

Seat No. \_\_\_\_\_

**F.Y. B.Sc. (Industrial Chemistry) Examination**  
**April - 2016**  
**Paper- IC-102: Fundamental of Chemical Engineering – I**  
**Paper Code: 8857**

Time: 2.00 Hours

Maximum Marks: 75

- Que.1 (A) What is matter? Explain classification of matter in detail. [10]  
(B) Write a short note on dimensional analysis. [09]
- OR
- Que.1 (A) Define molecular weight, mole and mol % with example. [10]  
(B) Find out the mole and mole fraction of 40% aqueous urea solution.  
(Molecular weight: N=14, H=1, C=12, O=16) [09]
- Que.2 (A) What is heat exchanger? Explain it with example. [10]  
(B) How centrifugal pump is working? Explain with sketch. [09]
- OR
- Que.2 (A) What are unit operations? Mention various types of unit operations used in chemical industries. [10]  
(B) Explain Azeotropic distillation in detail. [09]
- Que.3 (A) Define absorption. Explain packed column with neat sketch. [10]  
(B) Mention various types of evaporators. Explain any one with neat sketch. [09]
- OR
- Que.3 (A) Write a short note on filter aid and filter medium. [10]  
(B) What is drying? Discuss tray dryer in detail. [09]
- Que.4 (A) Discuss tank crystallizer with neat sketch. [10]  
(B) State and explain criteria for selection of solvent in extraction. [08]
- OR
- Que.4 (A) Write a short note on calorific value of fuel. [10]  
(B) What is mixing? Discuss muller mill in detail. [08]