

D. PHARM PART II

A. MODEL QUESTION PAPERS FOR THEORY

QP CODE:.....

Reg No.....

Paper A1 – PHARMACOLOGY (ER20-21T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. Name the branch of Pharmacology dealing with the poisonous effects of drugs.
2. Ankle oedema is a common adverse effect ofclass of antihypertensives.
3. 100% bioavailability is possible with..... route of administration
4. Bupivacaine belongs to the therapeutic category of.....
5. Peripheral neuritis is the most common adverse effect of the anti TB drug....
6. The metabolism of a drug after oral administration but before reaching the systemic circulation is known as
7. Name an Imidazole type of antifungal drug
8. Oxymetazoline is used as
9. Give an example for atypical antipsychotic
10. Metronidazole is used as....
11. Give an example for a selective Cox-2 inhibitor.
12. Mention the therapeutic category of atorvastatin.
13. Write down an example for potassium sparing diuretic.
14. Name a non-benzodiazepine hypnotic.
15. Mention an example for Leukotriene receptor antagonist.
16. Name an alpha -2 agonist used in hypertension.
17. Give an example for an intermediate acting nondepolarizing neuromuscular blocking agent
18. Name a dissociative anaesthetic.
19. Drug of choice for Myasthenia gravis.
20. What is the antidote for Paracetamol poisoning.

Answer any 10 of the following

(3 x 10 = 30)

21. Explain the symptoms and management of Organophosphorus poisoning.
22. Classify antithyroid drugs with examples
23. Discuss the mechanism of action, therapeutic uses and any one contraindication of Digoxin
24. Mention the mechanism of action, route of administration and adverse effects of Benzyl Penicillin
25. Discuss any three factors affecting bioavailability of drugs.
26. Write down the adverse effects and therapeutic uses of Frusemide.
27. Classify antiplatelet drugs with suitable examples

28. Mention the therapeutic uses of Ondansetron, Pantoprazole and Chloroquine
29. List out NSAIDs.
30. Classify antidepressants with suitable examples.
31. Write a note on therapeutic uses of Trastuzumab, Rituximab and Imatinib.

Answer any 6 of the following

(5 x 6 = 30)

32. Define biotransformation. Discuss phase II type of biotransformation reactions.
33. Discuss the pharmacological actions and therapeutic uses of Adrenaline
34. Classify antiepileptic drugs with examples.
35. Explain the pharmacological actions and uses of morphine.
36. Classify antiviral drugs. Mention the therapeutic uses of Acyclovir.
37. Classify different insulin preparations. Write a note on the adverse effects of insulin therapy
38. Write down the mechanism of action, adverse effects and therapeutic uses of tetracycline

QP CODE:.....

Reg No.....

Paper B1 – COMMUNITY PHARMACY AND MANAGEMENT (ER20-22T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. Process of providing information regarding medication use to a patient or caregiver is known as.....
2. The part of prescription with direction to the pharmacist is known as.....
3. Face to face oral conversation is a form of communication
4. Written or printed information given to patient by the pharmacist regarding medicine or life style modification is known as-----
5. Lack of time for patient counselling is considered as a.....in patient counselling
6. Compliance of patient towards the instruction of pharmacist or physician is known as.....
7. Inventory control method which considers the unit cost and annual consumption is.....
8. Guideline prepared for effective management of a pharmacy is known as.....
9. Common OTC medication used for pain management is.....
10. Taking medication without prescription or professional advice is known as.....
11. Which schedule of D&C Act specifies drugs those are dispensed according to a valid prescription?
12. Name the type of Cash book with column for discount, cash and bank transaction.
13. Mention in one word about interconnected health system with smart devices, computational analysis and communication media.
14. Name the independent examination of financial information of an organization.
15. Identify the major current assets of an organization.
16. What is the minimum desirable area required to open a drug store?
17. Name any one method for improving patient compliance.
18. Which capital is invested in permanent assets?
19. Identify the middlemen between wholesaler and actual consumer in a distribution system.
20. What is the upper limit of stock in inventory management beyond which the quantity of an item is not normally allowed to rise?

Answer any 10 of the following

(3 x 10 = 30)

21. Indian scenario in community pharmacy
22. Labelling of dispensed medications
23. Strategies to minimize dispensing errors
24. Patient interviewing techniques
25. Objectives of customer relation management
26. Patient counselling points for bronchial asthma
27. Uses of patient information leaflets

28. Pain management advises
29. Different audits in community pharmacy
30. Standard operating procedure
31. Economic order quantity and its applications

III. Answer any 6 of the following

(5 x 6 = 30)

32. Define patient counselling. Explain stages of patient counselling
33. Explain legal requirements for setting up of a community pharmacy
34. What is a cashbook? Explain different types of cashbooks
35. Briefly explain the role of pharmacist in ensuring safe practice during self-medication
36. Explain the importance of body language in communication
37. What is medication adherence? Add a note on factors influencing non-adherence
38. Explain the scope and importance of health screening services in community pharmacy

QP CODE:.....

Reg No.....

Paper C1 – BIOCHEMISTRY & CLINICAL PATHOLOGY (ER20-23T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. is an example of Trisaccharide
2. The coenzyme form of Vitamin B1 is.....
3. The bonds forming the backbone of protein structure are.....
4. Neumann's test is the confirmatory test for.....
5. integrates urea cycle and TCA cycle.
6. The chemical test to distinguish monosaccharide and disaccharides.....
7. The normal plasma concentration of sodium is.....
8. The synthesis of ketone bodies is regulated by.....enzyme.
9. Consumption of raw egg white results in the deficiency of.....
10. Toxic accumulation of copper in liver causes.....
11. Name the pyrimidine base present in RNA but absent in DNA
12. Number of isoenzyme forms of Lactate dehydrogenase
13. Net gain of ATP in anaerobic Glycolysis
14. Chemical test to identify ketone bodies in urine
15. The co-enzyme required for Transamination reactions
16. The synthesis of ATP from ADP and Pi coupled with Electron transport chain
17. Phenylketonuria is caused due to the deficiency of hepatic enzyme
18. The normal total plasma cholesterol range
19. Name the Sulphur containing essential amino acid
20. Name a non-reducing disaccharide.

Answer any 10 of the following

(3 x 10 = 30)

21. IUB classification of enzymes
22. Dietary sources and functions of Vitamin A
23. Discuss the mechanism of enzyme action
24. Explain Transamination with suitable examples
25. Name the essential fatty acids and discuss their biochemical role
26. Differentiate between Glycogenesis and Glycogenolysis
27. Discuss the Structure and Functions of DNA
28. Write a short note on Diabetes mellitus
29. Classify lipids with suitable examples
30. Explain the biochemical functions of Sodium and Potassium ions
31. Describe the Electron Transport Chain

III. Answer any 6 of the following

(5 x 6 = 30)

32. Define and classify carbohydrates with suitable examples
33. Enumerate the various factors affecting enzyme action
34. List the abnormal constituents of urine and their pathological significance
35. Write a brief note on the structure of proteins
36. Describe the urea cycle. What are the metabolic disorders associated with it?
37. Give the daily requirements, biochemical role and deficiency disease of Calcium.
38. Explain β -oxidation of fatty acids with reference to Palmitic acid.

QP CODE:.....

Reg No.....

Paper D1 – PHARMACOTHERAPEUTICS (ER20-24T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. The common causative microorganism for urinary tract infections is
2. On-off phenomenon is associated with long term use of
3. The most common complication associated with insulin therapy is...
4. The first line treatment for blood pressure lowering in patients with type I diabetes mellitus is
5. Regular use of corticosteroid inhaler may cause....
6. Proton pump inhibitors are most effective if taken
7. Therapeutic and toxic effects of digoxin are potentiated by hypercalcemia and
8. Aspirin when used in children may cause
9. Intravenous morphine is given with to relieve pain in patients with myocardial infarction
10. Concomitant administration of reduces the adverse effects of methotrexate and improve medication adherence.
11. Name the oral hypoglycemic agent used in the treatment of polycystic ovarian disease
12. Mention the use of statins in dyslipidemia
13. Which is the Drug of choice for the treatment of generalized tonic-clonic seizure?
14. Normal serum bilirubin level in adults
15. What is the dose of aspirin used in the prophylaxis of coronary artery disease?
16. Name the Category of antihypertensive drugs that may cause dry cough
17. Mention the first line anti-tubercular drug that may cause ocular toxicity
18. Give an example for expectorant
19. What are ORS?
20. Which special sense organ is affected by the “Phototoxic” reactions of drugs?

Answer any 10 of the following

(3 x 10 = 30)

21. Discuss the aetiology of peptic ulcer disease
22. Write the clinical symptoms of schizophrenia
23. Pharmacotherapy of megaloblastic anaemia
24. Define and classify hypertension
25. Write any three complications of alcoholic liver diseases
26. Write briefly on topical therapy of psoriasis
27. Discuss the non -pharmacological treatment of hypertension
28. What are essential medicines?
29. Write the long-term complications of diabetes mellitus
30. Write a note on DOTS programme
31. Discuss the pharmacotherapy of hypothyroidism?

III. Answer any 6 of the following

(5 x 6 = 30)

32. Discuss the rational use of drugs
33. Explain the pathogenesis of Rheumatoid arthritis
34. Discuss the pharmacotherapy of myocardial infarction
35. Discuss the pharmacological management of acute attack of bronchial asthma
36. Write the prophylactic measures for viral hepatitis
37. Discuss the pharmacotherapy of osteoarthritis
38. Discuss the pharmacotherapy of inflammatory bowel diseases

QP CODE:.....

Reg No.....

Paper E1 – HOSPITAL AND CLINICAL PHARMACY (ER20-25T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. Creatinine clearance is used for the determination of.....
2. An antidote for heparin overdosage is.....
3. Polycythemia is the increase in number of
4. Westergren method is used for the determination of.....
5. Antidote for arsenic and mercury poisoning.....
6. Avoid using cheese, chocolates, alcoholic drinks etc along with class of drug
7. Sterilization of thermolabile drugs is done by
8. A condition of beriberi is due to deficiency of
9. Deletion of a drug in hospital formulary can be decided by.....
10. Naranjo scale is used for the assessment of
11. A strict adherence by the patient to the prescriber is known as....
12. Amyl nitrate is usually administered by which route?
13. Which is the main ingredient of universal antidote?
14. Who is the secretary of Pharmacy and Therapeutic Committee (PTC)?
15. What is expansion of the inventory control method 'EOQ'?
16. Which animal is used for pyrogen testing?
17. Category of drugs which neutralize gastric acid in Peptic Ulcer disease
18. Text books belong to which type of Drug information resources?
19. Name the Antidote for Morphine
20. Which university started the drug information Centre for the first time?

Answer any 10 of the following

(3 x 10 = 30)

21. How is ADR monitoring carried out?
22. Explain the Procedure for the development of hospital formulary?
23. Write a short note on NABH Accreditation?
24. Enumerate the role of pharmacist in preventing antimicrobial resistance?
25. What you meant by FEFO, FIFO methods of inventory control?
26. Explain the Storage and dispensing of radiopharmaceuticals?
27. What are the strategies to minimize medication errors?
28. Explain the procedure for dispensing narcotic & psychotropic drugs?
29. What is Pharmacovigilance? Give its aim and scope?
30. Explain the principles of pharmaceutical care?
31. Explain IV Admixture services and incompatibilities?

III. Answer any 6 of the following

(5 x 6 = 30)

32. What is pharmacy and therapeutic committee? Describe its composition and enumerate its function.
33. Define Hospital Pharmacy? Describe its organizational pattern and enumerate its major functions.
34. Enumerate various inpatient drug distribution systems followed in hospitals.
35. What is drug information services? Describe the different sources for gathering drug information.
36. Define Clinical Pharmacy. Discuss in detail the daily activities of clinical pharmacy in a hospital.
37. Explain the role of liver function tests and renal function tests in the evaluation of disease and drug therapy.
38. What is inventory control? Explain the EOQ method of inventory control technique

QP CODE:.....

Reg No.....

Paper F – PHARMACY LAW AND ETHICS (ER20-26T)

Time: 3 Hours

Total Marks: 80

NOTE: Answers to Questions 1-20 should be provided in the first pages as a single unit.
Give labelled diagrams/flowcharts wherever necessary.

Answer all the following

(1 x 20 = 20)

1. The Pharmacy Education Regulations are laid down by ...
2. The Secretary of the Pharmacy council also acts as the ...
3. The Central drug laboratory is situated at ...
4. Schedule P is related to ...
5. is an airport through which drugs can be imported to India.
6. Government Analyst is a member of the State Pharmacy Council.
7. Ganja and Charas are derivatives of ...
8. Diacetyl Morphine is also known as ...
9. Schedule M is related to ...
10. Form 25 of the D & C act relates to ...
11. What is the colour of Tartrazine dye?
12. Under which category of advertisements does “cure for blindness” come?
13. Where is the Government Opium factory is situated?
14. Name the schedule under which Phenobarbitone comes in the D & C Act.
15. Name the grade of air system required for aseptic preparation and filling of pharmaceuticals.
16. What is another name of Phase IV clinical trial?
17. What is the expanded form of CDSCO?
18. As a medical device, what is the category in which pacemakers are placed?
19. In which year was the National Disaster management act enacted?
20. Where is the Headquarters of the National Pharmaceutical Pricing Authority situated?

Answer any 10 of the following

(3 x 10 = 30)

21. Define “Drug” and “Cosmetic” as per the Drugs and Cosmetics Act 1940.
22. Distinguish between “Misbranded” and “Adulterated” drugs.
23. What are the basic concepts of the Biopharmaceutical Classification System?
24. Explain the constitution of the Institutional Animal Ethics Committee.
25. Draw specimen labels of Acyclovir tablets and Pentobarbitone Sodium Injection.
26. Define “Narcotic Drug” and “Psychotropic Substance” as per the Narcotic Drugs and Psychotropic Substances Act 1985.
27. Explain how documentation is important in a Hospital Pharmacy.
28. What are the objectives of the National Pharmaceutical Pricing Authority?
29. Explain the procedure for approval of a place for Medical Termination of Pregnancy.
30. What is the First Register? What are the requirements for entry into the First register?
31. Explain the important steps in a New Drug Development.

Answer any 6 of the following

(5 x 6 = 30)

32. Explain the constitution and functioning of the State Pharmacy Councils.
33. Explain how a drug or cosmetic can be prohibited from being imported into India.
34. Explain the conditions for the grant of wholesale license for the sale of Schedule X drugs.
35. Explain the qualifications and functions of a Drugs Inspector.
36. What are the objectives with respect to Opium as per the Narcotic Drugs and Psychotropic Substances Act 1985?
37. What are exempted advertisements as per the Drugs and Magic Remedies act 1954?
38. What do you mean by Pharmaceutical Ethics? Explain the role of a pharmacist in relation to his profession.

B.SCHEME FOR SESSIONAL PRACTICAL EXAMINATIONS

NOTE: The mode of calculating Internal assessment marks for practical

For all subject Internal assessment marks have to be taken out of 20.

- For those subjects **not having** assignments/ field visits, the marks secured by the candidate out of 80 for the sessional practical examination (including 10 marks for practical record) shall be reduced to 20
- For those subjects **having** assignments/ field visits / both, the marks secured by the candidate out of 80 for the sessional practical examination (including 10 marks for practical record) shall be reduced to 10 **and** the assessment of assignments/ field visits / both shall be given for the balance 10 marks, as per the table given at the end of scheme for practical sessional examination of each subject.

1.Paper A2 – PHARMACOLOGY (ER20-21P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	<p>Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus</p>	10
2.	<p>Spotters- Any ten items Commonly used Instruments and accessories in experimental pharmacology (Eg- Sherrington recording drum & accessories, Student's organ bath & accessories, levers, cannulae, various equipment for pharmacological screening), Different animals (photos/ pictures) used in experimental pharmacology Devices for drug administration and blood withdrawal in experimental pharmacology Cages for common laboratory animals.</p>	15
3.	<p>Major experiment Pharmacological screening of the test compound for any one of the following: -</p> <ul style="list-style-type: none"> • Analgesic activity by writhing test • Analgesic activity using analgesiometer • Anti-convulsants using electroconvulsimeter • Skeletal muscle relaxants using rota-rod apparatus • CNS stimulants/depressants using actophotometer • Anxiolytics using elevated plus maze • Presence of pyrogens using rabbits <p>(Candidate has to write the principle, procedure and answers of the additional questions, including interpretation of the given data related to the experiment.)</p>	20
4.	<p>Minor experiment-I 10 marks Draw the normal recording of the contractions of isolated frog's heart and show the effect of the administration of any two drugs into the perfusate. Write the mechanism behind the change in contraction (Adrenaline, propranolol, isoprenaline, acetyl choline, atropine, digoxin, small and high dose of calcium, small and high dose of potassium)</p> <p>Minor experiment-II 5 Marks</p>	15

	Describe the principle & procedure involved in determining the mydriatic/miotic/local anaesthetic effect of the test drug on rabbit's eye. (Any one) OR Describe the principle & procedure involved in determining the effect of drugs on ciliary motility on frog's buccal cavity	
5.	Viva voce	10
6.	Record	10

Practical Internal assessment	MARKS
Actual performance in the sessional examination reduced to 10	10
Assignment marks (Average of three)	10
Total	20

2.Paper B2 – COMMUNITY PHARMACY AND MANAGEMENT (ER20-22P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	Major experiment Handling of the given prescription (Candidates should be provided with prescription containing 3 or 4 drugs) Split up of marks <ul style="list-style-type: none"> • Filing of the prescribed drugs with dummy packages, with neat dispensing labels including instructions - 20 marks • Writing the counselling points with patient specific instructions-15 marks <p style="text-align: center;">OR</p> <p style="text-align: center;">Patient counselling.</p> <p>The candidate has to write the counselling points to be given on</p> <ul style="list-style-type: none"> ➤ Relevant aspects of the disease. ➤ Proper usage of medications, including that of specific devices wherever applicable. <p style="text-align: center;">for any one of the following conditions</p> <p>(Type 2 Diabetes Mellitus, Primary Hypertension, Asthma, Hyperlipidaemia, Rheumatoid Arthritis, Headache, GI disturbances -Nausea, Vomiting, Dyspepsia, diarrhoea,</p>	35

	constipation, Worm infestations, Pyrexia, Upper Respiratory Tract infections, Skin infections, Oral and dental disorders.) Split up of marks Writing the steps in patient counselling- 5 marks Disease specific/ patient specific information - 15 marks Preparation of patient information leaflets- 15 marks	
3.	Minor experiment Demonstration/Description of the correct administration technique for any one of the following dummy dosage forms (Oral liquids with measuring cup/cap/dropper, Eye Drops, Inhalers, Nasal drops, Insulin pen, nebulizers, and different types of tablets, patches, enemas, and suppositories) OR Describe the usage and working of any one given digital health tool (Eg- Pulse oximeter, glucometer, Peak flow meter, digital BP monitor etc)	15
4.	Viva voce	10
5.	Record	10

Practical Internal assessment	MARKS
Actual performance in the sessional examination reduced to 10	10
Assignment marks (Average of three)	5
Average of Field Visit Report marks	5
Total	20

3.Paper C2 – BIOCHEMISTRY & CLINICAL PATHOLOGY (ER20-23P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	Major experiment Estimation of any one of the following biochemical constituents present in the given simulated sample of Blood/ serum/ urine using Photo colorimeter OR by titrimetric analysis. Blood/Serum-Creatinine, glucose, cholesterol, calcium, urea, SGOT, SGPT	30

	<p>Urine- Creatinine, glucose, Chloride. Evaluation is based on calculation and percentage error of the report. Split up of marks Observation column and calculation - 5 marks For the report, Error + or – 1% - 25 marks + or – 2% - 22 marks + or – 3% - 20 marks + or – 5% - 15 marks + or – 10% - 12 marks Above 10% - 8 marks</p>	
3.	<p>Minor experiment Identification of organic constituent of biochemical significance such as proteins, amino acids, carbohydrates or lipids etc (any one) present in the given test sample (Proteins – albumin, casein, gelatine, peptone) (Carbohydrates – glucose, fructose, sucrose, lactose) (Lipids- triglycerides, cholesterol) Split up of marks Writing the procedure and observation-8marks Identification of the constituent-12 marks OR Detection of abnormal constituents (any two) in the given sample of urine (simulated) such as glucose, ketone bodies, albumin, bile salts, bile pigments Split up of marks Writing the procedure and observation-4 marks each Identification of the constituents-6 marks each</p>	20
4.	Viva voce	10
5.	Record	10

Practical Internal assessment	MARKS
Actual performance in the sessional examination, reduced to 10	10
Assignment marks (Average of three)	10
Total	20

4.Paper D2 – PHARMACOTHERAPEUTICS (ER20-24P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	Major experiment Describe the Pharmaceutical Care Plan to be adopted in the SOAP format for any two of the following conditions: - (Hypertension, Angina Pectoris, Myocardial Infarction, Hyperlipidaemia, Rheumatoid arthritis, Asthma, COPD, Diabetes, Epilepsy, Stroke Depression, Tuberculosis, Anaemia (any one type) Viral infection (any one type), Dermatological conditions (any one condition))	30
3.	Minor experiment-I 10 marks Write the aspects to be covered while giving counselling to the patients on any one of the following conditions <ul style="list-style-type: none"> • Proper usage & storage of different medications and dosage forms (Eg- antibiotics, insulin, inhalations, suppositories& pessaries, NSAIDs)-any one • Proper self-monitoring of parameters like blood sugar, body temperature, pulse rate, oxygen level (Pulse oximeter)-any one • Life style modifications to be adopted in those with chronic conditions such as diabetes, hypertension, epilepsy, angina-any one Minor experiment-II 10 marks Carry out the dose calculation of drugs for paediatric, and geriatrics under various pathological conditions - any one 1	20
4.	Viva voce	10
5.	Record	10

Practical Internal assessment	MARKS
Actual performance in the sessional examination reduced to 20	20
Total	20

5.Paper E2 – HOSPITAL AND CLINICAL PHARMACY (ER20-25P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	<p>Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus</p>	10
2.	<p>Spotters-Any five items</p> <ul style="list-style-type: none"> • Orthopaedic and Surgical Aids such as knee cap, LS belts, abdominal belt, walker, walking sticks, etc. • Different types of bandages such as sterile gauze, cotton, crepe bandages, etc. • Needles, syringes, catheters, IV set, urine bag, RYLE's tube, urine pots, colostomy bags, oxygen masks, etc. • Digital health tools 	10
3.	<p>Major experiment Prepare the answer for the given drug information query (2 Nos)with the help of a suitable source of information OR Fill the ADR reporting form with the given details(1No) and carry out the causality assessment.</p>	20
4.	<p>Minor experiment-I 15 Marks Identification of drug interactions in the given prescriptions (2 Nos) and suggesting the remedial measures.</p> <p>Minor experiment-II 5 marks Interpret the given laboratory report (1No) on any of the following parameters and suggest the modification needed in the given prescription (Haematological, liver function, renal function, thyroid function or pulmonary function tests, tests associated with cardiac disorders, fluid and electrolyte balance etc)</p>	20
5.	Viva voce	10
6.	Record	10

Practical Internal assessment	MARKS
Actual performance in the sessional examination reduced to 10	10
Assignment marks (Average of three)	5
Average of Field Visit Report marks	5
Total	20

C.SCHEME FOR BOARD EXAMINATIONS

1.Paper A2 – PHARMACOLOGY (ER20-21P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	<p>Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus</p>	10
2.	<p>Spotters- Any ten items Commonly used Instruments and accessories in experimental pharmacology (Eg- Sherrington recording drum & accessories, Student's organ bath & accessories, levers, cannulae, various equipment for pharmacological screening), Different animals (photos/ pictures) used in experimental pharmacology Devices for drug administration and blood withdrawal in experimental pharmacology Cages for common laboratory animals.</p>	15
3.	<p>Major experiment Pharmacological screening of the test compound for any one of the following: -</p> <ul style="list-style-type: none"> • Analgesic activity by writhing test • Analgesic activity using analgesiometer • Anti-convulsants using electroconvulsimeter • Skeletal muscle relaxants using rota-rod apparatus • CNS stimulants/depressants using actophotometer • Anxiolytics using elevated plus maze • Presence of pyrogens using rabbits <p>(Candidate has to write the principle, procedure and answers of the additional questions, including interpretation of the given data related to the experiment.)</p>	25
4.	<p>Minor experiment-I 15 marks</p> <p>Draw the normal recording of the contractions of isolated frog's heart and show the effect of the administration of any two drugs into the perfusate. Explain the mechanism behind the change in contraction (Adrenaline, propranolol, isoprenaline, acetyl choline, atropine, digoxin, small and high dose of calcium, small and high dose of potassium)</p> <p>Minor experiment-II 5 marks</p>	20

	Describe the principle & procedure involved in determining the mydriatic/miotic/local anaesthetic effect of the test drug on rabbit's eye. (Any one) OR Describe the principle & procedure involved in determining the effect of drugs on ciliary motility on frog's buccal cavity	
5.	Viva voce	10

2.Paper B2 – COMMUNITY PHARMACY AND MANAGEMENT (ER20-22P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	<p>Major experiment Handling of the given prescription (Candidates should be provided with prescription containing 3 or 4 drugs) Split up of marks</p> <ul style="list-style-type: none"> • Filing of the prescribed drugs with dummy packages, with neat dispensing labels including instructions - 25 marks • Writing the counselling points with patient specific instructions-15 marks <p style="text-align: center;">OR Patient counselling.</p> <p>The candidate has to write the counselling points to be given on</p> <ul style="list-style-type: none"> ➤ Relevant aspects of the disease. ➤ Proper usage of medications, including that of specific devices wherever applicable. <p style="text-align: center;">for any one of the following conditions</p> <p>(Type 2 Diabetes Mellitus, Primary Hypertension, Asthma, Hyperlipidaemia, Rheumatoid Arthritis, Headache, GI disturbances -Nausea, Vomiting, Dyspepsia, diarrhoea, constipation, Worm infestations, Pyrexia, Upper Respiratory Tract infections, Skin infections, Oral and dental disorders.)</p> <p>Split up of marks Writing the steps in patient counselling- 5 marks Disease specific/ patient specific information - 15 marks Preparation of patient information leaflets- 20 marks</p>	40

3.	<p>Minor experiment Demonstration/Description of the correct administration technique for any one of the following dummy dosage forms</p> <p>(Oral liquids with measuring cup/cap/dropper, Eye Drops, Inhalers, Nasal drops, Insulin pen, nebulizers, and different types of tablets, patches, enemas, and suppositories.)</p> <p>OR</p> <p>Describe the usage and working of any one given digital health tool (Eg- Pulse oximeter, glucometer, Peak flow meter, digital BP monitor etc)</p>	20
4.	Viva voce	10

3.Paper C2 – BIOCHEMISTRY & CLINICAL PATHOLOGY (ER20-23P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	<p>Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus</p>	10
2.	<p>Major experiment Estimation of any one of the following biochemical constituents present in the given simulated sample of Blood/ serum/ urine using Photo colorimeter OR by titrimetric analysis.</p> <p>Blood/Serum-Creatinine, glucose, cholesterol, calcium, urea, SGOT, SGPT Urine- Creatinine, glucose, Chloride. Evaluation is based on calculation and percentage error of the report.</p> <p>Split up of marks Observation column and calculation - 5 marks</p> <p>For the report, Error + or – 1% - 35 marks + or – 2% - 32 marks + or – 3% - 30 marks + or – 5% - 25 marks + or – 10% - 20 marks Above 10% - 12 marks</p>	40
3.	<p>Minor experiment Identification of organic constituent of biochemical significance such as proteins, amino acids, carbohydrates or lipids etc (any one) present in the given test sample (Proteins – albumin, casein, gelatine, peptone) (Carbohydrates – glucose, fructose, sucrose, lactose) (Lipids- triglycerides, cholesterol) Split up of marks</p>	20

	Writing the procedure and observation-8marks Identification of the constituent-12 marks OR Detection of abnormal constituents (any two) in the given sample of urine (simulated) such as glucose, ketone bodies, albumin, bile salts, bile pigments Split up of marks Writing the procedure and observation-4 marks each Identification of the constituents-6 marks each	
4.	Viva voce	10

4.Paper D2 – PHARMACOTHERAPEUTICS (ER20-24P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	Major experiment Describe the Pharmaceutical Care Plan to be adopted in the SOAP format for any two of the following conditions: - (Hypertension, Angina Pectoris, Myocardial Infarction, Hyperlipidaemia, Rheumatoid arthritis, Asthma, COPD, Diabetes, Epilepsy, Stroke Depression, Tuberculosis, Anaemia (any one type) Viral infection (any one type), Dermatological conditions (any one condition))	40
3.	Minor experiment-I 10 marks Write the aspects to be covered while giving counselling to the patients on any one of the following conditions <ul style="list-style-type: none"> • Proper usage & storage of different medications and dosage forms (Eg- antibiotics, insulin, inhalations, suppositories& pessaries, NSAIDs)-any one • Proper self-monitoring of parameters like blood sugar, body temperature, pulse rate, oxygen level (Pulse oximeter)-any one • Life style modifications to be adopted in those with chronic conditions such as diabetes, hypertension, epilepsy, angina-any one Minor experiment-II 10 Marks Carry out the dose calculation of drugs for paediatric, and geriatrics under various pathological conditions - any one	20
4.	Viva voce	10

5.Paper E2 – HOSPITAL AND CLINICAL PHARMACY (ER20-25P)

Time: 3 Hours

Total Marks: 80

No.	QUESTIONS	Marks
1.	Synopsis Two questions, with subdivisions wherever required, from the experiments as per syllabus	10
2.	Spotters- Any five items <ul style="list-style-type: none">• Orthopaedic and Surgical Aids such as knee cap, LS belts, abdominal belt, walker, walking sticks, etc.• Different types of bandages such as sterile gauze, cotton, crepe bandages, etc.• Needles, syringes, catheters, IV set, urine bag, RYLE's tube, urine pots, colostomy bags, oxygen masks, etc.• Digital health tools	10
3.	Major experiment Prepare the answer for the given drug information query (2 Nos)with the help of a suitable source of information OR Fill the ADR reporting form with the given details (1No) and carry out the causality assessment.	30
4.	Minor experiment-I 15 Marks Identification of drug interactions in the given prescriptions (2 Nos) and suggesting the remedial measures. Minor experiment-II 5 marks Interpret the given laboratory report (1No) on any of the following parameters and suggest the modification needed in the given prescription (Haematological, liver function, renal function, thyroid function or pulmonary function tests, tests associated with cardiac disorders, fluid and electrolyte balance etc)	20
5.	Viva voce	10