

Reg. No.

प्रज्ञानं ब्रह्म



INSPIRED BY LIFE

Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



II SEMESTER M.TECH (CHEMICAL ENGINEERING & INDUSTRIAL POLLUTION CONTROL) END SEMESTER EXAMINATIONS, MAY 2016

SUBJECT: ADVANCED SEPARATION PROCESS (O.E) (CHE 550)
REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 100

Instructions to Candidates:

❖ Answer any **FIVE FULL** questions. Missing data may be suitably

1	For the propylene-propane separation using distillation column, compute the following quantities in SI units: (a) The condenser duty, Q_c ;
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5a	Explain the liquid chromatography and various parts with the help of diagram	15
5b	Give expected chromatogram of guard column problems in liquid chromatogram	5
6	Ethanol and Benzene form azeotrope at 33.2 % (mole fraction) of ethanol. This mixture boils at 331.9 K at 101.3 KPa. At 331.9 K the vapour pressure of ethanol is 44.25 KPa and hexane is 72.24 KPa. Determine Van-Laar constants and Margules three suffix equation constants and compare the γ vs x graph with both models	20