

23124

3 Hours / 80 Marks



0811

Seat No. 

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- Instructions* –
- (1) All Questions are Compulsory.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answer with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
  - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any EIGHT of the following:**

**16**

- a) Define incompatibility, give types of incompatibility.
- b) Write advantages of powder as dosage form.
- c) Define vehicle, name any four vehicle used for mixtures.
- d) Translate the following term in English. (Any four)
  - i) Jentaculum
  - ii) Guttae
  - iii) Post cibos
  - iv) Bis in die
  - v) Capiendus.
- e) Define posology and classify various methods of calculation of paediatrics dose.
- f) Define (Any two) :-
  - i) Poultice
  - ii) Douches
  - iii) Suspension
- g) Write merits and demerits of water as a vehicle for parenteral formulation.
- h) Mention suitable labelling conditions for an eye drop.
- i) How hygroscopic substances can be incorporated in powder dosage form.
- j) Define emulsion. Enlist factors causing cracking of an emulsion.
- k) Why preservative are not added in simple syrup.
- l) Explain 'displacement value' with it's significance.

**2. Attempt any FOUR of the following:**

**12**

- a) Define prescription. Describe the parts of prescription with significance of each.
- b) Identify the incompatibility in the following prescription. How will you dispense it  
Rx  
Menthol ..... 5 gm  
Camphor ..... 5 gm  
Make an insufflation.
- c) Find out the amount each of 90%, 60%, 30% and 20% alcohol required to produce 500 ml of 50% alcohol.
- d) Differentiate between flocculated and de-flocculated suspension.
- e) What are cachets? Write it's advantages and disadvantages.
- f) Define mixture. How will you dispense mixture containing precipitate forming liquid.

**3. Attempt any FOUR of the following:**

**12**

- a) Differentiate between ointment and paste.
- b) What is HLB. Show scale of HLB and explain the role of HLB in formulation of P.T.O.



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0812

Seat No. 

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**Marks**

**1. Attempt any FIVE of the following:**

**20**

- a) Give the structure and numbering method for (any four):
  - i) Furan
  - ii) Thiazole
  - iii) Pyridine
  - iv) Imidazole
  - v) Quinoline
  - vi) Pyrimidine
- b) Define the following terms (any four)
  - i) Anticonvulsant
  - ii) Hypnotics and Sedatives
  - iii) Hypoglycemic agent
  - iv) Metastasis
  - v) Amoebiasis
  - vi) Sympatholytics
- c) Give the structure of (any four)
  - i) Paracetamol
  - ii) Mannitol
  - iii) Aspirin
  - iv) Proflavin
  - v) P.A.S.
  - vi) D.E.C.
- d) Give stability and storage conditions of
  - i) Thrombin
  - ii) Anaesthetic ether
- e) Mention two brand names for each (any two)
  - i) Mebendazole
  - ii) Metronidazole
  - iii) Indomethacin
- f) Give uses of (any four)
  - i) Diagepam
  - ii) warfarin
  - iii) sulfadiazine
  - iv) Chloroquine
  - v) Frusemide
  - vi) Ibuprofen
- g) Name any two drugs used in following diseases. (any four)
  - i) Amoebiasis
  - ii) Candidiasis
  - iii) Helminthiasis
  - iv) Leprosy
  - v) Epilepsy
  - vi) Tuberculosis
- h) Write the structure and name of drug containing the following heterocycle. (Any two)
  - i) Barbituric acid
  - ii) Acridine
  - iii) Pyridine

P.T.O.



2. **Attempt any THREE of the following:** 12
- Give properties, uses, pharmaceutical formulation and brand names of Ampicillin.
  - Define Antineoplastic agents. Classify them with examples.
  - Write structure, chemical name, uses and dosage form of Thyroxine.
  - Classify Antihistamines giving examples. Write the structure of Diphenhydramine or chlorpheniramine.
  - Classify 'Antiseptics and Disinfectants'. Draw the structure of chlorocresol.
3. **Attempt any THREE of the following:** 12
- Write structure, chemical name, physical properties and uses of caffeine.
  - Give properties and uses of
    - Fluorescein sodium
    - Evans blue
  - What are steroids? Name one hormone containing the following steroid nucleus
    - Oestrane
    - Androstane
    - Pregnane
  - Define and classify 'sympathomimetics'. Write structure of Isoprenaline.
  - Define and classify non-steroidal anti-inflammatory drugs giving suitable examples.
4. **Attempt any THREE of the following:** 12
- Define anticholinergic drugs and classify them giving suitable examples.
  - Give official preparations and uses of
    - Chlorpromazine
    - Haloperidol
  - Define and classify Anti-tubercular agents. Draw the structure of Ethambutol.
  - Define 'Local Anaesthetic'. Write structure, chemical name and brand names of Lignocaine HCL.
  - Define and classify Anthelmintics giving examples.
5. **Attempt any THREE of the following:** 12
- Classify antibiotics with examples. Draw structure of Penicillin G or Penicillin V.
  - What are Beta adrenergic blockers? Give two examples and structure of any one of them and write their therapeutic uses.
  - What is diabetes mellitus. Give structure and chemical name of phenformin or chlorpropamide.
  - What are diuretics? Classify diuretics with examples. Draw structure of Furosemide or Hydrochlorothiazide.
  - Give properties, uses and official preparations of:
    - Salbutamol
    - Pseudoephedrine
6. **Attempt any THREE of the following:** 12
- Give properties, uses and brand names of
    - Aspirin
    - Metformin
  - Define and classify Cardiovascular Agents.
  - Give the structure chemical name, uses and dosage forms of Adrenaline.
  - Enlist any three fat soluble vitamins and any three water soluble vitamins.
  - Draw structure, give uses properties and brand name of Imipramine.

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0813

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**Marks**

1. **Define any EIGHT of the following terms with two examples each.** **16**
  - a) First Pass Effect
  - b) Disinfectant
  - c) Anti-emetics
  - d) Anti-tussive agents
  - e) Haematinics
  - f) Analeptic
  - g) Diuretics
  - h) Oral contraceptives
  - i) Toxicology
  - j) Anti-diarrhoeal agents
  - k) Pharmacokinetics
  - l) Local anaesthetics
  
2. **Attempt any FOUR of the following :** **12**
  - a) Explain the term miotics and mydriatics with examples.
  - b) Explain the triple response of histamine. Classify anti-histaminics with example.
  - c) Classify different routes of drug administration. Give advantage and disadvantage of Parenteral route.
  - d) Define pharmacodynamics. Explain different types of drug actions.
  - e) Classify anti-hypertensive agents with examples.
  - f) Enlist properties of ideal general anaesthetics. Write a note on Pre-anaesthetic medication.
  
3. **Attempt any FOUR of the following :** **12**
  - a) Mention antidotes in case of poisoning due to
    - i) Barbiturates
    - ii) Atropine
    - iii) Morphine
  - b) Mention adverse effect of each of the following
    - i) Streptomycin
    - ii) Rifampicin
    - iii) Isoniazid

P.T.O.



- c) Mention drugs which produces following adverse effect
- |                       |                         |
|-----------------------|-------------------------|
| i) Cinchonism         | iv) Salicylism          |
| ii) Black water fever | v) Gingival Hyperplasia |
| iii) Anaphylaxis      | vi) Teratogenic effect  |
- d) Mention route of administration of the following drugs.
- |                 |                    |
|-----------------|--------------------|
| i) Warfarin     | iv) Hyoscine       |
| ii) Heparin     | v) Atorvastatin    |
| iii) Salbutamal | vi) Nitroglycerine |
- e) Mention therapeutic use of following drugs
- |                 |                    |
|-----------------|--------------------|
| i) Grisefulvin  | iv) Noscapine      |
| ii) Acyclovir   | v) Bisacodyl       |
| iii) Loperamide | vi) Xylometazoline |
- f) Give the drug of choice for following conditions.
- |                        |
|------------------------|
| i) Leprosy             |
| ii) Status epilepticus |
| iii) Leukemia          |

**4. Attempt any FOUR of the following :**

**12**

- Classify antineoplastic agents with examples.
- Give pharmacological action of Insulin and mention various types of Insulin preparation.
- Write mechanism of action and therapeutic uses of Penicillin.
- Explain the term drug tolerance. Describe different types of drug tolerance.
- Give symptoms and treatment for organophosphorous compound poisoning.
- Give pharmacological profile of aspirin.

**5. Attempt any FOUR of the following :**

**12**

- Classify antiasthmatics with example.
- Explain Dales Vasomotor reversal phenomenon in detail.
- Define Synergism. Write note on Co-trimoxazole.
- Describe mechanism of action and write therapeutic use of Digitalis
- Classify drugs used in treatment of peptic ulcer.
- State factor modifying drug absorption and explain any two of them.

**6. Give reasons for any FOUR of the following :**

**16**

- Vitamin B<sub>12</sub> injection is given in pernicious anaemia.
- Chlorpromazine is called Largactil.
- Tetracycline is contraindicated in pregnant women and children.
- Atropine is given in combination with Neostigmine in myaesthesia gravis.
- L-DOPA is given along with carbidopa.
- Purgatives are administered with antehelminthics.



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0814

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  - (7) Answer as per the latest amendments.

**Marks**

**1. Attempt any EIGHT of the following:**

**16**

- a) Differentiate between law and ethics.
- b) Define Registered Pharmacist as per the Pharmacy Act.
- c) Give objective of Medicinal Termination of Pregnancy Act, 1971?
- d) State the objectives of Poison Act, 1919?
- e) Define 'Addict' as per NDPS Act.
- f) Briefly describe the Drug Price Equalization Account. (DPEA)
- g) What do schedule "G" and schedule "X" to the D and C. Act, 1940 prescribe?
- h) What is the purpose of the Drug Price Control Order, 1995?
- i) Give objective of Pharmacy Act, 1948.
- j) Name the committee formed in 1930 to study problems related to drugs in India. Who was the chairman of the committee?
- k) State the penalty for "Failing to pay excise duty" as per M and TP Act, 1956.
- l) Define "Government Analyst" as per the D & C Act 1940?

**2. Attempt any FOUR of the following:**

**12**

- a) Discuss the role of pharmacists as an integral part of the health care?
- b) State in brief the powers of the drugs inspector under the D and C Act, 1940. (any 6)
- c) What is the role of Pharmacist in relation to his job as per code of ethics?
- d) Describe "Education Regulations" under the Pharmacy Act, 1948.
- e) Explain the offences and penalties under the Drug and magic Remedies (D.A.) Act, 1954?
- f) Define "Bulk Drug" and 'Networth' under the DPCO Act, 1995.

**3. Attempt any FOUR of the following:**

**12**

- a) What are the functions of CDL as per D & C Act, 1940?
- b) Explain the formula for the calculation of the retail price of formulation and discuss the term as per DPCO-1995.
- c) State the rules prescribed by the state Government in relation to possession for sale and sale of any poison, as per poison Act.
- d) Explain the classes of prohibited advertisement as per the Drugs and Magic Remedies Act 1954?

P.T.O.



- e) Enlist the operations controlled by the Central Government as per the NDPS Act, 1985.
- f) Explain the procedure for movement of dutiable goods under bond as per the Medicinal and Toilet Preparations Act.

**4. Attempt any FOUR of the following:**

12

- a) How could you define the "Pharmacy, Chemist and Druggist, and Drug Store as per D & C Act 1940?
- b) What information would you use to label the "Ophthalmic Preparations" as per D and C Act, 1940.
- c) How would you order Rectified spirit for a Bonded Laboratory?
- d) Justify your answer to the following conditions as per the Pharmacy Act 1948.
  - i) What are the duties of the PCI Inspector
  - ii) When is the seat of a PCI member deemed to be vacated?
- e) Give the list of licenses granted by the licensing authority for the sale of drugs as per D and C Act 1940.
- f) Give objectives of NDPS Act and define 'Cannabis'.

**5. Attempt any FOUR of the following:**

12

- a) What is the constitution of the Drugs Technical Advisory Board. (DTAB)?
- b) Give the conditions for "Removal of the name of person from the Register as per Pharmacy Act 1948.
- c) Write the procedure for taking samples of drug for analysis and dispatching them to the "Government Analysts."
- d) Describe in detail 'Approval to the institution running diploma courses in pharmacy' as per Pharmacy Act, 1948.
- e) What are the different classes of cosmetics prohibited to import as per D and C Act, 1940?
- f) Write the circumstances for termination of pregnancy under the medical termination of Pregnancy Act 1971?

**6. Attempt any FOUR of the following:**

16

- a) What do you mean by
  - i) Restricted Licenses
  - ii) Loan Licenses
- b) Explain the constitution of the "State Pharmacy Council" under the Pharmacy Act, 1948?
- c) Mention the different places approved in accordance with the MTP Act 1971. What are the requirements for maintaining the register for the termination of pregnancies?
- d) What is schedule "H"? Mention any two examples of it. What special information must be included on the label of schedule H drugs?
- e) What are the essential requirements of Bonded laboratory?
- f) Describe 'Schedule N' in detail as per D and C Act, 1940.



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**Marks**

**1. Attempt any EIGHT of the following :**

**16**

- a) Define the terms.
  - i) Commerce
  - ii) Business
- b) Enlist any four forms of Business Organisation.
- c) Define Accounting. State two objectives of Accounting.
- d) Give formulae for:
  - i) Current ratio
  - ii) Quick ratio
- e) Define the terms:
  - i) Tender
  - ii) Contract
- f) State any four functions of wholesalers.
- g) Mention different channels of distribution of drugs with intermediates.
- h) State the difference between Private and Public limited Company.
- i) Define short-term finance. State any two sources of credit for raising short term finance.
- j) Define codification. Enlist its methods.
- k) Draw a model form of triple column cash book.
- l) Draw layout of a drug store.

**2. Attempt any FOUR of the following :**

**12**

- a) Describe various hindrances faced by a producer in passing on its goods to the consumers.
- b) Explain different types of partners in a Partnership firm.
- c) Explain Retail Departmental Store. State its advantages and disadvantages.
- d) Describe legal aspects of a drug store.
- e) Explain ABC analysis technique of Inventory Control. Give its advantages.
- f) Describe the steps in selling process.



3. **Attempt any FOUR of the following:** 12
- a) Define Recruitment. Explain the process of recruitment.
  - b) Define Commercial Bank. State the functions of Commercial Banks.
  - c) Define Accounting Concept. Explain Business Entity Concept and Accounting Period Concept.
  - d) Explain double entry book keeping system. State its advantages.
  - e) Define Budget and Budgetary Control. State the objectives of Budgetary Control.
4. **Attempt any FOUR of the following:** 12
- a) Define Balance Sheet. Describe the preparation of balance sheet.
  - b) Explain the following middlemen:
    - i) Brokers
    - ii) Commission agents
    - iii) Auctioneers
  - c) Define industry. Give the classification of industries.
  - d) Enlist the documents required to open a new Medical Retail Drug Store.
  - e) Explain the Perpetual Inventory System.
  - f) Explain the compensation plan given to the pharmacist.
5. **Attempt any FOUR of the following:** 12
- a) Define Trial Balance. State the objectives of trial balance. Mention the Accounting Errors.
  - b) Differentiate between journal and ledger.
  - c) Explain Petty Cash Book. Give its specimen format.
  - d) Write the general factors to be considered while selecting a site for a drug store.
  - e) Define the following:
    - i) Preference Shares
    - ii) Ordinary Shares
    - iii) Debentures
  - f) "Window display is one of the forms of advertisement", Explain.
6. **Attempt any FOUR of the following:** 16
- a) Define scrap and surplus disposal. State the classification of different types of scraps and the control of scrap.
  - b) Describe consumers cooperative stores. State its advantages and disadvantages.
  - c) Define the term "Training." State the different subjects to be covered under training.
  - d) What are the salient features of "Sole Proprietorship Business". Describe the advantages and disadvantages of this form of organisation.
  - e) Define Sales Promotion. Explain the techniques of sales promotions.
  - f) Draw a specimen format of journal and ledger.
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**Marks**

**1. Attempt any EIGHT of the following:**

**16**

- a) Define and enlist the types of outpatient.
- b) What advice will you give to patient using following drugs. (Any two)
  - i) Diazepam
  - ii) MAO Inhibitor
  - iii) Spermicidal creams and jellies
- c) Translate the terms into English. (Any four)
  - i) Collutorium
  - ii) Semel in die
  - iii) Nebula
  - iv) Auristillae
  - v) Hora Somni
- d) What do these abbreviations stand for?
  - i) BAL
  - ii) MRI
  - iii) EDTA
  - iv) ECG
- e) Give normal physiological values for: (Any two)
  - i) Clotting time of blood
  - ii) Pulse rate
  - iii) Haemoglobin
- f) Differentiate between Drug Addiction and Drug Habituation.
- g) Define the following terms:
  - i) Bioequivalence
  - ii) Cholagogues
- h) Write a note on DIB.
- i) What does HEPA stand for? Write the efficiency of HEPA filter.
- j) Write uses of:
  - i) CT Scan
  - ii) Lithotripsy
- k) Write the composition of PTC.
- l) Who are responsible for handling Central Sterile Services?

**2. Attempt any FOUR of the following:**

**12**

- a) Define poison and classify it with example.
- b) Explain the Technical and Manufacturing abilities required for hospital pharmacist.
- c) How drugs are dispensed by non-charged floor-stock system?
- d) Define clinical pharmacy. Write objectives of clinical pharmacy.
- e) How computer will help in medication monitoring of patient.
- f) Explain Drug-food interaction with examples.

P.T.O.



3. **Attempt any FOUR of the following:** 12
- Define hospital. Classify hospital on the basis of ownership and control.
  - Write any three evaluation test for parentals.
  - What is hospital formulary? How drugs are added and deleted from formulary?
  - Explain the contents of Patient Counselling.
  - What are the steps in general treatment for poisoning? Give composition of universal antidote.
  - Describe layout for sterile product area.
4. **Attempt any FOUR of the following:** 12
- Define Adverse drug reaction and classify it.
  - Explain in brief 'Health Delivery System in India' at state level.
  - Describe any three standard test for evaluation of Absorbent cotton as per I.P.
  - Define Drug abuse. Write the treatment of it.
  - Define Bioavailability. Explain how pharmaceutical factors affect bioavailability of drug.
  - What do you understand by Tuberculosis? Write pathophysiology, sign and symptoms of Tuberculosis.
5. **Attempt any FOUR of the following:** 12
- Define Drug-interaction. Write mechanism of interactions when following drugs are prescribed together.
    - Phenylbutazone and Warfarin
    - Diuretic and Antidiabetic
  - Define patient compliance. What factors contribute to non-compliance of patient?
  - What is PTC? Write the role of PTC in ADR.
  - Write objective and functions of hospital pharmacy.
  - Define surgical dressing. Write ideal properties of surgical dressing.
  - Explain the methods for estimation of demand.
6. **Attempt any FOUR of the following:** 16
- Write a note on:
    - Idiosyncrasy
    - Bed-side pharmacy
  - Write pathophysiology of Hepatitis.
  - What is unit dose dispensing? How drugs are dispensed by unit dose dispensing system?
  - What are suppositories? How suppository is prepared?
  - Explain the terms:
    - Teratogenicity
    - Anaphylaxis
  - Describe the procedure of purchasing in hospital.
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**Marks**

**1. Attempt any EIGHT of the following:**

**16**

- a) List the ideal qualities of suspension.
- b) Calculate the proportion of 16%, 12% and 8% be mixed to get 10% ointment.
- c) Differentiate between paste and ointments.
- d) Give the reasons for followings.
  - i) Throat paints are viscous.
  - ii) Mouth wash are dispensed in concentrated form.
- e) Write the disadvantages of polysaccharide emulsifying agents.
- f) Calculate the dose for a child with 8 month old and adult dose is 400mg.
- g) Translate the following Latin terms in English.
  - i) Cataplasm
  - ii) Trochiscus
  - iii) Si opus sit
  - iv) Ter in die
- h) Convert the followings term in to metric
  - i) one ounce
  - ii) one pound (avoir)
  - iii) one table spoonful
  - iv) one drachm
- i) Write the ideal qualities of depilatories.
- j) Most of the emulsion appears white or opaque, why?

**2. Attempt any FOUR of the following:**

**12**

- a) Differentiate between flocculated and deflocculated suspension.
- b) Define hair Dyes. How they are classified? Give their ideal qualities.
- c) Explain the incompatibility in following prescription and suggest a suitable remedy.

Rx

Sodii Salicylatis  
 Quininae Sulphatis  
 Acidi Sulphurici diluti

$\overline{3}$  ii  
 gr xii  
 m xxx  
 ad  $\overline{3}$  vi

Aquam

Make a mixture

- d) Explain the oleaginous ointment bases with disadvantages of it.
- e) Define “ Displacement value of medicament”. Calculate the displacement value of ZnO from the following data:
  - i) Weight of six un-medicated Suppositories - 6g
  - ii) Weight of six suppositories containing 40% of zincoxide - 8.8g
- f) Describe test for sterility IP for parenteral.


**3. Attempt any FOUR of the following:**

- a) Calculate the volume of alcohol required to prepare 700ml, 65% alcohol using 95%, 70%, 55% and 40%.
- b) Explain the types of cachets with its advantages.
- c) List the ideal characteristics of ophthalmic products and explain the ophthalmic ointment.
- d) Explain - Herapath reaction for Quinine with the remedy and example.
- e) Give the advantages of emulsion bases (synthetic bases) over cocoa butter base.
- f) Define jellies, list the jelling agents and write the disadvantages of it.

**4. Attempt any FOUR of the following:**
**12**

- a) Explain the following factors which affect the dose of drug.
  - i) Tachyphylaxis
  - ii) Idiosyncrasy
  - iii) Route of administration
- b) Explain the sources of error in prescription.
- c) Define elixir and write the formulation of it.
- d) Explain the method of dispensing of following powders.
  - i) Explosive powder
  - ii) Volatile powder
  - iii) Hygroscopic and deliquescent
- e) Define lipstick and write the formulation of it.
- f) State the meaning of creaming and explain the factors affecting creaming.

**5. Attempt any FOUR of the following:**
**12**

- a) Differentiate the diffusible and indiffusible mixture and describe the method of preparation of diffusible mixture.
- b) Explain adjusted chemical incompatibility with example.
- c) Explain the following terms.
  - i) Foundation cream
  - ii) Cold cream
  - iii) Eye shadow
- d) Define dusting powder and differentiate medicated and surgical dusting powders.
- e) Define poultice and describe the method of preparation of poultice with example.
- f) Explain the formulation of parenteral.

**6. Attempt any FOUR of the following:**
**16**

- a) Explain any four tests for identification of emulsion.
- b) Describe any four pharmaceutical factors which govern the selection of ointment base.
- c) Find the amount of sodium chloride required to make 50ml of isotonic solution - containing 1.5% of ephedrine HCL and 0.5% of chlorobutal.

Given :

- i) F.P. of 1% solution of ephedrine HCL =  $-0.165^{\circ}\text{C}$
- ii) F.P. of 1% solution of chlorobutal =  $-0.138^{\circ}\text{C}$
- d) Explain the steps involved in processing of parenteral.
- e) How will you dispense the following prescription (mention, calculation, use, method of preparation)

Rx

 Olei Eucalypti m.x.

 Olei Theobromatis 4.S.

Fiat pessus, Mitte tales each of 15 grain

Signa : Unus hora somni utendus. D.V. of E. oil - 1

- f) Describe the methods of evaluation of suspension.



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**Marks**  
**16**

**1. Attempt any EIGHT of the following:**

- a) Give structure and method of numbering of (any two)
  - i) Purine
  - ii) Phenothiazine
  - iii) Piperidine
- b) Write structure of following groups (any two)
  - i) Allyloxy
  - ii) Benzoyl
  - iii) Isopropyl
- c) Give popular brand name of (any two)
  - i) Paracetamol
  - ii) Furosemide
  - iii) Metformin
- d) Give the name and structure of drug containing following hetero cycle (any two)
  - i) Piperazine
  - ii) Benzodiazepine
  - iii) Piperidine
- e) Classify antiseptics and disinfectant with suitable examples.
- f) Give the structure and uses of coramine.
- g) Name the drug used for treatment of (any two)
  - i) Glaucoma
  - ii) Gout
  - iii) Hypothyroidism
- h) Write uses of following : (any two)
  - i) Evans blue,
  - ii) Congo Red,
  - iii) Iopanoic Acid
- i) Write structure with numbering (any two)
  - i) Isoxazole
  - ii) Isoquinoline
  - iii) Imidazole
- j) Define the following terms (any two)
  - i) Anticoagulants
  - ii) Antiarrhythmic Agents
  - iii) Analgesics
- k) Give stability storage condition of (any two)
  - i) Insulin
  - ii) Halothane
  - iii) Acetylcholine
- l) Write Structure and chemical name of (any two)
  - i) Hydrochlorothiazide
  - ii) Menadione
  - iii) Neostigmine

**2. Attempt any FOUR of the following:**

12

- a) Differentiate between general and local anaesthetics. Write structure and chemical name of Lignocaine.
- b) Define and classify Diuretic drugs with examples. Draw the structure of furosemide.
- c) Define and classify Antineoplastic drugs with examples. Give properties of Methotrexate.
- d) Give structure, chemical name and uses of phenylbutazone.
- e) Enlist the uses of any three fat soluble vitamins.
- f) Define Hypoglycemic agents. Classify them with examples. Give structure of chlorpropamide.

**3. Attempt any FOUR of the following:**

12

- a) What are steroids ? Draw the basic steroidal nucleus with numbering. Give the official preparations and uses of testosterone.
- b) What is contraindication. Give its composition, mechanism of antibacterial action and official preparations.

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- c) Define and classify Antihistamines with examples. Draw structure of Diphenhydramine.
- d) Classify Tranquillizers. Draw structure of Tranquillizers containing
  - i) Phenothiazine ring
  - ii) Piperidine Ring.
- e) Define and classify Analeptics. Name an analeptic which is a Xanthine derivative. Also write structure and chemical name.
- f) Classify Antibiotics according to chemical structure with example. Draw structure of Ampicillin.

**4. Attempt any FOUR of the following: 12**

- a) Draw structure with chemical name (any three)
  - i) Penicillin - V
  - ii) Pyrimethamine
  - iii) Sulfaguanidine
  - iv) Ephedrine
- b) Define and classify Hypnotics and sedative. Draw structure of Phenobarbitone.
- c) Give structure, chemical name and uses of Thyroxine.
- d) Define and classify Antitubercular agents with examples. Draw structure of antitubercular containing pyridine nucleus.
- e) Classify Antiseptics and Disinfectants with examples. Write the structure of chlorocresol.
- f) What are cardio vascular agents? Classify it with examples.

**5. Attempt any FOUR of the following: 12**

- a) Explain anti-inflammatory agent with classification. Give name, structure and properties of indole containing anti-inflammatory agent.
- b) Define and classify Antidepressant. Draw structure and give chemical name of Imipramine.
- c) Classify Antimalarial with suitable examples. Give name, structure of quinoline containing antimalarial agent.
- d) Explain antihypertensive agent with example
- e) Draw the structure of (any three)
  - i) Proflavine
  - ii) Sulfadiazine
  - iii) Ethambutol
  - iv) Metronidazole
- f) Give medicinal uses of (any three)
  - i) Tetracycline
  - ii) Aspirin
  - iii) Propranolol
  - iv) Neostigmine

**6. Attempt any FOUR of the following: 16**

- a) Define and classify General Anaesthetics with examples. Draw the structure of Diethylether and Halothane.
- b) Write different classification of sulfonamide with example. Give properties, uses and structure of sulfacetamide.
- c) Explain Adrenergic drugs with classification. Give properties, structure and popular brand name of Isoprenaline.
- d) Write structure with chemical name of (any four)
  - i) Dapsone
  - ii) Phenformin
  - iii) D.E.C.
  - iv) Chlorpheniramine
  - v) Aspirin
- e) What are Beta adrenergic blocker ? Classify adrenergic antagonist. Write structure and therapeutic uses of propranolol.
- f) Explain basic chemical structure of penicillins. Enlist different penicillins. Give structure, chemical name and properties of penicillin-G.

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3 Hours / 80 Marks



0813

Seat No.

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- Instructions* –
- (1) All Questions are Compulsory.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Define the following terms and give TWO suitable examples of each.** **16**

a) Anticonvulsants	b) Haemostatic Agents
c) Antithyroid Drugs	d) Miotics
e) Antineoplastics	f) Tranquillizers
g) Cholinergic Agents	h) Autocoids
i) Plasma Expanders	j) Antifungal agents
  
2. **Attempt any FOUR of the following:** **12**
  - a) Describe pharmacological profile of oral contraceptive.
  - b) Explain triple response of histamine and define antihistaminic drugs with example.
  - c) What is preanesthetic medication? What is its purpose and which categories of drugs are employed for it?
  - d) Define drug tolerance. Describe different types of drug tolerance.
  - e) Define diarrhoea. Classify antidiarrheal drugs. Mention their (any 2 classes) mechanism of action.
  - f) Mention different routes of drug administration. Give advantages and disadvantages of Inhalation.
  
3. **Attempt any FOUR of the following:** **12**
  - a) Drug of choice :-

i) Typhoid	ii) Cardiac arrhythmia
iii) Candidiasis	iv) Motion Sickness
v) Gout	vi) Round worm infection
  - b) Adverse effect :-

i) Phenobarbitone	ii) Adrenaline
iii) Quinine	iv) Propranolol
v) Ibuprofen	vi) Ethambutol
  - c) Name one drug each which produces following effect.

i) Hypoglycemia	ii) Gray baby syndrome
iii) Tinnitus	iv) Euphoria
v) Photophobia	vi) Bone and teeth deformity

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- d) Name the drug contraindicated in following condition.
- |                 |                       |
|-----------------|-----------------------|
| i) Peptic Ulcer | ii) Liver damage      |
| iii) Insomnia   | iv) Myasthenia gravis |
| v) Pregnancy    | vi) Glaucoma          |
- e) Mention the trade name for following drugs.
- |                  |                |
|------------------|----------------|
| i) Progesterone  | ii) Folic acid |
| iii) Paracetamol | iv) Diazepam   |
| v) Bisacodyl     | vi) Metformin  |
- f) Mention preferable route of administration of following drugs.
- |                       |                    |
|-----------------------|--------------------|
| i) Insulin            | ii) Lignocaine     |
| iii) Trinitroglycerin | iv) Cyclopentolate |
| v) Diclofenac         | vi) Vitamin K      |

**4. Attempt any FOUR of the following:** **12**

- State the therapeutic uses and side effects of the tetracycline.
- Mention factors affecting drug absorption. Explain Physiological (any 2) factors.
- Discuss the symptoms and treatment of belladonna poisoning.
- What is therapeutic index? Explain what is margin of safety?
- Define and classify diuretics with examples.
- What is Diabetes Mellitus? Classify antidiabetic drugs with suitable examples.

**5. Attempt any FOUR of the following:** **12**

- Classify anticoagulants. Give mechanism of action of Warfarin.
- What is hypertension? Classify antihypertensives with one example each.
- Define bronchial asthma. Give its types. Discuss treatment of status asthmaticus.
- What are gastric antacids? Mention properties of good antacid.
- Classify NSAIDs with one example each. Give treatment for Salicylate poisoning.
- Give mechanism of action for. (any two)
  - Digitalis
  - Angiotensin converting enzyme inhibitors
  - Local Anaesthetics

**6. Give reason for following statement. (Any EIGHT)** **16**

- Multidrug therapy is effective in the treatment of T.B.
- Neostigmine is used along with Atropine in myasthenia gravis.
- Use of purgative is essential with piperazine.
- Adrenaline is present in emergency kit of physician.
- Chlorpromazine is called Largactil.
- Sulphonamides are not much in use now a days.
- Toxicity of digitalis is increased by Chlorthiazide.
- Probiotics are sometimes administered with antibiotics.
- Ephedrine is used as mydriatic in elderly people.
- Why Carbidopa is given along with Levodopa?

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3 Hours / 80 Marks



0814

Seat No. 

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Figures to the right indicate full marks.
  - (4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any EIGHT of the following:**

16

- a) Differentiate between the law and ethics.
- b) Give the objective of the Drugs and Magic Remedies Act, 1954.
- c) Discuss offences and penalties of Medical Termination of Pregnancy Act, 1971.
- d) Define 'Poison'. Give two examples of Poisons under Poisons Act, 1919.
- e) List the facilities provided for termination of Pregnancy under MTP Act, 1971.
- f) Define 'Restricted Preparation' and 'Unrestricted Preparation' as per Medicinal and Toilet preparation Act, 1955.
- g) Give two import and recommendation of D.E.C.
- h) State any two measures of combating abuse of narcotic drug and illicit traffic under NDPS Act, 1985.
- i) What does schedule H and G prescribe as per D & C Act, 1940.
- j) Give offences and penalties under Pharmacy Act, 1948.
- k) What are objectives of Drugs (Price Control) order, 1995?
- l) Define the following term:
  - i) 'Minor' as per MTP Act 1971
  - ii) 'Magic Remedies' as per Drugs and Magic Remedies (O.A.) Act 1954.

2. **Attempt any FOUR of the following:**

12

- a) Define the term:
  - i) Bulk drug
  - ii) Formulation
  - ii) Ceiling Pricesas per Drugs (Price Control) order, 1995.
- b) State in brief different operations which are permitted and regulated by the state Government under NDPS Act, 1985
- c) Give functions of central drug laboratory (CDL) under D & C Act, 1940.
- d) Define Education Regulations. What does it prescribe as per Pharmacy Act, 1948?
- e) How 'Veterinary Drugs and Schedule X Drugs' are stores in a Pharmacy Store as per D & C Act 1940?
- f) Give various particulars required to be mentioned in application for obtaining license for manufacture in bond as per Medicinal and Toilet Preparation Act, 1955.

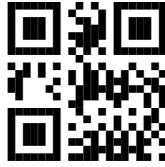


3. **Attempt any FOUR of the following:** 12
- Give any three conditions of licence for retail sale of schedule C & C 1 drugs under D & C Act, 1940.
  - Explain the role of Pharmacist in healthcare system.
  - Which categories of the advertisement are prohibited to be made as per Drugs and Magic Remedies (O.A.) Act, 1954.
  - Explain how 'Record of Retail Supply of Schedule X Drugs' kept by a Pharmacist under D & C Act, 1940.
  - Differentiate between bonded laboratory and Non-bonded laboratory under Medicinal and Toilet Preparation Act, 1955.
  - Explain the role of Pharmacist in relation to the 'Medical Profession'.
4. **Attempt any FOUR of the following:** 12
- Write nominated and ex-officio members of DTAB as per D & C Act, 1940.
  - Define the term:
    - Cannabis
    - Opium
    - Narcotic drug under NDPS Act, 1985.
  - Give the formula for calculation of retail price of formulation as per DPCO, 1995. Explain each term used in the formula.
  - How Diploma in Pharmacy Institute in India are approved by Central Council as per Pharmacy Act 1948?
  - State the various rules prescribed by state government for possession, possession for sale and for sale of poisonous substances under Poison Act, 1919.
  - What special details are required to be mentioned on the label of "Ophthalmic Preparation" as per Drugs and Cosmetic Act, 1940.
5. **Attempt any FOUR of the following:** 12
- Define "Adulterated Drug and New Drug" as per the Drugs and Cosmetic Act, 1940.
  - How to fix the prices of Bulk Drugs as per DPCO Act, 1995?
  - Write the functions of the 'Pharmacy Council of India' under Pharmacy Act, 1948.
  - Discuss any six offences and penalties of NDPS Act, 1985.
  - Explain the role of Pharmacist in relation to his job.
  - Explain labelling and packing of Ayurvedic (Including Siddha) or Unani Drugs as per D & C Act, 1940.
6. **Attempt any FOUR of the following:** 16
- Write offences and penalties as per medicinal and toilet preparation (Excise Duties) Act, 1955.
  - Differentiate between state Pharmacy Council and Joint State Pharmacy Council under Pharmacy Act, 1948.
  - Give duties of Drug Inspector in relation to manufacture of drugs and cosmetics under D & C Act, 1940.
  - Define the terms as per D & C Act, 1940:
    - Cosmetics
    - Drug Store
    - Pharmacy
    - Loan license
  - What are the bonafied reason for termination of Pregnancies by RMP as per Medical Termination of Pregnancy Act, 1971.
  - What are different forms in which licences are issued for the sell, stock, exhibit for sale as per D & C Act, 1940?



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3 Hours / 80 Marks



0815

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Attempt any EIGHT of the following:** **16**
- a) State various forms of Business Organization.
  - b) Define budget. What is budgetary Control?
  - c) Define Bank. Enlist different types of Bank.
  - d) Define the terms:-
    - i) Accounting
    - ii) Safety Stock
  - e) Give the typical layout design for drug store.
  - f) Define trial balance. Write its objectives.
  - g) State any four advantages of double entry book keeping.
  - h) Write four salient features of joint stock company.
  - i) Define the term Economics. State various elements of economics.
  - j) Define scrap. State different types of scrap.
  - k) Define
    - i) Training
    - ii) Recruitment
  - l) Define codification of drug. Enlist different methods of codifications.
2. **Attempt any FOUR of the following:** **12**
- a) Define aids to trade. Enlist various aids to trade. Explain any two of it.
  - b) Give detailed classification of retailers. Explain itinerant retailers.
  - c) Define market research. Explain various survey method of market research.
  - d) Differentiate between joint stock company and partnership firm.
  - e) Explain mail order business. Write its advantages and disadvantages.
  - f) Define salesmanship. State qualities of a good salesman.
3. **Attempt any FOUR of the following:** **12**
- a) Differentiate between a trial balance and a balance sheet.
  - b) Write main objectives of financial planning. Explain types of finances required for business.
  - c) Describe evaluations system of the pharmacist.
  - d) Explain VED analysis of inventory control.
  - e) Explain departmental stores. State its advantages and disadvantages.
  - f) State the advantages of co-operative society business.

P.T.O.



4. **Attempt any FOUR of the following:** 12
- a) Write any six functions of wholesalers.
  - b) Explain maximum stock level, minimum stock level and re-order level.
  - c) Write any six functions of bank.
  - d) Define sales promotion. Give various techniques of sales promotion.
  - e) Define Journal? Draw its format and give advantages.
  - f) Give salient features of joint Hindu Family Business.
5. **Attempt any FOUR of the following:** 12
- a) Define the term 'Day-Book'. Explain the various types of Day-Books.
  - b) Enlist different documents required to open a retail drug store.
  - c) State and explain different methods of perpetual system of inventory control.
  - d) Explain the various stages of purchasing procedure.
  - e) Define the term Accounting concept and convention. Enlist various concepts and conventions.
  - f) Define industry. Explain any two kind of manufacturing industry.
6. **Attempt any FOUR of the following:** 16
- a) Explain the term ledger. Give its importance, draw format of ledger.
  - b) Explain different functions of management.
  - c) Define E-O-Q. Mention different methods of E-O-Q.
  - d) Give the meaning of cash book? Describe various types of cash books.
  - e) Explain, objectives and branches of Accounting.
  - f) Write the meaning of window display. Give principle of effective window display.
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3 Hours / 80 Marks



0816

Seat No. 

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
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  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any EIGHT of the following:**

**16**

- a) Define the following terms. (any two)
  - i) Hospital pharmacy
  - ii) Patient compliance
  - iii) Drug dependence
- b) Translate into english. (any two)
  - i) Cataplasma
  - ii) Hora somni
  - iii) Unus
- c) Give normal values of (any two)
  - i) Blood cholesterol
  - ii) WBC
  - iii) Haemoglobin
- d) Enlist the ideal properties of parental products.
- e) Write the different sources of information for DIC.
- f) What advice must be given to patients while using following drugs. (any two)
  - i) Ampicillin
  - ii) Phenytoin
  - iii) Salicylates
- g) Write the use of following instruments in hospital. (any two)
  - i) Aneurysm needle
  - ii) Haemostatic forcep
  - iii) Rubber catheters
- h) Explain the types of outpatients.
  - i) What is difference between sign and symptom of a disease.
- j) Write the objectives of clinical pharmacy.
- k) Define floor stock drugs. Explain its types.
- l) Explain the following (any two)
  - i) Allergic drug reaction
  - ii) CT scanner
  - iii) ECG



2. **Attempt any FOUR of the following:** 12
- Classify hospitals on non-clinical basis.
  - Write the functions of hospital pharmacy.
  - Explain the drug distribution system in OPD.
  - What is unit dose dispensing. Give its benefits.
  - Explain scope of clinical pharmacy services.
  - Enlist the abilities required for hospital pharmacist. Explain any two of them.
3. **Attempt any FOUR of the following:** 12
- How non-charge floor stock drugs are dispensed in hospital.
  - Explain the administrative patterns in CSSD department.
  - Describe the methods of estimation of demand in hospital.
  - Write the role of pharmacist in patient counselling.
  - Explain the layout of sterile product area.
  - What is legal significance of hospital formulary.
4. **Attempt any FOUR of the following:** 12
- What is purchase procedure in hospital.
  - Write pathophysiology and sign and symptoms of diabetes.
  - Explain drug food interaction with examples.
  - Write the functions of PTC.
  - Define ADR. Give reasons for ADR.
  - Write in detail about bulk concentrates.
5. **Attempt any FOUR of the following:** 12
- Write the symptoms and treatment for opium poisoning.
  - Define surgical dressings. Give any four test for evaluation of absorbent cotton wool I.P.
  - Explain role of computer in maintenance of records.
  - Differentiate between drug addiction and drug habituation.
  - Enlist the factors affecting bioavailability and explain any one pharmaceutical factors.
  - What qualities are required for pharmacist to run DIS.
6. **Attempt any FOUR of the following:** 16
- Who is administrator? Explain his responsibilities in hospital.
  - Explain the following
    - Analeptics
    - Carminatives
    - Sialagogues
    - Expectorant
  - Describe the steps in sterile product preparation.
  - Define drug interaction and explain any two pharmacodynamic mechanisms with examples.
  - Write the pathophysiology and sign and symptoms of tuberculosis or rheumatoid arthritis.
  - Classify antidotes with examples.
-