

## Guru Nanak Institute of Pharmaceutical Science & Technology

Year: 2<sup>nd</sup>

Sem: 3<sup>rd</sup>

Subject	CO label	CO Statement	BTL
PT 317	CO317.1	To understand the various unit operations used in pharmaceutical industries.	2,1
	CO317.2	To interpret different material handling technique.	3
	CO317.3	To Explain different processes in pharmaceutical Manufacturing Industry.	3
	CO317.4	To elaborate different unit operations in pharmaceutical industry.	6
	CO317.5	To appraise various preventive methods used for corrosion control in pharmaceutical industry/	5
PT397	CO 397.1	To develop knowledge of heat transfer in pharmaceutical industry.	2
	CO 397.1	To analyze different factors affection unit operation.	4
	CO 397.1	To justify applied Chemical processes engineering	5
	CO 397.1	To improve knowledge if unit operation	6
PT319	CO319.1	Understand methods of identification, cultivation and preservation of various microorganism	2
	CO319.2	Students will be able to illustrate the principles behind different techniques of sterilization of pharmaceutical products.	2
	CO319.3	Students will understand the principle behind sterility testing of pharmaceutical products	2,5
	CO319.4	Students will be able to explain the designing and classification of aseptic area for the production of sterile pharmaceuticals	2,4
	CO319.5	Students will know the applications of cell culture technology in pharmaceutical industry and research	1,2
PT399	CO399.1	Students should be able to improve knowledge regarding different type of culture media and organisms.	6
	CO399.2	Students should be able to analyze the result of different processes of sterilization.	4,2
	CO399.3	Student will be able to interpret different microbial contamination present in pharmaceutical formulation.	5
	CO399.4	Students will develop knowledge to demonstrate the method of microbiological assay.	2,3

PT314	CO314.1	Recall the structure , name and types of isomerisation of organic compounds.	<b>1</b>
	CO314.2	Application of knowledge to prepare various organic compounds.	<b>3</b>
	CO314.3	Outline the reaction mechanism, orientation and stability or reactivity of organic compounds.	<b>2</b>
	CO314.4	Illustrate the structural features and properties of aromatic compounds.	<b>2</b>
	CO314.5	Categorize different reactions of benzene and its derivatives.	<b>4</b>

### CO PO MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 317.1	2	3	2	-	-	1	-	-	-	1	-	2
CO 317.2	3	3	1	-	-	2	2	-	2	-	-	2
CO 317.3	3	3	3	2	3	2	1	2	-	-	-	3
CO 317.4	2	3	2	3	3	2	2	2	3	2	1	2
CO 317.5	3	3	2	2	2	2	2	2	2	2	-	2
CO397.1	2	3	-	1	1	-	2	3	-	1	1	2
CO397.2	1	2	3	1	2	2	2	3	-	1	-	2
CO397.3	2	3	1	2	2	1	2	1	1	3	2	2
CO397.4	2	1	1	2	1	2	1	2	-	2	1	2
CO 316.1	3	3	2	2	2	1	2	3	2	1	2	2
CO 316.2	3	3	2	2	3	2	2	3	3	2	3	3
CO 316.3	3	2	3	3	3	1	1	2	1	2	3	2

CO 316.4	3	3	3	2	1	2	3	3	3	3	3	3
CO 316.5	3	3	2	2	2	1	1	1	1	1	2	2
CO 396.1	3	3	2	2	2	1	2	3	2	1	2	2
CO 396.2	3	3	2	2	3	2	2	3	3	2	3	3
CO 396.3	3	2	3	3	3	1	1	2	1	2	3	2
CO 396.4	3	3	3	2	1	2	3	3	3	3	3	3
CO 396.5	3	3	2	2	2	1	2	1	2	1	2	2
CO319.1	3	3	1	2	3	2	1	2	3	2	2	3
CO319.2	3	3	2	2	3	1	2	2	1	2	2	2
CO319.3	3	3	1	2	3	2	2	1	3	3	3	3
CO319.4	3	3	1	2	3	2	1	2	3	2	2	3
CO319.5	3	3	2	2	3	3	1	2	3	1	2	2
CO399.1	2	3	2	-	-	1	-	-	-	1	-	2
CO399.2	3	3	-	1	-	2	2	-	-	-	-	2
CO399.3	3	3	3	2	3	2	1	2	1	-	-	3
CO399.4	2	3	2	3	3	2	2	2	2	2	-	2