

Code No: R07A10801

R07**Set No. 2**

I B.Tech Examinations, December 2010
INTRODUCTION TO CHEMICAL ENGINEERING
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) State and explain Raoult's law and its validity.
(b) State Henry's law and its validity. Explain significance of the Henry's law.
(c) How is vapor pressure of liquids evaluated? [4+6+6]
2. (a) Explain briefly wet bulb temperature.
(b) Define humid heat and humid volume.
(c) Explain the process of humidification with suitable examples. [4+8+4]
3. (a) Define molar humidity, humidity and molal saturation humidity.
(b) Define relative humidity and percentage humidity. [9+7]
4. (a) Explain shear stress versus shear rate plots for different fluids.
(b) Define stream line and a stream tube. [12+4]
5. Explain the bubble cap plate column with neat figure to carry distillation. [8+8]
6. (a) Explain forced circulation evaporator with neat sketch.
(b) Differentiate between evaporation and distillation. [10+6]
7. (a) Write about the selection of dispersion phase for liquid-liquid extraction.
(b) Describe rotating disk and centrifugal extractors. [8+8]
8. (a) Describe inter phase mass transfer.
(b) Describe the salient features of design of packed absorption column. [6+10]

Code No: R07A10801

R07**Set No. 4**

I B.Tech Examinations, December 2010
INTRODUCTION TO CHEMICAL ENGINEERING
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Define molar humidity, humidity and molal saturation humidity.
(b) Define relative humidity and percentage humidity. [9+7]
2. Explain the bubble cap plate column with neat figure to carry distillation. [8+8]
3. (a) State and explain Raoult's law and its validity.
(b) State Henry's law and its validity. Explain significance of the Henry's law.
(c) How is vapor pressure of liquids evaluated? [4+6+6]
4. (a) Explain briefly wet bulb temperature.
(b) Define humid heat and humid volume.
(c) Explain the process of humidification with suitable examples. [4+8+4]
5. (a) Write about the selection of dispersion phase for liquid-liquid extraction.
(b) Describe rotating disk and centrifugal extractors. [8+8]
6. (a) Explain shear stress versus shear rate plots for different fluids.
(b) Define stream line and a stream tube. [12+4]
7. (a) Explain forced circulation evaporator with neat sketch.
(b) Differentiate between evaporation and distillation. [10+6]
8. (a) Describe inter phase mass transfer.
(b) Describe the salient features of design of packed absorption column. [6+10]

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R07**Set No. 1**

I B.Tech Examinations, December 2010
INTRODUCTION TO CHEMICAL ENGINEERING
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the bubble cap plate column with neat figure to carry distillation. [8+8]
2. (a) Describe inter phase mass transfer.
(b) Describe the salient features of design of packed absorption column. [6+10]
3. (a) Explain shear stress versus shear rate plots for different fluids.
(b) Define stream line and a stream tube. [12+4]
4. (a) Explain briefly wet bulb temperature.
(b) Define humid heat and humid volume.
(c) Explain the process of humidification with suitable examples. [4+8+4]
5. (a) State and explain Raoult's law and its validity.
(b) State Henry's law and its validity. Explain significance of the Henry's law.
(c) How is vapor pressure of liquids evaluated? [4+6+6]
6. (a) Write about the selection of dispersion phase for liquid-liquid extraction.
(b) Describe rotating disk and centrifugal extractors. [8+8]
7. (a) Define molar humidity, humidity and molal saturation humidity.
(b) Define relative humidity and percentage humidity. [9+7]
8. (a) Explain forced circulation evaporator with neat sketch.
(b) Differentiate between evaporation and distillation. [10+6]

Code No: R07A10801

R07**Set No. 3**

I B.Tech Examinations, December 2010
INTRODUCTION TO CHEMICAL ENGINEERING
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain forced circulation evaporator with neat sketch.
(b) Differentiate between evaporation and distillation. [10+6]
2. (a) Write about the selection of dispersion phase for liquid-liquid extraction.
(b) Describe rotating disk and centrifugal extractors. [8+8]
3. (a) Define molar humidity, humidity and molal saturation humidity.
(b) Define relative humidity and percentage humidity. [9+7]
4. (a) Explain briefly wet bulb temperature.
(b) Define humid heat and humid volume.
(c) Explain the process of humidification with suitable examples. [4+8+4]
5. (a) State and explain Raoult's law and its validity.
(b) State Henry's law and its validity. Explain significance of the Henry's law.
(c) How is vapor pressure of liquids evaluated? [4+6+6]
6. (a) Explain shear stress versus shear rate plots for different fluids.
(b) Define stream line and a stream tube. [12+4]
7. Explain the bubble cap plate column with neat figure to carry distillation. [8+8]
8. (a) Describe inter phase mass transfer.
(b) Describe the salient features of design of packed absorption column. [6+10]
