

V. P. & R. P. T. P. Science College
B.Sc. (Fifth Semester)
Internal Test
Monday 7th October, 2013
Subject code: US05CICV06 (Separation Techniques)
Industrial Chemistry Vocational

Time: 3:30 pm to 5:00 pm

Total Marks: 30

Q-1 Select right option from given in the following questions. (06)

- I The reverse of absorption is?
(a) Desorption (b) Scrubbing (c) Adsorption (d) None of these
- II HETP is the height of a section of packing that will give the same separation as that achieved with _____ theoretical plate.
(a) 1 (b) 10 (c) 2 (d) 5
- III The solubility of solute in a given solvent is _____ at different temperature and it forms the basics of crystallization by cooling.
(a) Same (b) Low (c) Different (d) Both (b) & (c)
- IV Solubility is expressed as parts by weight solute per _____ parts by weight solvent.
(a) 50 (b) 100 (c) 110 (d) 10
- V Which operation is frequently practiced as last operation in manufacturing process?
(a) Filtration (b) Evaporation (c) Drying (d) None of these
- VI For ceramic products, which dryer is used?
(a) Tunnel (b) Spray (c) Tray (d) None of these

Q-2 Answer any three of the following: (06)

- I Compare gas absorption and distillation.
- II Define the following terms with reference to extraction
(a) Raffinate (b) Extract
- III Enlist various methods of Supersaturation.
- IV Explain the preparation of solid used in Leaching.
- V List the dryers commercially used for drying solids, semisolids and slurries.
- VI Define equilibrium moisture and critical moisture content.



Q-3 Give the construction and working of batch operated mixer-settler with neat sketch. (06)

OR

Q-3 Write briefly on mechanically agitated vessels used for gas absorption. (06)

Q-4 Explain the working of Basket extractor with suitable diagram. (06)

OR

Q-4 Explain the construction and working of Krystal crystallizer with suitable diagram. (06)

Q-5 Explain the construction & working of Drum dryer with neat diagram. (06)

OR

Q-5 Explain the construction & working of Spray dryer with neat diagram. (06)

...Good Luck...