C.U.SHAH UNIVERSITY
Summer Examination-2018

Subject Name: Physical Pharmacy II
Subject Code: 4PS04PHP2   **Branch: B.Pharm**

Semester: 4   Date: 26/04/2018   Time: 10:30 To 01:30   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.

		Define the following:	
Q-1			**(14)**
	a)	Micromeritics	01
	b)	Rheology	01
	c)	Newtonian flow	01
	d)	Non-newtonian flow	01
	e)	Thixotropy	01
	f)	Angle of repose	01
	g)	Carr's Index	01
	h)	Hausner's ratio	01
	i)	Kinetics	01
	j)	Half life	01
	k)	Shelf life	01
	l)	Complexation	01
	m)	Protein binding	01
	n)	Polymers	01

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

Q-2		**Attempt all questions**	**(14)**
	a)	Give Pharmacopoeial specification for angle of repose, hausner's ratio, carr's index.	**05**
	b)	Discuss the factors affecting powder flow.	**05**
	c)	Explain methods to improve powder flow.	**04**
Q-3		**Attempt all questions**	**(14)**
	a)	Enlist various methods for determination of particle size and explain any one in	**07**

detail.

b) Write a note on derived properties of powder. **07**

Q-4 **Attempt all questions** **(14)**

a) Explain plastic flow, pseudoplastic flow and dilatants flow for non-Newtonian liquids. **07**

b) Write a note on Thixotropy. **07**

Q-5 **Attempt all questions** **(14)**

a) Enumerate the types of viscometer. Explain any one in detail to determine the viscosity of non-Newtonian liquid. **07**

b) Derive the equation for reaction rate constant, half life and shelf life for first order reaction. **07**

Q-6 **Attempt all questions** **(14)**

a) Describe the chemical degradation of drugs via hydrolysis with its preventive measures. **07**

b) Write a note on accelerated stability study. **07**

Q-7 **Attempt all questions** **(14)**

a) Enumerate the types of complexes. Discuss in detail about β-cyclodextrin complexes. **07**

b) Discuss the methods to determine protein binding. **07**

Q-8 **Attempt all questions** **(14)**

a) Give applications of complexation and protein binding in pharmacy. **07**

b) Classify Polymers. Give Pharmaceutical applications of polymers. **07**