

**List of Practical's**  
**3<sup>rd</sup> Semester**

**BP305P Pharmaceutical Organic Chemistry II–Practical**

<b>Sl. No.</b>	<b>List of the Experiment</b>
	<b>Experiments Involving Laboratory Techniques</b>
<b>1</b>	Recrystallization
<b>2</b>	Steam distillation
	<b>Determination of Oil Values (Including Standardization of Reagents)</b>
<b>3</b>	To determine acid value of given oil sample
<b>4</b>	To determine saponification value of given oil sample
<b>5</b>	To determine iodine value of given oil sample
	<b>Preparation of Compounds</b>
<b>6</b>	To synthesize benzanilide / phenyl benzoate / acetanilide from aniline/phenol by acylation reaction
<b>7</b>	To synthesize 2,4,6-tribromo aniline / para bromo acetanilide from aniline
<b>8</b>	To synthesize acetanilide by halogenation (bromination) reaction
<b>9</b>	To synthesize 5-nitro salicylic acid / meta dinitro benzene by nitration reaction
<b>10</b>	To synthesize benzoic acid from benzyl chloride by oxidation reaction
<b>11</b>	To synthesize benzoic acid / salicylic acid from alkyl benzoate / alkyl salicylate by hydrolysis reaction
<b>12</b>	To synthesize 1-phenyl azo-2-naphthol from aniline by diazotization and coupling reactions
<b>13</b>	To synthesize benzil from benzoin by oxidation reaction
<b>14</b>	To synthesize dibenzal acetone from benzaldehyde by Claisen–Schmidt reaction
<b>15</b>	To synthesize cinnamic acid from benzaldehyde by Perkin reaction
<b>16</b>	To synthesize p-iodo benzoic acid from p-amino benzoic acid

## BP306P Physical Pharmaceutics I Practical

Sl. No.	List of Experiment
01	Determination of solubility of drug at room temperature
02	Determination of pKa value by half neutralization / Henderson–Hasselbalch equation
03	Determination of partition coefficient of benzoic acid in benzene and water
04	Determination of partition coefficient of iodine in carbon tetrachloride and water
05	Determination of % composition of sodium chloride in a solution using phenol–water system by CST method
06	Determination of surface tension of given liquids by drop count and drop weight method
07	Determination of HLB number of a surfactant by saponification method
08	Determination of Freundlich and Langmuir adsorption isotherm using activated charcoal
09	Determination of critical micellar concentration (CMC) of surfactants
10	Determination of stability constant and donor–acceptor ratio of PABA–caffeine complex by solubility method
11	Determination of stability constant and donor–acceptor ratio of cupric–glycine complex by pH titration method

## **BP307P Pharmaceutical Microbiology Practical**

<b>Sl. No.</b>	<b>Name of the Experiment</b>
<b>1</b>	Basic rules of a microbiology laboratory
<b>2</b>	Study of compound microscope
<b>3</b>	Apparatus used in microbiology
<b>4</b>	Sterilization
<b>5</b>	Culture media
<b>5A</b>	Nutrient broth
<b>5B</b>	Nutrient agar
<b>5C</b>	Preparation of media for fungi
<b>5D</b>	Potato dextrose agar
<b>6</b>	Bacterial staining and motility
<b>6A</b>	Simple staining
<b>6B</b>	Negative staining
<b>6C</b>	Gram's staining
<b>6D</b>	Motility testing
<b>7</b>	Pure culture techniques
<b>7A</b>	Streak plate method
<b>7B</b>	Pour plate technique
<b>8</b>	Colony character
<b>9</b>	Viable count
<b>10</b>	Biochemical reactions – Indole production
<b>11</b>	Biochemical reactions – Methyl red test
<b>12</b>	Biochemical reactions – Voges-Proskauer test
<b>13</b>	Biochemical reactions – Citrate utilization test
<b>14</b>	Biochemical reactions – Carbohydrate utilization test
<b>15</b>	Sensitivity testing
<b>16</b>	Determination of minimum inhibitory concentration
<b>17</b>	Antibiotic assay
<b>18</b>	Sterility testing for water for injection

## BP308P Pharmaceutical Engineering Practical

Sl. No.	List of Experiments
<b>1</b>	Factors (surface area, concentration, thickness/viscosity) affecting rate of filtration
<b>2</b>	Factors (surface area, concentration, thickness/viscosity) affecting rate of evaporation
<b>3</b>	Construction of drying curves (for calcium carbonate and starch)
<b>4</b>	Determination of moisture content and loss on drying
<b>5</b>	Determination of humidity of air – using wet and dry bulb temperatures and dew point method
<b>6</b>	Size analysis by sieving – evaluation of size distribution of tablet granulations
<b>7</b>	Study of effect of time on the rate of crystallization
<b>8</b>	Calculation of uniformity index using double cone blender
<b>9</b>	Determination of radiation constant of brass and iron
<b>10</b>	Determination of radiation constant of unpainted and painted glass
<b>11</b>	Size reduction – verification of laws using ball mill (Kick's, Rittinger's, Bond's laws, power requirement, critical speed)
<b>12</b>	Steam distillation – calculation of efficiency
<b>13</b>	Determination of overall heat transfer coefficient using heat exchanger
<b>14</b>	Study of construction, working, and applications of pharmaceutical machinery (rotary tablet machine, fluidized bed coater)
<b>15</b>	Study of construction, working, and applications of pharmaceutical machinery (fluid energy mill, dehumidifier)
<b>16</b>	Demonstration of colloid mill, planetary mixer, fluidized bed dryer, freeze dryer and other major equipment.