

PARUL UNIVERSITY
FACULTY OF PHARMACY
M. Pharm. Summer 2017 - 18 Examination

Semester: 2**Subject Code: MPH 203T****Subject Name: Computer Aided Drug Delivery Systems****Date: 18/05/2018****Time: 10:00AM TO 01:00PM****Total Marks: 75****Instructions:**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Marks Each) (30)

1. Discuss Response Surface Model, Contour Plot & Centre Composite Design (CCD).
2. Discuss the applications, advantages, disadvantages, current challenges and future directions of Pharmaceutical Automation.
3. Discuss in detail theoretical background of gastrointestinal absorption simulation using *in silico* methodology.

Q.2 Short Essay Type Questions. (any 5 out of 6) (5 Marks Each) (25)

1. "Computers are important data analysis and management tools in preclinical development". Justify the statement.
2. Define the term "Biowaiver". Discuss the role of Biowaiver in drug approval process.
3. Discuss how computer simulation helps in improving the pharmaceutical R&D process.
4. Write a note on "Artificial Intelligence".
5. Write a note on Placket and Burman Design for screening studies.
6. Discuss ICH Q8 guideline with examples.

Q.3 Short Answers. (2 Marks Each) (20)

1. Discuss few important software packages used for formulation and process development, optimization and control.
2. Give a short note on Ethics of computing in pharmaceutical research.
3. Give a short note on IVIV correlation.
4. Discuss following terminologies with respect to DoE a) Factors b) Levels c) Response d) Interaction
5. Give design layout of 3^2 factorial design. Discuss advantages and disadvantages of factorial design.
6. Write a note on Nucleoside Transporters.
7. What is CFD? How it is important in Pharmaceutical Technology.
8. Write briefly on Population Modeling.
9. Give a short note on regulations of computer systems.
10. Explain in brief Receptor theory.