

Registration No :

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Total Number of Pages : 01

M.Pharm  
M.PH2A.1

2<sup>nd</sup> Semester Regular / Back Examination 2018-19

ADVANCED PHYSICAL PHARMACEUTICS

BRANCH : PHARMACEUTICS

Time : 3 Hours

Max Marks : 70

Q.CODE : F276

Answer Question No.1 which is compulsory and any FIVE from the rest.  
The figures in the right hand margin indicate marks.

- Q1 Answer the following questions : (2 x 10)**
- a) What are the various factors that affect the flow property of powders?
  - b) Write the two techniques used to determine the polymorphism by crystalline solids?
  - c) Define in vitro sink condition and name the methods for its maintenance?
  - d) What are micelles and write its cardinal application?
  - e) Explain dissolution and mention the important theories of dissolution?
  - f) Show the relationship between half-life and shelf-life in case of first order kinetics?
  - g) Write about two important uses of polymers in pharmaceutical formulations?
  - h) What are the different internal and external factors that affect the rate of a chemical reaction?
  - i) State Fick's first law of diffusion?
  - j) Write the two important applications of chemical kinetics in pharmacy?
- Q2**
- a) Write about methods of stabilization against hydrolysis? (5)
  - b) Explain about the importance of Arrhenius plot in drug stability? (5)
- Q3**
- a) Discuss about cosolvent one important techniques for improving solubility of drugs? (5)
  - b) Write about different dissolution models? (5)
- Q4**
- a) How we evaluate the flow properties of powders? (5)
  - b) Define solubility and write the major factors that affect the solubility of solid in liquids? (5)
- Q5**
- a) Briefly mention about dissolution kinetics? (5)
  - b) Explain the solid state properties of polymers? (5)
- Q6** What is polymorphism, write the reasons of polymorphism and its importance in pharmacy with suitable examples? (10)
- Q7** Describe the importance of diffusion in the passive transport of drugs? (10)
- Q8 Write short answer on any TWO : (5 x 2)**
- a) Write a short note on types of polymer?
  - b) Write a note on *in-vitro* - *in-vivo* correlations?
  - c) Explain the rate equation for first order kinetics?