BP706T · B.Pharm Semester VII · Theory Notes

Pharmacy Practice

Unit II — Hospital and Community Pharmacy (10 hours)

Unit II (10 hours)

Pills & Python Notes

From-zero teaching standard: every technical term is defined before use.

Syllabus coverage: Unit II (10 hours).

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CHAPTER 3: Hospitals — Classification, Organization and Staff

Learning Objectives

After studying this chapter, the student will be able to:

1 Define a hospital in simple words.

2 Classify hospitals by ownership, size, type of care, teaching status and other bases.

3 Describe the organisation (structure) of a hospital with an organogram.

4 List the categories of hospital staff and explain the role of each category.

5 Explain how the different departments and staff work together for patient care.

Definitions

- **Hospital:** An institution (organisation) that provides medical treatment, nursing care and related health services to sick and injured people, with beds for patients who need to stay, plus doctors, nurses and support staff working together.
- **Classification:** Dividing things into groups based on common features — for example, grouping hospitals by who owns them or how big they are.
- **Organisation (of a hospital):** The planned arrangement of departments, staff and responsibilities — who reports to whom and who does what — so the hospital runs smoothly.
- **Organogram (organisation chart):** A diagram showing the structure of an organisation — boxes for posts/departments joined by lines showing reporting relationships.
- **Outpatient department (OPD):** The part of the hospital where patients are examined and treated without being admitted.
- **Inpatient department (IPD):** The wards where admitted patients stay and receive treatment.
- **Emergency/casualty:** The department that handles urgent, life-threatening cases at any time, day or night.
- **Teaching hospital:** A hospital attached to a medical college where medical, pharmacy and nursing students are trained along with patient care.

Terminology Table

Term	Meaning
Hospital	An institution providing medical treatment and nursing care, with beds for admitted patients
Classification	Grouping hospitals by common features (ownership, size, type of care, etc.)

Term	Meaning
Organisation	Planned arrangement of departments, staff and duties in the hospital
Organogram	Diagram showing who reports to whom in the organisation
OPD	Outpatient department — treatment without admission
IPD	Inpatient department — wards for admitted patients
Casualty / Emergency	Department for urgent, life-threatening cases, open 24 hours
Teaching hospital	Hospital attached to a medical college; trains students plus treats patients
Administrator	The manager who runs the hospital's day-to-day operations
Paramedical staff	Trained support staff for medical work — lab technicians, radiographers, physiotherapists
Referral	Sending a patient to a higher-level hospital for specialised care

Simple Explanations

Concept 1: What is a hospital?

Simple explanation: A hospital is a large health institution where sick or injured people are examined, treated and nursed. Unlike a small clinic, a hospital has beds for patients who must stay (inpatients), many departments (medicine, surgery, pharmacy, laboratory, X-ray), and staff working round the clock. Its goals are: treat patients, prevent disease, train health workers, and sometimes do research.

Example: A person with severe pneumonia cannot be treated at home — they are admitted to a hospital ward, given oxygen, injections and nursing care, monitored by doctors, and discharged when recovered. A small clinic could not provide all this.

Textual diagram/flowchart:

```
Patient arrives (OPD / Emergency)
        |
Examined by doctor → tests (lab, X-ray)
        |
   +----+----+
   |         |
Minor case  Serious case
treated &   admitted to ward (IPD)
sent home         |
           Treatment + nursing + medicines + monitoring
                  |
           Recovery → discharge with advice
```

Key takeaway: A hospital = beds + many departments + round-the-clock staff, working together to treat, nurse, prevent disease and train health workers.

Concept 2: Classification of hospitals

Simple explanation: Hospitals are of many types, so we classify (group) them to understand them. Common bases: (1) **ownership** — who owns it (government, private, trust/charitable); (2) **size** — number of beds (small, medium, large); (3) **type of care** — general (many diseases) or specialised (only heart, only

cancer, only eyes); (4) **teaching status** — teaching (attached to a college) or non-teaching; (5) **length of stay** — acute (short stay) or chronic/long-term (long stay, e.g., rehabilitation); (6) **system of medicine** — allopathic, ayurvedic, homoeopathic, etc.

Example: A 1000-bed government medical college hospital = public (ownership) + large (size) + general + teaching. A 50-bed private eye hospital = private + small + specialised (eye) + non-teaching.

Textual diagram/flowchart:

```
HOSPITALS classified by:
  +-- OWNERSHIP: government / private / trust-charitable
  +-- SIZE: small (<100 beds) / medium / large (>500 beds)
  +-- TYPE OF CARE: general / specialised (heart, cancer, eye, children...)
  +-- TEACHING: teaching (with college) / non-teaching
  +-- STAY: acute short-stay / long-term (rehabilitation, chronic care)
  +-- SYSTEM OF MEDICINE: allopathic / ayurvedic / homoeopathic / others
```

Key takeaway: One hospital can be described in several ways at once — e.g., "a large government teaching general hospital". Classification helps plan staff, funds and services.

Concept 3: Organisation / structure of a hospital

Simple explanation: A hospital is too big to run without a plan. Its "organisation" is the planned structure: at the top is the governing body/trustees and the director or medical superintendent; below are the main divisions — medical services (doctors), nursing services, pharmacy, laboratory, administration, accounts, housekeeping, maintenance. Each division has a head, and everyone knows who they report to. This structure is drawn as an organogram.

Example: If the X-ray machine breaks, the radiographer does not call the hospital director directly — they report to their department head, who contacts maintenance, which arranges repair. Clear reporting lines prevent confusion.

Textual diagram/flowchart (organogram):

```
                  GOVERNING BODY / TRUSTEES
                            |
                  DIRECTOR / MEDICAL SUPERINTENDENT
                            |
      +-------------+-------------+-------------+-------------+
      |             |             |             |             |
  MEDICAL       NURSING       PHARMACY     LABORATORY    ADMINIST-
  SERVICES      SERVICES      SERVICES     & X-RAY       RATION
  (doctors,     (nursing       (chief       (pathology,    (accounts,
  OPD, IPD,     superin-      pharmacist,   radiology)     purchase,
  emergency,    tendent,      drug store)                  housekeeping,
  operation     ward staff)                                maintenance,
  theatre)                                                 security)
```

Key takeaway: A hospital runs on a clear structure — top leadership, major service divisions, department heads, and clear reporting lines shown in the organogram.

Concept 4: Staff categories and their roles

Simple explanation: Hospital staff fall into categories (groups) by the kind of work they do: (1) **administrative** — manage the hospital (director, managers, accounts); (2) **medical** — doctors who diagnose and treat; (3) **nursing** — nurses who give bedside care; (4) **pharmacy** — pharmacists who manage medicines; (5) **paramedical/technical** — lab technicians, radiographers, physiotherapists; (6) **support services** — housekeeping, kitchen, laundry, security, maintenance. Every category is essential — a hospital cannot run if any one fails.

Example: A surgery needs: the surgeon (medical), the anaesthetist (medical), nurses (nursing), sterile instruments and correct medicines (pharmacy + support), blood test reports (paramedical/lab), a clean theatre (housekeeping), and working lights and oxygen (maintenance). Remove any one, and the surgery is unsafe.

Textual diagram/flowchart:

```
PATIENT CARE needs ALL of:
  Administrative → plans, funds, manages
  Medical (doctors) → diagnose, prescribe, operate
  Nursing → bedside care, give medicines, monitor
  Pharmacy → safe medicines, checking, counselling
  Paramedical → lab tests, X-ray, physiotherapy
  Support → clean wards, food, laundry, security, repairs
```

Key takeaway: Six staff families — administrative, medical, nursing, pharmacy, paramedical, support — each with a distinct role, all needed together for safe patient care.

Classifications

Classification of hospitals (detail)

1. **By ownership:** government (public), private, trust/charitable, corporate.
2. **By size (beds):** small (up to ~100 beds), medium (~100–500 beds), large (above ~500 beds).
3. **By type of care:** general (all major specialities) vs specialised (single speciality — heart, cancer, eye, maternity, children, mental health).
4. **By teaching status:** teaching (attached to medical/nursing/pharmacy college) vs non-teaching.
5. **By length of stay:** acute-care (short stay) vs long-term/chronic-care (rehabilitation, long recovery).
6. **By system of medicine:** allopathic, ayurvedic, homoeopathic, unani, others.

Classification of hospital staff

1. **Administrative staff** — director/medical superintendent, managers, accounts, purchase, HR.
2. **Medical staff** — doctors, surgeons, specialists, resident doctors.
3. **Nursing staff** — nursing superintendent, ward sisters, staff nurses.
4. **Pharmacy staff** — chief pharmacist, pharmacists, pharmacy assistants.
5. **Paramedical/technical staff** — lab technicians, radiographers, physiotherapists, dieticians.
6. **Support staff** — housekeeping, kitchen, laundry, security, maintenance, drivers.

Classification of hospital departments (functional)

1. **Clinical departments** — medicine, surgery, paediatrics, gynaecology, emergency, OPD, IPD wards, operation theatre.
2. **Diagnostic/support departments** — laboratory, radiology (X-ray), pharmacy, blood bank.
3. **Administrative departments** — accounts, purchase, stores, HR, medical records.
4. **General services** — housekeeping, kitchen, laundry, maintenance, security.

Mechanisms / Processes

How a patient moves through a hospital — the process

1. **Registration** — patient details recorded at the reception.
2. **OPD consultation** — doctor examines; advises tests or treatment.
3. **Investigations** — lab tests, X-ray if needed.
4. **Decision** — minor: medicines and home; serious: admission.
5. **Admission (IPD)** — ward allotted; treatment, nursing, medicines begin.
6. **Monitoring** — doctors' rounds, nurses' observations, pharmacist's therapy review.
7. **Discharge** — recovery confirmed; discharge summary and medicines explained.

How departments coordinate — the process

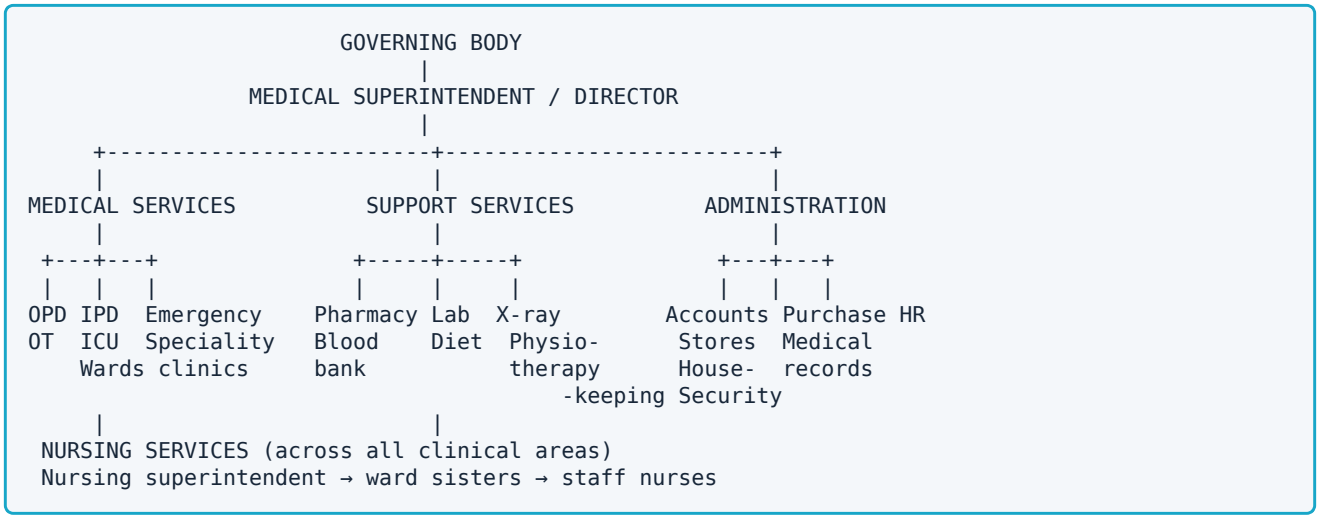
1. Doctor orders tests → laboratory/radiology performs them → reports return to doctor.
2. Doctor prescribes → pharmacy checks and supplies → nurse administers → nurse observes effects.
3. Any problem (reaction, error) → reported back to doctor and pharmacist → therapy adjusted.
4. Administration supports all steps with staff, funds and facilities.

How staff categories depend on each other — the process

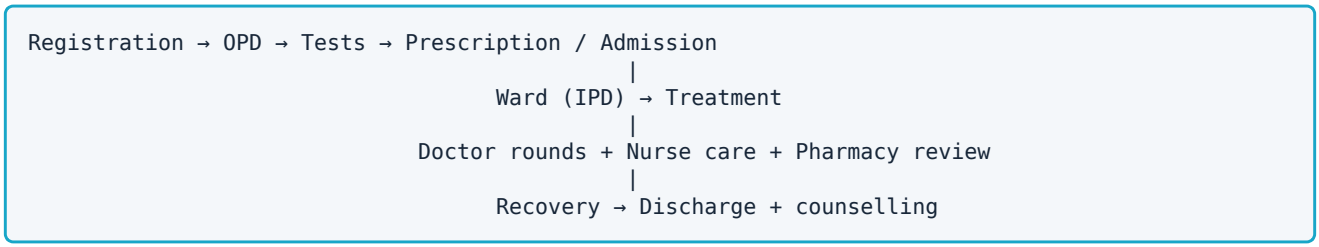
1. **Medical** decides treatment.
2. **Pharmacy** ensures the medicines are correct, safe and available.
3. **Nursing** administers and monitors at the bedside.
4. **Paramedical** provides test results that guide treatment.
5. **Support** keeps the environment clean, fed and functional.
6. **Administrative** keeps the whole machine funded and staffed.

Textual Diagrams and Flowcharts

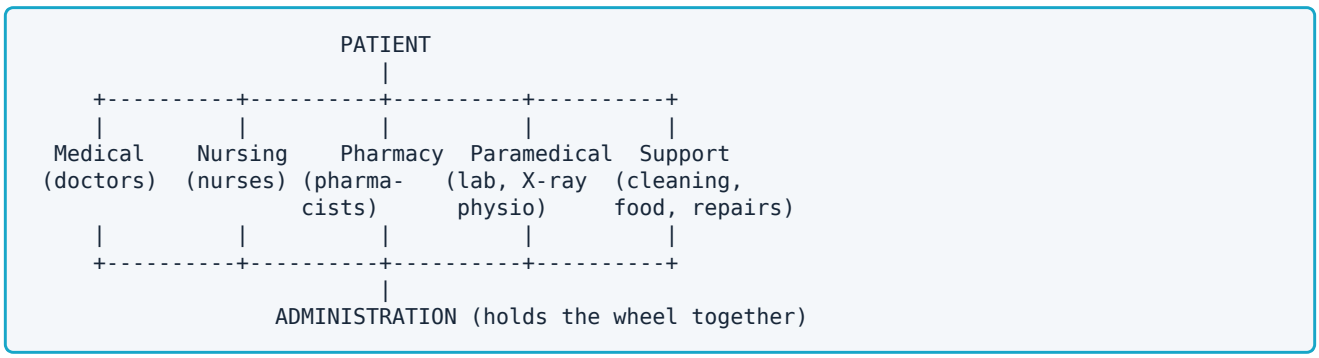
Hospital organogram (detailed)



Patient flow through the hospital



Staff teamwork wheel



Infographic Concept

INFOGRAPHIC CONCEPT: A hospital building cutaway titled "Inside a Hospital — Who Does What?". Six colour-coded floors/rooms, each labelled with a staff family and icon: (1) Administration — office with files and calculator; (2) Medical — doctor with stethoscope in OPD/ward; (3) Nursing — nurse at a patient's bedside; (4) Pharmacy — pharmacist checking medicines on shelves; (5) Paramedical — lab technician with microscope and X-ray image; (6) Support — housekeeping, kitchen, security and maintenance icons. Arrows connect all rooms to a central patient figure with the caption "Every hand matters — six teams, one patient." Side strip: "Classify any hospital by: Ownership • Size • Type of care • Teaching status • Length of stay • System of medicine."

Tables

Table 1: Classification of hospitals — summary

Basis	Types	Example
Ownership	Government, private, trust/charitable, corporate	Government medical college hospital; private nursing home
Size (beds)	Small (~100), medium (~100–500), large (>500)	50-bed eye hospital (small); 1200-bed teaching hospital (large)
Type of care	General, specialised	General district hospital; cancer institute (specialised)
Teaching status	Teaching, non-teaching	Medical college hospital (teaching); private clinic-hospital (non-teaching)
Length of stay	Acute short-stay, long-term/chronic	General hospital; rehabilitation centre
System of medicine	Allopathic, ayurvedic, homoeopathic, others	Ayurvedic hospital

Table 2: Hospital staff categories and roles

Staff category	Who they are	Main role
Administrative	Director/medical superintendent, managers, accounts, HR	Run, fund and manage the hospital
Medical	Doctors, surgeons, specialists	Diagnose, prescribe, operate
Nursing	Nursing superintendent, sisters, staff nurses	Bedside care, administer medicines, monitor patients
Pharmacy	Chief pharmacist, pharmacists	Safe supply of medicines, checking, counselling
Paramedical/technical	Lab technicians, radiographers, physiotherapists, dieticians	Tests, X-ray, therapy, diet plans
Support services	Housekeeping, kitchen, laundry, security, maintenance	Clean, safe, functional hospital environment

Table 3: Key hospital departments and what happens there

Department	Function
OPD	Examination and treatment without admission
Emergency/Casualty	Urgent care, open 24 hours
IPD wards	Care of admitted patients
Operation theatre	Surgeries under sterile conditions
ICU	Intensive care for critical patients
Laboratory	Blood, urine and other tests
Radiology	X-ray, ultrasound, scans
Pharmacy	Medicine supply, checking, dispensing, counselling
Blood bank	Safe storage and supply of blood
Medical records	Patient files and data

Examples

1 **Definition:** A building with 200 beds, OPD, wards, operation theatre, laboratory and 24-hour emergency is a hospital; a single-doctor room with no beds is a clinic, not a hospital.

2 **Ownership:** A district government hospital (government), a charitable trust hospital (trust), a corporate chain hospital (corporate/private).

3 **Size:** A 30-bed maternity home (small); a 600-bed medical college hospital (large).

4 **Type of care:** A heart institute treating only cardiac patients (specialised); a district hospital treating all diseases (general).

5 **Teaching status:** A hospital where MBBS and nursing students train (teaching); a standalone private hospital with no students (non-teaching).

6 **Organogram use:** A new nurse knows she reports to the ward sister, who reports to the nursing superintendent — no confusion about whom to approach.

7 **Staff teamwork:** In a road-accident case — casualty doctor stabilises, radiographer takes X-ray, pharmacist supplies emergency medicines, nurse monitors, housekeeping keeps the area clean.

8 **Support role:** Without the kitchen, admitted patients get no diet; without maintenance, oxygen supply fails — support staff are lifelines too.

Analogies

1 **Hospital like a small city:** A city has a mayor (director), police (security), water and electricity (maintenance), markets (pharmacy/store), schools (teaching) — a hospital similarly needs every department to function.

2 **Organogram like a family tree:** Just as a family tree shows who is related to whom, an organogram shows who reports to whom.

3 **Classification like sorting clothes:** You sort clothes by colour, size and type to find things easily. Classifying hospitals by ownership, size and type helps planners understand and manage them.

4 **Staff categories like body parts:** The brain (administration) plans, the heart (medical/nursing) pumps life, the hands (pharmacy/paramedical) do the skilled work, the legs (support) carry everything. All are needed.

5 **Departments like cricket field positions:** Different fielders stand at different places, but all protect the same total. Different departments handle different tasks, but all serve the same patient.

Pharmacy Relevance

This chapter is the map of the hospital — the pharmacist's main workplace. Knowing the classification tells you what kind of hospital you may work in (a teaching hospital needs clinical pharmacy; a small nursing home needs good dispensing and inventory). The organogram shows where the pharmacy department sits and whom the chief pharmacist reports to. Knowing every staff category's role helps the pharmacist collaborate — for example, working with nurses on drug administration and with the lab on test reports. In exams, "classify hospitals", "draw the organogram" and "describe hospital staff and their functions" are

standard long questions.

India Context

India has all types of hospitals: large government teaching hospitals and district hospitals, PHC/CHC-linked referral chains, charitable trust hospitals, and private/corporate hospitals. Government hospitals serve huge patient loads with limited resources, so organisation and teamwork matter enormously. In India, the pharmacist in a hospital works under the pharmacy department headed by a chief pharmacist, coordinating with doctors and nurses — and always "as per the latest guidelines/notifications — confirm the current edition" for any regulatory point. Classification by system of medicine is especially relevant in India, with ayurvedic and homoeopathic hospitals alongside allopathic ones.

Key Points

1. A hospital = institution with beds, many departments and 24-hour staff for treatment, nursing, prevention and training.
2. Hospitals are classified by ownership, size, type of care, teaching status, length of stay and system of medicine.
3. Organisation = planned structure of departments and reporting lines, drawn as an organogram.
4. Top of the organogram: governing body → director/medical superintendent → service divisions.
5. Six staff categories: administrative, medical, nursing, pharmacy, paramedical/technical, support.
6. Departments group into clinical, diagnostic/support, administrative and general services.
7. Every category is essential — patient care is teamwork.

Common Confusions

1. **Hospital vs clinic:** A clinic has no inpatient beds and few departments; a hospital has beds, many departments and 24-hour services.
2. **OPD vs IPD:** OPD = patients go home the same day; IPD = patients are admitted to wards.
3. **Teaching vs non-teaching hospital:** Teaching = attached to a college and trains students; non-teaching = only treats patients.
4. **General vs specialised hospital:** General treats many diseases; specialised focuses on one field (heart, cancer, eye).
5. **Organogram vs organisation:** Organisation is the actual arrangement; organogram is its diagram on paper.
6. **Paramedical vs support staff:** Paramedical do technical medical work (lab, X-ray); support staff do non-medical services (cleaning, food, security).

Common Mistakes

1. Listing only one basis of classification — exams expect several (ownership, size, type of care, teaching status, etc.).

2 Drawing an organogram without the top leadership (governing body → director) — always start at the top.

3 Forgetting the pharmacy department in the organogram or placing it under nursing — it is its own service division.

4 Describing only doctors and nurses as "hospital staff" — all six categories must be covered.

5 Confusing casualty/emergency (urgent care department) with "casualty" as deaths — in hospital terms it means the emergency department.

Mnemonics

- **Classification bases — "O-S-T-T-L-M" ("Only Smart Teams Take Long Meetings"): O**wnership, **S**ize, **T**ype of care, **T**eaching status, **L**ength of stay, **M**edicine system.
- **Staff categories — "A-M-N-P-P-S" ("All Members Need Proper Payment Soon"): A**dministrative, **M**edical, **N**ursing, **P**harmacy, **P**aramedical, **S**upport.
- **Hospital goals — "T-P-T-R" ("Treat People, Teach and Research"): T**reat patients, **P**revent disease, **T**rain workers, **R**esearch.
- **Organogram order:** "Top → Divisions → Departments → Staff" — like a tree: trunk, branches, twigs.

Exam Summary

A hospital is an institution with beds, multiple departments and round-the-clock staff that treats patients, prevents disease, trains health workers and conducts research. Hospitals are classified by ownership (government/private/trust), size (beds), type of care (general/specialised), teaching status, length of stay and system of medicine. The organisation of a hospital is its planned structure — governing body, director/medical superintendent, and divisions for medical, nursing, pharmacy, laboratory and administration — shown diagrammatically as an organogram. Hospital staff fall into six categories: administrative (manage), medical (diagnose and treat), nursing (bedside care), pharmacy (safe medicines), paramedical/technical (tests and therapy) and support (clean, safe, functional environment). All departments and staff work as one team centred on the patient.

One-Minute Revision

- Hospital = beds + departments + 24-hour staff; goals: treat, prevent, train, research.
- Classification: ownership, size, type of care, teaching status, length of stay, system of medicine.
- Organogram: governing body → director → medical, nursing, pharmacy, lab, admin divisions.
- Staff: administrative, medical, nursing, pharmacy, paramedical, support.
- Departments: clinical, diagnostic/support, administrative, general services.
- Teamwork: every category essential for the patient.

Questions

Short answer questions

1 Define a hospital.

2 Define an organogram.

3 What is a teaching hospital?

4 Differentiate between OPD and IPD.

5 List the six categories of hospital staff.

6 Name any four bases of hospital classification.

7 What is the role of paramedical staff?

8 What is the role of support staff?

Long answer questions

1 Define a hospital and classify hospitals on different bases with examples.

2 Describe the organisational structure of a hospital with the help of an organogram.

3 Describe the various categories of hospital staff and their functions.

4 Explain how the different departments of a hospital coordinate for patient care.

5 Write a note on the functional departments of a hospital.

MCQs (with answer key)

1 A hospital must have:

a) Only a doctor's chamber b) Beds for admitted patients, multiple departments and round-the-clock staff c) Only a medicine shop d) Only an X-ray machine **Answer: b**

1 Classification of hospitals by ownership includes:

a) Government, private, trust/charitable b) Tall, short c) Red, blue d) Morning, evening **Answer: a**

1 A 1000-bed medical college hospital is best described as:

a) Small, private, specialised b) Large, government, teaching, general c) Small, teaching, ayurvedic d) Medium, non-teaching, specialised **Answer: b**

1 A hospital treating only heart patients is:

a) A general hospital b) A specialised hospital c) A clinic d) A PHC **Answer: b**

1 In the organogram, the pharmacy department is:

a) Under the nursing department b) Its own service division reporting to top hospital leadership c) Not shown d) Under the kitchen **Answer: b**

1 The main role of nursing staff is:

a) Hospital accounts b) Bedside care, administering medicines and monitoring patients c) Repairing machines d) Cooking food **Answer: b**

1 Lab technicians and radiographers belong to:

a) Administrative staff b) Paramedical/technical staff c) Support staff d) Medical staff (doctors) **Answer: b**

1 Housekeeping, kitchen and security belong to:

a) Medical staff b) Support services staff c) Paramedical staff d) Pharmacy staff **Answer: b**

1 The emergency (casualty) department:

a) Works only on Sundays b) Handles urgent cases and works 24 hours c) Only dispenses medicines d) Is the same as the accounts office **Answer: b**

1 Which of the following is a goal of a hospital?

a) Only earning profit b) Treatment, disease prevention, training of health workers and research c) Only selling medicines d) Only building construction **Answer: b**

Viva questions

1 Define a hospital in one sentence.

2 Name three bases of hospital classification.

3 What does OPD stand for? IPD?

4 Who heads the nursing services?

5 Where does the pharmacy department sit in the organogram?

6 Give one role each of administrative, medical and support staff.

7 What is the difference between a general and a specialised hospital?

Application-based questions

1 You are asked to describe a "350-bed private cancer hospital attached to no college". Classify it on all six bases you have learned.

2 Draw a simple organogram for a 200-bed general hospital, showing where the pharmacy department fits.

3 A hospital's operation theatre list is delayed because instruments are not sterile, medicines have not reached, and the anaesthetist has no blood report. Which staff categories are involved, and what should each have done?

References

- Hassan
- Harman
- Merchant & Qadry

- Parmar
- Parthasarathi/Hansen/Nahata
- Shargel

CHAPTER 4: Hospital Pharmacy Organization and the Pharmacy and Therapeutic Committee

Learning Objectives

After studying this chapter, the student will be able to:

1 Define a hospital pharmacy in very simple words.

2 List the objectives (goals) and functions (daily jobs) of a hospital pharmacy.

3 Draw the organization chart (who reports to whom) of a hospital pharmacy.

4 Describe the ideal location and layout of a hospital pharmacy.

5 Explain the staff requirements and responsibilities of hospital pharmacists.

6 Define the Pharmacy and Therapeutic Committee (PTC).

7 Describe the composition (who sits on it) of the PTC.

8 Explain the functions of the PTC, including its role in policy-making and rational drug use.

9 Explain drug inclusion into the formulary, inpatient and outpatient prescriptions, automatic stop order, and the emergency drug list — terms used in PTC work.

10 Answer exam questions on this topic with confidence.

Definitions

- **Hospital pharmacy:** The department inside a hospital that is responsible for buying, storing, preparing, and giving out medicines, and for giving advice about medicines to doctors, nurses, and patients. Think of it as "the medicine department of the hospital."
- **Hospital pharmacist:** A qualified pharmacist (a person who has completed a pharmacy degree and is registered with the pharmacy council) who works in a hospital pharmacy and is responsible for all medicine-related work.
- **Organization (of a hospital pharmacy):** The planned arrangement of people, rooms, and work — who does what, who reports to whom, and where each activity happens.
- **Objective:** A goal — what the department wants to achieve.
- **Function:** A job or activity that the department actually performs every day.

- **Pharmacy and Therapeutic Committee (PTC):** A committee (a small group of people appointed to do a job) in a hospital that makes policies (rules) about how medicines are selected, bought, and used. It is the most important committee for medicines in any hospital.
- **Therapeutics:** The branch of medicine that deals with the treatment of disease with medicines. "Therapeutic" means "related to treatment."
- **Rational use of medicines:** Using medicines in a way that is right for the patient: the right medicine, in the right dose, for the right duration, at the lowest cost. (Wrong use = irrational use, e.g., giving an antibiotic for a viral cold.)
- **Policy:** An official rule or decision of the hospital that everyone must follow.
- **Formulary:** The official, approved list of medicines that a hospital keeps and uses (explained in full in Chapter 5).
- **Automatic stop order:** A hospital rule that automatically stops certain medicines after a fixed number of days unless the doctor writes a fresh order to continue them. It prevents medicines being continued for too long by mistake.
- **Emergency drug list:** A special list of life-saving medicines (such as injections used in heart attack or severe allergy) that must always be available immediately in emergency areas of the hospital, day and night.
- **Prescription:** A written order from a doctor telling the pharmacist which medicine to give to the patient, in what dose, and for how long.
- **Inpatient:** A patient who is admitted to the hospital and stays in a ward bed. **Outpatient (ambulatory patient):** A patient who visits the hospital for treatment but goes home the same day.

Terminology Table

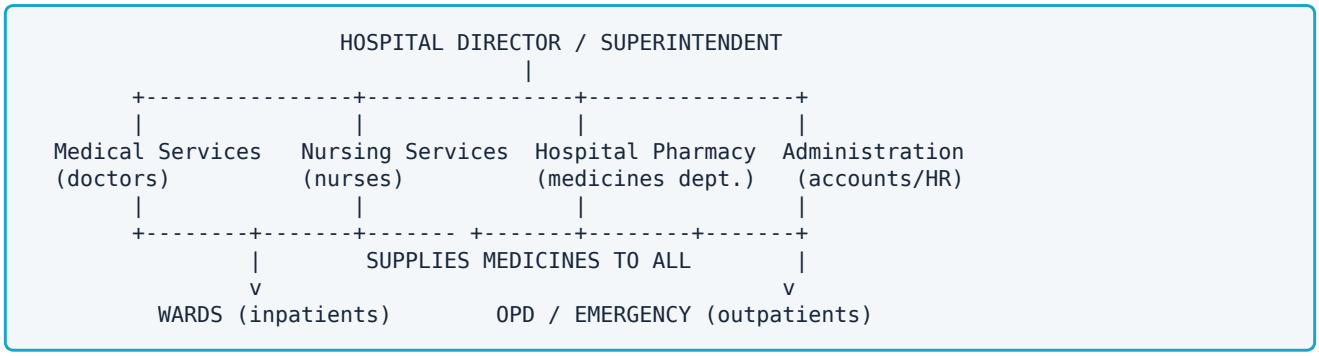
Term	Meaning
Hospital pharmacy	The hospital department that manages all medicines — buying, storing, preparing, dispensing, and advising.
Chief pharmacist / Pharmacist-in-charge	The senior pharmacist who heads the hospital pharmacy and is responsible for everything in it.
Organization chart (organogram)	A drawing that shows who reports to whom, like a family tree of jobs.
Dispensary	The area of the hospital pharmacy where medicines are given out to patients against prescriptions.
PTC	Pharmacy and Therapeutic Committee — the hospital's medicine-policy committee.
Chairman / Chairperson	The person who leads the committee's meetings (often a senior doctor).
Secretary	The person who records the committee's decisions and arranges meetings (usually the chief pharmacist).
Quorum	The minimum number of members who must be present for a meeting's decisions to be valid.
Rational drug use	Right medicine, right dose, right duration, right patient, lowest cost.

Term	Meaning
Drug policy	The hospital's official rules about medicines.
Adverse drug reaction (ADR)	An unwanted, harmful effect of a medicine (e.g., a rash from a drug).
Medication error	A preventable mistake in any step of medicine use — prescribing, dispensing, or giving.
Automatic stop order	A rule that stops certain medicines automatically after a set number of days unless re-ordered.
Emergency drug list	The list of life-saving medicines that must always be ready in emergency areas.
Ward	A section of the hospital where admitted patients stay (e.g., male ward, female ward).
Drug information	Reliable, unbiased information about medicines given to doctors, nurses, and patients.

Simple Explanations

Concept 1: What a hospital pharmacy is and why a hospital needs one

- **Simple explanation:** A hospital uses thousands of medicine doses every day. A special department — the hospital pharmacy — takes care of everything about medicines: choosing which brands to buy, buying them at fair prices, storing them safely, preparing them correctly, giving the right medicine to the right patient, and advising doctors and nurses on medicine use. Without it, medicines would be bought randomly, stored badly, and given with errors.
- **Example:** A 200-bed hospital may use 5,000 tablets and 500 injections daily. The hospital pharmacy makes sure every one of these is the right product, not expired, stored at the right temperature, and reaches the correct patient.
- **Textual diagram — position of the hospital pharmacy in the hospital:**



- **Key takeaway:** The hospital pharmacy is the heart of the hospital's medicine system — every medicine passes through it.

Concept 2: Objectives of a hospital pharmacy

- **Simple explanation:** Objectives are the goals — the "why" of the department. The main objectives are: (1) make sure the right medicines are always available for patients; (2) make sure medicines are used safely and rationally; (3) control the cost of medicines so treatment stays affordable; (4) advise doctors, nurses, and patients about medicines; (5) support teaching and research in the hospital.

- **Example:** Objective in action — the pharmacy keeps a stock of emergency injections so that when a patient arrives with a heart attack at 2 a.m., the medicine is there within minutes.
- **Textual diagram — the five objectives:**

```
            OBJECTIVES OF HOSPITAL PHARMACY
  +-------------------------------------------------+
  | 1. Availability – right medicine, right time    |
  | 2. Safety – right patient, right dose, no errors|
  | 3. Rational use – correct, sensible prescribing |
  | 4. Economy – best quality at reasonable cost    |
  | 5. Education – teach staff, students, patients  |
  +-------------------------------------------------+
```

- **Key takeaway:** Everything the hospital pharmacy does should serve these five goals. Exam questions often ask "objectives" — remember these five.

Concept 3: Functions of the hospital pharmacy

- **Simple explanation:** Functions are the daily jobs. They include: (a) **procurement** — buying medicines; (b) **storage** — keeping them safely; (c) **dispensing** — giving medicines out against prescriptions; (d) **manufacturing/compounding** — preparing special medicines not available ready-made (like some ointments or sterile injections); (e) **drug information service** — answering medicine questions; (f) **quality control** — checking that medicines are genuine and not expired; (g) **record keeping** — maintaining stock, purchase, and dispensing records; (h) **participating in the PTC** and hospital committees; (i) **patient counselling** — teaching patients how to take medicines.
- **Example:** A doctor asks, "Can this antibiotic be given to a pregnant woman?" The drug information function of the pharmacy finds the answer from reliable sources and advises the doctor.
- **Textual diagram — medicine flow through the functions:**

```
SUPPLIER → [1. PROCUREMENT (buying)] → [2. RECEIVING & CHECKING]
     → [3. STORAGE (safe, labelled)] → [4. DISPENSING (to wards/OPD)]
     → [5. PATIENT USE] → [6. MONITORING & RECORDS]
              Supporting functions: drug information, quality checks,
              patient counselling, PTC participation
```

- **Key takeaway:** Medicines enter through procurement and leave through dispensing; information and records support the whole journey.

Concept 4: Organization structure, location, layout, and staff of a hospital pharmacy

- **Simple explanation: Organization structure** = who is in charge and who reports to whom (an organogram). **Location** = where in the hospital the pharmacy should be (ideally the ground floor, near wards and OPD, with easy delivery access). **Layout** = how the inside space is divided (separate areas for receiving, storage, dispensing, counselling). **Staff** = the people needed: chief pharmacist, pharmacists, pharmacy technicians/assistants, and supporting staff (clerks, store keepers, cleaners).
- **Example:** In a medium hospital, one chief pharmacist heads the department; 4–6 pharmacists handle inpatient dispensing, OPD dispensing, stores, and clinical services; assistants help with packing and record-keeping.
- **Textual diagram — sample organogram:**

```
                  CHIEF PHARMACIST
                  (head of department)
                         |
      +------------------+------------------+
      |                  |                  |
Inpatient pharmacist  OPD pharmacist   Stores pharmacist
(ward dispensing,     (OPD counter,    (purchase, stock,
 ward rounds)         counselling)     records)
      |                  |                  |
Pharmacy assistants / technicians / clerks / support staff
```

- **Key takeaway:** A clear structure means every medicine task has a named, responsible person — nothing falls through cracks.

Concept 5: The Pharmacy and Therapeutic Committee (PTC) — what it is and why it exists

- **Simple explanation:** The PTC is a small group of senior doctors, the chief pharmacist, senior nurses, and administrators who meet regularly to decide the hospital's medicine rules. No single person can decide everything about medicines — doctors know treatment, pharmacists know medicines, nurses know administration, and administrators know budgets. The PTC brings them together so decisions are balanced.
- **Example:** The hospital wants to decide which of the five available brands of a blood pressure tablet to stock. The PTC studies effectiveness, safety, and cost, then approves one or two brands for the hospital formulary.
- **Textual diagram — why a committee, not one person:**

```
DOCTOR: "This medicine works best."
      +
PHARMACIST: "This brand is equally good and half the price."
      +
NURSE: "This injection is easier and safer to give."
      +
ADMINISTRATOR: "Our budget allows this much."
      =
PTC DECISION: balanced, safe, affordable — accepted by all
```

- **Key takeaway:** The PTC is the brain of the hospital's medicine system; it converts individual opinions into official hospital policy.

Concept 6: Composition (membership) of the PTC

- **Simple explanation:** A typical PTC includes: the **chairman** (a senior physician/doctor), the **secretary** (the chief pharmacist, who organizes meetings and records decisions), **medical staff representatives** (doctors from medicine, surgery, paediatrics, etc.), the **nursing superintendent** (head nurse), and an **administrator** (hospital management representative). Sometimes a clinical pharmacologist or microbiologist is included. The exact composition is decided by the hospital, but doctors + pharmacist + nurse + administrator is the standard pattern.
- **Example:** A 10-member PTC: chairman (senior physician), secretary (chief pharmacist), 5 doctors from different departments, nursing superintendent, hospital administrator, and a microbiologist for antibiotic advice.
- **Textual diagram — typical PTC composition:**

```
            PTC (meets monthly / as needed)
  +------------------+------------------+------------------+
  |                  |                  |                  |
CHAIRMAN        SECRETARY         MEMBERS
(senior doctor) (chief pharmacist) - doctors (various depts.)
                                   - nursing superintendent
                                   - administrator
                                   - (microbiologist, if needed)
```

- **Key takeaway:** Every group that prescribes, gives, pays for, or manages medicines has a seat — so PTC decisions are respected across the hospital.

Concept 7: Functions of the PTC

- **Simple explanation:** The PTC's functions are: (1) **develop the hospital formulary** — decide which medicines the hospital will stock; (2) **frame drug policies** — rules for buying, prescribing, dispensing, and controlling medicines (including controlled/narcotic drugs); (3) **promote rational drug use** — review prescribing patterns and correct irrational use; (4) **monitor adverse drug reactions and medication errors** — make the hospital's medicine use safer; (5) **approve automatic stop orders** and the **emergency drug list**; (6) **review inpatient and outpatient prescriptions** periodically for quality; (7) **control antibiotic use** and manage drug shortages; (8) **educate staff** about new medicines and policies.
- **Example:** The PTC notices from prescription review that antibiotics are being prescribed for common colds (irrational). It issues a policy restricting certain antibiotics and educates doctors — antibiotic use drops.
- **Textual diagram — PTC function cycle:**

```
REVIEW (prescriptions, ADR reports, stock problems)
     |
DECIDE (formulary changes, new policies, stop orders)
     |
COMMUNICATE (circulars, meetings, training)
     |
MONITOR (check if the change worked) → back to REVIEW
```

- **Key takeaway:** The PTC does not just meet and talk — it reviews, decides, communicates, and monitors, in a continuous cycle.

Concept 8: Role of the PTC in policy-making and rational drug use

- **Simple explanation: Policy-making** means the PTC writes the hospital's official medicine rules (e.g., "only formulary medicines may be prescribed except in emergencies"). **Rational drug use** is the PTC's biggest mission: it studies how medicines are actually being prescribed (called **drug utilization review**), finds irrational patterns (too many antibiotics, too many injections, wrong doses), and corrects them through policies, education, and formulary control.
- **Example:** Drug utilization review shows that 60% of surgical patients receive antibiotics for 10 days after surgery, though guidelines suggest 1–2 days. The PTC makes a policy limiting post-surgery antibiotics and monitors compliance — infection rates stay the same, but cost and side effects fall.
- **Textual diagram — how the PTC drives rational use:**

```
COLLECT DATA (prescription audits, ADR reports)
     → FIND PROBLEMS (overuse, wrong choice, high cost)
     → MAKE POLICY (restrictions, guidelines, formulary limits)
     → EDUCATE (doctors, nurses, pharmacists)
     → RE-AUDIT (check improvement)
```

- **Key takeaway:** Rational drug use is not a slogan — it is measured (audits), corrected (policies), and re-measured (re-audits) by the PTC.

Concept 9: Drug inclusion into the formulary, automatic stop order, emergency drug list

- **Simple explanation: Drug inclusion into the formulary** = the formal process by which a doctor requests a new medicine to be added to the hospital's approved list; the PTC evaluates safety, effectiveness, and cost, then approves or rejects it. **Automatic stop order** = a rule that stops certain medicines (often antibiotics or sleeping pills) automatically after a fixed number of days unless the doctor re-orders — this prevents unnecessarily long treatment. **Emergency drug list** = the approved list of life-saving medicines that must always be stocked in casualty/emergency, ICU, and operation theatres, checked daily.
- **Example:** A cardiologist requests a new blood thinner for the formulary. The PTC compares it with existing ones, finds it no better but three times costlier, and rejects it — saving the hospital money without harming patients. Meanwhile, the automatic stop order stops a patient's sleeping pill after 3 days unless the doctor actively continues it.
- **Textual diagram — formulary inclusion request flow:**

```
Doctor fills drug-inclusion request form (why needed, evidence, cost)
     → Chief pharmacist checks details & alternatives
     → PTC sub-committee evaluates (safety, efficacy, cost)
     → PTC meeting: APPROVE (add to formulary) or REJECT (with reasons)
     → Decision communicated to all prescribers
```

- **Key takeaway:** No medicine enters the hospital's approved list by personal preference — every addition passes the PTC's evidence-and-cost test.

Classifications

Classification 1: Functions of hospital pharmacy (by nature of work)

Category	Functions included
Supply functions	Procurement (purchasing), receiving, storage, inventory control, distribution/dispensing
Clinical functions	Drug information service, patient counselling, ward round participation, medication review
Quality functions	Checking genuineness and expiry, cold-chain maintenance, ADR monitoring support
Administrative functions	Record keeping, budgeting, staff management, participation in PTC and committees

Classification 2: Types of drug policies framed by the PTC

Policy type	What it controls	Example
Formulary policy	Which medicines may be stocked/prescribed	"Only formulary brands; non-formulary needs PTC approval"
Prescribing policy	How doctors should order medicines	"Use generic names; write dose, route, frequency clearly"
Automatic stop order policy	When medicines stop automatically	"Antibiotics stop after 7 days unless re-ordered"
Controlled drug policy	Handling of narcotic/controlled medicines	"Double-locked cupboard, register signed by two staff"
Antibiotic policy	Which antibiotics, for which infections	"Reserve antibiotic X for ICU use only"
Emergency drug policy	Life-saving stock always ready	"Emergency tray checked and refilled daily"

Classification 3: Members of the PTC (by role)

Role	Typical person	Main contribution
Chairman	Senior physician	Leads discussion, final clinical authority
Secretary	Chief pharmacist	Prepares agenda, records minutes, follows up decisions
Medical members	Doctors from major departments	Clinical needs and prescribing viewpoint
Nursing member	Nursing superintendent	How medicines are actually given to patients
Administrative member	Hospital administrator	Budget and management viewpoint
Optional experts	Microbiologist, clinical pharmacologist	Special advice (e.g., on antibiotics)

Mechanisms / Processes

Process 1: How a PTC meeting works (step by step)

1. **Agenda preparation:** The secretary (chief pharmacist) collects topics — new drug requests, ADR reports, stock problems, audit results — and circulates the agenda before the meeting.
2. **Meeting with quorum:** Members meet (monthly or as needed); decisions are valid only if the minimum required members (quorum) are present.
3. **Discussion:** Each item is discussed — clinical need, safety evidence, cost, and alternatives.
4. **Decision:** The committee approves, rejects, or defers each item; decisions are recorded in **minutes** (the written record of the meeting).
5. **Communication:** Decisions are circulated to all doctors, nurses, and pharmacy staff as circulars or notices.
6. **Implementation and follow-up:** The pharmacy implements formulary changes and policies; the secretary reports progress at the next meeting.

Process 2: Prescription review by the PTC (how irrational use is detected)

1. Collect a sample of inpatient and outpatient prescriptions over a fixed period.

2 Check each against rational-use standards: right indication, right dose, right duration, generic name used, unnecessary medicines avoided.

3 Count problems: e.g., percentage of prescriptions with antibiotics, with injections, with more than 5 medicines.

4 Present findings to the PTC with comparisons to accepted standards.

5 The PTC decides corrective action: education, new policy, or formulary restriction.

6 Re-audit after 3–6 months to check improvement.

INFOGRAPHIC CONCEPT: A one-page visual titled "The PTC at a Glance" — a round-table illustration with five labelled seats (Chairman-doctor, Secretary-pharmacist, Nursing head, Administrator, Department doctors) around a central hub labelled "Medicine Policies". Around the hub, six orbiting icons with short labels: Formulary book, Stop-watch (automatic stop orders), Siren (emergency drug list), Magnifier over prescription (prescription review), Shield (ADR & error monitoring), Rupee/coin stack (cost control). At the bottom, a circular arrow labelled "Review → Decide → Communicate → Monitor". Colour code: blue for people, green for functions, orange for the review cycle.

Tables

Table 1: Objectives vs functions of a hospital pharmacy

Objectives (goals — the "why")	Functions (daily jobs — the "what")
Ensure uninterrupted availability of medicines	Procurement, inventory control, storage
Ensure safe medicine use	Checking prescriptions, ADR monitoring, error prevention
Promote rational drug use	Drug information, PTC participation, prescription review
Control costs	Formulary management, generic purchasing, budget planning
Educate and support	Patient counselling, staff training, student teaching

Table 2: Inpatient vs outpatient prescriptions (as handled by the pharmacy/PTC)

Feature	Inpatient prescription	Outpatient prescription
Patient type	Admitted in a ward	Visits and goes home
Order sheet	Written on the patient's case sheet / medication chart	Written on a prescription slip given to the patient
Dispensing	Sent to the ward, often dose-by-dose or daily	Given to the patient at the OPD counter with counselling
Review	Checked during ward rounds and chart review	Checked at the counter before handing over
PTC interest	Audits for rational use, stop orders	Audits for generic prescribing, OTC advice

Table 3: Responsibilities of hospital pharmacists

Area	Key responsibilities
Dispensing	Check prescription, select correct medicine, label clearly, counsel patient
Stores	Maintain stock, check expiry, store at right temperature, keep records
Clinical	Join ward rounds, review medication charts, answer drug information queries
Administrative	Supervise staff, prepare budgets, serve as PTC secretary, maintain registers
Safety	Report ADRs and medication errors, manage emergency drug trays

Examples

1. **Objective in action:** The pharmacy's objective of "availability" means that insulin is never out of stock for diabetic inpatients — the stores pharmacist sets a minimum stock level and reorders in time.
2. **Function in action:** A nurse calls the drug information service: "This injection has turned cloudy — can we still use it?" The pharmacist checks references and advises to discard it — a quality function preventing harm.
3. **PTC policy in action:** The PTC approves an automatic stop order: all sleeping pills stop after 3 days unless the doctor writes a fresh order — reducing unnecessary long-term use.
4. **Emergency drug list in action:** The casualty department keeps an emergency tray with adrenaline, hydrocortisone, and IV fluids as per the PTC-approved emergency drug list; the night pharmacist checks and refills it daily.
5. **Rational use in action:** Prescription audit shows injections prescribed in 40% of OPD cases. The PTC educates doctors; the next audit shows 15% — same cure rates, lower cost and pain.

Analogies

1. **Hospital pharmacy as the hospital's kitchen:** Just as a hotel kitchen buys raw materials, stores them properly, cooks, and serves the right dish to the right guest, the hospital pharmacy buys, stores, prepares, and serves the right medicine to the right patient.
2. **PTC as a parliament for medicines:** Just as a parliament debates and passes laws for a country, the PTC debates and passes "laws" (policies) for medicines in the hospital.
3. **Formulary as a school's approved textbook list:** A school approves a fixed list of textbooks so that teaching is uniform and books are affordable; the hospital approves a formulary so treatment is uniform, safe, and affordable.
4. **Automatic stop order as an alarm clock:** An alarm clock stops ringing after its set time unless you press snooze; an automatic stop order stops the medicine after its set days unless the doctor "presses snooze" (re-orders).
5. **Emergency drug list as a fire extinguisher:** You do not use it daily, but it must always be present, working, and within reach — exactly like emergency medicines.

Pharmacy Relevance

- The hospital pharmacist is the **secretary of the PTC** — the person who prepares the agenda, presents drug data, records decisions, and follows them up. No other professional does this job.
- Every medicine the pharmacist dispenses is affected by PTC policies: what is stocked (formulary), how it is labelled (labelling policy), when it stops (stop orders), and how controlled drugs are locked and recorded.
- Understanding the PTC helps the pharmacist speak the language of doctors and administrators — turning the pharmacist from a "medicine giver" into a **medicine policy maker**.
- In job interviews for hospital posts, "What is the PTC and what is your role in it?" is one of the most frequently asked questions.

India Context

- In India, hospital pharmacies function within government hospitals (district hospitals, medical colleges), private hospitals, and corporate hospital chains; the PTC concept applies to all of them.
- Pharmacy practice in India is regulated under the Pharmacy Act and related rules; hospital pharmacists must be registered pharmacists. (Regulatory details change over time — as per the latest guidelines/notifications, confirm the current edition.)
- The National Accreditation Board for Hospitals (NABH) standards expect hospitals to have a functioning PTC and a hospital formulary — so PTC knowledge is directly linked to hospital accreditation in India.
- Government hospitals in India often procure medicines through centralized state medical corporations and follow an **Essential Drug List**; the hospital formulary usually aligns with it.
- The pharmacist's evolving role "from dispenser to healthcare provider" (Unit I theme) is most visible in PTC work — policy-making is a provider-level responsibility.

Key Points

1. Hospital pharmacy = the department managing all medicines in a hospital.
2. Five objectives: availability, safety, rational use, economy, education.
3. Main functions: procurement, storage, dispensing, compounding, drug information, quality control, records, PTC work, counselling.
4. Ideal location: ground floor, near wards/OPD; layout with separate areas for receiving, storage, dispensing, counselling.
5. PTC = Pharmacy and Therapeutic Committee — the hospital's medicine-policy committee.
6. PTC composition: chairman (senior doctor), secretary (chief pharmacist), doctors, nursing head, administrator.
7. PTC functions: formulary development, drug policies, rational drug use, ADR/error monitoring, stop orders, emergency drug list, prescription review, antibiotic control, staff education.
8. Automatic stop order stops certain medicines after fixed days unless re-ordered.

9 Emergency drug list = life-saving medicines always ready in emergency areas.

10 PTC works in a cycle: review → decide → communicate → monitor.

Common Confusions

1 **Objective vs function:** Objective = goal (why); function = daily job (what). "Ensure availability" is an objective; "purchasing medicines" is the function that achieves it.

2 **PTC vs hospital pharmacy:** The hospital pharmacy is a department (does the work); the PTC is a committee (makes the policies the department follows).

3 **Formulary vs drug list:** A formulary is an approved list with medicine details and rules; a simple drug list is just names. (Full difference in Chapter 5.)

4 **Chairman vs secretary of PTC:** The chairman (senior doctor) leads meetings; the secretary (chief pharmacist) does the groundwork — agenda, data, minutes, follow-up.

5 **Inpatient vs outpatient prescription:** Inpatient = admitted patient, order on case sheet, medicine sent to ward; outpatient = visiting patient, slip in hand, medicine given at counter with counselling.

6 **Automatic stop order vs cancellation:** A stop order is a pre-set rule that ends therapy automatically; cancellation is a doctor's one-time decision to stop a medicine.

Common Mistakes

1 Writing that the PTC is headed by the pharmacist — the chairman is usually a senior doctor; the pharmacist is the secretary.

2 Listing only dispensing as the hospital pharmacy's function — procurement, storage, drug information, and records are equally important.

3 Confusing "therapeutic" (related to treatment) with "therapy" in general — in PTC, it means medicine-treatment policies.

4 Forgetting the nursing and administrator members when describing PTC composition.

5 Describing the emergency drug list as "medicines for emergencies only in casualty" — it covers ICU, operation theatres, and wards too, wherever emergencies occur.

6 Writing "stop order" without explaining it is automatic — the key word is *automatic*: it works even if nobody remembers to stop the drug.

Mnemonics

1 **Objectives — "A SAFE":** **A**vailability, **S**afety, **A**ffordable (economy), **F**air (rational) use, **E**ducation.

2 **PTC members — "D-PAN":** **D**octors, **P**harmacist (secretary), **A**dministrator, **N**ursing head. (Chairman = senior doctor leads the PAN.)

3 **PTC functions — "FORM-PAR":** **F**ormulary, **O**rders (stop orders), **R**ational use, **M**onitoring (ADR/errors), **P**olicies, **A**udit of prescriptions, **R**eview of emergency list.

4 **Pharmacy functions — "PSDD-QRP": P**rocurement, **S**torage, **D**ispensing, **D**rug information, **Q**uality control, **R**ecords, **P**TC participation.

5 **Stop order logic — "SET": S**et days, **E**nds automatically, **T**herapy restarts only on re-order.

Exam Summary

- Hospital pharmacy: department responsible for all medicine-related activities in a hospital — procurement, storage, dispensing, compounding, drug information, quality control, records, counselling, PTC participation.
- Objectives: availability, safety, rational use, economy, education ("A SAFE").
- Organization: chief pharmacist heads the department; inpatient, OPD, and stores pharmacists under him/her; assistants support. Ideal location: ground floor near wards/OPD; layout with separate zones.
- PTC: hospital's medicine-policy committee. Composition: chairman (senior doctor), secretary (chief pharmacist), doctors, nursing superintendent, administrator. Functions: formulary development, drug policies, rational drug use promotion, ADR and medication-error monitoring, automatic stop orders, emergency drug list, prescription audits, antibiotic control, staff education ("FORM-PAR").
- PTC policy-making role: converts review findings into official hospital rules; rational drug use achieved through drug utilization review → policy → education → re-audit.
- Formulary inclusion: doctor requests → pharmacist screens → PTC evaluates safety/efficacy/cost → approve/reject → communicate.
- Automatic stop order: pre-set rule stopping specified medicines after fixed days unless re-ordered.
- Emergency drug list: PTC-approved life-saving medicines always available in emergency areas, checked daily.

One-Minute Revision

Hospital pharmacy manages every medicine in the hospital — buying, storing, giving, advising. Goals: **A SAFE** (Availability, Safety, Affordable, Fair/rational use, Education). Jobs: procurement, storage, dispensing, drug information, quality, records, counselling, PTC work. Head: chief pharmacist. The **PTC** is the medicine parliament: chairman = senior doctor, secretary = chief pharmacist, plus doctors, nursing head, administrator. It makes the formulary, writes drug policies, promotes rational use, watches ADRs and errors, sets **automatic stop orders** (medicines stop by themselves after set days) and the **emergency drug list** (life-saving stock always ready). Cycle: review → decide → communicate → monitor.

Questions

Short Answer Questions (2–3 marks each)

1 Define hospital pharmacy in one sentence.

2 List any four objectives of a hospital pharmacy.

3 What is the Pharmacy and Therapeutic Committee (PTC)?

4 Who is the secretary of the PTC and what does he/she do?

5 Define "automatic stop order" with one example.

6 What is an emergency drug list?

7 Name the members of a typical PTC.

8 Differentiate between inpatient and outpatient prescriptions (any two points).

9 What is a quorum in the context of a PTC meeting?

10 Give two functions of the PTC related to rational drug use.

Long Answer Questions (10 marks each)

1 Describe the organization, objectives, and functions of a hospital pharmacy. Add a neat organogram.

2 Discuss the composition and functions of the Pharmacy and Therapeutic Committee. Explain its role in policy-making and in promoting rational drug use.

3 Explain the following: (a) drug inclusion into the formulary, (b) automatic stop order, (c) emergency drug list, (d) prescription review by the PTC.

4 Describe the ideal location, layout, and staff requirements of a hospital pharmacy. What are the responsibilities of hospital pharmacists?

MCQs (with answer keys)

1 The secretary of the Pharmacy and Therapeutic Committee is usually the:

a) Hospital superintendent b) Chief pharmacist c) Nursing superintendent d) Senior surgeon **Answer: b) Chief pharmacist**

1 Which of the following is an OBJECTIVE (not a function) of hospital pharmacy?

a) Purchasing medicines b) Ensuring uninterrupted availability of medicines c) Labelling dispensed medicines d) Maintaining stock registers **Answer: b) Ensuring uninterrupted availability of medicines**

1 An automatic stop order means:

a) The doctor cancels the medicine immediately b) The medicine stops automatically after a fixed number of days unless re-ordered c) The pharmacy stops buying the medicine d) The patient stops the medicine by choice **Answer: b) The medicine stops automatically after a fixed number of days unless re-ordered**

1 The emergency drug list contains:

a) All medicines used in the hospital b) Life-saving medicines that must always be available in emergency areas c) Only antibiotics d) Medicines past their expiry date **Answer: b) Life-saving medicines that must always be available in emergency areas**

1 The chairman of the PTC is usually a:

a) Junior pharmacist b) Senior doctor/physician c) Hospital accountant d) Ward boy **Answer: b) Senior doctor/physician**

1 Which member brings the "how medicines are actually given to patients" viewpoint to the PTC?

a) Administrator b) Nursing superintendent c) Microbiologist d) Store keeper **Answer: b) Nursing superintendent**

1 Drug utilization review by the PTC mainly aims to:

a) Increase medicine sales b) Detect and correct irrational prescribing c) Reduce the number of pharmacists d) Close the pharmacy at night **Answer: b) Detect and correct irrational prescribing**

1 Minutes of a PTC meeting refer to:

a) The time the meeting started b) The written record of discussions and decisions c) The medicines discussed d) The attendance fee **Answer: b) The written record of discussions and decisions**

1 Which of the following is a FUNCTION of the hospital pharmacy?

a) Ensuring availability of medicines (objective) b) Drug information service c) Promoting rational use (objective) d) Controlling costs (objective) **Answer: b) Drug information service**

1 A new medicine can be added to the hospital formulary only after:

a) One doctor's request b) The medical representative's visit c) Evaluation and approval by the PTC d) The pharmacist's personal decision **Answer: c) Evaluation and approval by the PTC**

Viva Questions

1 What is the full form of PTC?

2 Who heads the hospital pharmacy department?

3 Name two objectives of a hospital pharmacy.

4 Who is the chairman of the PTC — a doctor or a pharmacist?

5 What is rational use of medicines?

6 Give one example of an automatic stop order.

7 Where should emergency drugs be kept?

8 What is the difference between an objective and a function?

9 Name any two policies framed by the PTC.

10 Why does the PTC include a nursing member and an administrator?

Application-Based Questions

1 You are the chief pharmacist and secretary of the PTC. A surgeon requests that a costly new antibiotic be added to the formulary, saying "it worked well in two of my patients." Draft the steps you will take before the PTC decides, and list three questions the PTC should ask.

2 A prescription audit in your hospital shows that 55% of outpatients receive an injection although oral medicines would work equally well. As PTC secretary, propose a three-step action plan (policy + education + re-audit) to correct this.

3 The casualty medical officer complains that the emergency tray was empty when a patient with severe allergy arrived at midnight. Identify which PTC-approved system failed and suggest corrective actions with responsibilities assigned.

References

- Hassan (Hospital Pharmacy) — hospital pharmacy organization, objectives and functions, PTC organization and policies.
- Merchant & Qadry (A Textbook of Hospital Pharmacy) — hospital pharmacy layout and staff, PTC functions, formulary and drug distribution.
- Harman (Handbook of Pharmacy – Health Care) — pharmacy practice, rational use of medicines, committee roles.
- Parthasarathi/Hansen/Nahata (A Textbook of Clinical Pharmacy Practice) — rational drug use, prescription review, drug utilization evaluation.
- Shargel (Comprehensive Pharmacy Review) — revision of hospital and clinical pharmacy concepts.

CHAPTER 5: Hospital Formulary — Definition, Contents, Preparation and Revision

Learning Objectives

After studying this chapter, the student will be able to:

1 Define a hospital formulary in very simple words.

2 State the objectives of a hospital formulary.

3 List the contents of a hospital formulary.

4 Differentiate between a hospital formulary and a simple drug list.

5 Describe the steps in preparing a hospital formulary, in order.

6 Explain how and when a hospital formulary is revised.

7 Draw a textual flowchart of formulary preparation.

8 Explain the formulary's role in rational drug use and cost control.

9 Answer exam questions on this topic with confidence.

Definitions

- **Hospital formulary:** The official, continuously updated list of medicines approved for use in a hospital, together with important information about each medicine (dose, strength, how to use) and the rules for using them. It is the hospital's "approved medicine book."
- **Drug list:** A simple list of medicine names (just names, no details, no rules). A formulary is much more than a drug list.
- **Formulary system:** The complete method by which a hospital selects medicines, writes rules for their use, and keeps the list updated — the formulary book plus the PTC processes behind it.
- **Objective (of the formulary):** The goals the formulary is meant to achieve — safe, effective, and economical medicine use.
- **Preparation (of the formulary):** The step-by-step process of creating the first edition of the formulary book.
- **Revision:** Reviewing and updating the formulary at regular intervals — adding new useful medicines, removing useless or harmful ones, and updating information.
- **Monograph:** A short, standard write-up about one medicine — its uses, dose, side effects, and cautions. Formularies contain monographs for listed medicines.
- **Therapeutic equivalent:** Two different medicines (or brands) that give the same treatment effect in the patient.
- **Cost control:** Keeping the total money spent on medicines as low as possible without reducing quality of treatment.
- **Deletion:** Removing a medicine from the formulary when it is no longer needed, is unsafe, or has a better/cheaper alternative.

Terminology Table

Term	Meaning
Formulary	Official approved list of medicines + information + use-rules of a hospital.
Drug list	Names of medicines only — no details, no rules.
PTC	Pharmacy and Therapeutic Committee — the body that approves the formulary.
Monograph	Standard short description of one medicine (uses, dose, side effects).
Generic name	The scientific/official name of a medicine (e.g., paracetamol).
Brand (trade) name	The company's selling name for a medicine (many brands can share one generic name).
Addition	Adding a newly approved medicine to the formulary.
Deletion	Removing a medicine from the formulary.
Revision cycle	The fixed period (e.g., every year) after which the formulary is reviewed and updated.
Therapeutic class	A group of medicines used for the same type of treatment (e.g., antibiotics, antacids).

Term	Meaning
Prescribing restriction	A rule limiting who may prescribe a medicine or for which condition.
Cost-effectiveness	Getting the best treatment result for the money spent.

Simple Explanations

Concept 1: What a hospital formulary is

- **Simple explanation:** A hospital cannot stock every medicine made in the world — there are thousands. So the hospital's PTC carefully selects the best, safest, most necessary medicines and writes them into one official book: the **hospital formulary**. Only medicines in this book are routinely bought, stocked, and prescribed. The book also gives key information about each medicine and the rules for using special ones.
- **Example:** A hospital formulary may list about 300–500 medicines covering all treatments the hospital provides — from paracetamol tablets to cancer injections — each with dose and cautions, instead of the 10,000+ products in the market.
- **Textual diagram — formulary as a filter:**

```
ALL MEDICINES IN THE MARKET (thousands)
      |
PTC EVALUATION (safe? effective? needed? affordable?)
      |
HOSPITAL FORMULARY (a few hundred — approved, with info & rules)
      |
ROUTINE PURCHASE + PRESCRIBING (only these, except emergencies)
```

- **Key takeaway:** The formulary converts "too many choices" into "the right choices, officially approved."

Concept 2: Objectives of a hospital formulary

- **Simple explanation:** The formulary exists to: (1) ensure only safe and effective medicines are used; (2) promote rational drug use — the right medicine for the right patient; (3) control costs by avoiding duplicate brands and costly medicines with no extra benefit; (4) give doctors and pharmacists quick, reliable medicine information; (5) simplify purchasing, storage, and dispensing (fewer items = easier management); (6) support teaching of students and staff.
- **Example:** Without a formulary, five doctors might prescribe five different brands of the same blood-pressure medicine, forcing the pharmacy to stock all five. With a formulary listing one approved brand, stock management becomes simple and bulk buying becomes cheaper.
- **Textual diagram — objectives wheel:**

```
                FORMULARY OBJECTIVES
+-------------------------------------------------------+
| 1. Safety — only proven-safe medicines listed         |
| 2. Rational use — right medicine, right patient       |
| 3. Economy — no duplicate brands, best prices         |
| 4. Information — quick reference for prescribers      |
| 5. Simplicity — fewer items, easier store management  |
| 6. Education — teaching tool for staff and students   |
+-------------------------------------------------------+
```

- **Key takeaway:** Every formulary rule should serve at least one of these six objectives — exam answers built on them score well.

Concept 3: Contents of a hospital formulary

- **Simple explanation:** A formulary book typically contains: (a) **introduction and PTC policies** — how to use the book and the hospital's medicine rules; (b) **list of medicines by therapeutic class** (e.g., all antibiotics together); (c) **monographs** — details of each medicine (generic name, brand, strength, dose, side effects, cautions); (d) **prescribing guidelines and restrictions** — which medicines need special approval; (e) **special lists** — emergency drug list, controlled drugs, drugs with automatic stop orders; (f) **appendices** — dose calculation tables, drug interaction charts, antibiotic guidelines.
- **Example:** A doctor wants to prescribe a new diabetes tablet. She opens the formulary, finds it under "Antidiabetic drugs," reads the monograph (dose, kidney cautions), and sees a note: "restricted — needs physician approval." She follows the rule.
- **Textual diagram — anatomy of a formulary book:**

```
+---------------- HOSPITAL FORMULARY ----------------+
| 1. Title, edition, PTC members                     |
| 2. How to use this formulary + hospital drug policies|
| 3. Therapeutic classification index                |
| 4. Medicine list with MONOGRAPHS (the main section)  |
| 5. Special lists: emergency drugs, controlled drugs, |
|    stop-order drugs                                |
| 6. Appendices: dose tables, interactions, guidelines  |
+-------------------------------------------------------+
```

- **Key takeaway:** A formulary is a working reference book, not just a list — information and rules are its real value.

Concept 4: Hospital formulary vs drug list (differentiation)

- **Simple explanation:** A **drug list** is like a shopping list — just names. A **formulary** is like a cookbook — names plus recipes (monographs), plus kitchen rules (policies), approved by the head chef (PTC). The formulary is official, evaluated, informative, and binding; a drug list is none of these.
- **Example:** "Paracetamol 500 mg tablets" on a drug list tells you nothing more. In the formulary, the paracetamol monograph tells you: dose (500 mg–1 g, max 4 g/day), caution in liver disease, and the rule "use generic name when prescribing."
- **Textual diagram:**

```
DRUG LIST                    |   HOSPITAL FORMULARY
- names only                 |   - names + full monographs
- no evaluation              |   - PTC-evaluated for safety/efficacy/cost
- no information             |   - doses, cautions, interactions included
- no rules                   |   - prescribing policies & restrictions
- anyone's list              |   - official hospital document
```

- **Key takeaway:** "Formulary = drug list + information + rules + PTC approval." This one-line difference is a favourite exam question.

Concept 5: Steps in preparing a hospital formulary

- **Simple explanation:** Preparation means building the first edition. Steps: (1) **PTC decision and planning** — the PTC decides to create the formulary and forms a small working group; (2) **collecting data** — list all medicines currently used/prescribed in the hospital; (3) **therapeutic classification** — group medicines by use (antibiotics, painkillers, etc.); (4) **evaluation** — for each group, compare medicines for safety, effectiveness, and cost, and select the best one or two; (5) **writing monographs** — prepare standard information for each selected medicine; (6) **adding policies and special lists** — restrictions, stop orders, emergency list; (7) **PTC approval** — the full committee reviews and approves the draft; (8) **printing and distribution** — copies to all wards, OPD, pharmacy; (9) **education** — train doctors, nurses, pharmacists to use it.
- **Example:** In step 4, the working group finds the hospital uses four brands of the same antacid. It compares them, finds all equally effective, and selects the cheapest quality brand — three brands are dropped from the planned formulary.
- **Textual flowchart — formulary preparation (REQUIRED FLOWCHART):**

```
STEP 1: PTC decides to prepare formulary; forms working group
     |
STEP 2: COLLECT DATA — list every medicine used in the hospital
     |
STEP 3: CLASSIFY — group medicines by therapeutic class
     |
STEP 4: EVALUATE — compare safety, efficacy, cost within each class;
        SELECT the best one or two; drop duplicates
     |
STEP 5: WRITE MONOGRAPHS — standard info for each selected medicine
     |
STEP 6: ADD POLICIES — restrictions, stop orders, emergency &
        controlled-drug lists
     |
STEP 7: PTC APPROVAL — full committee reviews and approves draft
     |
STEP 8: PUBLISH & DISTRIBUTE — copies to wards, OPD, pharmacy
     |
STEP 9: EDUCATE — train all staff to use the formulary
     |
FORMULARY IN USE → (later) REVISION CYCLE BEGINS
```

- **Key takeaway:** Preparation is a PTC-led, evidence-based selection exercise — evaluation (Step 4) is the heart of it.

Concept 6: Revision of the hospital formulary

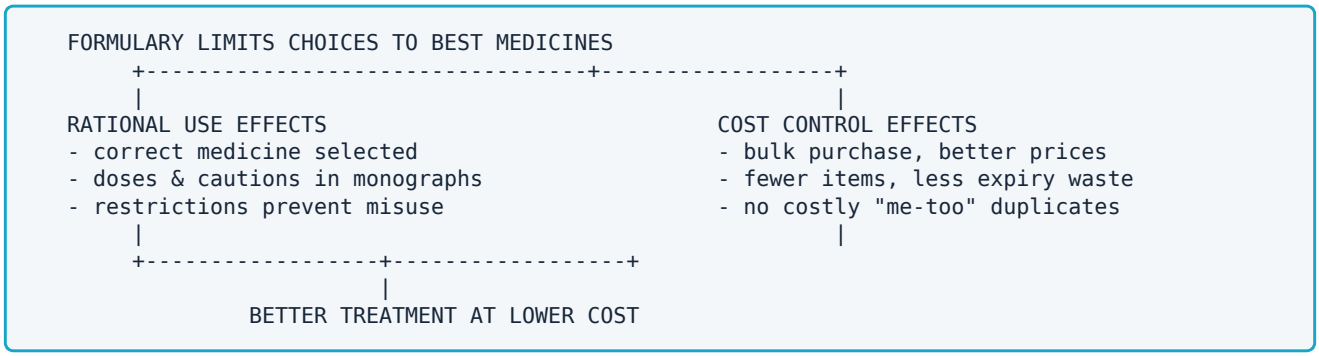
- **Simple explanation:** Medicines change — new better drugs arrive, old ones are found unsafe, prices change. So the formulary is **revised** (updated) regularly, usually once a year, plus urgent updates when needed. Revision means: reviewing new drug requests (additions), reviewing old listings (deletions of useless/unsafe/costly duplicates), updating monographs with new safety information, and publishing the new edition.
- **Example:** A new safety warning says medicine X harms the kidneys in elderly patients. At revision, the PTC either deletes X or adds a restriction: "not for patients above 65 years." The updated monograph carries the warning.
- **Textual diagram — the revision cycle:**



- **Key takeaway:** A formulary is never "finished" — revision keeps it safe, current, and economical.

Concept 7: Formulary's role in rational use and cost control

- **Simple explanation: Rational use:** Because only evaluated medicines are listed and rules guide their use, doctors prescribe more sensibly — fewer unnecessary medicines, correct doses, generic names. **Cost control:** Fewer duplicate brands means bulk purchasing at lower prices, less expired stock, and no money wasted on costly medicines with no extra benefit. The PTC's prescription audits then check that the formulary is actually being followed.
- **Example:** Before formulary: the hospital stocked 8 brands of vitamin tonics costing ₹5 lakh/year, mostly prescribed unnecessarily. After formulary: 1 approved brand, restricted prescribing, cost ₹80,000/year — same patient outcomes.
- **Textual diagram — how the formulary saves money and improves use:**



- **Key takeaway:** The formulary is the PTC's main tool for achieving rational use AND economy together.

Classifications

Classification 1: Types of formulary listings

Type	Meaning	Example
Open formulary	Doctors may prescribe any medicine, formulary is only a guide	Rare in hospitals; more like a suggestion list
Closed formulary	Only formulary medicines may be prescribed; others need special approval	Most hospitals — strict control
Restricted formulary item	Listed medicine with prescribing restrictions	"Antibiotic X — ICU use only, needs approval"

Classification 2: Reasons for deletion at revision

Reason	Explanation
Unsafe	New evidence of serious side effects
Ineffective	Proven not to work well
Obsolete	Better medicines have replaced it
Duplicate	Another listed medicine does the same job cheaper
Not used	No prescriptions for a long period — dead stock

Classification 3: Contents of a formulary (by section)

Section	What it contains
Preliminary pages	Title, edition, PTC members, how-to-use guide
Policies	Hospital drug policies, prescribing rules
Main listing	Medicines by therapeutic class with monographs
Special lists	Emergency drugs, controlled drugs, stop-order drugs
Appendices	Dose tables, interaction charts, guidelines

Mechanisms / Processes

Process 1: How a single medicine gets evaluated for the formulary (the selection mechanism)

1. **Need identification:** Doctors or the PTC note that a medicine is needed (new disease pattern, shortage of alternative).
2. **Information gathering:** The pharmacist collects data — approved uses, dose, side effects, cost, and how it compares with medicines already listed.
3. **Comparative evaluation:** The working group compares it with therapeutic equivalents: Is it safer? More effective? Cheaper? Truly needed?
4. **PTC decision:** Approve (with or without restrictions), reject, or defer for more data.

5 **Listing and communication:** If approved, a monograph is written, the medicine is added, and all prescribers are informed.

Process 2: How revision decisions are made

1 The secretary circulates a revision call: "suggest additions/deletions with reasons."

2 Suggestions collected with supporting evidence (safety data, usage figures, cost comparison).

3 Working group prepares an evaluation note for each suggestion.

4 PTC discusses and votes: add / delete / restrict / no change.

5 Updated formulary published; old edition withdrawn; staff trained on changes.

INFOGRAPHIC CONCEPT: A one-page visual titled "From Market Chaos to Formulary Order" — left side shows a messy shelf overflowing with dozens of colourful medicine boxes labelled "thousands of products, duplicate brands, high cost, confusion"; a large funnel in the middle labelled "PTC evaluation: safe? effective? needed? affordable?"; right side shows a neat, slim book labelled "Hospital Formulary" with six badges around it (Safety, Rational use, Economy, Information, Simplicity, Education). Below the book, a circular arrow labelled "Revise every year: add the useful, delete the useless". A small strip at the bottom contrasts "Drug list = names only" vs "Formulary = names + monographs + rules + PTC approval".

Tables

Table 1: Formulary vs drug list (exam favourite)

Point	Drug list	Hospital formulary
Content	Only names of medicines	Names + monographs + policies
Evaluation	None	PTC evaluates safety, efficacy, cost
Information	None	Doses, cautions, interactions included
Authority	Informal	Official hospital document
Effect on prescribing	No control	Guides and restricts prescribing
Revision	Rarely updated	Revised regularly (e.g., yearly)

Table 2: Steps of formulary preparation (quick reference)

Step	Activity	Done by
1	Decision and planning	PTC
2	Data collection (all medicines in use)	Working group / pharmacists
3	Therapeutic classification	Working group
4	Evaluation and selection	Working group → PTC
5	Monograph writing	Pharmacists
6	Adding policies and special lists	PTC

Step	Activity	Done by
7	Approval of draft	Full PTC
8	Publication and distribution	Pharmacy department
9	Staff education	PTC / pharmacy

Table 3: Addition vs deletion

	Addition	Deletion
Meaning	New medicine enters the formulary	Old medicine leaves the formulary
Trigger	Doctor's request with evidence	Safety alert, disuse, duplication, cost
Decision by	PTC after evaluation	PTC after evaluation
Follow-up	Monograph written, prescribers informed	Stock used up or returned, prescribers informed

Examples

1. **Selection:** The hospital uses three brands of the same painkiller injection. Evaluation shows equal effect; the PTC selects the cheapest quality brand and deletes the other two from the formulary.
2. **Monograph use:** A junior doctor checks the formulary monograph of a blood thinner and learns it must be stopped 5 days before surgery — preventing a bleeding complication.
3. **Restriction:** A costly antifungal injection is listed as "restricted — needs microbiologist approval," preventing its casual use for simple infections.
4. **Deletion at revision:** A cough syrup with no proven benefit and zero prescriptions in a year is deleted; its shelf space and budget go to essential antibiotics.
5. **Cost control:** By limiting antacid brands from four to one, the hospital negotiates a bulk rate 30% cheaper and halves expired-stock losses.

Analogies

1. **Formulary as a school's approved textbook list:** Just as a school approves specific textbooks (not every book in the market) so teaching is uniform and affordable, the hospital approves a formulary so treatment is uniform, safe, and affordable.
2. **Revision as updating a phone's apps:** Apps get updates to fix problems and add features; the formulary gets revised to remove unsafe medicines and add better ones.
3. **Evaluation as a job interview:** Many candidates (medicines) apply; the panel (PTC) tests each on merit (safety, efficacy, cost) and selects only the best — the rest are rejected.
4. **Monograph as a product label + user manual:** Like a label plus manual tells you what a device does and how to use it safely, a monograph tells the doctor what the medicine does and how to use it safely.
5. **Closed formulary as a club membership list:** Only members (listed medicines) get in routinely; outsiders need special permission from the committee.

Pharmacy Relevance

- The pharmacist **writes the monographs**, prepares the evaluation notes, and as PTC secretary drives the entire preparation and revision process — this is core pharmacist territory.
- In daily dispensing, the pharmacist checks prescriptions against the formulary: "Is this medicine listed? Is there a restriction?" — and contacts the doctor if not.
- Formulary knowledge makes the pharmacist the hospital's medicine-information expert — doctors consult the pharmacist on "what is in our formulary for this condition?"
- Interview favourite: "How would you prepare a hospital formulary?" — the nine steps are the expected answer.

India Context

- Indian hospitals — government (district hospitals, medical colleges) and private — maintain formularies; NABH accreditation standards expect a documented formulary and a functioning PTC.
- Government hospitals often align their formulary with the state's **Essential Drug List** and procure through state medical corporations, which strengthens cost control.
- The Drugs and Cosmetics Rules and Pharmacy Act framework govern how medicines are stocked and dispensed in Indian hospitals; formulary policies must comply with them. (Regulatory details change over time — as per the latest guidelines/notifications, confirm the current edition.)
- Promoting generic prescribing through the formulary supports India's emphasis on affordable medicines for all.

Key Points

1. Hospital formulary = official approved medicine list + information + use-rules.
2. Formulary ≠ drug list (list has names only; formulary adds monographs, evaluation, rules, PTC approval).
3. Six objectives: safety, rational use, economy, information, simplicity, education.
4. Contents: intro/policies, therapeutic-class listing with monographs, special lists, appendices.
5. Nine preparation steps: decide → collect data → classify → evaluate/select → write monographs → add policies → PTC approval → publish → educate.
6. Revision: regular (usually yearly) review — additions, deletions, monograph updates; plus urgent updates for safety alerts.
7. Deletion reasons: unsafe, ineffective, obsolete, duplicate, not used.
8. Formulary drives rational use (evaluated choices + rules) and cost control (fewer brands, bulk buying, less waste).

Common Confusions

1. **Formulary vs drug list:** The commonest confusion — remember: formulary = list + monographs + rules + PTC approval.
2. **Preparation vs revision:** Preparation builds the first edition; revision updates later editions. Both are PTC-led.
3. **Open vs closed formulary:** Open = guide only, anything may be prescribed; closed = only listed medicines routinely allowed. Most hospitals use closed.
4. **Addition vs deletion:** Addition needs a request + evidence + PTC approval; deletion needs a reason (unsafe/duplicate/unused) + PTC approval. Neither happens casually.
5. **Monograph vs prescription:** A monograph describes the medicine (reference information); a prescription orders it for a patient.
6. **Restriction vs deletion:** Restricted = listed but with conditions (e.g., "ICU only"); deleted = removed from the list entirely.

Common Mistakes

1. Defining the formulary as "a list of drugs" — always add "approved by the PTC, with information and policies."
2. Omitting the PTC's role — the formulary is prepared and approved by the PTC, not by the pharmacist alone.
3. Listing preparation steps in the wrong order — evaluation/selection must come before monograph writing and approval.
4. Forgetting revision — a formulary without regular revision becomes outdated and unsafe.
5. Confusing generic name with brand name when writing about monographs — monographs are organized by generic name.
6. Writing that cost control means "buying the cheapest medicine" — it means best value: safe + effective + economical.

Mnemonics

1. **Objectives — "SERIES": S**afety, **E**conomy, **R**ational use, **I**nformation, **E**ducation, **S**implicity.
2. **Preparation steps — "Do Cats Eat Vegetables? Many People Prefer Eating": D**ecide, **C**ollect data, **E**valuate… (better:) **"Please Call The Evaluator, Make My Prescription Perfect, Educate"**: **P**lan (decide), **C**ollect, **T**herapeutic classification, **E**valuate/select, **M**onographs, **P**olicies, **P**TC approval, **E**ducate. (Publish sits between approval and educate.)
3. **Formulary vs drug list — "LIMP":** formu**L**ary = **L**ist + **I**nformation + **M**onographs + **P**TC approval.
4. **Deletion reasons — "SODDU": S**unsafe, **O**bsolete, **D**uplicate, **D**isused, **U**se-less (ineffective).
5. **Contents — "PMLS-A": P**olicies, **M**ain listing with monographs, **L**ists (special), **S**ections intro, **A**ppendices.

Exam Summary

- Hospital formulary: PTC-approved official list of medicines with monographs and use-rules; more than a drug list (names only).
- Objectives ("SERIES"): Safety, Economy, Rational use, Information, Education, Simplicity.
- Contents: preliminary pages, policies, therapeutic-class listing with monographs, special lists (emergency, controlled, stop-order drugs), appendices.
- Preparation (9 steps): PTC decision → data collection → therapeutic classification → evaluation/selection → monograph writing → policies added → PTC approval → publication → staff education. Flowchart required.
- Revision: usually yearly; additions (request + evidence + approval), deletions (unsafe/obsolete/duplicate/unused), monograph updates; urgent updates for safety alerts.
- Role: rational use (evaluated selection + prescribing rules + audits) and cost control (fewer duplicate brands, bulk purchase, less expiry waste).

One-Minute Revision

The **hospital formulary** is the hospital's official approved-medicine book: names + monographs (medicine details) + rules, approved by the PTC. Not just a drug list (names only) — remember **LIMP**: List + Information + Monographs + PTC approval. Goals: **SERIES** (Safety, Economy, Rational use, Information, Education, Simplicity). Building it: decide → collect → classify → **evaluate & select** → monographs → policies → approve → publish → educate. **Revise yearly**: add useful new drugs, **delete** the unsafe/obsolete/duplicate/unused (**SODDU**). Result: doctors prescribe sensibly (rational use) and the hospital spends less (cost control).

Questions

Short Answer Questions (2–3 marks each)

1 Define a hospital formulary.

2 Differentiate between a hospital formulary and a drug list (any three points).

3 List the contents of a hospital formulary.

4 What is a monograph?

5 Give any four objectives of a hospital formulary.

6 What is meant by revision of the formulary?

7 List four reasons for deleting a medicine from the formulary.

8 What is a "closed" formulary?

9 Who approves the hospital formulary?

10 Give two ways the formulary helps in cost control.

Long Answer Questions (10 marks each)

1 Define hospital formulary. Describe its objectives and contents. Differentiate it from a drug list.

2 Describe the steps in preparing a hospital formulary, with a flowchart. How is the formulary revised?

3 Discuss the role of the hospital formulary in promoting rational drug use and controlling costs, with examples.

MCQs (with answer keys)

1 A hospital formulary is best described as:

a) A list of drug names b) A PTC-approved list of medicines with monographs and use-policies c) A purchase order book d) A patient register **Answer: b) A PTC-approved list of medicines with monographs and use-policies**

1 Which is NOT a usual content of a hospital formulary?

a) Monographs b) Prescribing restrictions c) Patient admission register d) Emergency drug list **Answer: c) Patient admission register**

1 In formulary preparation, evaluation and selection of medicines comes:

a) Before data collection b) After therapeutic classification c) After publication d) Before the PTC decision **Answer: b) After therapeutic classification**

1 A medicine is deleted from the formulary when it is:

a) Newly launched b) Found unsafe or obsolete c) Prescribed by a senior doctor d) Advertised widely **Answer: b) Found unsafe or obsolete**

1 "Closed formulary" means:

a) The book is kept locked b) Only formulary medicines are routinely prescribed; others need approval c) No new medicines ever added d) Only the pharmacist may read it **Answer: b) Only formulary medicines are routinely prescribed; others need approval**

1 A monograph contains:

a) Only the price of the medicine b) Standard information about one medicine — uses, dose, side effects, cautions c) The doctor's signature d) The patient's name **Answer: b) Standard information about one medicine — uses, dose, side effects, cautions**

1 Formulary revision is usually done:

a) Every 10 years b) Regularly, usually yearly, plus urgent safety updates c) Only when the book is torn d) Never **Answer: b) Regularly, usually yearly, plus urgent safety updates**

1 Which step comes FIRST in formulary preparation?

a) Writing monographs b) PTC decision and planning c) Publication d) Staff education **Answer: b) PTC decision and planning**

1 Cost control through the formulary is achieved mainly by:

a) Buying the cheapest medicine regardless of quality b) Reducing duplicate brands, bulk purchasing, and less expiry waste c) Not buying emergency drugs d) Reducing pharmacist salaries **Answer: b) Reducing duplicate brands, bulk purchasing, and less expiry waste**

1 A "restricted" formulary listing means the medicine:

a) Is banned b) May be prescribed only under specified conditions c) Is free of cost d) Needs no prescription **Answer: b) May be prescribed only under specified conditions**

Viva Questions

1 Define hospital formulary in one sentence.

2 How is a formulary different from a drug list?

3 What is a monograph?

4 Name two objectives of a formulary.

5 Who prepares and approves the formulary?

6 What is the first step in formulary preparation?

7 Give two reasons for deleting a medicine at revision.

8 What is a closed formulary?

9 How does the formulary control costs?

10 What is a prescribing restriction? Give an example.

Application-Based Questions

1 Your hospital stocks five brands of the same antacid, and the pharmacy store is overcrowded with slow-moving stock. As a pharmacist on the formulary working group, explain how you would use the evaluation step to reduce this to one brand, and what you would tell the doctors who prefer the deleted brands.

2 A safety alert warns that a widely used painkiller increases heart risk in elderly patients. It is currently in your hospital formulary without restrictions. Draft the revision proposal you would place before the PTC (options: delete / restrict / update monograph) with reasons.

3 A junior doctor complains, "The formulary stops me from prescribing what I want." Write a short counselling note explaining to her how the formulary protects patients and how she can request a non-formulary medicine in a genuine emergency.

References

- Hassan (Hospital Pharmacy) — hospital formulary: definition, contents, preparation and revision.
- Merchant & Qadry (A Textbook of Hospital Pharmacy) — formulary system, drug lists, PTC role in formulary management.
- Parthasarathi/Hansen/Nahata (A Textbook of Clinical Pharmacy Practice) — rational drug use and formulary-based prescribing.

- Harman (Handbook of Pharmacy – Health Care) — medicine selection, cost-effectiveness, prescribing policies.

CHAPTER 6: Drug Distribution System in Hospitals — Procurement, Inventory Control, Dispensing and NABH Standards

Learning Objectives

After studying this chapter, the student will be able to:

1 Define drug procurement, inventory control, and drug distribution in simple words.

2 Describe the drug procurement process step by step.

3 Name and explain purchasing methods used by hospitals.

4 Explain inventory control techniques — ABC analysis, VED analysis, and EOQ — in very simple terms.

5 Describe inpatient drug distribution methods (including unit-dose and ward-stock systems).

6 Describe ambulatory (outpatient) dispensing, including charging policy and labelling.

7 Explain the distribution of controlled drugs.

8 Describe NABH standards for medication management in generic terms.

9 Draw textual flowcharts for the procurement cycle and drug distribution flow.

10 Answer exam questions on this topic with confidence.

Definitions

- **Drug procurement:** The process of buying medicines — deciding what to buy, from whom, at what price, and in what quantity — so that the hospital never runs out and never over-buys.
- **Inventory:** The stock of medicines held by the hospital pharmacy at any time. **Inventory control:** Managing this stock so that medicines are always available, wastage (expiry, damage) is minimum, and money is not locked up unnecessarily.
- **Drug distribution system:** The organized method by which medicines move from the pharmacy store to the patient — including dispensing to inpatients (admitted patients) and ambulatory/outpatients (visiting patients).
- **Dispensing:** The act of preparing and giving out medicines to a patient (or ward) against a prescription, with correct labelling and counselling.
- **Inpatient dispensing:** Giving medicines for patients admitted in wards. **Ambulatory (outpatient) dispensing:** Giving medicines to patients who visit the OPD/casualty and go home.

- **Controlled drugs:** Medicines that can be misused or are habit-forming (narcotics, psychotropic substances) and are therefore kept under special legal lock, record, and control.
- **Charging policy:** The hospital's rule about who pays for medicines — whether medicines are charged to the patient, given free (government hospitals), or covered by insurance.
- **Labelling:** Writing/printing the essential information on the medicine container given to the patient — patient name, medicine name, dose, how to take, date.
- **NABH:** National Accreditation Board for Hospitals — the Indian body that checks whether a hospital meets quality standards and gives accreditation (a quality certificate). Its medication-management standards describe how medicines should be safely managed.
- **ABC analysis:** An inventory technique that divides medicines into A (few items, high cost — tight control), B (medium), C (many items, low cost — simple control) based on annual cost.
- **VED analysis:** An inventory technique that divides medicines into V (Vital — must never be out of stock), E (Essential), D (Desirable) based on medical importance.
- **EOQ (Economic Order Quantity):** The order size that gives the lowest total cost — balancing the cost of ordering too often against the cost of storing too much.

Terminology Table

Term	Meaning
Procurement	Buying medicines: what, from whom, how much, at what price.
Tender	Inviting suppliers to quote their prices; the best (usually lowest qualifying) quote wins the supply contract.
Inventory / stock	Medicines held in the pharmacy store at a given time.
Lead time	The gap between placing an order and receiving the medicines.
Buffer (safety) stock	Extra stock kept to cover emergencies or supply delays.
Expiry / shelf life	The date after which a medicine must not be used.
Unit-dose system	Dispensing each dose separately packed and labelled for one patient at one time.
Ward stock system	Keeping a small stock of common medicines in the ward for immediate use.
Floor stock	Medicines stored in wards/nursing stations (same idea as ward stock).
Controlled drugs	Narcotic/psychotropic medicines under special legal control.
Double-lock	Storage of controlled drugs under two locks, needing two keys/persons.
Prescription	Doctor's written order for medicines.
Label	Information fixed on the dispensed medicine (name, dose, directions).
Counselling	Teaching the patient how to take medicines correctly.
NABH accreditation	Quality certificate given to hospitals meeting NABH standards.
Medication error	Preventable mistake in prescribing, dispensing, or administering.

Term	Meaning
Formulary	Hospital's approved medicine list (see Chapter 5) — procurement buys from it.

Simple Explanations

Concept 1: Drug procurement — what it is and its process

- **Simple explanation:** Procurement = smart buying. The hospital must buy the right medicines, of good quality, in the right quantity, at the right price, at the right time. The process: (1) **identify need** — what medicines and how much (based on past use and formulary); (2) **specify** — exact product details (generic name, strength, pack); (3) **select suppliers** — approved, licensed suppliers; (4) **invite prices** — quotations or tender; (5) **evaluate and select** — compare quality and price; (6) **place purchase order** — official order document; (7) **receive and check** — verify quantity, quality, expiry, bills; (8) **pay** — after satisfactory receipt.
- **Example:** The pharmacy calculates it needs 100,000 paracetamol tablets for 3 months. It invites quotations from 4 licensed suppliers, selects the one offering good quality at the lowest price, issues a purchase order, checks the delivery (count, expiry date, invoice), and then pays.
- **Textual diagram — procurement cycle:**

```
IDENTIFY NEED (formulary + past consumption)
      |
SPECIFY (generic name, strength, quantity, quality)
      |
SELECT SUPPLIERS (licensed, approved list)
      |
INVITE PRICES (quotation / tender)
      |
EVALUATE & SELECT (quality + price comparison)
      |
PURCHASE ORDER (official written order)
      |
RECEIVE & VERIFY (count, expiry, quality, bill)
      |
STOCK ENTRY & PAYMENT
      |
(cycle repeats when stock reaches reorder level)
```

- **Key takeaway:** Procurement is a cycle, not a one-time purchase — need → buy → check → pay → need again.

Concept 2: Purchasing methods

- **Simple explanation:** Hospitals buy medicines by different methods: (a) **open tender** — publicly inviting bids from all suppliers (transparent, best for big purchases); (b) **limited tender** — inviting only approved/registered suppliers (faster, still competitive); (c) **quotation** — asking 3–4 suppliers for prices for small or urgent needs; (d) **direct purchase** — buying straight from a known supplier in emergencies or for small quantities; (e) **rate contract** — fixing prices with a supplier for a full year, then ordering as needed (common in government hospitals).

- **Example:** For the year's bulk antibiotics, the hospital floats an open tender. For an urgent cancer injection needed tomorrow, the pharmacist makes a direct purchase from a trusted supplier. For routine monthly items, the hospital uses its annual rate contract.
- **Textual diagram — choosing a purchasing method:**

```
  How much? How urgent?
       |
  +----+----+-----------------------------+
  |         |                              |
LARGE,     SMALL/                          EMERGENCY /
PLANNED    ROUTINE                         VERY SMALL
  |         |                              |
OPEN       LIMITED TENDER /                DIRECT
TENDER     QUOTATION /                     PURCHASE
           RATE CONTRACT
```

- **Key takeaway:** Big planned purchases → tender; routine/small → quotation or rate contract; emergency → direct purchase. Match the method to the need.

Concept 3: Inventory control — ABC analysis (simply)

- **Simple explanation:** A hospital stocks hundreds of medicines, but a small number of them consume most of the money. **ABC analysis** groups medicines by their annual cost: **A items** = about 10% of items but ~70% of the money (tight control, frequent review, low stock); **B items** = about 20% of items, ~20% of money (moderate control); **C items** = about 70% of items but only ~10% of money (simple control, can keep more stock). Control effort follows the money.
- **Example:** Cancer injections (A items): costly, ordered carefully in exact quantities. Paracetamol tablets (C items): cheap, ordered in bulk without worry. IV fluids (B items): in between.
- **Textual diagram — the ABC pyramid:**

```
          /\
         /A \          A: ~10% items, ~70% cost → TIGHT control
        /----\
       /  B   \        B: ~20% items, ~20% cost → MODERATE control
      /--------\
     /    C     \      C: ~70% items, ~10% cost → SIMPLE control
    /--------------\
```

- **Key takeaway:** Watch the costly few (A) closely; don't waste management time on the cheap many (C).

Concept 4: Inventory control — VED analysis (simply)

- **Simple explanation:** ABC looks at **cost**; **VED** looks at **medical importance**: **V (Vital)** = life-saving, must NEVER be out of stock (emergency drugs, insulin, anti-snake venom); **E (Essential)** = important for treatment, short shortage tolerable (most antibiotics); **D (Desirable)** = useful but shortage not serious (vitamins, tonics). VED decides **how much safety stock** to keep; ABC decides **how tightly to control spending**.
- **Example:** Adrenaline injection is Vital — the pharmacy keeps buffer stock even though it is cheap (C in ABC, V in VED). A costly but rarely life-saving tonic may be A in ABC but D in VED — ordered carefully but low buffer.

- **Textual diagram — combining ABC and VED:**

```
ABC (cost control)  +  VED (availability control)  = SMART STOCK
     |                          |
A items: order exact,        V items: NEVER out of stock,
review often                 keep buffer always
     |                          |
     +------------+-------------+
                  |
        Example: AV item (costly + vital, e.g., cancer drug)
        → tight money control AND guaranteed availability
```

- **Key takeaway:** ABC protects money; VED protects patients. Used together (ABC-VED matrix), they give the best stock decisions.

Concept 5: EOQ — Economic Order Quantity (simply)

- **Simple explanation:** Every order has two costs: (1) **ordering cost** — paperwork, transport, staff time each time you order (ordering often = high ordering cost); (2) **carrying cost** — money locked in stock, storage space, risk of expiry (ordering huge lots = high carrying cost). **EOQ** is the order quantity where the **total of these two costs is minimum** — not too small (too many orders), not too big (too much stock). You don't need the formula for basic understanding — just the logic: balance the two costs.
- **Example:** Ordering paracetamol 12 times a year in small lots wastes staff time and transport (high ordering cost). Ordering 5 years' stock at once locks lakhs of rupees and risks expiry (high carrying cost). EOQ thinking suggests, say, ordering every 3 months — the balanced middle.
- **Textual diagram — the EOQ balance:**

```
Cost
 ^      \  (carrying cost rises with order size)
 |       \
 |        \      /
 |         \    /  (ordering cost falls with order size)
 |          \  /
 |           \/
 |            *  ← EOQ: lowest TOTAL cost point
 +---------------------------------> Order quantity
           small                 large
```

- **Key takeaway:** EOQ = the "just right" order size — minimum total cost, avoiding both over-ordering and over-frequent ordering.

Concept 6: Drug distribution — inpatient dispensing methods

- **Simple explanation:** Inpatients (admitted patients) get medicines by systems such as: (a) **individual prescription order system** — medicines dispensed per patient per prescription from the pharmacy; (b) **unit-dose system** — each dose is separately packed and labelled for one patient for one administration time (safest, least waste); (c) **ward stock / floor stock system** — a small stock of common medicines kept in the ward cupboard for immediate use, refilled by pharmacy; (d) **combination** — most hospitals use unit-dose or individual dispensing plus limited ward stock for emergencies.

- **Example:** In a unit-dose system, the 8 a.m. medicines for Bed 12 arrive as one sealed packet labelled "Bed 12 — 8 a.m. — Paracetamol 500 mg — 1 tablet." The nurse just verifies and gives it — wrong-patient and wrong-dose errors drop sharply.
- **Textual diagram — distribution flow to inpatients:**

```
  Doctor writes order on case sheet/medication chart
       |
  PHARMACY receives order → pharmacist CHECKS (right drug, dose, interactions)
       |
  +----+----+----------------------+
  |         |                      |
UNIT-DOSE  INDIVIDUAL            WARD STOCK
(sealed    PRESCRIPTION          (common medicines
 per-dose   (patient's full       in ward cupboard,
 packets)   course packed)        refilled by pharmacy)
  |         |                      |
  +----+----+----------------------+
       |
  NURSE administers → DOCUMENTED on chart → PHARMACY monitors use
```

- **Key takeaway:** Unit-dose is the safest inpatient system; ward stock covers immediate needs; the pharmacist's check stands between the order and the patient in every method.

Concept 7: Ambulatory (outpatient) dispensing — charging policy and labelling

- **Simple explanation:** Outpatients take medicines home, so dispensing must be extra clear. Steps: receive prescription → check it (correctness, formulary, interactions) → select medicines → **label** each container (patient name, medicine name and strength, dose, how/when to take, date, pharmacy name) → **counsel** the patient (how to take, what to avoid) → hand over. **Charging policy** decides payment: in many government hospitals OPD medicines are free; in private hospitals the patient pays at the pharmacy counter (cash/insurance).
- **Example:** Label: "Ramesh Kumar — Metformin 500 mg — Take 1 tablet twice daily AFTER food — 30 tablets — 05/10/2026 — City Hospital Pharmacy." The pharmacist adds verbally: "Take after meals; if you miss a dose, take it when you remember unless it's almost time for the next."
- **Textual diagram — OPD dispensing steps:**

```
  PRESCRIPTION received at OPD counter
       → CHECK (valid, complete, formulary, interactions)
       → SELECT correct medicines from shelves
       → LABEL each container (name, drug, dose, directions, date)
       → COUNSEL patient (how to take, precautions)
       → CHARGE as per policy (free / cash / insurance)
       → HAND OVER + keep dispensing record
```

- **Key takeaway:** For outpatients, the label and counselling ARE the safety system — the patient has no nurse to double-check at home.

Concept 8: Distribution of controlled drugs

- **Simple explanation:** Controlled drugs (narcotics like morphine, psychotropic/sedative medicines) can be misused, so the law demands special handling: stored in a **double-locked cupboard/safe** (two locks, keys with different responsible persons); every single dose recorded in a **controlled drug**

register (who ordered, who received, which patient, balance remaining); issue only against a proper prescription; regular checking of the register balance against physical stock; discrepancies reported immediately.

- **Example:** The night nurse needs a morphine injection for a cancer patient. She signs the controlled drug register, the pharmacist (or authorized person) unlocks the safe with her, one ampoule is issued, the balance is updated and signed by both — full traceability of that one ampoule.
- **Textual diagram — controlled drug issue:**

```
Doctor's prescription (valid, complete)
      |
TWO authorized persons open DOUBLE-LOCKED safe
      |
Issue exact quantity → ENTER in controlled drug register
(date, patient, drug, qty, balance, signatures of BOTH)
      |
Regular AUDIT: register balance = physical stock?
      |
Any mismatch → REPORT immediately, investigate
```

- **Key takeaway:** For controlled drugs, every tablet is tracked like currency — two persons, two locks, one register, zero gaps.

Concept 9: NABH standards for medication management (generic description)

- **Simple explanation:** NABH (National Accreditation Board for Hospitals) gives quality certificates to hospitals that meet its standards. Its medication-management expectations (described here generically, without version claims) cover: a documented **medication management policy** guided by the PTC and formulary; **safe procurement, storage** (right temperature, segregated expiry control), and **dispensing**; **correct labelling and safe administration** practices; **monitoring of adverse drug reactions and medication errors** with corrective action; **controlled drug safeguards**; **patient counselling**; and **trained, competent pharmacy staff** with defined responsibilities. (Hospitals should follow the current NABH edition — as per the latest guidelines/notifications, confirm the current edition.)
- **Example:** During NABH assessment, surveyors check: Is there a formulary? Are high-risk medicines labelled distinctly? Is there an ADR reporting system? Are emergency drugs available and checked? — all medication-management points.
- **Textual diagram — NABH medication-management pillars (generic):**

```
        MEDICATION MANAGEMENT (NABH – generic view)
+-------------------------------------------------------+
| 1. Policy & formulary (PTC-guided)                    |
| 2. Safe procurement and storage                       |
| 3. Correct dispensing, labelling, administration      |
| 4. High-risk & controlled drug safeguards             |
| 5. ADR and medication-error monitoring                |
| 6. Patient counselling and education                  |
| 7. Trained staff with defined responsibilities        |
+-------------------------------------------------------+
```

- **Key takeaway:** NABH essentially asks: "Show us your complete, safe, documented journey of every medicine from purchase to patient" — this chapter IS that journey.

Classifications

Classification 1: Purchasing methods

Method	When used	Features
Open tender	Large, planned purchases	Public invitation, transparent, competitive
Limited tender	Moderate purchases	Invited approved suppliers only, faster
Quotation	Small/routine needs	3–4 price quotes compared
Direct purchase	Emergency/very small quantity	Immediate, from trusted supplier
Rate contract	Recurring needs over a year	Prices fixed yearly, order as needed

Classification 2: Inventory control techniques

Technique	Based on	Groups	Purpose
ABC analysis	Annual cost	A (high cost), B (medium), C (low cost)	Control spending — tight watch on A
VED analysis	Medical importance	V (vital), E (essential), D (desirable)	Guarantee availability — never stock-out V
EOQ	Total cost balance	One optimal order quantity	Minimize ordering + carrying cost
ABC-VED matrix	Cost + importance combined	e.g., AV, AE, CV...	Best decisions on both money and care

Classification 3: Inpatient distribution systems

System	How it works	Strength
Individual prescription order	Full course dispensed per patient per order	Simple, pharmacist checks each order
Unit-dose system	Each dose separately packed/labelled per administration	Safest, least waste and error
Ward (floor) stock system	Common medicines stocked in ward, refilled by pharmacy	Immediate availability for urgent needs
Combined system	Unit-dose/individual + limited ward stock	Best workable option in real hospitals

Classification 4: Types of stock to watch in inventory control

Stock type	Meaning	Action
Fast-moving	Used quickly and regularly	Reorder before it finishes
Slow-moving	Used rarely	Keep minimum quantity
Dead/non-moving	Not used for long	Return, transfer, or delete from formulary
Expiry-prone	Short shelf life	Order small lots, check dates often

Mechanisms / Processes

Process 1: Receiving and checking a medicine delivery (step by step)

1. Match the delivery against the **purchase order** — right items, right quantities.
2. Check **physical condition** — no damage, seals intact, cold-chain items still cold.
3. Check **expiry dates** — reject short-dated or expired stock.
4. Verify the **bill/invoice** matches the order and delivery.
5. Enter into **stock registers** (quantity, batch, expiry).
6. Arrange on shelves (first-expiry-first-out) and update records; then process payment.

Process 2: How ABC analysis is done (simplified)

1. List all medicines with annual consumption quantity × unit price = annual cost per item.
2. Rank items from highest to lowest annual cost.
3. Calculate running (cumulative) percentage of total cost.
4. Mark the top items covering ~70% of cost as **A**, the next ~20% as **B**, the rest as **C**.
5. Apply control: A — frequent review, exact ordering; B — moderate; C — simple bulk ordering.

Process 3: Safe OPD dispensing check (the pharmacist's verification)

1. **Prescription valid?** — doctor's signature, date, patient details present.
2. **Complete?** — medicine name, strength, dose, frequency, duration all written.
3. **Formulary/appropriate?** — medicine suitable; restrictions followed.
4. **Safe?** — no dangerous interaction, allergy, or wrong dose for age/condition.
5. Only then: select, label, counsel, and dispense. Any doubt → contact the prescriber before dispensing.

INFOGRAPHIC CONCEPT: A one-page visual titled "The Medicine's Journey Through the Hospital" — a horizontal pipeline with six stations, each an icon with a short label: 1) Shopping cart "PROCURE — smart buying (tender/quotation)"; 2) Warehouse "STORE — safe, cool, expiry-checked"; 3) Pyramid "CONTROL — ABC (cost) + VED (importance) + EOQ (order size)"; 4) Hospital bed "INPATIENT — unit-dose packets to wards"; 5) Walking person "OUTPATIENT — labelled medicines + counselling"; 6) Locked safe "CONTROLLED DRUGS — double lock, register, two signatures". Below the pipeline, a badge "NABH: safe, documented journey for every medicine". Arrows flow left to right with a small recycle arrow from station 6 back to 1 labelled "usage data → next purchase".

Tables

Table 1: ABC vs VED — the essential difference

Point	ABC analysis	VED analysis
Basis	Annual cost (money)	Medical importance (patient need)
Groups	A / B / C	V / E / D
Main question	"Where is the money going?"	"What must never be out of stock?"

Point	ABC analysis	VED analysis
Control focus	Tight control on costly A items	Buffer stock for Vital items
Example A/V item	Costly cancer injection	Adrenaline (cheap but life-saving = C in ABC, V in VED)

Table 2: Procurement steps — quick reference

Step	Activity	Key document
1	Identify need	Consumption records, formulary
2	Specify product	Generic name, strength, quantity
3	Select suppliers	Approved supplier list
4	Invite prices	Tender / quotation
5	Evaluate and select	Comparative statement
6	Order	Purchase order
7	Receive and verify	Goods receipt, inspection note
8	Pay	Invoice, payment voucher

Table 3: Inpatient vs ambulatory (outpatient) dispensing

Feature	Inpatient dispensing	Ambulatory (outpatient) dispensing
Patient	Admitted in ward	Visits and goes home
Order	On case sheet / medication chart	Prescription slip with patient
Packing	Unit-dose packets or ward supply	Full course in labelled containers
Counselling	Via nurses; pharmacist on rounds	Direct patient counselling at counter
Charging	Usually added to hospital bill	Per charging policy: free / cash / insurance
Key risk controlled	Wrong-patient/wrong-dose in ward	Patient misunderstanding at home

Table 4: Labelling requirements for dispensed medicines

Label item	Why it matters
Patient name	Right medicine reaches the right person
Medicine name and strength	No confusion between similar products
Dose and directions ("1 tablet twice daily after food")	Patient takes it correctly
Quantity and date of dispensing	Record and expiry awareness
Pharmacy/hospital name	Source identification
Special warnings ("Shake well", "Store in fridge")	Safe use and storage

Examples

1 **Procurement:** Annual tender for IV fluids — three suppliers quote; the PTC-approved quality bidder with the lowest compliant price gets the one-year rate contract.

2 **ABC:** The pharmacy finds 12 costly items (A) consume 70% of the budget — these are now reviewed fortnightly, while 400 cheap C items are ordered in bulk quarterly.

3 **VED:** Anti-snake venom is Vital — buffer stock is always kept even in non-summer months, because a stock-out could kill.

4 **EOQ logic:** Instead of ordering a year's gauze at once (expiry risk, money locked) or weekly (staff burden), the pharmacy orders every 2 months — the balanced middle.

5 **Unit-dose:** Bed 7's 2 p.m. dose arrives as a sealed labelled packet — the nurse verifies the label against the chart and administers; no measuring or splitting at the bedside.

6 **OPD labelling:** An illiterate patient's relative is counselled with a sunrise/sunset symbol chart drawn on the label cover — "one tablet at sunrise, one at sunset."

7 **Controlled drugs:** Every morphine ampoule is entered in the register with two signatures; monthly audit matches register balance with physical count — zero tolerance for mismatch.

8 **NABH:** The hospital documents its medication management policy, trains all dispensers, and tracks medication errors — meeting the accreditation expectation of a safe, documented medicine journey.

Analogies

1 **Procurement as household grocery shopping:** A smart homemaker lists what's needed, compares shops for price and quality, buys in the right quantity (not too much to spoil, not too little to run out) — hospital procurement is the same, at large scale.

2 **ABC analysis as a wallet check:** You guard a ₹2,000 note carefully but don't worry much about ₹10 coins — ABC guards costly A items tightly and treats cheap C items simply.

3 **VED analysis as a first-aid box:** Bandages for bleeding (Vital) must always be there; pain balm (Essential) is important; a fancy skin cream (Desirable) can wait — VED ranks medicines like first-aid priorities.

4 **EOQ as filling a water tank:** Filling a spoonful at a time wastes trips; flooding the whole house wastes water — the right bucket size (EOQ) balances effort and waste.

5 **Unit-dose as a tiffin service:** Each family member gets their own labelled tiffin for each meal — no mix-ups, no waste — just like each patient gets their own labelled dose packet.

6 **Controlled drug register as a bank passbook:** Every rupee in and out is recorded and signed — every controlled-drug dose in and out is recorded and signed.

Pharmacy Relevance

- Procurement, inventory control, and distribution are the **core daily work** of hospital pharmacists — this chapter describes what a hospital pharmacist actually does all day.
- The pharmacist selects suppliers, runs tenders, applies ABC/VED, sets reorder levels, checks every inpatient order, labels and counsels at the OPD counter, and guards controlled drugs.
- NABH accreditation has made documented medication management a **career-critical skill** — pharmacists lead the hospital's compliance on these standards.

- Job interviews routinely ask: "Explain ABC and VED analysis," "What is the unit-dose system?" and "How are controlled drugs handled?" — this chapter is the answer bank.

India Context

- Indian government hospitals commonly procure through **state medical corporations** using tenders and annual rate contracts; many provide OPD medicines **free** under public health schemes (charging policy = free for the patient).
- Private and corporate hospitals in India increasingly use the **unit-dose system** and barcode-based dispensing; NABH accreditation is a major quality marker for Indian hospitals.
- Controlled drugs in India (narcotics and psychotropic substances) are governed by the NDPS Act and related rules — double-lock storage, registers, and licences are legal requirements. (Regulatory details change over time — as per the latest guidelines/notifications, confirm the current edition.)
- The pharmacist handling procurement and stores in Indian hospitals must be a registered pharmacist, and all purchase/stock records are subject to inspection.

Key Points

1. Procurement = smart buying: need → specify → suppliers → prices → select → order → receive/check → pay.
2. Purchasing methods: open tender, limited tender, quotation, direct purchase, rate contract — matched to size and urgency.
3. ABC analysis: A (~10% items, ~70% cost, tight control), B (~20%/~20%, moderate), C (~70%/~10%, simple).
4. VED analysis: Vital (never stock-out), Essential, Desirable — based on medical importance.
5. EOQ: order quantity with minimum total (ordering + carrying) cost — the balanced middle.
6. Inpatient systems: individual prescription order, unit-dose (safest), ward stock, combined.
7. OPD dispensing: check → select → label → counsel → charge (per policy) → hand over with records.
8. Controlled drugs: double lock, two persons, dedicated register, regular audit, immediate reporting of mismatch.
9. Labelling must carry: patient name, medicine + strength, dose/directions, quantity, date, pharmacy name, warnings.
10. NABH (generic): documented medication policy, safe procurement/storage/dispensing, labelling, high-risk safeguards, ADR/error monitoring, counselling, trained staff. (Follow the current edition — confirm latest notifications.)

Common Confusions

1. **Procurement vs purchasing:** Purchasing (buying) is one step; procurement is the whole cycle from need identification to payment.

2 **ABC vs VED:** ABC = money-based; VED = importance-based. A cheap life-saving drug is C in ABC but V in VED — both analyses are needed.

3 **EOQ vs reorder level:** EOQ = HOW MUCH to order; reorder level = WHEN to order (the stock point that triggers a new order).

4 **Unit-dose vs ward stock:** Unit-dose = pharmacy-packed per patient per dose (safest); ward stock = bulk common medicines kept in the ward (fastest). They complement each other.

5 **Inpatient vs outpatient dispensing:** Inpatient = to the ward via chart orders; outpatient = to the patient at the counter with label + counselling.

6 **Charging policy vs pricing:** Charging policy = who pays (patient/hospital/insurance); pricing = how much is charged. Government OPDs often have "free" charging policy.

7 **NABH vs law:** NABH accreditation is a voluntary quality certificate; drug laws (like NDPS controls) are mandatory legal duties. Both matter, for different reasons.

Common Mistakes

1 Saying ABC is based on "quantity used" — it is based on annual COST (quantity × price).

2 Calling VED a cost technique — VED is about medical importance, not cost.

3 Writing the EOQ formula from memory incorrectly — in exams, explaining the logic (balancing ordering and carrying costs) is safer than a half-remembered formula.

4 Describing unit-dose as "giving one tablet" — it means each DOSE individually packed and labelled for one patient at one time, whatever the dose contains.

5 Forgetting the pharmacist's prescription CHECK before dispensing — checking is not optional; it is the safety core of dispensing.

6 Omitting counselling and labelling in OPD dispensing answers — for outpatients these are as important as the medicine itself.

7 Stating a specific NABH edition/version number or standard codes — describe standards generically and note "as per the latest guidelines/notifications — confirm the current edition."

Mnemonics

1 **Procurement steps — "I Saw Sam Invite Every Pretty Rose":** **I**dentify need, **S**pecify, **S**elect suppliers, **I**nvite prices, **E**valuate/select, **P**urchase order, **R**eceive & verify (+ pay).

2 **Purchasing methods — "OLD QR":** **O**pen tender, **L**imited tender, **D**irect purchase, **Q**uotation, **R**ate contract.

3 **ABC — "A Big Cat":** **A** = few items, **B**ig money, tight control; **B** = middle; **C** = many items, small money, simple control.

4 **VED — "Very Essential Drugs":** **V**ital (never out), **E**ssential, **D**esirable.

5 **EOQ logic — "BOO":** **B**alance **O**rdering cost vs carrying (h**O**lding) cost → minimum total.

6 **OPD dispensing — "Can Sally Learn Cooking Hotdogs?": C**heck, **S**elect, **L**abel, **C**ounsel, **H**andover (+ charge per policy).

7 **Controlled drugs — "2-2-1": 2** locks, **2** signatures, **1** register.

Exam Summary

- Drug procurement: 8-step cycle (need → specify → suppliers → prices → select → order → receive/verify → pay); methods: open tender, limited tender, quotation, direct purchase, rate contract ("OLD QR").
- Inventory control: ABC (cost-based: A ~10%/70% tight, B ~20%/20% moderate, C ~70%/10% simple); VED (importance-based: Vital/Essential/Desirable); EOQ (order size minimizing ordering + carrying cost); ABC-VED matrix combines both.
- Inpatient distribution: individual prescription order, unit-dose system (safest — sealed per-dose packets), ward/floor stock, combined system.
- Ambulatory (OPD) dispensing: check → select → label (patient, drug, dose, directions, date, warnings) → counsel → charge per policy → hand over with records.
- Controlled drugs: double-locked storage, two authorized persons, dedicated register with every dose recorded and signed, regular audit, immediate mismatch reporting (legal duty under NDPS framework — confirm current notifications).
- NABH medication management (generic): documented policy + formulary, safe procurement/storage, correct dispensing/labelling/administration, high-risk and controlled-drug safeguards, ADR and medication-error monitoring, patient counselling, trained staff. No version claims — "as per the latest guidelines/notifications."

One-Minute Revision

Medicines journey: **PROCURE** (buy smart — "OLD QR": Open/limited tender, Direct, Quotation, Rate contract; cycle: need → order → check → pay) → **STORE & CONTROL** stock with **ABC** (money: costly few watched tightly), **VED** (importance: Vital never out), **EOQ** (order size balancing ordering vs carrying cost) → **DISTRIBUTE**: inpatients via **unit-dose** sealed packets (safest) + ward stock for urgency; outpatients via check → **label** → **counsel** → charge per policy → hand over → **CONTROLLED drugs**: 2 locks, 2 signatures, 1 register (**2-2-1**). **NABH** wants this whole journey safe, documented, and monitored — generically: policy, safe handling, safeguards, ADR/error watch, counselling, trained staff.

Questions

Short Answer Questions (2–3 marks each)

1 Define drug procurement.

2 List the steps of the procurement cycle in order.

3 What is a rate contract?

4 Explain ABC analysis in two lines.

5 Explain VED analysis in two lines.

6 What is EOQ?

7 What is the unit-dose system? Why is it considered the safest?

8 What is ward (floor) stock?

9 List any four items that must appear on a dispensed medicine label.

10 What is "2-2-1" in controlled drug handling?

11 Expand NABH and state its role in one line.

12 Differentiate between ABC and VED analysis (two points).

Long Answer Questions (10 marks each)

1 Describe the drug procurement process and the purchasing methods used by hospitals. Add a flowchart of the procurement cycle.

2 Explain ABC analysis, VED analysis, and EOQ as inventory control techniques, with diagrams. How do ABC and VED complement each other?

3 Describe the drug distribution systems for inpatients and ambulatory (outpatient) patients, including charging policy and labelling. How are controlled drugs distributed?

4 Write a note on NABH standards for medication management in hospitals (generic description).

MCQs (with answer keys)

1 The first step in the procurement cycle is:

a) Inviting tenders b) Identifying the need c) Making payment d) Receiving goods **Answer: b) Identifying the need**

1 An annual rate contract is most useful for:

a) One-time emergency purchase b) Recurring purchases over a year at fixed prices c) Buying furniture d) Hiring staff **Answer: b) Recurring purchases over a year at fixed prices**

1 In ABC analysis, "A" items are:

a) About 70% of items, 10% of cost b) About 10% of items, about 70% of cost c) All vital drugs d) Expired drugs **Answer: b) About 10% of items, about 70% of cost**

1 VED analysis classifies medicines based on:

a) Cost b) Colour of packing c) Medical importance (Vital/Essential/Desirable) d) Alphabetical order **Answer: c) Medical importance (Vital/Essential/Desirable)**

1 EOQ is the order quantity at which:

a) Stock is maximum b) Total of ordering cost and carrying cost is minimum c) No stock is kept d) Expiry is zero **Answer: b) Total of ordering cost and carrying cost is minimum**

1 The safest inpatient distribution system is generally considered:

a) Ward stock system b) Unit-dose system c) Patient buys from outside d) No system **Answer: b) Unit-dose system**

1 Ward (floor) stock is kept mainly for:

a) Long-term storage b) Immediate availability of common medicines in the ward c) Selling to visitors d) Decoration **Answer: b) Immediate availability of common medicines in the ward**

1 Controlled drugs must be stored:

a) On open shelves b) In a double-locked cupboard/safe c) In the doctor's room d) With food items **Answer: b) In a double-locked cupboard/safe**

1 Which of the following must appear on an OPD medicine label?

a) Patient name, medicine name and strength, dose directions, date b) Only the price c) Doctor's home address d) Nothing **Answer: a) Patient name, medicine name and strength, dose directions, date**

1 NABH is:

a) A medicine brand b) National Accreditation Board for Hospitals — gives quality accreditation to hospitals c) A drug manufacturer d) A pharmacy college **Answer: b) National Accreditation Board for Hospitals — gives quality accreditation to hospitals**

1 In ABC-VED combined analysis, an "AV" item (costly + vital) needs:

a) No control b) Tight cost control AND guaranteed availability c) Deletion d) Free distribution **Answer: b) Tight cost control AND guaranteed availability**

1 Before dispensing, the pharmacist must FIRST:

a) Collect money b) Check the prescription for validity, completeness, and safety c) Chat with the patient d) Advertise the pharmacy **Answer: b) Check the prescription for validity, completeness, and safety**

Viva Questions

1 Define procurement.

2 Name two purchasing methods.

3 What does ABC stand for in inventory control?

4 What does VED stand for?

5 What is EOQ in one line?

6 Name two inpatient distribution systems.

7 Why is unit-dose safer than ward stock?

8 What is a charging policy?

9 How are controlled drugs stored?

10 What does NABH check under medication management (any two points)?

Application-Based Questions

1 Your hospital pharmacy finds that 15 costly injections consume 72% of the annual drug budget, while 300 cheap tablets consume 8%. Using ABC logic, propose a control plan for each group (review frequency, order quantity approach, stock levels).

2 The emergency tray in casualty was found without adrenaline during a night inspection. Using VED logic and NABH's medication-management expectations, identify the failures and write a corrective action plan with responsibilities.

3 An OPD patient returns saying, "I took all six tablets together because the cover only had the medicine's name." Identify every labelling and counselling failure, and rewrite a proper label plus the counselling points you would give.

References

- Hassan (Hospital Pharmacy) — drug procurement, inventory control, drug distribution systems, controlled drugs.
- Merchant & Qadry (A Textbook of Hospital Pharmacy) — purchasing methods, ABC/VED analysis, inpatient and outpatient dispensing.
- Harman (Handbook of Pharmacy – Health Care) — inventory management, medication safety, labelling and counselling.
- Parthasarathi/Hansen/Nahata (A Textbook of Clinical Pharmacy Practice) — medication errors, rational distribution, patient safety.
- Shargel (Comprehensive Pharmacy Review) — revision of hospital pharmacy distribution concepts.

CHAPTER 7: Community Pharmacy — Drug Stores, Legal Requirements, Prescription Handling and Patient Services

7.1 Learning Objectives

By the end of this chapter, the student will be able to:

1 Define community pharmacy and explain the difference between a retail drug store and a wholesale drug store.

2 Describe the organization and structure of a drug store, including its design considerations.

3 List the legal requirements for setting up and maintaining a drug store, using the compliant wording "as per the latest rules/notifications — confirm the current edition".

4 Identify the records and registers a retail and wholesale drug store must maintain.

5 Name the parts of a prescription and describe how a pharmacist handles prescriptions, including how errors are detected and managed.

6 Explain how dispensed medicines must be labelled.

7 Outline the basics of patient counselling in a community pharmacy.

8 Define over-the-counter (OTC) medicines and describe the idea of an OTC list.

9 Explain the role of a community pharmacy in vaccination services.

7.2 Definitions

Community pharmacy: A pharmacy that directly serves the general public in the community — usually a neighbourhood drug store — where a registered pharmacist sells medicines, dispenses prescriptions and gives advice on health and medicine use.

Retail drug store: A shop licensed to sell medicines directly to patients and the general public, in small quantities, on the basis of prescriptions or as permitted self-care (OTC) products.

Wholesale drug store: A premises licensed to buy medicines in bulk quantities from manufacturers and sell them in bulk to retail drug stores, hospitals and other authorized institutions — not directly to individual patients.

Prescription: A written, printed or electronic order from a registered medical practitioner (doctor) directing a pharmacist to supply specific medicines to a specific patient, with directions for use.

Dispensing: The professional process by which a pharmacist receives a prescription, checks it, prepares the medicine, labels it and hands it to the patient with appropriate advice.

OTC (Over-the-Counter) medicine: A medicine that a patient can buy from a pharmacy without a doctor's prescription, considered safe enough for self-medication when used as directed.

Patient counselling: The process by which the pharmacist gives the patient verbal and, where needed, written information about how to use their medicines correctly and safely.

7.3 Terminology Table

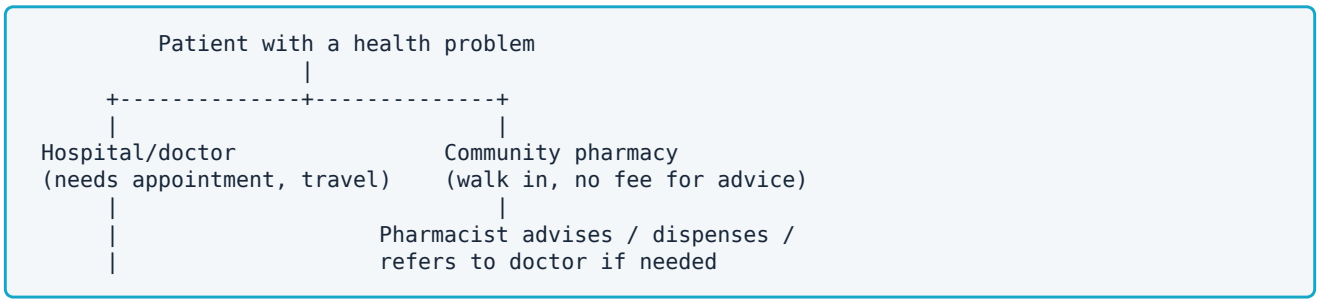
Term	Meaning
Community pharmacist	The pharmacist who works in a retail (community) pharmacy serving the public directly
Registered pharmacist	A person whose name is entered in the register of pharmacists maintained by the Pharmacy Council — the legally recognized pharmacist
Drug store	A premises licensed for the sale or distribution of medicines
Licence	An official permission granted by the licensing authority allowing a premises to stock, sell or distribute medicines, subject to conditions
Retail licence	The licence type for selling medicines directly to patients/public
Wholesale licence	The licence type for selling medicines in bulk to retailers/institutions
Proprietary product	A ready-made, branded medicine prepared by a manufacturer and sold under a brand name (as distinct from a product compounded/extemporaneously prepared in the pharmacy)
Schedule (drug schedule)	A classified list under the drug rules grouping medicines by the level of control on their sale (e.g., which need a prescription, which need special records)

Term	Meaning
Register/record	A written or electronic logbook maintained in the pharmacy recording details of medicine purchases, sales or dispensing, as required by law
Prescriber	The registered medical practitioner who writes the prescription
Dispensing label	The label fixed by the pharmacist on the medicine container at the time of dispensing, giving patient-specific directions
Self-medication	A patient treating their own minor ailment with an OTC medicine, without consulting a doctor
Vaccination service	A pharmacy-based service where the pharmacist supports immunization — e.g., storing vaccines correctly, referring patients, maintaining records, and administering where permitted

7.4 Simple Explanations

Concept 1: Community pharmacy as the first contact of healthcare

- **Simple explanation:** The community pharmacy is usually the closest, cheapest and most easily reached place where a person can get medicine advice. Most people meet a pharmacist here before they ever meet a hospital pharmacist.
- **Example:** A mother comes to the neighbourhood drug store because her child has a mild fever. The pharmacist checks the child's symptoms, supplies an OTC fever medicine, explains the dose, and advises when a doctor's visit becomes necessary.
- **Textual diagram:**



- **Key takeaway:** The community pharmacy is the most accessible healthcare point; its job is advice, supply of medicines, and correct referral.

Concept 2: Retail drug store vs wholesale drug store

- **Simple explanation:** A retail store sells *small* quantities to *individual patients*. A wholesale store sells *large* quantities to *other businesses* (retailers, hospitals). They are licensed separately.
- **Example:** A wholesale drug store delivers 500 bottles of cough syrup to a retailer; the retailer sells one bottle at a time to individual patients who bring prescriptions or need OTC care.
- **Textual diagram:**

```
Manufacturer
     |
     v
Wholesale drug store ──(bulk sales)──> Retail drug store ──(one patient at a time)──> Patient
     |                                        |
     └──────────(bulk sales)──> Hospital pharmacy
```

- **Key takeaway:** Wholesale = bulk, business-to-business; retail = small quantities, business-to-patient.

Concept 3: Legal requirements for a drug store

- **Simple explanation:** A drug store cannot simply open like a general shop. The law requires: a suitable premises (adequate space, storage, and separate areas for different activities, as per the latest rules/notifications — confirm the current edition), a registered pharmacist in charge, a valid licence from the licensing authority, and compliance with storage and record-keeping conditions attached to the licence.
- **Example:** Before opening a new shop, the owner gets the premises inspected, appoints a registered pharmacist, applies for the licence, and only starts selling medicines after the licence is issued.
- **Textual diagram:**

```
Step 1: Suitable premises ready
Step 2: Registered pharmacist appointed
Step 3: Apply to licensing authority
Step 4: Inspection of premises
Step 5: Licence granted with conditions
Step 6: Sale begins; records maintained; pharmacist present
```

- **Key takeaway:** Premises + registered pharmacist + licence + ongoing compliance = a lawful drug store. Exact premises and staffing details: as per the latest rules/notifications — confirm the current edition.

Concept 4: Prescription handling

- **Simple explanation:** Prescription handling is a step-by-step safety process: receive → read and verify → check for errors → prepare the medicine → label it → counsel the patient → keep a record. Errors are never ignored; they are clarified with the prescriber before dispensing.
- **Example:** A prescription says a tablet dose that looks ten times higher than usual. The pharmacist does not dispense it; he calls the doctor, confirms the intended dose, and only then dispenses.
- **Textual diagram:**

```
Receive prescription
   |
Check: prescriber details, patient details, date, drug name/strength/dose,
       directions, quantity, signature
   |
Any doubt or suspected error? ── YES ──> Clarify with prescriber
   | NO                                    (do NOT dispense until clarified)
Prepare medicine (right drug, strength, quantity)
   |
Label with patient directions
   |
Counsel patient
   |
Record in register; file/store prescription
```

- **Key takeaway:** The pharmacist is the last safety checkpoint — clarify first, dispense after.

Concept 5: Labelling of dispensed medicines

- **Simple explanation:** The dispensing label is the patient's personal instruction sticker on the medicine. It must at minimum carry: the patient's name, the medicine's name and strength, the dose and how often to take it, special directions (e.g., before food), the date of dispensing, and the pharmacy's name.
- **Example:** A label reads: "Mr A. Sharma — Tablet Paracetamol 500 mg — Take 1 tablet twice daily after food — Dispensed 05-10-2026 — City Pharmacy, Jodhpur."
- **Key takeaway:** The label tells *this patient* how to take *this medicine* — a wrong or missing label is a dispensing error.

Concept 6: Patient counselling basics

- **Simple explanation:** Counselling means the pharmacist talks to the patient in simple language: what the medicine is for, how and when to take it, what to avoid, common side effects, and what to do if a dose is missed — and then checks that the patient understood.
- **Example:** For an antibiotic syrup, the pharmacist explains the exact dose in ml, to shake the bottle, to complete the full course even if the child feels better, and to return if rashes appear.
- **Key takeaway:** Counselling turns a "packet of tablets" into correct treatment.

Concept 7: OTC medicines and the OTC list

- **Simple explanation:** OTC medicines are medicines safe enough to buy without a prescription for minor, self-treatable problems (e.g., mild pain, fever, acidity, cold). An "OTC list" is the pharmacy's reference list of which products it may sell without a prescription, as per the latest rules/notifications — confirm the current edition.
- **Example:** A pharmacist sells an OTC antacid to a patient with mild acidity but refuses to sell a prescription-only antibiotic without a prescription.
- **Key takeaway:** OTC = pharmacist-supervised self-care; prescription medicines stay prescription-only.

Concept 8: Vaccination services in community pharmacy

- **Simple explanation:** Community pharmacies support immunization by: maintaining the cold chain (correct refrigerator storage) for vaccines, educating and referring patients for vaccination, keeping vaccination records, and administering vaccines where the pharmacist is trained and permitted by current rules.
- **Example:** A pharmacy stores flu vaccines at the correct temperature, reminds eligible patients during flu season, records the batch given, and issues a vaccination card.
- **Key takeaway:** The pharmacy extends vaccination reach into the community through storage, awareness, records, and administration where permitted.

7.5 Classifications

Types of drug stores (by licence/sale):

1 Retail drug store — sells directly to patients/public in small quantities.

2 Wholesale drug store — sells in bulk to retailers, hospitals, institutions.

Types of drug store premises (by design/function):

1 Counter-service store — medicines behind the counter, pharmacist hands them out (common in India).

2 Self-service/display store — OTC products on open shelves, prescription medicines still behind the counter.

3 Combined retail-cum-clinic pharmacy — drug store attached to a clinic, mainly serving that clinic's patients.

4 Wholesale warehouse — bulk storage premises with office and dispatch area.

Types of prescriptions handled:

1 Inpatient-style prescription (for admitted patients — mainly hospital, but relevant for context).

2 Outpatient/ambulatory prescription — patient takes it to the community pharmacy.

3 Repeat/refill prescription — same medicine supplied again as authorized.

Classification of prescription errors a pharmacist must detect:

1 Prescribing errors — wrong drug, wrong dose, wrong strength, wrong duration, illegible writing.

2 Transcription errors — mistake when copying the prescription into records or labels.

3 Dispensing errors — wrong medicine/strength picked from the shelf, wrong label.

4 Administration-direction errors — unclear or missing directions for the patient.

7.6 Mechanisms/Processes

Process: Setting up a drug store (legal sequence).

1 Choose and prepare premises — adequate area, clean, with proper storage (cool, dry, away from sunlight), separate storage for different categories, refrigerator for cold-chain items — as per the latest rules/notifications (confirm the current edition).

2 Appoint/engage a registered pharmacist who will be in charge.

3 Apply to the licensing authority with premises details, pharmacist details and fees.

4 Undergo inspection of the premises by the drug inspector.

5 Receive the licence with conditions (e.g., pharmacist's presence, record maintenance).

6 Maintain registers and comply with licence conditions continuously; renew as required.

Process: Dispensing of proprietary products.

1 Receive and verify the prescription (Section 7.4, Concept 4).

2 Select the correct proprietary (branded) product — check name, strength, pack size, expiry date, and that the pack is intact.

3 Count/measure the exact quantity prescribed.

4 Affix the dispensing label with patient directions.

5 Counsel the patient.

6 Enter the sale in the register and file the prescription.

Process: Handling a suspected prescription error.

1 STOP — do not dispense.

2 Identify the exact problem (dose, drug name, interaction, illegibility).

3 Contact the prescriber (phone/visit) and explain the concern.

4 Record the prescriber's clarification; if the prescriber corrects the prescription, dispense the corrected version.

5 If the prescriber cannot be reached and the matter is urgent, use professional judgement — supply only what is safe and lawful, document the action, and refer the patient appropriately.

Process: Patient counselling at the counter (basic steps).

1 Greet and confirm the patient's identity.

2 Explain: purpose of the medicine, dose, timing, duration.

3 Explain: special instructions (with food/empty stomach, shake well, storage).

4 Warn: common side effects and what to do about them; what to avoid.

5 Check understanding: ask the patient to repeat back the key instructions.

6 Offer written notes if needed; invite questions.

7.7 Textual Diagrams/Flowcharts

Diagram 1 — Typical drug store layout:

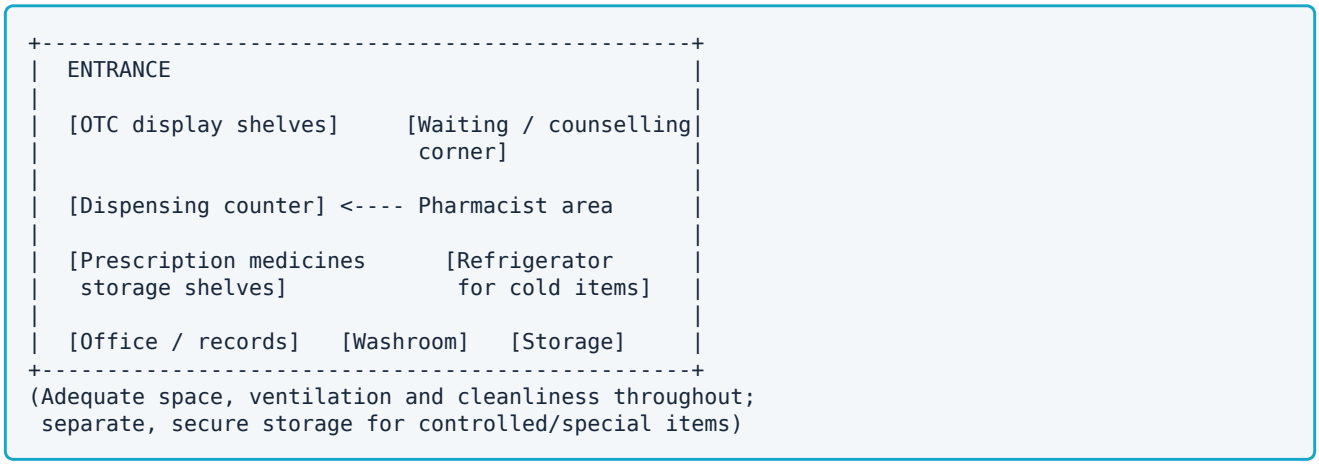


Diagram 2 — Prescription-handling flow (detailed):



7.8 Infographic Concept

INFOGRAPHIC CONCEPT: "The 7 Safety Gates of a Prescription" — a vertical gate-style infographic with seven numbered gates a prescription must pass: 1. Right prescriber, 2. Right patient, 3. Right drug, 4. Right strength, 5. Right dose, 6. Right directions, 7. Right label + counselling. Each gate drawn as a checkpoint arch with a small icon (pen, ID card, bottle, tablet, measuring spoon, clock, speech bubble). A prescription slip flows through all seven gates and emerges as a safely labelled medicine packet handed to a smiling patient. Footer line: "The pharmacist is the last gate — never skip one."

7.9 Tables

Table 1: Retail vs wholesale drug store

Feature	Retail drug store	Wholesale drug store
Customers	Individual patients/public	Retailers, hospitals, institutions
Quantity sold	Small (prescription/OTC quantities)	Bulk
Licence type	Retail licence	Wholesale licence
Pharmacist presence	Registered pharmacist in charge	Competent person as per rules (confirm current edition)
Records	Retail sales/dispensing registers	Purchase and bulk-sale registers

Table 2: Records and registers of a drug store (generic list)

Register/Record	What it records
Purchase register	Medicines bought: supplier, bill no., date, batch, expiry
Sales/dispensing register	Medicines sold/dispensed: date, prescription reference, patient (where required), drug, quantity
Prescription file	Originals/copies of prescriptions, kept for the required period
Special/controlled drugs register	Detailed issue records of tightly controlled medicines, with balances
Expiry/damaged stock record	Expired, broken or recalled stock removed from sale
Inspection book	Remarks recorded during inspections by authorities

Table 3: Parts of a prescription

Part	Content
Prescriber details	Name, qualification, registration number, address, contact
Date	Date of writing (validity depends on current rules)
Patient details	Name, age (and weight for children), address
Superscription	The symbol Rx (meaning "take/receive")
Inscription	Medicine name(s), strength, dosage form, quantity
Subscription	Directions to the pharmacist (e.g., dispense, quantity)
Signatura (Sig.)	Directions to the patient (dose, timing, duration)
Refill information	Whether and how many times it may be repeated
Prescriber signature	Signature (and seal) of the prescriber

Table 4: Dispensing label — minimum contents

Label element	Example
Patient name	Mrs R. Devi
Medicine name + strength	Tablet Atorvastatin 10 mg
Dose and frequency	1 tablet at bedtime
Special directions	As directed / after food

Label element	Example
Date of dispensing	05-10-2026
Pharmacy name and address	City Pharmacy, Jodhpur

7.10 Examples

1 **Retail vs wholesale:** Sharma Medical Store (retail) buys 100 strips of tablets from Jain Distributors (wholesale), then sells one strip at a time to patients.

2 **Legal setup:** A new drug store owner rents a shop, tiles the floor, installs shelves and a refrigerator, appoints a registered pharmacist, applies for the licence, passes inspection, and opens for sale.

3 **Prescription error caught:** A prescription written as "5 mg" looks like "50 mg" because of a decimal slip; the pharmacist phones the doctor, who confirms 5 mg — a dosing disaster is prevented.

4 **Labelling:** A dispensed insulin vial carries a label with the patient's name, dose in units, timing, storage in refrigerator, date, and pharmacy name.

5 **Counselling:** The pharmacist tells an elderly patient to take a blood-pressure tablet every morning with water, not to stop it when feeling well, and to return if swelling of the feet occurs.

6 **OTC sale:** A pharmacist sells an ORS (oral rehydration salts) sachet for mild diarrhoea but refers a patient with blood in the stool to a doctor.

7 **Vaccination service:** During a vaccination drive, the community pharmacy stores vaccines in a validated refrigerator, keeps a temperature log, registers walk-in patients, and records each dose given with batch number.

7.11 Analogies

1 **Community pharmacy is like the neighbourhood "health ATM"** — always nearby, open long hours, giving quick, trusted help without an appointment.

2 **The prescription is like a signed cheque** — it carries the prescriber's authority, has a date and a value (the medicine), and the pharmacist "encashes" it only after verifying every detail.

3 **The dispensing label is like a name tag on luggage** — it ties *this* medicine to *this* patient so it never gets mixed up with someone else's.

4 **Prescription error-checking is like a pilot's pre-flight checklist** — skipping one item can cause a crash; the pharmacist checks every item before "take-off".

5 **Records and registers are like the shop's memory** — they remember every purchase and sale long after human memory fades, and they prove honesty during inspections.

7.12 Pharmacy Relevance

The community pharmacist is the most visible face of the pharmacy profession. Everything in this chapter — lawful setup, correct records, careful prescription handling, clear labelling, and honest counselling — is the daily work of this pharmacist. A community pharmacy that follows these practices prevents medication errors, builds public trust, supports rational medicine use, and becomes the first point of care for minor

ailments. For the B.Pharm student, these are the core skills of independent community practice or of working as the pharmacist-in-charge of a retail drug store.

7.13 India Context

In India, community (retail) pharmacies are found in every town and village, often open long hours, and are frequently the first — sometimes the only — healthcare contact for common problems. The sale of medicines is regulated under the drug laws of the country; licences, premises standards, pharmacist requirements and record-keeping are all governed by the latest rules/notifications — confirm the current edition before applying them. Public-health programmes (immunization drives, tuberculosis control, family welfare) increasingly use community pharmacies as outreach points. Pharmacists also play a growing role in health screening (blood pressure, blood sugar) and in guiding patients away from unsafe self-medication with prescription-only drugs such as antibiotics.

7.14 Key Points

- Community pharmacy = the public-facing pharmacy serving the neighbourhood.
- Retail sells small quantities to patients; wholesale sells bulk to retailers/institutions.
- Lawful setup needs: suitable premises + registered pharmacist + licence + ongoing record compliance (details as per latest rules/notifications — confirm the current edition).
- A prescription has standard parts: prescriber details, date, patient details, Rx, inscription, subscription, signatura, refill info, signature.
- Never dispense a doubtful prescription — clarify with the prescriber first.
- Every dispensed medicine must carry a clear patient-specific label.
- Counselling must be simple, complete, and understanding must be checked.
- OTC medicines are for minor self-treatable conditions; prescription medicines need prescriptions.
- Community pharmacies support vaccination through cold-chain storage, awareness, records, and administration where permitted.

7.15 Common Confusions

1. **Retail vs wholesale licence:** A retail licence does not allow bulk sales to other shops, and a wholesale licence does not allow selling single strips to walk-in patients. The licences are different.
2. **"Proprietary product" vs compounded medicine:** A proprietary product is a ready-made branded pack from a manufacturer; the community pharmacist normally dispenses these as-is and does not prepare them from raw ingredients.
3. **Prescription vs OTC:** Just because a medicine is sold in a pharmacy does not mean it is OTC. Many medicines legally require a prescription even though the shop stocks them.
4. **Counselling vs advertising:** Counselling is neutral, patient-specific advice about correct medicine use; it is not promoting a brand.
5. **Labelling vs manufacturer's label:** The manufacturer's pack label is general; the dispensing label is patient-specific and is added by the pharmacist at dispensing.

7.16 Common Mistakes

1. Dispensing without verifying the prescriber's signature or date.
2. Guessing an illegible drug name instead of contacting the prescriber.
3. Picking a wrong strength from the shelf (e.g., 500 mg instead of 250 mg) because packs look alike.
4. Forgetting to write the dose directions on the dispensing label.
5. Not checking the expiry date before dispensing.
6. Selling a prescription-only medicine without a prescription.
7. Skipping patient counselling when the shop is busy.
8. Keeping incomplete or back-dated registers.
9. Storing vaccines or cold-chain medicines at room temperature.
10. Filing prescriptions carelessly so they cannot be found during inspection.

7.17 Mnemonics

- **Prescription parts — "Please Do Read In Silence, Sir": P**rescriber details, **D**ate, patient details (**R**x = patient block), **I**nscription, **S**ubscription, **S**ignatura (Sig.), **R**efill info.
- **Dispensing label — "NAME-D": N**ame of patient, **A**gent (medicine) + strength, **M**easure (dose/frequency), **E**xtra directions, **D**ate + pharmacy.
- **Error-check steps — "STOP-C": S**top dispensing, **T**ell what the problem is, **O**btain prescriber's clarification, **P**roceed only when clear, **C** — record the **C**larification.
- **Retail vs wholesale — "R-Patient, W-Bulk": R**etail → **P**atient; **W**holesale → **B**ulk.

7.18 Exam Summary

- Define community pharmacy; distinguish retail and wholesale drug stores with a table.
- Describe the organization/structure and design of a drug store.
- List legal requirements for establishment and maintenance of a drug store (use compliant wording; do not invent rule numbers).
- List records/registers of retail and wholesale drug stores.
- Name the parts of a prescription; describe the prescription-handling process with a flowchart.
- Explain how prescription errors are detected and handled.
- Describe labelling requirements for dispensed medicines.
- Outline patient counselling basics at the community pharmacy counter.
- Define OTC medicines; explain the concept of an OTC list.
- Describe vaccination services in community pharmacy.

7.19 One-Minute Revision

Community pharmacy serves the public directly. Retail = small quantities to patients; wholesale = bulk to retailers/institutions. Legal setup: suitable premises + registered pharmacist + licence + records (as per latest rules/notifications — confirm the current edition). Prescription parts: prescriber, date, patient, Rx, inscription, subscription, signatura, refill, signature. Handling flow: verify → detect errors → clarify with prescriber → select → label → counsel → record. Label must carry: patient name, medicine + strength, dose/frequency, directions, date, pharmacy. Counsel simply and check understanding. OTC = safe self-medication list; prescription drugs need prescriptions. Pharmacies support vaccination via cold chain, awareness, records, and permitted administration.

7.20 Questions

Short Answer Questions

1 Define community pharmacy.

2 Distinguish between a retail drug store and a wholesale drug store (any four points).

3 List any four records maintained in a retail drug store.

4 Name the parts of a prescription.

5 What is a dispensing label? List its minimum contents.

6 Define OTC medicine.

7 What is patient counselling?

8 List two ways a community pharmacy supports vaccination services.

Long Answer Questions

1 Describe the organization and structure of retail and wholesale drug stores. Explain the legal requirements for the establishment and maintenance of a drug store.

2 Describe the prescription-handling process in a community pharmacy with a neat flowchart. How should a pharmacist handle a suspected prescription error?

3 Explain the labelling of dispensed medicines and the basics of patient counselling in a community pharmacy.

4 Write a note on OTC medicines and the OTC list, and on vaccination services provided through community pharmacy.

MCQs (with answer keys)

1 A wholesale drug store sells medicines:

a) Directly to individual patients in small quantities b) In bulk to retailers, hospitals and institutions c) Only to doctors d) Without any licence **Answer: b**

1 Which of the following is NOT a part of a prescription?

a) Superscription b) Inscription c) Signatura d) Manufacturing licence number **Answer: d**

1 The symbol "Rx" in a prescription is called:

a) Inscription b) Superscription c) Subscription d) Signatura **Answer: b**

1 The correct action when a pharmacist suspects a prescription error is to:

a) Dispense it as written to avoid delay b) Guess the intended drug c) Clarify with the prescriber before dispensing d) Ask another patient what they take **Answer: c**

1 The dispensing label must include all EXCEPT:

a) Patient's name b) Dose and frequency c) Manufacturer's share price d) Date of dispensing **Answer: c**

1 OTC medicines are medicines that:

a) Always need a doctor's prescription b) Can be bought without a prescription for minor ailments c) Are never sold in pharmacies d) Contain no active ingredient **Answer: b**

1 Which register records medicines purchased from suppliers?

a) Prescription file b) Purchase register c) Inspection book d) Sales register **Answer: b**

1 The directions to the patient on how to take the medicine are written in the:

a) Inscription b) Subscription c) Signatura d) Superscription **Answer: c**

Viva Questions

1 Who is a registered pharmacist, and why must one be in charge of a drug store?

2 What will you check first when a prescription is handed to you?

3 A prescription is illegible — what do you do?

4 What details go on a dispensing label?

5 How is a retail drug store different from a wholesale drug store?

6 Give two examples of records a drug store must maintain.

7 What is the role of the community pharmacy in vaccination?

Application-Based Questions

1 A patient brings a prescription in which the dose of a tablet is written as "50 mg" but the usual adult dose you know is "5 mg". Describe step-by-step what you will do, and what you will NOT do.

2 You are opening a new retail drug store. List the legal and organizational steps you will complete before the first sale, using compliant wording for regulatory details.

3 A mother asks for an antibiotic "like last time" for her child's cold, without a prescription. How do you respond, applying the OTC concept and your counselling role?

4 Design a counselling checklist (spoken points) you would use at the counter for a patient newly prescribed a medicine for blood pressure.

7.21 References

- Parmar, N. S. Health Education and Community Pharmacy.
- Hassan, W. E. Hospital Pharmacy.
- Merchant, S. H. and Qadry, J. S. A Textbook of Hospital Pharmacy.
- Parthasarathi, G., Hansen, K. N. and Nahata, M. C. A Textbook of Clinical Pharmacy Practice.
- Harman, R. J. Handbook of Pharmacy – Health Care.
- Shargel, L. Comprehensive Pharmacy Review.