

G opal Narayan Singh University  
Faculty of Pharmacy

Preformulation Studies of Formulations

**Course code: BPHVA4**

**Objective:** To train the students to be on par with the routine of Industrial activities in R&D

The candidates shall be able to:

- a. Confidently handle the scheduled activities in a Pharmaceutical firm
- b. Manage the production of large batches of pharmaceutical formulations
- c. Assist in Regulatory Audit process
- d. To establish safety guidelines, which prevent industrial hazards

**Unit I**

**06 hours**

Introduction

Consideration of physico-chemical properties of new drug molecules for different dosage forms

**Unit II**

**06 hours**

Aqueous solubility, organic solubility, intrinsic solubility

Methods of enhancement of solubility-surfactants, pH, co-solvency

**Unit III**

**06 hours**

Solid dispersion and complexation

Techniques for the study of crystal properties and polymorphism - DSC, TGA, PXRD

Optical microscopy

**Unit IV**

**06 hours**

Application of hot stage microscopy

Excipient compatibility studies

**Unit V**

**06 hours**

Preformulation stability studies



**PRINCIPAL**

NARAYAN INSTITUTE OF PHARMACY  
JAMUHAR, SASARAM, ROHTAS (BIHAR)



**Coordinator  
IQAC (NAAC)**

Gopal Narayan Singh University  
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