

**ANNAMACHARYA COLLEGE OF PHARAMCY
RAJAMPETA, Y.S.R KADAPA (DIST) - 516126**

I B. Pharm I Sem

Sub: Pathophysiology

AY 2020 - 2021

**ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET**

Subject : Pathophysiology Year/Sem: I-IV Sem

Theory /Lab

LESSON PLAN

S.No.	Topics to be covered	Hours required
I	• Basic principles of cell injury and Adaptation : Introduction, definitions, Homeostasis, components and Types of feedback systems, causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury - Adaptive changes (Atrophy, Hypertrophy, hyperplasia, Metap- -lasia, Dysplasia), cell swelling, Intra cellular accumulation, Calcification, Enzyme leakage and cell Death Acidosis and Alkalosis, Electrolyte imbalance.	02 02 02 02
	• Basic mechanism involved in the process of inflammation and repair :- Introduction, clinical signs of inflammation, Different types of inflammation, Mechanism of inflammation, - Alteration in vascular permeability and blood flow, migration of WBC's Mediators of inflammation, Basic principles of wou- -nd healing in the skin, Pathophysiology of Atherosclerosis.	02
II	• Cardiovascular System : Hypertension, Congestive heart failure, ischemic heart disease (angina, myocardial infma- -tion, atherosclerosis and arteriosclerosis)	03 02 02
	Respiratory System : Asthma, chronic obstructive airways disease.	03
	Renal System : Acute & chronic renal failure	02
III	Haematological Diseases :- Iron deficiency, megaloblast -ic anemia (vit B12 and folic acid), sickle cell anemia, thalassemia, hereditary acquired anemia, hemophilia.	02
	• Endocrine System :- Diabetes, thyroid diseases, disorders of sex hormones.	02
	• Nervous System :- Epilepsy, Parkinson's disease, Stroke psychiatric disorders: depression, Schizoph- -renia and Alzheimer's disease.	03
	Gastrointestinal System :- Peptic Ulcer.	02
IV	• Inflammatory bowel diseases, jaundice, hepatitis (A, B, C, D, E, F) alcoholic liver disease.	04
	• Disease of Bones and Joints : Rheumatoid arthritis, Osteoporosis and gout.	04



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ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET

Subject : *Pathophysiology*

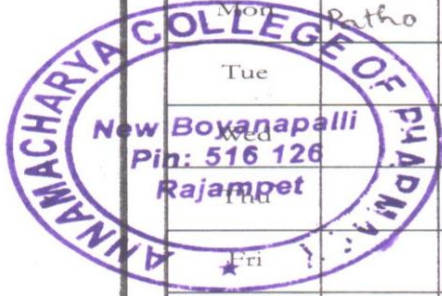
Year/Sem: *I - Dsem*

Theory /Lab

S.No.	Topics to be covered	Hours required
	• Principles of Cancer :- Classification, etiology and pathogenesis of Cancer.	03
	• Diseases of Bones and Joints : Rheumatoid Arthritis, Osteoporosis, Gout.	03
	• Principles of Cancer :- Classification, etiology and pathogenesis of Cancer.	
V	• Infectious diseases :- Meningitis, Typhoid, Leprosy, Tuberculosis, urinary tract infections	04
	• Sexually transmitted diseases :- AIDS, Syphilis, Gonorrhoea.	03

TIME TABLE

Day/Time	1	2	3	4		1	2	3	4
Mon	Patho				L U N C H				
Tue		Patho							
Wed				Patho					
Thu						B R E A K			
Fri									
Sat				Patho					



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IV B. Pharm I Sem

Sub: Medicinal Chemistry - II

AY 2020 - 2021



ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET

Subject : MC-II

Year/Sem: IV year I sem Theory / Lab

LESSON PLAN

S.No.	Topics to be covered	Hours required
I.	<u>UNIT-I</u>	10hr
	Drugs acting on renal system. Renin Angiotensin system inhibitors: Captopril, Enalapril, Lisinopril	2hr
	Diuretics: Acetazolamide, Hydrochlorothiazide	1hr
	Furosemide, Ethacrynic acid, Spironolactone	2hr
	Amiloride, Triamterene and Mannitol	2hr
	CR of carbonic anhydrase inhibitors	2hr
	Thiazide diuretics - CR	1hr
	Loop diuretics - CR	1hr
II	<u>UNIT-II</u>	11hr
	Drugs acting on CVS - Antihypertensive agents	1hr
	Antihypertensive: Isosorbide dinitrate	1hr
	Ion channel Blockers - Verapamil, Diltiazem	1hr
	Nifedipine and Amlodipine	1hr
	Antiarrhythmic agents - Aspirin, Dipyridamole	1hr
	clopidogrel, antiarrhythmic agents	1hr
	Quinidine, Procainamide	2hr
	Lidocaine, Mexiletine	2hr
	Amiodarone, Eptafel	1hr
III	<u>UNIT-III</u>	10hr
	Drugs acting on Blood, Hypoglycemic agents and Thyroid	10hr
	Anticoagulants: Factor, Warfarin sodium, Dicoumrol	2hr
	Synthetic Hypoglycemic agents	2hr
	Tolbutamide, Tolazamide, Glipizide	2hr
	Glimepiride, Gliclazide, Niglitol	2hr
	pioglitazone, Metformin	2hr
	Thyroid and antithyroid drugs - Introduction	1hr
	Levothyroxine, Liothyronine, Propylthiouracil	2hr
IV	<u>UNIT-IV</u>	12hr
	Analgesic, antipyretic and anti-inflammatory agents	12hr
	opioids: Morphine, Codeine, Oxycodone, Pentazocine	2hr



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Subject : MC-II

Year/Sem: IV year Isem

Theory/Lab

S.No.	Topics to be covered	Hours required
	Plependone, Methadone, Tramadol	2hr.
	Buprenorphine	1hr.
	opioid antagonist: Naltrexone, Naloxone	2hr.
	Methylnaltrexone	1hr.
	NSAIDs - A Role on prostaglandins and leukotrienes	1hr.
	Aspirin, Indomethacin, Sulindac	2hr.
	Ketorolac, Ibuprofen, Naproxen	2hr.
	Mefenamic acid, Diclofenac, Synthesis	1hr.
	Piroxicam, Celecoxib, Paracetamol	2hr.
	Management of Gout & Hyperuricaemia: Allopurinol	2hr.
	Sulfipyrazole	
	Antisepain group: Sumatriptan - SAR of Calcitonin	2hr.
	and Amylproprionic acids	
	ONET-I	15hrs.
	Antibiotic β -lactams: Penicillins, Ampicillin,	
	Amezicillin, β -lactamase inhibitors: Clavulanic acid	3hr.
	cephalosporins - cephalexin, cefixime	
	SAR of penicillins and cephalosporins	3hr.
	Aminoglycosides and Tetracyclines - Streptomycin	3hr.
	Gentamicin, Tobramycin - Tetracycline - Doxycycline	
	SAR of aminoglycosides and tetracyclines	2hr.
	By Macrolides - Erythromycin - Azithromycin: clindamycin	2hr.
	clindamycin and chloramphenicol	2hr.

TIME TABLE

Day/Time	1	2	3	4		1	2	3	4
Mon	MC-II				L U N C H				
Tue									
Wed				MC-II	B R E A K				
Thu		MC-II					← MC-II (C) →		
Fri	MC-II					← MC-II (D) →			
Sat									


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I Pharm. D

Sub: Pharmaceutics

AY 2022 - 2021



LESSON PLAN		
S.No.	Topics to be covered	Hours required
1-	a. Introduction to dosage forms - Classification & definition b. Prescription - definition, parts & handling c. Posology - definition, factors affecting dose selection Calculation of Children & Infant doses. d. Historical background & development of Profession of Pharmacy & P Industry in brief.	15
2.	1) Development of Indian pharmacopoeia & introduction to other pharmacopoeias viz., BP, USP, EP, Extra Pharmacopoeia & Indian National Formulary 2) Weights & Measures; calculations involving % solutions, Allegation, Proof spirit, Isotonic solutions etc.	15
3.	i) Powders & Granules: Classification advantages & disadvantages, Preparation of simple compound powders, Insufflations, Dusting powders, Eutectic & Explosive powders, Tooth powders & effervescent powders & granules. ii) Monophasic Dosage forms: Theoretical aspects of formulation including adjuvant like stabilizers, Colours, flavours & examples. Study of Monophasic liquids like gargles, Mouthwashes, Throat paint, Ear drops, Nasal drops, Liniments & Lotions, Enemas & Colloids.	10 15
4.	A) Biphasic dosage forms: Suspensions & emulsions Definition, advantages & disadvantages, Classification test for type of emulsion, formulation, stability & evaluation B) Suppositories & pessaries - Definition, advantages & disadvantages, types of base, Method of preparation, Displacement Value & evaluation	15 5



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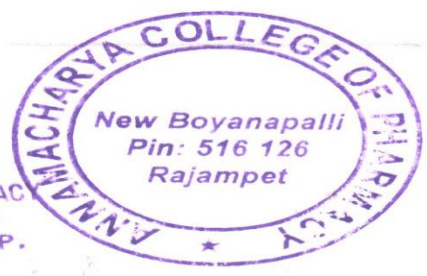
S.No.	Topics to be covered	Hours required
	① Galenicals: Definition, equipment for different extraction processes like infusion, Decoctions Maceration & percolation, methods of preparation of spirits; tinctures & extracts.	8
5.	① Pharmaceutical calculations	
	ii) Surgical aids: Surgical dressings, absorbable gelatin sponges, sutures, ligatures & medicated bandages	8
	iii) Incompatibilities: Introduction, Classification & methods to overcome the incompatibilities	
		90

TIME TABLE

Day/Time	1	2	3	4		1	2	3	4
Mon	CEU				L				
Tue					U	CEU LAB			
Wed			CEU		N				
Thu				CEU	C				
Fri					H				
Sat					B				
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II Pharm. D

Sub: Pharmaceutical Microbiology

AY 2020 - 2021

**ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET**Subject : **PMB**Year/Sem: **D Pharma**

Theory /Lab

LESSON PLAN

S.No.	Topics to be covered	Hours required
1.	Introduction to the science of microbiology, major divisions of microbial world and Relationship among them.	12hrs
2.	Different methods of Classification of microbes and Study of Bacteria, Fungi, virus, Rickettsiae and Spirochetes	12hrs
3.	Nutritional Requirements, growth & cultivation of Bacteria and virus. Study of different important media required for the growth of aerobic & anaerobic bacteria & fungi. Differential media, Enriched media and Selective media, maintenance of lab cultures.	12hrs
4.	Different methods used in Isolation and identification of bacteria with emphasis to different staining techniques and biochemical reactions. Counting of Bacteria - Total & viable Counting techniques.	12hrs
5.	Control Study of different methods of Sterilisation including their merits & demerits. Sterilisation methods for all Pharmaceutical Products. Detailed Study of Sterility testing of different Pharmaceutical Preparations. Brief information on validation.	12hrs
6.	Disinfectants - study of disinfectants, antiseptics, Fungicidal & Virucidal agents. Factors affecting their activation & mechanism of action. Evaluation of Bactericidal, bacteriostatic, Virucidal activities. Evaluation of Preservatives in Pharmaceutical Preparations.	12hrs
7.	Immunology - Immunity, Definition, Classification, General Principles of natural immunity, Phagocytosis, acquired Immunity (Active & Passive). Antigens - Chemical nature of Antigens, Structure & formation of Antibodies, Antigen-Antibody reactions. Bacterial Exotoxins & Endotoxins. Significance of Toxoids in active immunity. Immunisation Programme & importance of Pasteur. Dose.	12hr



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ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET

Subject : PMB

Year/Sem: IV PharmD

Theory /Lab

S.No.	Topics to be covered	Hours required
8.	Diagnostic Tests - <u>Wick Test, ELISA Test, Western Blot Test, Southern Blot Test, PCR, Widal Test, QBC Test, Mantoux Test, Presumptive Smear Test, Study of Malarial Parasite.</u>	<u>10hrs</u>
9.	<u>Microbial culture sensitivity testing: Interpretation of results, Principles & methods of different microbiological assays, microbiological assay of Penicillin, Streptomycin, Vitamin B₂ & B₁₂. Standardisation of vaccines & sera.</u>	<u>12hrs</u>
10.	<u>Study of infectious diseases - typhoid, Tuberculosis, Malaria, Cholera, Hepatitis, Meningitis, Syphilis, Gonorrhoea & HIV.</u>	<u>10hrs</u>

TIME TABLE

Day/Time	1	2	3	4		1	2	3	4	
Mon		<u>PMB</u>			L C C H B R E A K					
Tue	<u>PMB</u>						<u>Practical</u>			
Wed										
Thu										
Fri				<u>PMB</u>						
Sat		<u>PMB</u>								



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I M. Pharm I Sem

**Sub: Modern Pharmaceutical Analytical
Technique**

AY 2020 - 2021

**ANNAMACHARYA COLLEGE OF PHARMACY, RAJAMPET**Subject : **MPAT**Year/Sem: **I-year I Sem Theory /Lab****LESSON PLAN**

S.No.	Topics to be covered	Hours required	
I	a) UV-visible spectroscopy Beer Lambert's Law, Instrumentation Wavelength filter rules, Interpretation of Applications	(5)	
	b) IR Spectroscopy Hooke's Law, vibrational frequency, Instrumentation FTIR - Interpretation of Applications	(6)	
	c) Spectrofluorimetry - Principle, Instrumentation Fluorescence Types, factors affecting & Applications	(2)	
	d) Flame Emission Spectroscopy - Principle Instrumentation, Interferences & Applications	(2)	
	Atomic Absorption Spectroscopy - Principle Instrumentation, Types & Interferences & Applications	(2)	
II	NMR Spectroscopy Principle, Relaxation	(15)	
	Instrumentation - ¹ H NMR - Chemical shift - factors affecting, δ & τ Scale	2	
	Spin-Spin coupling & coupling constant	5	
	FT-NMR & ¹³ C-NMR	3	
		3	
III	Mass Spectrometry Principle Instrumentation Fragmentation - Pattern, rules, Interpretation Types of Ions & Ionization techniques Applications Interpretation of organic molecules - Nitrogen rule Rms rule	(12)	
	IV	Chromatography	(12)
	* Paper chromatography	1	
	* Thin layer chromatography	1	
* Column chromatography	1		
* Ion exchange chromatography	1		
* Gas chromatography	3		
* HPLC	3		
* GC-MS & LC-MS	2		

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Subject : MPAT

Year/Sem: 1st year 1st sem Theory /Lab

S.No.	Topics to be covered	Hours required
	* Theories of chromatography	
	* Parameters used in chromatography	
V	Electrophoresis	(6)
	* Paper electrophoresis	
	* Gel electrophoresis	
	* Capillary electrophoresis	
	* Zone electrophoresis	
	* moving Boundary electrophoresis	
	* Iso electric focusing	
	X-ray Crystallography	(6)
	* Production, Types of X rays	
	* Diffraction methods - Bragg's law, X-ray Diffraction	
	* Rotating crystal technique	
	* X-ray powder technique	
	Immunological Assays	(6)
	* ELISA	- 2 -
	* RIA	- 2 -
	* Bio Luminescences	- 2 -

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