## GAUTAM COLLEGE OF PHARMACY

## DISTT.HAMIRPUR 177001 (H.P)

## LESSON PLAN

Course: D. Pharmacy 1st Year

Session-2023-2024

Subject Name: Pharmaceutics Subject Code: ER20-11T

Total teaching hours allocated by PCI= 75 hrs

Name of faculty: Palak Duration of topic: 1 hr

Duratio	on of top	ic: 1 hr		- Lande			Remarks
			Syllabus coverag	ge schedule	Pedagogy	Assignment	
Chapter No.	Topic No	Title of Topic	Learning outcome	Scheduled Date	Teamgra	Detail	
			After	७५/४/२३	Hand	Various systems of measures	P
1	1.	History of the profession of pharmacy in India in relation to pharmacy education,	completion of the topic's the student will understand about History	1न्०४१३३	written Notes	commonly used in prescribing, compounding and dispensing practices Various	<b>O</b>
	2.	Industry pharmacy practice, and various professional associations	of the profession of pharmacy in India and its	55/8/57 14/01/97		systems of measures commonly used in prescribing, compounding and dispensing practices	<b>E</b>
		Pharmacy as a career	officials books	28/08/23			<b>@</b>
	3.	Introduction to IP	in various	29/01/22			E
	5.	Introduction BP, and USP	countries	31/08/23			Ø.
	6.	NF and Extra Pharmacopoeia.					100
	7.	Salient features of Indian		05/08/22		, ,	(10)
2	8.	Pharmacopoeia Packaging materials,	After completion of	11/09/23			
	9.	Packaging materials,	the topic's the student will	12/9/23			(P)
	10	selection criteria, Advantages and disadvantages of glass,	understand about Packaging material, and types,	12/09/22	PPT/ PDF& Notes through on line mode		P
	11.	Advantages and disadvantages of plastic	Advantages and	18/09/23			<b>&amp;</b>
	12.		disadvantages of various packaging materials	19/09/20			P.
3	13.	Pharmaceutical aids: Organoleptic colouring, agents	After completion of the topic's the	२०१ <i>म</i> /२० ३११०१/२०	Hand written Notes	Market preparations (including Fixed	<b>6</b>

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Director Pathepal Gautam College of Pharmacy Hamirpur (H.P.)-177001

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	1	4 flavouring, and	student will	96/20/20		Dose ( tions)	
		sweetening agent	understand	24/09/22		Combinations)	
1	1	5 Preservatives:	about	24/04/20	1	of each type of	0
1		definition, types with	Pharmaceutical	03/1923		dosage forms,	
		examples and uses	aids,	71700		their generic	
		onampres and uses	flavouring, and	04/1-120		name, minimum	
				1		three brand	
1			sweetening agent etc.			names and label	
	1		agent etc.			contents of the	
						dosage forms	
1						mentioned in	
						theory/practical	m
4	1	6. Unit operations:	After		PPT/		<u></u>
		definition,	completion of	05/10/29 10/10/29	PDF&		
		objectives/applications,	the tenis's the		Notes		
		principles,	the topic's the student will	10/10/23	through on		
		construction, and		1, 1,	line mode		
		workings of: Size	understand		,,,,,		
		reduction: hammer	about Unit				
		mill	operation and				0-
	1.		various types	1011-100			P
	1	7. Definition, objectives/	of mills used	13/10/20			
		applications, principles,	in industries.				
		construction and		12/2/20			
		workings of ball mill					AD_
	18	Size separation:		17)10/29			-
		classification of		18/10/23		•	•
	1	powders according to		1911			
		IP,		19/10/23			As -
	15	Cyclone seperatos,		25/10/23			40
		Sieves and Standards		26/10/23			
		of sieves		30/10/23		(4)	(la)
	20	Mixing: Double cone		01/11/23			4
		blender, Turbine mixer,		211122 9			
		triple roller Mill		9/11/23 9/11/23			90
	21	Silverson mixer		201123			20
		homogenizer		2111123			1
	22	Filtration: Theory of	1	52/11/23		161	(P)
		filtration, membrane		2311120			
		filter and sintered glass		28/11/23			=1
		filter		29/11/23			
		Drying: working of		30/11/23			Ma
	23.	fluidized bed dryer and		05/12/23		e 1	
		fluidized bed dryer and		06/12/23			
		process of freeze drying	1				10
	24.	Extraction: definition,		0412127			
		classification, method,		12/12/23			
		and		1,,			
		applications	10	12/12/22		Overview of	B
5	25.	Tablets - coated and	After			various	ب ا
		uncoated	completion of	14/12/23		machines /	1
	26.	Various modified tablets	the topic's the	19/12/23			1
	201	sustained release	student will	•		equipments /	
+	27	Extended-release,	understand	2-/12/23		instruments	<b>6</b>
-	27		about various	21/12/23		involved in the	10-
_	28.	Fast dissolving,	techniques		Hand	formulation and	(Po)
	29.	Multilayered,	used in	१७/१३/२५	written	quality control	
			productions of		Notes	of various	
			various dosage	00110100	110103	dosage forms /	10
-	30.	Capsules-hard gelatin		28/15/27		pharmaceutical	10
		capsules	forms of drugs			Pilatinaccatical	d
				1		() 19	7

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Capsule   Caps	21	Complete					R
32 Liquid oral preparation solution, 33 Liquid oral preparations syrup 34 Liquid oral preparations syrup 35 Liquid oral preparations syrup 36 Liquid oral preparations suspension, 37 Liquid oral preparations suspension, 38 Topical preparations or reconstitution 38 Topical preparations ointments 39 Creams,  40 Pastes, 41 Gels, 42 Liniments 41 Gels, 42 Liniments 42 Pessaries 43 Pessaries 44 Lonions, 45 Suppositories, 46 Nasal preparations 47 Ear preparations 48 Powders and granules, Insufflations dusting powders, 49 Efferescent powders, 50 and effereescent granules 51 Sterile formulations Injectable 52 Eye drops 53 Eye-cintunents 54 Immunological products: Seria manufacturing methods. 55 Vaccines manufacturing methods. 56 Toxoids, and their manufacturing methods. 57 Basic structure, layout, sections, of nharmaceutical of the topic's the written Notes of the topic's the proparations at the completion of the topic's the proparations at the completion of the topic's the preparations at the completion of the	31	r sales soll belatin	like tablets	01/-11 0		formulations	
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33 Liquid oral preparations syrup  34 Liquid oral preparations   25/61/24   37/61/24   38/62/24   3	] 32	Elquid oral preparation		17/01/04			
Preparations   Syrup	33	solution,	gels etc.				do_
Section   Sect		Dropouti		93/ 4/104			
Preparations-Elixir  35 Liquid oral preparations suspension. 36 Liquid oral preparations suspension. 37 Liquid oral preparations suspension. 38 Topical preparations of reconstitution 38 Topical preparations of reconstitution 39 Creams, 39 Creams, 40 Pastes. 41 Gels. 41 Gels. 42 Liniments 43 Pessaries 44 Lotions. 45 Suppositories, 46 Nasal preparations 47 Ear preparations 48 Powders and granules, Insufficiation dusting powders, 49 Effervescent powders. 50 and effervescent granules 51 Sterile formulations – Injectable 52 Eye drops 53 Eye-ointments 54 Immunological products: Sera manufacturing methods. 55 Vaccines manufacturing methods. 56 Toxoids, and their manufacturing methods. 56 Toxoids, and their manufacturing methods. 56 Toxoids, of oharmaceutical the topic's the the	3/	preparations- syrup					(g)
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Solution			1	29/02/24			
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manufacturing plants understand 2x/03/24 hospital		Manufacturing plants		CICOLKC	4	-	10
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manufacturing plants structure,  59 Definition and concepts layout,    102/64/24       102/64/24		manufacturing plants		02/6419	4		$\triangle G$
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of quality control and sections, activities and sections activities and		of quality control and		3/4-12	4		کرجا
quality assurance, activities and		quality assurance,		.1			109

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	60.	Current good manufacturing practice	cGMP of pharmaceutical	08/04/24		at industrial level	
	(a)	(cGMP) Introduction to the	manufacturing plants	10/04/94			0
		concept of calibration and validation		16/04/24	Hand	Basic pharmaceutical	10
7		South drug delivery systems: Introduction	After completion of	29 /01/24	Written Notes	calculations:	6
		Classification with examples	the topic's the student will understand about Novel drug delivery systems, its advantages and disadvantages.	01/05/24		conversion to	6
	64)	Advantages and disadvantages of Novel drug delivery systems				fraction, alligation, proof spirit, isotonicity	0,
	65.	Approaches to design controlled release formulations					10_
	66,	Challenges of Novel drug delivery systems	approaches and challenges of Novel drug delivery systems	04/05/24			

1. Total No of Assignments given:

05

2. Model question paper given:

Yes/No

3. No. of extra Lectures delivered:

4. Feedback from student taken:

Yes/No

Signature of the subject Teacher

ME

Principal

Director Frincipal

Gautam College of Pharmacy
Hamirpur (H.P.)-177001

## Lession Plan Practical

Subject & code: Pharmaceutics (Practical) & (ER20-11P)

	Subject & code: Pharmaceutics (1745)								
	Se	ssion August2023—Ju	Scheduled	Scheduled	Remarks				
Sr.	Title of virtual	Requirements	date	date Batch B	92				
no	experiments		30/8/23	10/08/20	D				
1.	To study the various Instruments & term used		7 07		0				
2.	in pharmaceutics To prepare & submit chloroform water.	Measuring cylinder,beaker, glass-rod, chloroform(9P),	66/9/29	17/08/22					
3.	To prepare and submit simple syrup.	purified water.  Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, stirrer etc. Sucrose and purified water.	13/09/23		e e				
4.	To prepare & submit 100 ml of peppermint oil	Measuring cylinder, beaker, glass-rod, peppermint oil, purified water.	&નુવ્યા 25	74150	P_				
5.	To prepare and submit 30ml of aqueous iodine solution	Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc. lodine, potassium iodide and purified water	27/09/23	21/07k2	P.				
6.	To prepare and submit 30ml of Castor oil emulsion	Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc. Castor oil and Cinnamon water q. s.	०५/०१/२७	28/04/23	e				
7.	To prepare and submit 30ml of Calamine lotion	Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.	11/1122	05/pl20	e				

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	T				
		Calamine,Zinc			
		oxide,Bentonite,		1	
		Glycerin, sodium			
		citrate,Liquefied			
		phenol,rose water,			
1		Purified water.			
8.	To prepare and submit	Mortar & pestle,	0.01/0.00	12/10/20	P
	20ml of Magnesium	weigh balance,	18/10/20	12/1-12-	
	Hydroxide mixture	measuring cylinder,			
	.,	glass rod, spatula,			
		beaker, funnel etc.			
		Magnesium sulphate,			
		sodium hydroxide,			
		light magnesium			
		oxide and purified			
		water.			
9.	To prepare and submit	Mortar & pestle,	00111	10/10/10	m
	100gm of Simple ointment	weigh balance,	25/10/20	19/10/20	<b>10</b>
	100gm of Simple offittifefft	measuring cylinder,			
		glass rod, spatula,			
		beaker, ointments			
		slab etc.			
		Wool fat, hard			
		paraffin, white soft			
		paraffin, cetostearyl			
		alcohol.		V .	
10.	To prepare and submit	Mortar & pestle,		01/10/-0	<u></u>
10.	100gm of Sulphur ointment	weigh balance,	01/11/20	26/10/20	
	1.P.	measuring cylinder,			
	1.5.	glass rod, spatula,		-	
		beaker, ointments		-	
		slab etc.			
		Sublimed Sulphur,			
		wool fat, hard			
		paraffin, white soft		le	
		paraffin, Cetostearyl			
		alcohol.			
11.	To prepare and submit	Mortar & pestle,	0014104		
11.	30gm of Sodium alginate	weigh balance,	22/11/23	02/11/23	B
		measuring cylinder,		' '	
	gel.	glass rod, spatula,			
		beaker etc.		*	
		Sodium alginate,			
		Calcium chloride,			
		Coloring agent,			
		purified water			
10	To proper and submit	A DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN T	0011110		
12.	To prepare and submit	Mortar & pestle,	20/11/20	11/1/20	M

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	20ml of White III	· · · · · · · · · · · · · · · · · · ·			
	30ml of White Liniment BPC.	weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc.			
		Ammonium chloride,Dil.Ammonia Solution,Oleic acid, turpentineoil,purified			
		water			C
13.	To prepare and submit 30ml of Turpentine Liniment	Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc. Soft soap, camphor, turpentine oil,	o6/12129	16/1123	
14.	To prepare and submit 10gm of Effervescent granules.	purified water.  Mortar & pestle, weigh balance sieve shaker, China dish etc. Sodium phosphate, sodium bicarbonate, tartaric acid.	13/12/23	82/11/22	e.
15.	To prepare and submit 30gm of Dusting powder	Mortar & pestle, weigh balance, sieve shaker etc. Purified talc, starch, zinc oxide	४०१४१२०	30/1123	<b>O</b>
16	To understand about various stages of tablet manufacturing process.		27/12/22	7/12/22	Œ.
17.	To prepare and submit 10 ml sodium chloride injection I.P	Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker, funnel etc. Sodium chloride and sterile water for injection I.P	24/00/224	14/12/23	<b>@</b>
18.	To prepare and submit 10 Tetracycline Capsule I.P	: Mortar & pestle, weigh balance and spatula. Tetracycline, Starch, Talc.		21/12/25	0
19.	To prepare and submit 10 Paracetamol Tablet	Mortar and pestle, beaker, sieve No 10, tablet punching	07/02/24	28/222	e

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		machine, hot air oven			
		Paracetamol, lactose,			
		dry starch,			
		magnesium stearate,			-
		talc.			
	- and submit	Mortar & pestle,	21/02/24	12/01/24	No.
20.	1	weigh balance,	01, 7000,		
	20ml of shampoo.	measuring cylinder,			*
	1	glass rod, spatula,			
	1	beaker etc.			
	1	Coconut oil, Castor			
		oil, Potassium			
		hydroxide, Glycerol,			
		Perfume, Borax,			
		Purified water			
21.	To prepare and submit	Mortar & pestle,	28122121	25/01/29	Q.
۷1.	30gm of cold cream	weigh balance sieve	28/02/24	~ / / / /	45
	Jogin of Cold Crediti	shaker, China dish,			
		water bath.			
		White bees wax,			
	,	liquid paraffin, borax,			
		perfume, purified			
		water			
22.	To prepare and submit	Mortar & pestle,	12/00/0	121/2010	n
	20gm lipsticks.	weigh balance,	13/03/24	01/02/24	0
		measuring cylinder,			
		glass rod, spatula,			
		beaker etc.			
		Carnauba wax, Bee			
		wax, lanolin, Cetyl			
		alcohol, carmine,			
		perfume, Castor oil			
	To prepare and submit	Mortar & pestle,	0-1-0-0	21-0	
	30gm of vanishing cream.	weigh balance, water	२०/०/१२५	~8/02/27	<b>(D)</b>
		bath, beaker,		'	•
		measuring cylinder			
		etc.			
		Stearic acid,			
		potassium hydroxide,			
		Glycerine, perfume,			
		purified water			
1.   1	To prepare and submit	Mortar & pestle,	0.11		
2	20gm of face powder,	weigh balance, sieve	24/07/24	15/01/10	Δ
		shaker etc.		15/02/24	A
		Talc, kaolin, Chalk	* II		
		precipitated, Zinc		,	
		stearate, Zinc oxide,		9	
		I SECRICIE, LINC OXIDA			

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		Perfume and colour			
25.	To prepare and submit 20gm of Toothpaste	Mortar & pestle, weigh balance, Beaker, Pipette etc. Dicalcium Phosphate, Sodium Lauryl Sulphate, PEG, Glycerine. Sodium saccharine, Gum tragacanth,	05/24/24	१५/०)१३न	R
		Peppermint oil, water			

Subject Teacher

Director Principal

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