

- c) How the flow rate of toluene to the feed preheater is controlled ? 2
- d) What is the feed inlet and outlet temperature to and from the fired heater ? 2
- e) By what name is heat exchanger no. 6 better known ? 1
- f) By what name is heat exchanger no. 4 better known ? 1
- g) What is the need of heat exchanger no. 5 ? 1
- h) The effluent from reactor no.1 enters into the benzene separation column no. 1. Name and label the units which lie in between. 4
- i) By what name is pump no. 2 better known ? 1

Ex/ChE/T/414/D/6/2014

BACHELOR OF ENGINEERING IN CHEMICAL ENGINEERING
FINAL EXAMINATION, 2014

(4th Year, 1st Semester)

CHEMICAL PROJECT ENGINEERING AND ECONOMICS

Time : Three hours

Full Marks : 100

Answer *three* questions,

all questions do not carry equal marks.

1. Critically analyse the important factors for the selection of a suitable site for the setting-up of a pulp and paper industry. 15
2. Give an idea of the general considerations in case of selection of a heat exchanger. 15
3. What is a pilot plant ? Why pilot plant studies are conducted ? For what objectives a pilot plant can be used for ? 15
4. Refer to the enclosed PFD to answer the following questions.
 - a) What is the mass flow rate, temperature and pressure of the feed toluene and hydrogen ? 6
 - b) How is the liquid level in the toluene storage drum controlled ? 2

[Turn over

