

CUET PG 2026 Pharmacy Question Paper with Solutions (Memory Based)

Time Allowed :3 Hours	Maximum Marks :300	Total Questions :75
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General Instructions

1. The exam lasts 90 minutes (1 hour 30 minutes).
2. There are 75 Multiple Choice Questions (MCQs) to be answered.
3. +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
4. For any discrepancy in questions, the English version is considered final (except for language-specific papers).
5. Click one of the four options to choose an answer.
6. You must click "Save & Next" to confirm your response. Only saved answers are considered for evaluation.
7. Use "Mark for Review & Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
8. All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

1. Which part of a prescription contains instructions to the pharmacist?

- (A) Superscription
- (B) Inscription
- (C) Subscription
- (D) Sigma

Correct Answer: (C) Subscription

Solution:

Step 1: Understanding the Concept:

A prescription is a written order from a registered medical practitioner to a pharmacist. It consists of several standard parts, each serving a distinct function in the dispensing process.

Step 2: Key Approach:

To answer this question, we need to know the specific terms used for each section of a traditional prescription.

Step 3: Detailed Explanation:

The **Superscription** includes the date, patient details, and the symbol Rx, which stands for

the Latin word 'Recipe' meaning 'take thou'.

The **Inscription** is the main body of the prescription, containing the names and quantities of the prescribed medication or ingredients.

The **Subscription** provides specific dispensing instructions from the prescriber to the pharmacist, such as the dosage form and the number of doses to be dispensed.

The **Signa** (often abbreviated as Sig.) contains the directions for the patient, which the pharmacist translates onto the prescription label.

Therefore, the subscription is the part specifically directed at the pharmacist.

Step 4: Final Answer:

The part of a prescription containing instructions to the pharmacist is the Subscription.

💡 Quick Tip

Remember the 'S' rule: **S**ubscription is for the **S**pecialist (Pharmacist), and **S**igna is for the **S**ick (Patient).

2. What is the exact temperature maintained for dissolution testing according to the Indian Pharmacopoeia?

- (A) $35 \pm 0.5^{\circ}\text{C}$
- (B) $36.5 \pm 0.5^{\circ}\text{C}$
- (C) $37 \pm 0.5^{\circ}\text{C}$
- (D) $38 \pm 0.5^{\circ}\text{C}$

Correct Answer: (C) $37 \pm 0.5^{\circ}\text{C}$

Solution:

Step 1: Understanding the Concept:

Dissolution testing is an essential in vitro test used to evaluate the rate and extent to which the active pharmaceutical ingredient (API) is released from a dosage form.

This test is designed to simulate the physiological conditions of the human gastrointestinal tract.

Step 2: Key Approach:

Recall the standard physiological conditions prescribed by pharmacopoeias (like the Indian Pharmacopoeia) for in vitro equivalence testing.

Step 3: Detailed Explanation:

Normal human body temperature is approximately 37°C .

To accurately mimic the environment of the human body, the dissolution medium is maintained precisely at physiological temperature.

According to the Indian Pharmacopoeia (IP), as well as USP and BP, the temperature of the

dissolution medium must be strictly maintained at $37 \pm 0.5^{\circ}\text{C}$.

Maintaining this precise temperature ensures the reproducibility and relevance of the dissolution data.

Step 4: Final Answer:

The required temperature is $37 \pm 0.5^{\circ}\text{C}$.

💡 Quick Tip

Standard physiological temperature is always the baseline for in vitro tests like dissolution and disintegration.

Always look for the 37°C mark with a tight tolerance of $\pm 0.5^{\circ}\text{C}$.

3. Which schedule of the Drugs and Cosmetics Act covers Good Manufacturing Practices (GMP)?

- (A) Schedule H
- (B) Schedule M
- (C) Schedule K
- (D) Schedule X

Correct Answer: (B) Schedule M

Solution:

Step 1: Understanding the Concept:

The Drugs and Cosmetics Act, 1940, and its associated rules contain various schedules that regulate the import, manufacture, distribution, and sale of drugs in India.

Each schedule dictates specific legal guidelines for different categories of drugs and manufacturing practices.

Step 2: Key Approach:

Identify the specific lettered schedule that outlines the requirements for Good Manufacturing Practices (GMP).

Step 3: Detailed Explanation:

Schedule H contains a list of prescription drugs that cannot be sold without the prescription of a registered medical practitioner.

Schedule M details the Good Manufacturing Practices (GMP) and requirements of premises, plant, and equipment for pharmaceutical products.

Schedule K lists drugs that are exempted from certain provisions related to manufacture and sale.

Schedule X covers narcotic drugs and psychotropic substances that require special licenses for sale and storage.

Therefore, Schedule M is the correct answer.

Step 4: Final Answer:

Schedule M covers Good Manufacturing Practices (GMP).

💡 Quick Tip

Use mnemonic tricks for schedules: **M** for **M**anufacturing (GMP), **H** for **H**ealthcare provider's prescription, and **X** for **X**-treme drugs (narcotics).

4. Which of the following drugs is a selective serotonin reuptake inhibitor (SSRI)?

- (A) Fluoxetine
- (B) Amitriptyline
- (C) Haloperidol
- (D) Diazepam

Correct Answer: (A) Fluoxetine

Solution:

Step 1: Understanding the Concept:

Selective Serotonin Reuptake Inhibitors (SSRIs) are a class of drugs typically used as antidepressants.

They work by increasing serotonin levels in the brain by blocking its reabsorption (reuptake) into neurons.

Step 2: Key Approach:

Evaluate each of the given drugs and classify them based on their pharmacological mechanism of action.

Step 3: Detailed Explanation:

Fluoxetine is an antidepressant that selectively inhibits the reuptake of serotonin, making it a classic SSRI.

Amitriptyline belongs to the class of Tricyclic Antidepressants (TCAs), which inhibit both serotonin and norepinephrine reuptake non-selectively.

Haloperidol is a typical antipsychotic medication that works primarily by blocking dopamine D2 receptors in the brain.

Diazepam is a benzodiazepine that enhances the effect of the inhibitory neurotransmitter GABA.

Thus, Fluoxetine is the only SSRI among the options.

Step 4: Final Answer:

Fluoxetine is the correct SSRI.

💡 Quick Tip

Common SSRIs include Fluoxetine, Sertraline, Citalopram, Escitalopram, and Paroxetine.

Most SSRI generic names end in '-etine' or '-pram'.

5. What is the mechanism of action for the drug Omeprazole?

- (A) H_2 receptor antagonist
- (B) Proton pump inhibitor
- (C) Anticholinergic agent
- (D) Antacid

Correct Answer: (B) Proton pump inhibitor

Solution:**Step 1: Understanding the Concept:**

Omeprazole is a widely used medication for the treatment of gastroesophageal reflux disease (GERD), peptic ulcer disease, and other acid-related disorders.

It reduces gastric acid secretion by targeting the final step of acid production in the stomach.

Step 2: Key Approach:

Identify the molecular target of Omeprazole in the gastric parietal cells.

Step 3: Detailed Explanation:

Omeprazole is a prodrug that gets activated in the acidic environment of the gastric parietal cells.

Once activated, it irreversibly binds to the H^+/K^+ ATPase enzyme system, commonly known as the proton pump.

This inhibition blocks the final common pathway of gastric acid secretion, effectively reducing gastric acidity.

H_2 receptor antagonists (like Ranitidine) block histamine receptors, which is a different mechanism.

Antacids (like Calcium Carbonate) simply neutralize existing stomach acid chemically.

Anticholinergic agents block muscarinic receptors to reduce acid, but are rarely used now due to side effects.

Step 4: Final Answer:

Omeprazole functions as a Proton pump inhibitor.

💡 Quick Tip

Drugs ending in **'-prazole'** (like Pantoprazole, Rabeprazole, Omeprazole) are always **Proton Pump Inhibitors (PPIs)**.

6. The LAL test is specifically performed to detect what in parenteral products?

- (A) Microbial contamination
- (B) Endotoxins
- (C) Heavy metals
- (D) Preservatives

Correct Answer: (B) Endotoxins

Solution:

Step 1: Understanding the Concept:

Parenteral products (like injections and infusions) bypass the body's natural defense mechanisms and enter directly into the systemic circulation.

Therefore, they must be completely free from pyrogens, which are fever-inducing substances.

Step 2: Key Approach:

Understand the purpose and biological basis of the LAL (Limulus Amebocyte Lysate) test in pharmaceutical quality control.

Step 3: Detailed Explanation:

Bacterial endotoxins are a specific type of pyrogen found in the outer cell membrane of Gram-negative bacteria.

The LAL test uses an aqueous extract of blood cells (amebocytes) from the Atlantic horseshoe crab (*Limulus polyphemus*).

When this lysate comes into contact with bacterial endotoxins, it undergoes an enzymatic coagulation reaction.

This specific reaction makes the LAL test highly sensitive and specific for the detection and quantification of bacterial endotoxins.

It does not detect live microbial contamination (which requires sterility testing) or heavy metals.

Step 4: Final Answer:

The LAL test is performed to detect Endotoxins.

💡 Quick Tip

LAL stands for **L**imulus **A**mebocyte **L**ysate.

Remember that all endotoxins are pyrogens, but not all pyrogens are endotoxins.

The LAL test exclusively detects bacterial endotoxins.

7. Which vitamin is essential for the synthesis of blood clotting factors?

- (A) Vitamin A
- (B) Vitamin C
- (C) Vitamin D
- (D) Vitamin K

Correct Answer: (D) Vitamin K

Solution:

Step 1: Understanding the Concept:

Vitamins play crucial biochemical roles in the body, acting as coenzymes or regulatory molecules in various physiological processes.

Blood coagulation (clotting) requires a cascade of specific protein factors synthesized in the liver.

Step 2: Key Approach:

Identify which fat-soluble vitamin acts as an essential cofactor for the carboxylation of glutamic acid residues in clotting factors.

Step 3: Detailed Explanation:

Vitamin K is a fat-soluble vitamin that is vital for the post-translational modification of several blood clotting factors.

Specifically, it is required for the gamma-carboxylation of factors II (prothrombin), VII, IX, and X.

Without Vitamin K, these proteins cannot bind calcium effectively, rendering them inactive in the coagulation cascade.

Vitamin A is essential for vision and cell differentiation.

Vitamin C is necessary for collagen synthesis and acts as an antioxidant.

Vitamin D regulates calcium and phosphorus homeostasis for bone health.

Step 4: Final Answer:

Vitamin K is the essential vitamin for blood clotting factor synthesis.

💡 Quick Tip

Remember the vitamin K dependent clotting factors using the mnemonic **1972** : Factors **10** (X), **9** (IX), **7** (VII), and **2** (II).

8. Who is known as the Father of Microbiology?

- (A) Louis Pasteur
- (B) Robert Koch
- (C) Antonie van Leeuwenhoek
- (D) Alexander Fleming

Correct Answer: (C) Antonie van Leeuwenhoek

Solution:

Step 1: Understanding the Concept:

The history of microbiology is marked by key pioneers who discovered and characterized the microscopic world.

Recognizing the foundational figure who first observed microscopic life is a standard historical fact in biology.

Step 2: Key Approach:

Distinguish between the historical contributions of the given scientists to identify the widely accepted 'Father of Microbiology'.

Step 3: Detailed Explanation:

Antonie van Leeuwenhoek was a Dutch tradesman and scientist who crafted powerful single-lens microscopes.

He was the very first person to observe and describe single-celled organisms, which he originally referred to as 'animalcules'.

Because of his foundational discovery of the microbial world in the 1670s, he is universally recognized as the Father of Microbiology.

Louis Pasteur made later revolutionary discoveries in vaccination, fermentation, and pasteurization, and is often termed the Father of Modern Microbiology.

Robert Koch established the germ theory of disease (Koch's postulates) and is known as the Father of Medical Microbiology.

Alexander Fleming is famous for discovering the first antibiotic, penicillin.

Step 4: Final Answer:

Antonie van Leeuwenhoek is known as the Father of Microbiology.

💡 Quick Tip

When asked for the absolute 'Father of Microbiology,' Leeuwenhoek is the correct choice due to his first observations.

Pasteur is typically the 'Father of *Modern* Microbiology'.

9. What is the correct sequence of steps in a PCR (Polymerase Chain Reaction) cycle?

- (A) Annealing → Denaturation → Extension
- (B) Denaturation → Annealing → Extension
- (C) Extension → Denaturation → Annealing
- (D) Denaturation → Extension → Annealing

Correct Answer: (B) Denaturation → Annealing → Extension

Solution:

Step 1: Understanding the Concept:

Polymerase Chain Reaction (PCR) is an in vitro technique used to rapidly amplify specific DNA sequences.

The process relies on thermal cycling, consisting of repeated cycles of heating and cooling to facilitate DNA replication.

Step 2: Key Approach:

Recall the three fundamental temperature-dependent phases that make up a single cycle of PCR.

Step 3: Detailed Explanation:

The first step is **Denaturation**, where the reaction mixture is heated to around $94^{\circ}\text{C} - 98^{\circ}\text{C}$. This high heat breaks the hydrogen bonds between bases, separating the double-stranded DNA into single strands.

The second step is **Annealing**, where the temperature is lowered to $50^{\circ}\text{C} - 65^{\circ}\text{C}$.

This cooling allows the short, specific DNA primers to bind (anneal) to their complementary sequences on the single-stranded DNA template.

The third step is **Extension** (or Elongation), where the temperature is raised to 72°C .

At this optimal temperature, the Taq polymerase enzyme synthesizes a new DNA strand by adding nucleotides to the primers.

This sequence is repeated to exponentially amplify the DNA.

Step 4: Final Answer:

The correct sequential order is Denaturation, followed by Annealing, and then Extension.

💡 Quick Tip

Remember the sequence using the mnemonic **D.A.E.** (Denaturation, Annealing, Extension).

Think of it logically: you must separate the strands first (Denature), attach the starting point (Anneal), and finally build the new strand (Extend).

10. Identify the IUPAC name for Paracetamol.

- (A) N-acetyl-p-aminophenol
- (B) Acetylsalicylic acid
- (C) 2-acetoxybenzoic acid
- (D) N-phenylacetamide

Correct Answer: (A) N-acetyl-p-aminophenol

Solution:

Step 1: Understanding the Concept:

Paracetamol, also widely known as acetaminophen in the United States, is a common analgesic and antipyretic medication.

Its chemical structure consists of a benzene ring substituted with a hydroxyl group and an acetamide group.

Step 2: Key Approach:

Analyze the chemical structure of Paracetamol to determine its systematic chemical nomenclature.

Step 3: Detailed Explanation:

Paracetamol features a phenol core (a benzene ring with a hydroxyl group, $-OH$).

Attached directly opposite to the hydroxyl group, at the para position (position 4), is an acetamide group ($-NHCOCH_3$).

Therefore, the chemical name reflects an acetyl group attached to the nitrogen of an amino group, which is attached to a phenol ring at the para position.

This gives the accepted systematic name **N-acetyl-p-aminophenol** (often abbreviated as APAP).

Acetylsalicylic acid and **2-acetoxybenzoic acid** are the chemical names for Aspirin, not Paracetamol.

N-phenylacetamide is the chemical name for Acetanilide, which lacks the essential hydroxyl group on the benzene ring.

Step 4: Final Answer:

The standard chemical name for Paracetamol is N-acetyl-p-aminophenol.

💡 Quick Tip

The alternative generic name '**Acetaminophen**' is derived directly from its chemical name: N-**acetyl**-p-**aminophenol**.

The name '**Paracetamol**' is also derived from it: **para-acetylaminophenol**.
