C.U.SHAH UNIVERSITY
Winter Examination-2018

Subject Name: Pharmaceutical Industrial Process II
Subject Code: 4PS03PIP2   **Branch:** B.Pharm
Semester: 3   **Date : 27/11/2018**   **Time : 02:30 To 05:30   Marks: 70**

Instructions:
- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1	**Define the following terms**	**(14)**
a)	Direct Compression	
b)	Distillation	
c)	Flash distillation	
d)	Humidity	
e)	Duhring's rule	
f)	Dew point	
g)	Relative humidity	
h)	Calandria	
i)	Evaporator capacity	
j)	Critical moisture content	
k)	Bound moisture	
l)	Drying	
m)	Free moisture	
n)	Freeze drying	

Attempt any four questions from Q-2 to Q-8

Q-2	**Attempt all questions**	**(14)**
a.	Explain Raoult's law with its limitation.	**(7)**
b.	Discuss the factors influencing evaporation process	**(7)**
Q-3	**Attempt all questions**	**(14)**
a.	Write a note on falling film evaporator	**(7)**
b.	Enlist general parts of distiallator. Give ideal properties of condensers	**(7)**
Q-4	**Attempt all questions**	**(14)**
a.	Describe steam distillation with diagram.	**(7)**
b.	Write a note on Molecular distillation	**(7)**
Q-5	**Attempt all questions**	**(14)**
a.	Describe the method of drying rate calculation	**(7)**
b.	Discuss in detail Fluidized bed dryer.	**(7)**
Q-6	**Attempt all questions**	**(14)**
a.	Describe one multiple effect evaporator.	**(7)**
b.	Write a note on HVAC system	**(7)**

Q-7		**Attempt all questions**	**(14)**
	a.	Explain the theory of Compaction & compression	**(7)**
	b.	Describe the Kawakita and Heckle equations in regard to compression	**(7)**
Q-8		**Attempt all questions**	**(14)**
	a.	Explain the psychrometric chart	**(7)**
	b.	Describe methods for waste water treatment in pharmaceutical industry	**(7)**