

Enrollment No: \_\_\_\_\_ Exam Seat No: \_\_\_\_\_

# C.U.SHAH UNIVERSITY

## Winter Examination-2018

**Subject Name: Physical Pharmacy-II**

**Subject Code: 4PS04PHP2**

**Branch: B.Pharm**

**Semester: 4**

**Date: 23/10/2018**

**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.
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|            |                           |             |
|------------|---------------------------|-------------|
| <b>Q-1</b> | <b>Define followings:</b> | <b>(14)</b> |
|            | a) Micromeritics          | 01          |
|            | b) Angle of repose        | 01          |
|            | c) Carr's Index           | 01          |
|            | d) Hausner's ratio        | 01          |
|            | e) Derived property       | 01          |
|            | f) Rheology               | 01          |
|            | g) Newtonian flow         | 01          |
|            | h) Non-newtonian flow     | 01          |
|            | i) Thixotropy             | 01          |
|            | j) Order of reaction      | 01          |
|            | k) Half life              | 01          |
|            | l) Shelf life             | 01          |
|            | m) Complexation           | 01          |
|            | n) Protein binding        | 01          |

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

|            |  |             |
|------------|--|-------------|
| <b>Q-2</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Explain various derived properties of powder.   | <b>07</b>   |
|            | b) Enlist various methods for determination of particle size. Explain any one in detail. | <b>07</b>   |
| <b>Q-3</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Explain Non-Newtonian system in detail.   | <b>07</b>   |



|            |   |             |
|------------|---|-------------|
|            | b) Explain Gel-sol-gel phenomena in detail.   | 07          |
| <b>Q-4</b> | <b>Attempt all questions</b>  | <b>(14)</b> |
|            | a) Enumerate the types of viscometer. Explain any one in detail to determine the viscosity of non-Newtonian liquid. | 07          |
|            | b) Discuss the factors affecting powder flow.   | 07          |
| <b>Q-5</b> | <b>Attempt all questions</b>  | <b>(14)</b> |
|            | a) Derive the equation for reaction rate constant, half life and shelf life for first order reaction.               | 07          |
|            | b) Describe the chemical degradation of drugs via Oxidation with its preventive measures.                           | 07          |
| <b>Q-6</b> | <b>Attempt all questions</b>  | <b>(14)</b> |
|            | a) Enumerate the factors affecting rate of reaction. Explain effects of temperature in detail.                      | 07          |
|            | b) Write a note on accelerated stability study.   | 07          |
| <b>Q-7</b> | <b>Attempt all questions</b>  | <b>(14)</b> |
|            | a) Enumerate the types of complexes. Discuss in detail about Inclusion complexes.                                   | 07          |
|            | b) Discuss the methods to determine protein binding.  | 07          |
| <b>Q-8</b> | <b>Attempt all questions</b>  | <b>(14)</b> |
|            | a) Give applications of complexation and protein binding in pharmacy.   | 07          |
|            | b) Give Pharmaceutical applications of polymers.  | 07          |

