data. 5  
Monday \_\_\_\_\_ 510  
Tuesday \_\_\_\_\_ 275  
Wednesday \_\_\_\_\_ 310  
Thursday \_\_\_\_\_ 210  
Friday \_\_\_\_\_ 450  
Saturday \_\_\_\_\_ 160
  - c) Explain the concept of acid-base equilibria. 5
  - d) Explain the concept of electrolytes and nonelectrolytes. 5
  - e) Define and give different classes of amines. 5

