

## P38/HSC235/EE/20160525

**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) Write a note on fluid / wet localized corrosion. 5
  - b) Classify material of plant construction and explain any one. 5
  - c) Sketch a neat labelled diagram of rotatory drum filter and explain its principle. 5
  - d) Write a short note on method of determination of surface area. 5
  - e) How will you determine humidity? 5
  
2. Solve any **four** sub-questions.
  - a) Write a short note on fluid dynamics. 5
  - b) Write a short note on fluid energy mill. 5
  - c) Write a short note on poiseuille's capillary model for flow through packed beds. 5
  - d) Describe mechanism of filtration. 5
  - e) Define pumping and compression. Write down in detail about reciprocating pump. 5
  
3. Solve any **four** sub-questions.
  - a) Write use of humidity chart. 5
  - b) Define Filtration? Describe types of filtration. 5
  - c) Describe the handling of liquid with help of neat label diagram. 5
  - d) Describe flow properties of powder and factor affecting on it. 5
  - e) Explain in detail dehumidification. 5

4. Solve any **four** sub-questions.
- a) Define centrifugation. Describe principle of centrifugation with mathematical expression. 5
  - b) Describe filter aid. Describe ideal feature of filter aid. 5
  - c) Define humidification and dehumidification with neat label diagram. 5
  - d) Enlist centrifugation equipment. Explain working operation of continuous centrifuge with neat label diagram. 5
  - e) Enlist different method of size reduction and equipment of each method and describe any one. 5

