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Name of Faculty: Dr. Manish gunjan		Year/Semester: 4 Year VIII Sem	

**TEACHING PLAN:
Social & preventive Pharmacy
Dr. Manish gunjan**

SCHOOL: (SOP) School Of Pharmacy		ACADEMIC SESSION: 2022 – 2023	FOR STUDENTS' BATCH:		
1	Course No.	BP 703T			
2	Course Name	Pharmacy Practice			
3	Credits	4 (3 Lectures+1Tutorial)			
4	Learning Hours	Theory hours	45		
		Tutorial	8		
		Preparation and Exam	3		
		Flipped	2		
		SL/AI	2		
		Total hours	60		
5	Course Objective	<ol style="list-style-type: none"> 1. The students will gain the knowledge various drug distribution methods in a hospital 2. The student able to know about the drug distribution system. 3. The student will be able to know the drug related problem. 4. The students know the over the counter drug and clinical pharmacy 5. The student will be able to know the pharmacy store management and inventory control 			
6	Course Outcomes	<ol style="list-style-type: none"> 1. Know about the drug distribution method 2. Know about the pharmaceutical care service. 3. Understand the organization and function of hospital 4. Understand the OTC sale and clinical pharmacy 5. Know about the training program, inventory control and drug store management. 			
7	Outline syllabus:				
7.01	Paper Code	Introduction Unit-1:	Lectures hours	Book tile	Page No.

	BP703T	Unit I	<p>a) Hospital and it's organization Definition, Classification of hospital- Primary, Secondary and Tertiary hospitals. Classification based on clinical and non- clinical basis, Organization Structure of a Hospital, and Medical staffs involved in the hospital and their functions.</p> <p>b) Hospital pharmacy and its organization Definition, functions of hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists.</p> <p>c) Adverse drug reaction Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following sudden withdrawal of drugs, Drug interaction-beneficial interactions, adverse interactions, and pharmacokinetic drug interactions, Methods for detecting, drug interactions, spontaneous case reports and record linkage studies, and Adverse drug reaction reporting and management.</p>	10	A Textbook of Clinical Pharmacy and Practice	<p>1-18</p> <p>104-121</p>
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			<p>d) Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenance of a drug store, Dispensing of proprietary products, maintenance of records of retail and wholesale drug store.</p>			20-30
7.02	BP703T	Unit II	<p>a) Drug distribution system in a hospital Dispensing of drugs to inpatients, types of drug distribution systems, charging policy and labelling, Dispensing of drugs to ambulatory patients, and Dispensing of controlled drugs.</p> <p>b) Hospital formulary Definition, contents of hospital formulary, Differentiation of hospital formulary and Drug list, preparation and revision, and addition and deletion of drug from hospital formulary.</p> <p>c) Therapeutic drug monitoring Need for Therapeutic Drug Monitoring, Factors to be considered during the therapeutic Drug Monitoring, and Indian scenario for Therapeutic Drug Monitoring.</p> <p>d) Medication adherence Causes of medication non-adherence, pharmacist role in the medication adherence, and monitoring of patient medication adherence.</p> <p>e) Patient medication history interview Need for the patient medication history interview, medication interview forms.</p> <p>f) Community pharmacy management Financial, materials, staff, and infrastructure requirements.</p>	10	A Textbook of Clinical Pharmacy and Practice	395-410 74-90
7.03	BP703 T	UNIT III	<p>a) Pharmacy and therapeutic committee Organization, functions, Policies of the pharmacy and therapeutic committee in including drugs into formulary, inpatient and outpatient prescription, automatic stop order, and emergency drug list preparation.</p> <p>b) Drug information services Drug and Poison information centre, Sources of drug information, Computerised services, and storage and retrieval of information.</p> <p>c) Patient counseling Definition of patient counseling; steps involved in patient counseling, and Special cases that require the pharmacist</p> <p>d) Education and training program in the hospital Role of pharmacist in the education and training program, Internal and external training program, Services to the nursing homes/clinics, Code of ethics for community pharmacy, and Role of pharmacist in the interdepartmental communication and Community health education.</p>	10	A Textbook of Clinical Pharmacy and Practice	325-333 60-73



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			<p>e) Prescribed medication order and communication skills Prescribed medication order- interpretation and legal requirements, and Communication skills communication with prescribers and patients.</p>			
7.04	BP202T	Unit IV	<p>a) Budget preparation and implementation Budget preparation and implementation b) Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and Pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic & disease pattern. c) Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the Counter medications.</p>	08	A Textbook of Clinical Pharmacy and Practice	1-8 20,48,113&191
7.05	BP202T	UNIT V	<p>a) Drug store management and inventory control Organisation of drug store, types of materials stocked and storage conditions, Purchase and inventory control: principles, purchase procedure, purchase order, procurement and stocking, Economic order quantity, Reorder quantity level, and Methods used for the analysis of the drug expenditure b) Investigational use of drugs Description, principle involved, classification, control, identification, role of hospital pharmacist, advisory committee. c) Interpretation of Clinical Laboratory Tests Blood chemistry, haematology, and urinalysis</p>	07	A Textbook of Clinical Pharmacy and Practice	140-159
8	Course Evaluation					
8.1	Continuous Mode 10M (25%)					
8.11	Attendance	4M (10%)				
8.12	Quiz, assignment open book test, field work, group discussion and seminar	6 Assignments and 3M (7.5%)				
8.13	Student – Teacher interaction	3M (7.5%)				
8.3	End-term examination: 75%					
9	Text Books & References					
9.1	Text books and References	<p>1) G PARTHASARATHI, “ A Textbook of clinical Pharmacy Practice”2nd Edition, Published by University Press Pvt.Ltd 2) Merchant S.H. and Dr. J.S.Quadry. A textbook of hospital</p>				

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		pharmacy. 3) 2. Parthasarathi G, Karin Nyfort-Hansen, Milap C Nahata. A textbook of Clinical Pharmacy Practice- essential concepts and skills. 4) 3. William E. Hassan. Hospital pharmacy, 5th ed. Philadelphia: Lea & Febiger; 5) 4. Tipnis Bajaj. Hospital Pharmacy, 1st ed. Maharashtra: Career Publications. 6) Scott LT. Basic skills in interpreting laboratory data, 4thed. American Society of Health System Pharmacists Inc. 7) 6. Parmar N.S. Health Education and Community Pharmacy, 18th ed. India: CBS Publishers & Distributers.	

Course Outcome Mapping with Programme Outcomes

CO's/PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	S	M	M		L	L			L	M	S
CO2	S	M	M		L	L			L	M	S
CO3	S	M	M		L	L			L	M	S
CO4	S	M	M		L	L			L	M	S
CO5	S	M	M		L	L			L	M	S


QUESTIONS BANK

UNIT 1

Short Answers 2 Marks

1. Enlist the various paramedical services in hospital
2. Define hospital according to WHO
3. Purpose of medical records in a hospital
4. Define hospital Pharmacy
5. Staff requirement for hospital Pharmacy
6. Give two examples for type B ADR


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7. Enlist any four functions of hospital
8. Define hospital
9. Naranjo scale of ADR assessment
10. Draw the typical layout of hospital Pharmacy

Short Questions 5 Marks

1. Enlist the types of hospitals
2. Add a note on organization structure of hospital pharmacy
3. Define and classify drug interaction
4. Write a note on idiosyncrasy
5. Write in detail the mechanism of type- B ADR
6. Enumerate on Pharmacokinetic Drug interactions
7. Write a note on personal/staff requirements in hospital
8. Define ADR. Give the significance of monitoring ADR
9. Classify hospitals based on economy
10. Write the functions of a and CSSR in a hospital
11. Define ADR. What are the risk factors of ADR?
12. Classify hospitals according to system of medicines
13. Write a note on Pharmacodynamic drug interactions
14. Define and classify ADR
15. Write about the various clinical services in a hospital
16. Enlist the various functions of a hospital Pharmacy
17. Define ADR. Write the mechanism of type -A ADR with examples
18. hospital Pharmacist
19. Write in detail about any two causality assessment scales of ADR
20. What are the functions of a hospital Pharmacist
21. Write the role of blood bank.

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Long Questions 10 Marks

1. Define and Classify Adverse drug reaction. Explain in detail the mechanism of type- A ADR with example
2. Define hospital pharmacy and explain its functions in detail
3. Write a note on location, layout, and staff requirements in hospital pharmacy
4. Define hospitals and classify it with examples
5. Explain the methods used for detection of adverse drug reactions
6. Describe the organizational structure of hospital
7. Define hospital pharmacy. Write in detail the responsibilities of hospital pharmacist
8. Define ADR. Write the various causality assessment scales used in ADR monitoring
9. Define hospital. Write the functions of a hospital
10. Write a short note on history of hospitals. Give the objectives and function of it


UNIT-2

Short Questions 2 Marks

1. What do you mean by term "In-Patient"
2. Enlist types of free floor stock system
3. Drug basket system
4. What is the minimum qualification required to start a community pharmacy?
5. List any four drugs for TDM monitoring
6. Advantages of Unit dose dispensing system
7. Individual prescription system
8. Define medication adherence
9. What is medication non-adherence?
10. Role of a community Pharmacist in women healthcare
11. Write any two functions of a community pharmacist.

Short Questions 5 Marks

1. Write a note on community Pharmacy
2. Write the need for hospital formulary
3. Discuss the applications of TDM
4. Enumerate the causes for medication non-adherence
5. What are the advantages and disadvantages of Individual prescription order system
6. Write the objectives of hospital formulary
7. Write the advantages of Unit dose dispensing system
8. Enlist the types of records needs to be maintained in a community Pharmacy

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9. Write the advantages of hospital formulary
10. Draw the design and layout of community Pharmacy
11. Write a note on charge floor stock drug system
12. What are the principles of TDM
13. Discuss about drug dispensing system in ambulatory patients
14. Write the need of hospital formulary in a hospital
15. Role of pharmacist in improving medication adherence
16. Explain in detail the dispensing of controlled drugs
17. Draw a neat, labeled diagram of drug store layout
18. Write in detail about any two drug dispensing systems with its advantages and disadvantages
19. Write the contents of a hospital formulary
20. Write a note on Indian scenario for TDM


Long Questions 10 Marks

1. Explain in detail about drug distribution methods for Inpatients
2. Give the objectives, need, advantage and disadvantage of hospital formulary
3. Explain drug distribution system in hospital for In-Patients
4. Explain in detail the staff and Infrastructure Requirement for Community Pharmacy
5. Write a note on Individual prescription order and floor stock system
6. Define hospital formulary. Explain in detail the contents of hospital formulary
7. Define community pharmacy. Explain the role of community pharmacist
8. Define TDM. Write the steps involved in performing TDM
9. Write on preparation and content of hospital formulary

UNIT-3

Short Questions 2 Marks

1. Enlist the barriers in Patient Counseling
2. Define automatic stop order for dangerous drugs
3. Give the composition of P&T committee
4. What is medication error
5. Sources of drug information services
6. Define PIC
7. Differentiate between generic and brand name
8. Enlist various patient counseling aids
9. Members of P &T committee
10. Importance of patient counseling
11. Define prescribed medication order
12. Patient counseling points for TB patients
13. Importance of poison information centre
14. What is internal and external training program in a hospital

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15. Give some examples of tertiary sources for drug information
16. Enlist the qualities of a patient counsellor
17. Write the parts of a prescription
18. What is Prescribed medication order
19. Define patient counseling
20. What are communication skills
21. Write the members of P& T committee
22. What is mean by drug information services
23. What are the benefits of Patient counseling
24. Differentiate between generic and brand name
25. Write the various patient counseling aids
26. Define drug information bulletin
27. Give two examples of primary sources for drug information

Short Questions 5 Marks

1. Define drug information. Write the source of drug information
2. Give in detail the Interpretation of Prescribed Medication Order
3. Write the organisation of Pharmacy and Therapeutic Committee
4. Explain in detail about drug information bulletin
5. Write the sources of drug information services
6. Role of Pharmacist in P&T committee
7. Writ the steps involved in answering a drug query
8. Enumerate the counseling points for Asthma
9. Write the functions of P&T committee
10. What are the communication skills required for a better patient counseling?


Long Questions 10 Marks

1. Describe the purpose and functions of PTC and how PTC ensures drug safety in hospital
2. Define patient counseling. Explain in detail steps involved in patient counseling.
3. Define drug information. Write the steps involved in answering a drug information query
4. What are the policies of Pharmacy and Therapeutic Committee?
5. What is the role of PTC in developing "Emergency Drug List"
6. Define Prescribed Medication Order and write a note on Legal requirements and Interpretation of Prescribed Medication Order
7. Write the organizational structure and functions of P&T committee
8. Enlist the various counseling points to be provided for a Diabetes and Hypertension patient
9. Write a detailed note on Drug Information Services/Centre

UNIT-4

Short Answers 2 Marks

1. What is the need of poison information centre in a hospital?
2. Importance of medication history
3. Define Pharmacist intervention
4. Define clinical Pharmacy
5. Define budget

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6. What is ward round participation
7. Define clinical review
8. Give examples for OTC analgesics
9. What is an administration error?
10. Define Drug therapy monitoring
11. Define Pharmaceutical care
12. What are the risks associate with OTC drugs
13. Importance of medication history review
14. Write the importance of medication history review
15. Significance of Pharmacist intervention
16. Give four examples of OTC drugs


Short Questions 5 Marks

1. Give the advantages and disadvantages of OTC drugs
2. Write the responsibilities of clinical pharmacist
3. Give the importance of ward round participation
4. Write the significance of Drug Therapy Monitoring
5. What are the Benefits and Risks associated with OTC drug use
6. Write a note on Pharmaceutical care
7. Scope of clinical Pharmacy in India
8. Discuss the primary aims of Clinical Review
9. Write the importance of ward round participation
10. Discuss in brief about OTC medicines
11. Write a note on Medication chart review
12. What are the factors to be considered before dispensing OTC drugs?
13. Scope of clinical Pharmacy in India
14. Define Pharmacist intervention and its importance in patient safety
15. Write a note on rational use of OTC drugs
16. Define medication error and add a note on importance of monitoring it
17. Explain the concept and scope of clinical Pharmacy
18. Write a note on misuse and abuse of OTC drugs
19. Enumerate the importance of medication history review
20. Roles and responsibilities of clinical Pharmacist
21. Explain in detail about drug therapy monitoring
22. What are the legal requirements for OTC sales
23. Classify ward round participation. Add a note on its significance
24. Discuss on rational use of OTC medicines
25. Write the importance of clinical review
26. What are the risks and benefits of dispensing OTC drugs

UNIT V

Short Questions 2 Marks

1. Give the normal range of a. Hb, b. clotting time

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2. Enlist the types of inventory control
3. Give the normal range of : RBC, ESR
4. What do you mean by Investigational drugs?
5. Enlist the factors affecting Inventory Control
6. Write the formula to calculate EOQ
7. Write the normal values of BUN, Creatinine
8. What is investigational new drug
9. Write the normal values of a. PCV, b. MCV
10. Write the significance of ESR values
11. Write the disadvantages of VED analysis
12. Significance of presence of protein and glucose in urine
13. Role of pharmacist in investigational drug use
14. Write the objectives of inventory control
15. Write the significance of urine culture test
16. Define procurement and stocking of drugs
17. Define Re-order quantity level
18. What is an investigational drug?
19. Normal values of a. potassium, b. sodium
20. Write the methods used for analysis of drug expenditure
21. Normal values of a. Platelets, b.WBC
22. Write the Various phases of clinical trials
23. Give the normal range of : a. creatinine, b.BUN
24. What do you mean by Investigational drugs?
25. Define purchase order
26. Define drug store
27. What is the formula to calculate EOQ
28. Write the significance of platelets and ESR

Short Questions 5 Marks

1. Discuss the hematology parameters and its interpretation
2. Write a note on ABC analysis with its advantages and disadvantages
3. Write a short note on types of materials stocked in drug store
4. Write a short note on VED analysis
5. Write the various abnormal constituents of urine and the diagnostic tests of it
6. Give the normal range and significance of the following: a. RBC, b. ESR, c. PCV, d. Ferritin, e. Thrombocytes
7. Write the significance of blood chemistry values
8. Define Purchase. What are the various types of purchasing
9. Define Inventory control. Classify it and explain in detail about any one method.
10. Discuss in detail the procurement and purchasing of drugs



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		4.Stereochemistry by Kale	
9.2	References	4. Organic Chemistry by P.L.Soni 5. Practical Organic Chemistry by Mann and Saunders. 6. Vogel's text book of Practical Organic Chemistry 7. Advanced Practical organic chemistry by N.K.Vishnoi. 8. Introduction to Organic Laboratory techniques by Pavia, Lampman and Kriz. 9. Reaction and reaction mechanism by Ahluwaliah/Chatwal.	
9.3	Video References	https://www.youtube.com/watch?v=BRCc8BrUMwI https://nptel.ac.in/courses/104/103/104103071/ http://www.freebookcentre.net/chemistry-books-download/Basics-of-Organic-Chemistry-and-Mechanism.html https://organicchemistrydata.org/links/ https://www.organic-chemistry.org/ https://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm	

Course Outcome Mapping with Programme Outcomes

CO's/PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	M	M	S		L	M	M	L		M	S
CO2	M	M	S	S	L	M	M	L		M	S
CO3	M	M	S	S	L	M	M	L		M	S
CO4	M	M	S	S	L	M	M	L		M	S
CO5	M	M	S	S	L	M	M	L		M	S

QUESTION BANK

1. Write increasing order of priority of functional groups
2. Classify the functional groups
3. Explain in details about the isomerism?
4. Define and explain on structural isomerism with suitable examples?
5. Describe and write on hybridization, halogenation of alkanes
6. Explain on hybridization, halogenation of alkenes
7. Elaborate in about stability of alkenes
8. Write about reaction, mechanism kinetics, Factors effecting of E2 Reaction?
9. Write about reaction, mechanism kinetics, Factors effecting of E1 Reaction?
10. Write about reaction, mechanism of Markownikoff's reaction?
11. Write about reaction, mechanism of anti Markownikoff's reaction?
12. Write a note on Stability of conjugated dienes?
13. Write a note on free radical addition reactions of conjugated dienes?
14. Write about allylic rearrangement in conjugated dienes?
15. Write a note kinetics, order of reactivity of stereochemistry and rearrangement factors affecting alkyl halides in SN² reactions?
16. Write a note kinetics, order of reactivity of stereochemistry and factors affecting alkyl halides in SN¹ reactions?

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17. Describe Structure and uses of ethylchloride, Chloroform, trichloroethylene, tetrachloroethylene?
18. Explain structure and uses of dichloromethane, tetrachloromethane and iodoform
19. Write a note on Qualitative tests of alcohols?
20. Write a about Structure and uses of Ethyl alcohol, Methyl alcohol, chlorobutanol, Cetosteryl alcohol,
21. Write a about Structure and uses of Benzyl alcohol, Glycerol, Propylene glycol?
22. Classify the carbonyl compounds?
23. Descibe the nomenclature ans structure of carbonyl compounds?
24. Write a note in Nucleophilic addition and mechanism of carbonyl compounds?
25. Describe reaction and mechanism involved in aldol condensation,
26. Describe reaction and mechanism involved in Crossed Aldol condensation,
27. Describe reaction and mechanism involved in Cannizzaro reaction,
28. Describe reaction and mechanism involved in Crossed Cannizzaro reaction?
29. Write a note on reaction and mechanism involved in Benzoin condensation, Perkin
30. Condensation?
31. write a note on qualitative tests for carbonyl compounds?
32. Write a about Structure and uses of Formaldehyde, Paraldehyde, Acetone, Chloral hydrate?
33. Write a about Structure and uses of Hexamine, Benzaldehyde, Vanilin, Cinnamaldehyde?

PROJECTS (To be given to group of students)

-
1. Practice the IUPAC Nomenclatures on the Organic compounds?
 2. Demonstrate the models for the structural models using the Molecular models
 3. Perform the synthesis of organic molecules using the SN¹ and SN² reactions?
 4. Perform the synthesis of organic molecules using the elimination reactions?
 5. Perform the synthesis of organic molecules using the nucleophilic addition reactions?
 6. Perform the synthesis of organic molecules using the dehydration Alcohols?
 7. Complete a MOOC certification program on Organic synthesis in NPTEL, Coursera and Udemy