

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) - II Semester (PCI) (Main & Backlog) Examination,  
October 2023**

**Subject: Principles of Quality use of medicines**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Define quality use of medicines. Explain the responsibilities of key partners involved in QUM. Add a note on the cost effective prescribing.
2. Discuss the evaluation strategy for QUM and mention the indicators for evaluation. Explain the concept of evidence based medicine and its practice in clinical settings.
3. Explain the consequences of irrational use of medicines. What is the role of pharmacist in rational drug use.
4. Explain the following
  - (a) Impact of QUM on E-health
  - (b) Strategies to promote QUM
5. Explain the special prescribing guidelines in pregnancy and immune-compromised patients. Discuss the role of pharmacist in QUM in special population.
6. Discuss the regulatory aspects of QUM for the OTC medications and complementary medicines in India. Add a note on role of industry in QUM while medicine development.
7. Explain different methods of causality assessment for adverse drug events. Discuss the mechanisms involved in different types of adverse drug reactions.
8. Briefly describe the detection and prevention of medication errors. Explain the role of pharmacist in monitoring and management of medication errors.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II-Semester (PCI) (Main & Backlog) Examination,  
November 2023**

**Subject: Pharmacoepidemiology & Pharmacoeconomics**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. (a) Write the scope and applications of pharmacoepidemiology. [6]  
(b) Describe in detail about drug use measures. [9]
2. (a) Write the importance of case reports and case series. [7]  
(b) Write a note on cross sectional study and case control study. [8]
3. (a) Explain the significance of pharmacoeconomic studies in health care system. [7]  
(b) Write a note on cross sectional study and case control study. [8]
4. (a) Describe the advantages of cost minimization analysis. [5]  
(b) Write the significance of cost benefit analysis and cost effective analysis. [10]
5. (a) Write the applications of pharmacoeconomics. [7]  
(b) Write a note on sensitivity analysis and markov modeling. [8]
6. (a) Explain the software used in pharmacoeconomic analysis. [8]  
(b) Write the concept health related quality of life. [7]
7. (a) Describe the concept of incidence and prevalence. [8]  
(b) Write a note on medications adherence measurements. [7]
8. (a) Explain about the meta analysis. [8]  
(b) Write a note on history of pharmacoeconomics. [7]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Main & Backlog) Examination,  
November 2023**

**Subject: Clinical Pharmacokinetics and Therapeutic Drug Monitoring**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Explain the importance of tabulations in designing dosage regimen. Add a note on compartment models.  
Discuss various methods used for conversion of intravenous dosing to oral dosing.
2. Give an account of the relationship between pharmacogenetics and PK considerations. Discuss the drug interactions related to pharmacokinetics of a drug. What is the role of a pharmacist in managing such drug interactions.
3. Discuss the analysis of population pharmacokinetic data.  
Explain the genetic polymorphism in drug targets.
4. Briefly explain the following
  - (a) Modeling covariate relationships
  - (b) Precision of the parameter estimates and confidence interval
5. Explain the following
  - (a) Drug dosing in geriatrics.
  - (b) General approach for dosage adjustment in renal failure
6. Explain the components of the protocol for therapeutic drug monitoring.  
Describe the procedure of therapeutic drug monitoring for Sodium valproate and Gentamicin.
7. Discuss the advantages and disadvantages of hemodialysis and peritoneal dialysis. What are the pharmacokinetic changes that occur in patients with obesity?
8. Discuss the effects of genetic polymorphism in Cytochrome P-450 isoenzymes on drug response. Write a short note on adaptive method of dosing.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Main & Backlog) Examination,  
November 2023**

**Subject: Pharmacotherapeutics - II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Explain pain pathways. Discuss the management of acute pain with the help of an algorithm. What are the commonly reported triggers and diagnostic criteria for migraine headache?
2. Describe the clinical presentation and general approach to management of early to advanced Parkinson's disease. What are the modifiable risk factors of Ischemic Stroke?
3. Explain the non-pharmacological therapy and pharmacotherapy for cognitive symptoms of Alzheimer's disease. Write a short note on treatment of Obstructive sleep apnea.
4. Discuss the renal disorders induced by drugs in detail. Explain the management of tuberculosis.
5. Give an outline of management of HIV infection. Briefly discuss the treatment of Meningitis.
6. Explain the pharmacotherapy of Dengue fever and Helminthiasis. What are the pathogens involved in etiopathogenesis of gastroenteritis.
7. Briefly explain the management of Lung cancer. Write a short note on chemotherapy induced nausea and vomiting.
8. What are the general principles of cancer chemotherapy? Explain the treatment strategies and management of Acute Leukemias with the help of an algorithm.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharma Practice) II-Semester (PCI) (Backlog) Examination, April / May 2023**  
**SUBJECT: Principles of Quality use of Medicines**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. Define rational use of medicines. Discuss the core policies to promote rational drug use. Add a note on role of pharmacist in rational drug use. [15]
2. a) Define Adverse Drug Reaction. Discuss different types of ADRs and their mechanisms. [10]  
b) Discuss the aims of Pharmacovigilance. [5]
3. a) Explain the factors that influence the medication errors. [7]  
b) Discuss the Strategies to be employed to detect and prevent medication errors. [8]
4. Explain the following [8+7]  
a) Regulation of OTC medicines  
b) Role of industry in quality use of medicine
5. Discuss quality use of medicine in [8+7]  
a) Pregnancy and lactation  
b) Ambulatory care
6. a) Discuss the principles of quality use of medicine. [5]  
b) Explain the QUM building blocks. Add a note on values and ideas on which each of the building blocks is based. [10]
7. a) What is the purpose of national list of essential medicines? [5]  
b) Discuss the steps to practice evidence based medicine. [10]
8. a) Explain the various methods of causality assessment of ADRs. [8]  
b) Discuss the role of pharmacist in monitoring and management of medication errors. [7]

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Code No: E-12254/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharma Practice) II-Semester (PCI) (Backlog) Examination, May 2023**  
**SUBJECT: Clinical Pharmacokinetics and Therapeutic Drug Monitoring**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. a) Explain the pharmacokinetic parameters of a noncompartment model. Add a note on its advantages and disadvantages [6]  
b) Discuss the concept of organ clearance. Define extraction ratio. [4]  
c) What are the advantage and disadvantages of nomograms. Discuss the applications of nomograms in designing dosage regimens with examples. [5]
2. a) Briefly explain enzyme inducers and enzyme inhibitors. Write a short note on autoinduction with examples. [8]  
b) Explain the genetic polymorphisms in CYP2D6 with examples [7]
3. a) What are the advantages and disadvantages of Nonlinear Mixed Effects Modeling. Add a note on Mixed effect model. [7]  
b) Briefly describe the Estimation methods and Simulation of dosing regimen. [8]
4. a) Describe the components of a Hemodialysis circuit. Add a note on indications of renal replacement therapy. [8]  
b) Discuss the effect of age on pharmacokinetics in elderly. [7]
5. a) Discuss the factors affecting drug dosage regimen. [5]  
b) Explain the TDM procedure for Vancomycin and Lithium. [10]
6. a) Discuss PK/PD models used in drug dosing. [8]  
b) Explain the basic methods used for drug dosing in renal failure. [7]
7. a) Briefly describe the analysis of population PK data. [9]  
b) Discuss the method to estimate dosage regimens in paediatric population. [6]
8. a) Write a short note on drugs to be avoided during lactation. [5]  
b) Briefly discuss the genetic polymorphism in drug transporters. [10]

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Code No: E-12253/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharma Practice) II-Semester (PCI) (Backlog) Examination,  
April / May 2023**

**SUBJECT: Pharmacotherapeutics-II**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer Any Five Questions. ALL Questions carry Equal Marks.**

1. a) Give a detailed account of general approach to the management of early to advanced Parkinson's disease. [8]  
b) Explain the pharmacological treatment of epilepsy with the help of an algorithm. [7]
2. a) Discuss the clinical presentation and pharmacological management of migraine. [8]  
b) Briefly discuss the pathophysiological theories of Alzheimer's disease. [7]
3. a) Explain the clinical presentation of anxiety disorders and outline the management of Generalized Anxiety Disorder. [9]  
b) Classify sleep disorders. Outline the treatment of Obstructive Sleep Apnea. [6]
4. a) Briefly explain the clinical manifestations of CKD. Add a note on management of anemia and fluid retention in CKD. [9]  
b) Write a note on drug induced psychiatric disorders. [6]
5. a) Discuss the etiologies of Bacterial Pneumonia. Explain the empirical antimicrobial therapy for Community Acquired Pneumonia. [10]  
b) Briefly explain the treatment of Pharyngitis [5]
6. a) Explain the therapy of Infective Endocarditis in detail. [10]  
b) Briefly explain the management of Pulmonary Tuberculosis. [5]
7. a) Write a short note on management of chemotherapy induced nausea and vomiting. [8]  
b) Explain the general principles of cancer chemotherapy. [7]
8. a) Explain the treatment of uncomplicated major depression with the help of an algorithm. [7]  
b) Discuss the principles of antibiotic therapy. [8]

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Code No: E-12255/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharma Practice) II-Semester (PCI) (Backlog) Examination,  
May 2023**

**SUBJECT: Pharmacoepidemiology and Pharmacoeconomics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

**(5 x 15 = 75 Marks)**

1. a) Write a the history of pharmacoepidemiology. [6]  
b) Describe in detail about concept of risk. [9]
2. a) Write the importance of Post marketing surveillance in pharmacoepidemiology. [7]  
b) Write advantages spontaneous reporting and prescription event monitoring. [8]
3. a) Explain the significance of pharmacoeconomic studies in health care system. [7]  
b) Write a note on quality adjusted life years and disability adjusted life years. [8]
4. a) Describe the advantages of cost minimization analysis. [5]  
b) Write the significance cost benefit analysis and cost effective analysis. [10]
5. a) Write the applications of pharmacoeconomics. [7]  
b) Write a note on sensitivity analysis and markov modeling. [8]
6. a) Explain the software used in pharmacoeconomic analysis. [8]  
b) Write the concept health related quality of life. [7]
7. a) Describe the concept of incidence and prevalence. [8]  
b) Write a note on medications adherence measurements. [7]
8. a) Explain about the case reports and case series. [8]  
b) Write a note on history of pharmacoeconomics. [7]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharma Practice) II Semester (PCI) (Main & Backlog)**

**Examination, December 2022**

**SUBJECT: Principles of Quality use of Medicines**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. Define medication errors. Explain the categories of medication errors according to National Coordinating Council for Medication Error Reporting and Prevention. [15]
2. a) What are the steps in the process ADR monitoring? Discuss various methods of identification of ADRs. [10]  
b) Discuss the role pharmacist in the Pharmacovigilance. [5]
3. Discuss the regulation of complementary medicines and OTC products in India. [15]
4. a) Explain the importance of multidisciplinary care in QUM in hospital and ambulatory settings. [7]  
b) Discuss quality use of medicine in immunocompromized and organ failure patients. [8]
5. a) Define essential medicines list. What are the criteria for inclusion and deletion of a medicine in NLEM in India? [10+5]  
b) Define evidence based medicine. Discuss the dimensions of evidence based medicine.
6. Explain the role of pharmacist in the following [8+7]  
a) Promoting rational drug use  
b) Regulatory aspects
7. a) Discuss the strategies to promote QUM [7]  
b) Explain the importance of communication in QUM [8]
8. a) Discuss the responsibilities of partners involved in QUM. [6]  
b) Explain the QUM pyramid. Discuss the strategies to be taken at each level of pyramid. [9]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Main & Backlog)  
Examination, December 2022**

**Subject: Clinical Pharmacokinetics and Therapeutic Drug Monitoring**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. a) Discuss renal clearance with suitable equations. Explain the methods to determine renal clearance. [7]  
b) Discuss the advantages of oral route over intravenous route. Explain the types of IV to PO therapy conversions. [8]
2. a) Define a drug target. Discuss the polymorphisms occurring in genes that encode for direct targets of a drug. [8]  
b) Explain inhibition of drug metabolism with examples. [7]
3. a) Discuss various Pharmacometric softwares and random effect modelling. [9]  
b) Explain model building techniques. [6]
4. a) Write a note on physiologic and pharmacokinetic changes in pregnancy. [9]  
b) Define Teratogenesis. Give five examples of known teratogenic drugs and their effects. [6]
5. a) Explain the dosage consideration in hepatic disease [8]  
b) Give a detailed account of Continuous Renal Replacement Therapy. [7]
6. a) Discuss how variability in age and genetics affect drug dosage regimen. [7]  
b) Explain the TEM of any one cardiovascular drug and an immunosuppressant. [8]
7. a) What is relative and absolute bioavailability? Discuss the determinants of bioavailability. [7]  
b) Describe the pharmacokinetic and pharmacodynamic sources of pharmacogenetic variations. [8]
8. a) Briefly explain the dosing considerations in obese patients. [7]  
b) Discuss the appropriate indication for TDM. Add a note on TDM of phenytoin [8]

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Code No: E-12147/PCI

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Main & Backlog)**

**Examination, December 2022**

**SUBJECT: Pharmacoepidemiology and Pharmacoeconomics**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. a) Write the role of diagnosis and therapy surveys in pharmacoepidemiology. [6]  
b) Discuss about the defined daily doses and prescribed daily doses. [9]
2. a) Write the importance of post marketing surveillance in pharmacoepidemiology. [7]  
b) Write a note on retrospective and prospective cohort studies. [8]
3. a) Explain the resources of cost estimation in pharmacoeconomics. [7]  
b) Write a note on incremental cost effective ratio and average cost effective ratio. [8]
4. a) Describe the advantages of cost of illness. [5]  
b) Write a note on cost utility analysis and cost consequences analysis. [10]
5. a) Write the applications of pharmacoeconomics. [7]  
b) Write a note on decision analysis and decision tree. [8]
6. a) Explain the software used in pharmacoeconomic analysis. [8]  
b) Write the concept time trade off and discounting. [7]
7. a) Describe the importance of record linkage systems in pharmacoepidemiology. [8]  
b) Write a note on odds ratio and prescription event monitoring. [7]
8. a) Explain about the need and aims of pharmacoepidemiology. [8]  
b) Write a note on direct cost and intangible cost. [7]

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Main & Backlog)**

**Examination, December 2022**

**Subject: Pharmacotherapeutics - II**

**Time: 3 Hours**

**Max Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

1. a) Write a detailed note on etiology of Parkinson's disease. Explain the motor complications of L-Dopa. [9+6]  
b) Define an epileptic seizure and explain the classification of seizures based on clinical features.
2. a) Classify Pain and explain the pathophysiology of nociceptive pain. [9]  
b) Explain different hypotheses explaining pathophysiology of depressive disorders. [6]
3. a) Classify Acute Kidney Injury and explain the types. Add a note on non-dialysis management of AKI. [10]  
b) Give a detailed account of drug induced renal diseases. [5]
4. a) Discuss the clinical presentation of acute meningitis. Briefly explain the etiology and management of meningitis. [10]  
b) Give an outline of the management of chronic bronchitis. [5]
5. a) Explain the clinical presentation and management of diarrhea. [8]  
b) Discuss the etiology and pharmacotherapy of Urinary tract infections. [7]
6. a) Explain the Antimicrobial Prophylaxis used in Specific Surgical Procedure. [7+8]  
b) What are the common opportunistic infections in a HIV patients? Explain their management.
7. a) Give an outline of treatment strategy in Acute leukemia with the help of an algorithm. [9]  
b) Explain the Tumor lysis syndrome. [6]
8. a) Write a detailed note on hormone replacement therapy. [7]  
b) Explain the treatment of stage I and II of non-small cell lung cancer. [8]

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Supply) Examination,**  
**May 2022**

**Subject: Clinical Pharmacokinetics & Therapeutic Drug Monitoring**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five of the following questions.**

- 1 (a) Discuss the factors affecting dosage regimen.  
(b) Explain the methods used to design a dosage regimen.
- 2 (a) Define extraction ratio. Give a detailed account on hepatic clearance of drugs.  
(b) Explain the drug-drug interactions related to absorption with suitable examples.
- 3 Explain the following:  
(a) Pharmacogenetics and PK/PD considerations  
(b) Inhibition of biliary excretion.
- 4 Explain the following:  
(a) Covariate screening methods  
(b) Simulation of dosing regimens and dosing recommendations.
- 5 (a) What are the clinical implications of obesity? Explain the PK of drugs in obese patients.  
(b) Explain the methods currently available to estimate the first drug dose for an infant.
- 6 Define Therapeutic drug monitoring. Explain in detail the procedure for TDM of Cyclosporine and Amiodarone.
- 7 (a) What are the assumptions of a basic PK/PD model?  
(b) Explain the following models  
(i)  $E_{max}$  Drug-Concentration Effect Model.  
(ii) Effect Compartment of Link Model.
- 8 Discuss genetic polymorphism in drug transport with examples. Add a note Bayesian theory.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Supply) Examination, May 2022**  
**Subject: Pharmacoepidemiology & Pharmacoeconomics**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 (a) Write the role of diagnosis and therapy surveys in pharmacoepidemiology.  
(b) Describe about the defined daily doses and prescribed daily doses.
- 2 (a) Write the importance of post marketing surveillance in pharmacoepidemiology.  
(b) Write a note on retrospective and prospective cohort studies.
- 3 (a) Explain the resources of cost estimation in pharmacoeconomics.  
(b) Write a note on incremental cost effective ratio and average cost effective ratio.
- 4 (a) Describe the advantages of cost of illness.  
(b) Write a note on cost utility analysis and cost consequences analysis.
- 5 (a) Write the applications of pharmacoeconomics.  
(b) Write a note on decision analysis and decision tree.
- 6 (a) Explain the software used in pharmacoeconomic analysis.  
(b) Write the concept time trade off and discounting.
- 7 (a) Describe the importance of record linkage systems in pharmacoepidemiology.  
(b) Write a note on odds ratio and prescription event monitoring.
- 8 (a) Explain about the need and aims of pharmacoepidemiology.  
(b) Write a note on direct cost and intangible cost.

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**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Supply) Examination,  
May 2022**

**Subject: Principles of Quality Use of Medicines**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 Explain the responsibilities of each partner involved in QUM. Add a note on the five principles underlying the quality use of medicines.
- 2 (a) What are the strategies to promote Rational use of medicines? Write a note on National essential drug policy.  
(b) What is the purpose and development of National list of essential medicines?
- 3 (a) What are the different types of evidences available in clinical practice? Explain with the help of a pyramid.  
(b) Describe QUM in pregnancy and lactation prescribing.
- 4 (a) Discuss the QUM evaluation strategy and explain the types of indicators used in evaluation of QUM.  
(b) Define Pharmacovigilance. Explain the types of ADRs.
- 5 (a) What if the role of health care professionals in promoting QUM.  
(b) Explain the application of QUM in Pediatric prescribing.
- 6 (a) What is the role of industry in QUM in medicine development?  
(b) Discuss the responsibilities of pharmacist in regulatory aspects of QUM.
- 7 (a) Explain the WHO-UMC causality assessment scale.  
(b) Explain the process of reporting ADRs in India.
- 8 Define and Classify medication errors. Explain the causes, detection and prevention of medication errors.

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**FACULTY OF PHARMACY**  
**M. Pharmacy (Pharmacy Practice) II Semester (PCI) (Supply) Examination,**  
**May 2022**  
**Subject: Pharmacotherapeutics -II**

**Time: 3 Hours**

**Max. Marks: 75**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 Classify seizures depending on clinical presentation and explain the pharmacological management for each type.
- 2 (a) Briefly explain the Clinical presentation of Alzheimer's disease.  
(b) Explain the treatment options for cognitive symptoms on Alzheimer's disease.
- 3 (a) What are the non-drug treatment options available for the treatment of depression?  
(b) Explain the management of GAD in detail with the help of an algorithm.
- 4 (a) Explain the empirical antimicrobial therapy for pneumonia in adults.  
(b) Discuss the management of otitis media and sinusitis.
- 5 (a) Discuss the management of Dengue.  
(b) What is SIRS? Explain the antimicrobial therapy and hemodynamic support in sepsis.
- 6 Give an outline of the management of the following:  
(a) Rheumatic fever  
(b) Meningitis.
- 7 (a) Explain the prevention and antiviral therapy for management of HIV.  
(b) Add a note on the palliative care in metastatic Breast cancer.
- 8 (a) Discuss the treatment strategy for Acute Leukemia.  
(b) Write a short note on tumor lysis syndrome.

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