

**Pharmacognosy I Practical**  
**Level: 2<sup>nd</sup> Class, 2<sup>nd</sup> Semester**  
**Credit hours/week: 1**

**Reference text: Special curriculum prepared for this purpose.**

<b>No</b>	<b>Lecture Title</b>	<b>Hour(s)</b>
<b>1</b>	<b>Micro measurement and magnification.</b>	<b>2</b>
<b>2</b>	<b>Microscopical identification of crude drugs and cell contents.</b>	<b>4</b>
<b>3</b>	<b>Extraction and separation techniques.</b>	<b>4</b>
<b>4</b>	<b>Chromatography.</b>	<b>4</b>
<b>5</b>	<b>Paper chromatography (circular and horizontal paper chromatography).</b>	<b>4</b>
<b>6</b>	<b>Introduction to tin-layer chromatography.</b>	<b>2</b>
<b>7</b>	<b>TLC on microscope slides.</b>	<b>4</b>
<b>8</b>	<b>Partition chromatography for the separation of volatile oils.</b>	<b>4</b>
<b>9</b>	<b>Effect of activity of adsorbents on R<sub>f</sub> values.</b>	<b>2</b>

**Practical Pharmacognosy II**  
**Level: 3<sup>rd</sup> Class, 1<sup>st</sup> Semester**  
**Credit hours/week : 1**

**Reference text: Lab manual for Practical Pharmacognosy Adopted by the Department.**

<b>No</b>	<b>Lecture Title</b>	<b>Hour(s)</b>
<b>1</b>	<b>Cardio-active glycosides</b>	<b>4</b>
<b>2</b>	<b>Anthraquinone glycosides.</b>	<b>4</b>
<b>3</b>	<b>Saponin glycosides.</b>	<b>4</b>

4	Tannins.	2
5	Volatile oils	4
6	Isolation of piperine from black pepper.	4
7	Isolation of belladonna alkaloids and their identification.	4
8	Isolation of caffeine from tea.	4

**Practical Pharmacognosy III**  
**Level: 3<sup>rd</sup> Class, 2<sup>nd</sup> Semester**  
**Credit hours/week: 1**

**Reference text: *Lab Manual for Practical Pharmacognosy Adopted by the Department.***

No	Lecture Title	Hour(s)
1	Isolation of Peganum harmala alkaloids.	4
2	Preparation of Khellin.	4
3	Flavonoids of Ruta graveolens.	4
4	Extraction of hesperidin	4
5	Isolation of pectin.	2
6	Isolation of citric acid from lemon juice.	4
7	Isolation of Podophyllotoxin from <i>Podophyllum emod</i> ; Isolation of Rotenone from <i>Lonchocarpus</i> Spp.	4
8	Isolation of Peganum harmala alkaloids.	4