

Salim Habib University

Ph.D. SAMPLE TEST (PHARMACOLOGY)

Instructions:

There are three sections of the paper: English (25 marks), Quantitative/Analytical, Logical and Reasoning (25 marks), and Subjective (50 marks).

- From the English section, attempt 25 questions (each question carries 1 mark).
- From the Quantitative/Analytical, Logical and Reasoning section, attempt 25 questions (each question carries 1 mark).
- From the Subjective section:
 - 30 MCQs (each question carries 1 mark).
 - 2 descriptive questions (each question carries 10 marks).

SECTION-1.

ENGLISH

Q1. Select the synonym for “**Pernicious**”:

- a) Harmless
- b) Deleterious
- c) Innocuous
- d) Benign

Correct Answer: B

Q2. Choose the pair that best complete the analogy;

OBSTINATE : YIELD ::

- a) Frugal : Conserve
- b) Garrulous : Talk
- c) Capricious : Predict
- d) Erudite : Learn

Correct Answer: C

Q3. Idiom “*Throw down the gauntlet*” means:

- a) To admit defeat politely
- b) To issue a challenge boldly
- c) To withdraw from competition
- d) To avoid direct confrontation

Correct Answer: B

Q4. Sentence Completion:

Despite his reputation for ____, the researcher was remarkably open to new perspectives and alternative methodologies.

- a) Flexibility
- b) Dogmatism
- c) Curiosity
- d) Humility

Correct Answer: B

Comprehension

Please read the passage and answer the questions below:

Organizations that centralize decision-making often gain strategic coherence and economies of scale, but they can be slow to respond to local contingencies. Decentralized units respond faster and tailor actions to context, yet their autonomy can produce conflicting priorities and duplication of effort. The optimal design, the author argues, is not pure centralization or pure decentralization but institutional mechanisms that preserve coordinated strategy while enabling timely local adaptation.

Q1. Which one of the following is **best supported** by the passage?

- a) Centralized organizations always outperform decentralized ones in implementing strategy.
- b) Decentralized units never achieve economies of scale.
- c) An organization that lacks mechanisms for coordination risks incoherence across units.
- d) Local adaptation is unnecessary when strategy is clear.

Correct Answer: C

Q2. The author's conclusion that mechanisms should preserve coordination while enabling adaptation depends most on which assumption?

- a) Local managers prefer autonomy over consultation.
- b) Strategic coherence and timely local response are both valuable organizational goals.
- c) Central offices always have better information than local units.
- d) All organizations face identical local contingencies.

Correct Answer: B

Q3. Which of the following, if true, would most strengthen the author's conclusion?

- a) Case studies showing some centralized firms achieved coherence but lost market share due to slow local responses.
- b) Evidence that local units in all industries always make better decisions than central offices.
- c) Data showing that decentralization eliminates all duplication of effort.
- d) A theory asserting that strategy is irrelevant to organizational performance.

Correct Answer: A

SECTION 2
ANALYTICAL, LOGICAL, & QUANTITATIVE REASONING

Q1. If a number is increased by 25% and then decreased by 25%, the final value becomes 225. What was the original number?

- a) 280
- b) 300
- c) 320
- d) 240

Correct Answer: D

Q2. The ratio of two numbers is 5:7. If the smaller number is increased by 25%, the ratio becomes 25:36. What is the larger number?

- a) 84
- b) 90
- c) 96
- d) 108

Correct Answer: A

Q3. A train **190 m long** passes a pole in **15 seconds**. What is its speed in km/h?

- a) 40 km/h
- b) 45.6 km/h
- c) 48 km/h
- d) 52 km/h

Correct Answer: B

Q4. Four colleagues A, B, C, D sit in a row. A is left of B. C sits at one of the ends. D sits between A and C. Which is true?

- a) A is at leftmost end.
- b) B is rightmost.
- c) D is between B and C.
- d) C is rightmost.

Correct Answer: B

Q5. Statement: "The university will increase research grants next year." Which assumption is required for this statement to affect faculty behavior immediately?

- a) Faculty are aware of the announcement.
- b) Grants are distributed equally.
- c) Students will benefit from grants.
- d) Faculty salaries will rise.

Correct Answer: A

Q6. Premise: “Company sales fell by 10% in Q1.” Which is the best inference?

- a) Company will cut staff.
- b) Demand for product decreased in Q1.
- c) Company’s market share decreased.
- d) Sales revenue in Q1 is 90% of last year’s Q1.

Correct Answer: D

SECTION-3.

SUBJECT QUESTIONS

PART -1 - MCQs

1. Which cytochrome P450 isoenzyme metabolizes the largest proportion of clinical drugs?

- a) CYP2C9
- b) CYP2D6
- c) CYP3A4
- d) CYP1A2

Correct Answer: c

2. Grapefruit juice increases plasma concentration of many drugs by inhibiting:

- a) P-glycoprotein
- b) CYP3A4
- c) CYP2C19
- d) CYP2E1

Correct Answer: b

3. Which anticancer drug causes dose-limiting pulmonary fibrosis?

- a) bleomycin
- b) doxorubicin
- c) cisplatin
- d) methotrexate

Correct Answer: a

4. Pharmacogenomic testing for HLA-B*5701 is required before starting:

- a) abacavir
- b) efavirenz
- c) zidovudine
- d) ritonavir

Correct Answer: a

5. The “gold standard” clinical trial design for drug efficacy is:

- a) open-label trial
- b) observational cohort study
- c) randomized controlled double-blind trial
- d) cross-sectional study

Correct Answer: c

Part – 2 – DESCRIPTIVE QUESTIONS.

- 1.** Discuss the clinical importance of drug–drug interactions mediated by cytochrome P450 enzymes. Provide examples where inhibition or induction has led to therapeutic failure or toxicity.
- 2.** Explain the role of pharmacogenomics in optimizing cancer chemotherapy, highlighting how genetic variations influence drug efficacy and adverse effects.

The End.