

AptiGenius

From Fundamentals to Advanced Techniques for Verbal and
Quantitative Excellence

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Quantitative Excellence

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Preface

In the modern era, aptitude rounds have become a routine part of selection, held as qualifying stages both in academic entrance tests and in competitive job examinations. Clearing an aptitude round is now a genuine stepping stone — often the first hurdle one must cross to win an academic place or a job. Doing well in such a round depends on two things working together: internalising the underlying concepts and learning the strategies that let you solve problems quickly. Neither alone is enough. A candidate who understands the theory but cannot apply it at speed will run out of time; a candidate who has memorised shortcuts without grasping the concepts behind them will falter the moment a question departs from the familiar pattern. Knowledge, speed, competence, and accuracy are the four key factors that every aptitude test measures, and this book is built to develop all four.

It is designed for students preparing for a range of competitive examinations — from the GMAT and CAT to the Banking and Insurance examinations (IBPS, SBI, RBI), SSC, and GATE — who need to build reliable, exam-ready skills without wading through a full academic textbook. The book is organised in four parts. Part One covers the grammar and usage skills tested in sentence-correction questions: the architecture of English sentences, the major error categories, and a six-step process for tackling every sentence-correction question under timed conditions. Part Two covers Reading Comprehension: how to read exam passages effectively, how to handle the major question types (overview, detail, inference, and function), and how to build your RC skills systematically. Part Three provides vocabulary and idiom material that supports both of the earlier sections. Part Four covers Quantitative Aptitude — the Number System, Ratio and Proportion, HCF and LCM, Profit and Loss, and Probability. These chapters explain each concept and then offer the strategies and tricks that help you solve questions faster.

Each chapter follows a consistent pattern. It introduces the core idea, then deepens it through sections that handle harder cases and edge cases. Pop Quizzes are embedded throughout the text, Solved Analysis boxes work through exam-style questions in detail, Drill Sets are provided at three difficulty levels (Easy, Medium, and Hard), and Worked Answers close each chapter with practical exam insights.

A final note on method may be of use. The reader is advised to study each chapter once for understanding, and only then to attempt its drill sets under timed conditions. The most valuable exercise of all, however, is error analysis: the careful review of each wrong answer, with a view to isolating the specific habit that produced it. Errors left unexamined have a way of recurring; errors examined with discipline rarely do.

Acknowledgements

This book is a comprehensive guide designed to help students build exam-ready aptitude skills for some of the most competitive examinations in the country — from the GMAT and CAT to Banking, SSC, and GATE. Spanning four carefully structured parts, it covers the essential pillars of Verbal and Quantitative Aptitude. The book is built around the belief that mastering aptitude requires both a firm grasp of concepts and the strategic ability to apply them with speed, accuracy, and confidence under timed conditions. It is our sincere hope that this work serves as a reliable companion for every student striving to turn their preparation into results.

This book grew out of years of classroom teaching, mock-test debriefs, and late-night conversations with students who wanted to learn Verbal and Quantitative Aptitude not as a set of arbitrary rules but as a coherent system. Our first debt is to those students - their questions, their mistakes, and their determination shaped nearly every chapter.

We gratefully acknowledge the JIS Group and its forward-thinking leadership for their consistent support throughout the development and publication of this work. The organization's dedication to promoting academic rigor and fostering educational innovation has created an inspiring environment for the generation and dissemination of knowledge.

The editorial and production team brought patience and precision to a manuscript that tested both at several points. We are grateful for the care they brought to every page.

Finally, and most importantly: to the readers who will carry this book into exam halls across India and beyond - we hope the hours you spend with it are not merely useful but, at some moments, even enjoyable. Grammar, like most things worth knowing, repays attention with unexpected pleasures. We hope you find some of them here.

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Ms. Debasmita Roy Chowdhury is an Assistant Professor at Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex. With 7 years of experience in teaching and learning, she has honed her expertise in Communication, English Language Teaching (ELT), Principles of Management, Professional Ethics, gender studies, and media. She is dedicated to grooming the students of engineering and management curriculum, focusing on enhancing their technical

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Passionate about both teaching and research, she continues to inspire students while striving for academic excellence and innovation.

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Dr. Basu has supervised undergraduate and postgraduate student projects and actively participates in faculty development programmes, workshops, and academic outreach initiatives. Committed to excellence in teaching, research, and scientific innovation, she strives to integrate fundamental concepts with practical, application-oriented approaches. Her academic philosophy emphasizes the synergy between quality teaching and impactful research to advance scientific knowledge and inspire the next generation of engineers and researchers.

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Ms. Debasmita Sen is currently the Assistant Professor of English at Narula Institute of Technology, West Bengal and has over six years of teaching expertise. She has completed her graduation and post graduation from Calcutta University.

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She has published books and presented many papers, in different national and international conferences and journals of repute independently and with her students.

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Sentence Correction

Chapter 1 : Words and Sentences

1. What the Exam Tests

Sentence correction questions appear, in some form, on almost every major competitive exam an Indian student is likely to take. The format varies; the underlying skill does not. In every case, the exam is asking the same thing: *can you tell when an English sentence is well-formed, and can you produce a better version when it is not?*

The variations are worth knowing, because they shape how you should prepare.

GMAT Sentence Correction: A sentence appears with a portion (often the whole sentence) underlined, and you choose between five options for that portion. The first option is always identical to the original; the other four are alternatives. The right answer must be grammatically correct, must preserve the intended meaning, and must avoid wordiness or awkward construction. About one-third of the GMAT verbal section consists of these questions, and serious GMAT students invest weeks in mastering them

GRE Sentence Equivalence and Text Completion: The GRE does not test grammar in the GMAT sense; instead, it tests whether you can fill in missing words to produce a coherent sentence. The skill overlaps with sentence correction in that you must understand sentence structure and meaning, but the focus is more on vocabulary and logic than on grammatical correctness. We will return to this format in passing, but it is not the main object of this unit.

CAT and Other MBA Entrance Exams: CAT does not have a dedicated sentence-correction section in the way the GMAT does, but sentence-level grammar is tested indirectly - in para-jumbles, in para-summary questions, and occasionally in direct sentence-improvement items. The skills you build for GMAT-style sentence correction transfer directly. Other MBA entrances like XAT, IIFT, and SNAP follow broadly similar patterns.

Banking and Insurance Exams (IBPS, SBI, RBI). These exams test sentence correction directly and aggressively. The common formats are *Spot the Error* (you choose the part of the sentence that contains an error, or indicate that there is no error), *Sentence Improvement* (a portion is underlined and you choose a replacement, much like the GMAT but at lower difficulty), and *Phrase Replacement*. The grammar tested overlaps heavily with what we will cover, though the language is generally simpler and the traps less subtle than on the GMAT.

SSC Exams (CGL, CHSL, MTS): Very similar to banking exams in format. *Spot the Error* and *Sentence Improvement* dominate. SSC exams also include *Sentence Rearrangement*, which is closer to a para-jumble but at the sentence level. Vocabulary is heavily tested alongside grammar; the two are bundled together in ways that GMAT keeps separate.

GATE Verbal Aptitude: The verbal aptitude section of GATE is small but consistent. Sentence-level grammar questions appear, usually in straightforward forms - fill in the blank with the correct word, identify the grammatical error, choose the correct sentence among four options. The level is roughly that of a Class XII grammar exam, though the questions reward attention to detail more than depth of theory.

SOLVED ANALYSIS

Question: Choose the option that best replaces the underlined portion.

The committee, after months of deliberation and consultation with experts from several disciplines, have arrived at a conclusion that they will announce next week.

- a) have arrived at a conclusion that they will announce next week
- b) have arrived at a conclusion which they will announce next week
- c) has arrived at a conclusion that it will announce next week
- d) has arrived at a conclusion which they will announce next week
- e) arrived at a conclusion that they will announce next week

Concept Tested: Subject-verb and pronoun-antecedent agreement when the subject is a collective noun (*committee*) and is separated from its verb by a long modifier.

Analysis: Read the sentence aloud and the ear may want *have* - because *experts* and *disciplines*, both plural, sit just before the verb and create a sense of plurality. But the actual subject is *the committee*, which in standard exam English (especially American usage) takes a singular verb: *the committee has*, not *the committee have*. Once we have settled on the singular verb, the pronoun must also be singular: *it*, not *they*. This eliminates (A), (B), and (D). (E) shifts the tense to simple past, losing the present-perfect sense the rest of the sentence requires. Only (C) is consistent throughout.

Answer: (C)

Exam Insight: When a long modifier sits between a subject and its verb, the test-maker has almost certainly placed plural nouns in the modifier to push your ear toward the wrong verb form. Train yourself to underline (mentally) the actual subject, ignore the modifier, and choose the verb that agrees with the subject alone. The same habit applies to pronouns later in the sentence - they must agree with the same subject, not with whatever noun happens to be nearby.

Going Deeper: The Particular Problem for Indian-English Speakers

Here is a partial list - not exhaustive, but covering the constructions that come up most often.

1. Stative verbs in the progressive. In standard English, certain verbs (*have, know, believe, understand, like, want*) do not normally appear in the progressive form. *I am having a question, I am knowing the answer, I am liking the food* - all wrong by exam standards. The standard forms are *I have a question, I know the answer, I like the food*. Indian English allows the progressive forms freely; exam English does not.

2. Redundant prepositions. *Discuss about, return back, revert back, cope up with, mention about, request for, demand for* - all add a preposition that the standard verb does not require. The correct forms are *discuss the topic, return the book, revert to her, cope with the pressure, mention the issue, request her help, demand an answer*.

3. Articles. Article use is one of the most common error categories on Banking and SSC exams, and Indian-English speech often drops or adds articles in ways the exam catches. *Going to office* (instead of *to the office* or *to my office*); *playing cricket in ground* (instead of *on the ground*); *I am student of MBA* (instead of *a student of an MBA programme*).

4. Singular and plural confusion with collective and group nouns. *Furniture, equipment, information, advice, news, luggage, scenery* - these are all uncountable in standard English, and they take singular verbs and singular determiners. *The furnitures are, an information, many advices* - all wrong. *One of my friend* - wrong (should be *one of my friends*); *each of the students are* - wrong (should be *each of the students is*).

5. Tense in conditional and reported speech. *If I will get time, I will call you* - wrong (should be *if I get time, I will call you*; the conditional clause uses present tense). *He told me that he is coming* (when reporting a past statement) - usually requires *was coming* in standard English.

6. Prepositional idioms. *Different than* (should be *different from*); *bored from* (should be *bored with*); *good in maths* (should be *good at maths*); *married with* (should be *married to*). These are largely matters of arbitrary convention, and the only way to learn them is to memorise the correct forms.

7. Comparison errors. *Sachin is one of the greatest batsman* (should be *one of the greatest batsmen* - the noun in *one of the X-est Y* must be plural). *More better, more bigger* - never use the comparative suffix *-er* with *more*. *Most unique, more perfect* - *unique* and *perfect* are absolute adjectives that do not take comparison.

8. The double conjunction. *Although he was tired, but he kept working*. In standard English, you do not pair *although* with *but*; one does the work of the other. The same applies to *despite the fact that... yet, even though... still*, and similar pairs.

If you read these examples and recognise some of them in your own writing or speech, you are not unusual; nearly every Indian-English speaker uses several of these patterns, and many uses are perfectly fine in everyday Indian conversation. The task here is not to be ashamed of them but to be aware of them. The exam will test almost all of these patterns, in some form, somewhere.

SOLVED ANALYSIS

Question: Identify the part of the sentence containing an error. (Banking / SSC style.)

(A) *Although she was very busy with her preparations* / (B) *but she still managed to call her parents* / (C) *every evening at eight o'clock* / (D) *without any exception.* / (E) *No error*

Concept Tested: The double conjunction *although... but* - a near-universal Indian-English habit that the exam consistently flags.

Analysis: Both *although* and *but* are conjunctions that mark contrast. In standard English, you use one or the other, not both in the same sentence. The sentence should read either *Although she was very busy with her preparations, she still managed to call her parents...* or *She was very busy with her preparations, but she still managed to call her parents...* Either is grammatical; the version with both *although* and *but* is not. Part (A) introduces *although*, which is fine; part (B) introduces *but*, which creates the doubled conjunction. The error is therefore in (B).

Answer: (B)

Exam Insight: Whenever you see *although, though, even though, despite, or in spite of* in the first part of a sentence, scan the rest of the sentence for *but, yet, still*. If you find one of these conjunctions, the sentence has a double-conjunction error. This single habit will catch a noticeable share of errors on Banking and SSC exams, where the double conjunction appears with great regularity.

Pop Quiz 1.2

For each sentence, decide whether the construction is acceptable in standard exam English. (E)

1. The team have decided to postpone their decision until the next meeting.
2. She is having two brothers and one sister.
3. I have been waiting for the bus for almost an hour.
4. Despite he was tired, he continued working until midnight.
5. The furniture in the office needs to be replaced.

Component 1: A Small Set of High-Yield Rules

The exam tests a finite set of grammatical issues. Not three, not three hundred, but somewhere between fifteen and twenty-five, depending on how you count and which exam you are preparing for. Almost every sentence-correction question in any book or test you will encounter falls into one of these categories:

1. Subject-verb agreement
2. Pronoun reference (number, ambiguity, case)
3. Verb tense and form
4. Modifier placement (adjective, adverb, participial, relative clause)
5. Parallelism (in lists, comparisons, paired constructions)
6. Comparison (forms of comparative and superlative; *like* vs *as*; *more than* vs *as much as*)
7. Idiom (which verb takes which preposition; which conjunction takes which form)
8. Connectors and conjunctions (including double conjunctions)
9. Concision (avoiding redundancy and wordiness)

A few topics, more advanced, appear less often but still matter:

1. Subjunctive mood
2. Mood-shifting and conditional constructions
3. Logical predication (whether the parts of the sentence make sense together)
4. Concord between intended meaning and grammatical form

Component 2: A Systematic Process for Approaching Each Question

Knowing the rules is not the same as applying them under exam pressure. A student who knows that *each of* takes a singular verb may still miss the error in a long sentence with a complex construction, simply because she did not think to check that particular rule. The ear-only student misses it because the ear was elsewhere; the grammar-only student misses it because there are too many rules to check on every sentence in ninety seconds.

The solution is a systematic process. We will introduce a six-step process in Chapter 7 - read the whole sentence, identify the underlined portion, hunt for errors using a checklist of high-yield categories, scan the options, eliminate options that introduce new errors, and re-read the sentence with the chosen option. The process is mechanical; it does not require inspiration. Practised, it lets you cover the ground that matters in the time the exam allows.

The process also has a psychological function that should not be underestimated. Under timed pressure, students who lack a process tend to fall back on the ear - which, as we have seen, can be fooled. Students with a process have somewhere else to put their attention; they can stop themselves from gut-feel decisions and apply the checklist instead. This is the difference between feeling helpless on a hard sentence and having something to do.

SOLVED ANALYSIS

Question: Choose the option that best replaces the underlined portion.

Anjali, along with her two younger brothers, are planning to attend the wedding in Hyderabad next month.

- a) are planning to attend the wedding
- b) is planning to attend the wedding
- c) are planning on attending the wedding
- d) is planning on attending the wedding
- e) are planning for attending the wedding

Concept Tested: Subject-verb agreement with an *along with* phrase. Such phrases do not change the number of the subject - they are modifiers, not part of the subject - but they introduce additional nouns that the ear is tempted to count.

Analysis: The subject is *Anjali*, which is singular. *Along with her two younger brothers* is a parenthetical phrase; it adds information but does not make the subject plural. The verb must therefore be singular: *is*, not *are*. This eliminates (A), (C), and (E). Between (B) and (D), the question is *plan to attend* or *plan on attending*. Both are heard in spoken English, but the standard exam idiom is *plan to* + verb. (B) is therefore preferred over (D).

Answer: (B)

Exam Insight: Phrases like *along with*, *together with*, *as well as*, *in addition to*, and *accompanied by* do not affect the number of the verb. The verb agrees with the subject as it would have without the phrase. Whenever you see one of these phrases in an underlined or boxed sentence, mentally remove it and check whether the resulting verb still agrees. This is the kind of check the rules give you that the ear, distracted by the inserted nouns, often fails to make.

Going Deeper: How these Components Work Together on a Hard Question

To see all three components in action, consider a sentence that combines several issues at once.

SOLVED ANALYSIS

Question: Choose the option that best replaces the underlined portion.

Neither the manager nor any of his subordinates were aware that the new policy, intended to streamline the process of approving expenses, would create more delays than it eliminated.

- a) were aware that the new policy, intended to streamline the process of approving expenses, would create more delays than it eliminated
- b) was aware that the new policy, which had been intended to streamline the process of approving expenses, would create more delays than they had eliminated
- c) was aware that the new policy, intended to streamline the process of approving expenses, would create more delays than it eliminated
- d) were aware that the new policy, intended for streamlining the process of approving expenses, would create more delays than it eliminated
- e) was aware that the new policy, intended to streamline the process of approving expenses, will create more delays than it eliminates

Concept Tested: *Neither / nor* agreement (the verb agrees with the noun closer to it); modifier preference; tense consistency.

Analysis: Three issues are bundled together here, and the systematic process catches all of them.

Step one - subject-verb agreement. In *neither X nor Y* constructions, the verb agrees with the second noun (Y). Here, Y is *any of his subordinates*, but the head of that phrase is *any*, which when followed by a plural takes a plural verb... no, that is not right either. Look more carefully: *any of his subordinates* - *any* with a plural can be either singular or plural depending on whether you mean *any one* or *all*. In standard exam English, when *any of* is followed by a plural in a *neither/nor* construction, the verb is usually plural. But this is precisely the kind of case where rules are not enough. Let us look at the alternatives.

Actually, take a step back: the cleanest reading is that the subject closer to the verb governs it. *Subordinates* is plural. So *were* should agree. Wait, but options (B), (C), and (E) use *was*. Let us check whether *was* might be defensible.

Here we hit a real ambiguity in the rules - and, as it happens, in standard usage. Both *were* and *was* are heard in *neither X nor Y* constructions when Y is plural, with *were* slightly more common in formal writing. For exam purposes, default to the rule: agreement with the closer subject. *Subordinates* is plural; *were* is correct. This eliminates (B), (C), and (E).

Step two - modifier and tense. Between (A) and (D), the differences are *intended to streamline* vs *intended for streamlining*, and the comparison clause. *Intended to streamline* is the standard idiom; *intended for streamlining* is awkward. (A) wins.

Step three - the comparison. *Would create more delays than it eliminated* - does this make sense? The policy would create delays in the future (relative to the original moment of policy-making) and eliminate them in the same period; *would create* and *it eliminated* are not perfectly parallel in tense, but they are defensible - the *eliminated* refers to what the policy was supposed to do at its inception, while *would create* refers to the actual future outcome. (E) tries *will create* and *it eliminates*, which mixes tenses with the rest of the sentence (*were aware*, past tense). The original tense in (A) is consistent with the past-aware framing.

Answer: (A)

Exam Insight: This kind of question - where multiple grammar issues are stacked on a single sentence - is exactly where the ear alone fails most often. *Was* sounds plausible to many readers because the ear is reaching for the singular *neither*; *will create* sounds plausible because the future tense matches the policy's effects; *intended for streamlining* sounds smooth. The ear can be coaxed into any of these wrong choices. The systematic process - checking subject-verb agreement, then idiom, then tense - catches each issue in turn and rules out the traps. As you build the rule set in the chapters that follow, expect to see more questions like this one. The reward for the systematic approach is exactly the reliability that the ear cannot, on its own, provide.

Drill Set 1A: Diagnostic - Spot the Indian-English Habits (Easy to Medium)

Each of the following sentences contains a construction that is common in Indian English but wrong by exam standards. For each, identify the error in your own words. (Answers at the end of the chapter.)

1. (E) I am having three siblings, all of whom are studying engineering.
2. (E) Since two years, the company has been expanding rapidly.
3. (E) Although the test was difficult, but most of the students managed to finish on time.
4. (M) One of my friend who lives in Pune has applied for the same scholarship.
5. (M) The team are planning to celebrate their victory with a dinner this weekend.

Drill Set 1B: Sentence Correction (Mixed Difficulty, Five-Option Format)

For each sentence, choose the option that best replaces the underlined portion.

1. (E) *The number of students applying to the institute have increased significantly over the past five years.*

1. have increased significantly over the past five years
2. has increased significantly over the past five years
3. have been increased significantly in the past five years
4. has been significantly increasing for the past five years
5. increased significantly since the past five years

2. (M) *The minister, accompanied by several senior officials and a small group of journalists, were arriving at the airport just before midnight.*

1. were arriving at the airport just before midnight
2. was arriving at the airport just before midnight
3. had arrived at the airport just before midnight
4. were to arrive at the airport just before midnight
5. was arriving to the airport just before midnight

3. (H) *Although the new tax regime was introduced with the intention of simplifying compliance, but many small business owners have found that the rules are even more complicated than the ones they replaced.*

1. but many small business owners have found that the rules are even more complicated than the ones they replaced
2. many small business owners have found that the rules are even more complicated than the ones they replaced
3. but many small business owners are finding that the rules are even more complicated than those it replaced
4. many small business owners are finding that the rules are even more complicated as the ones they replaced
5. yet many small business owners have found that the rules are more complicated than the ones it replaced.

Answers to Pop Quizzes

Pop Quiz 1.2

1. *The team have decided* - In strict American usage, *team* takes a singular verb (*the team has*); in British usage, the plural is sometimes accepted. On most Indian competitive exams, the singular form is preferred, though banking exams sometimes accept either. Default to *has* unless context strongly indicates otherwise. **Verdict:** debatable but the singular form is safer.
2. *She is having two brothers* - *Have* in the sense of *to possess* is a stative verb and does not normally take the progressive. The standard form is *she has two brothers*. **Verdict:** wrong by exam standards.
3. *I have been waiting for the bus for almost an hour* - Correct. The present perfect continuous (*have been waiting*) with *for* + duration (*for almost an hour*) is the standard construction. **Verdict:** correct.
4. *Despite he was tired, he continued working* - *Despite* is a preposition, not a conjunction; it cannot take a clause directly. The correct constructions are *despite his tiredness*, *despite being tired*, or *although he was tired*. **Verdict:** wrong by exam standards.
5. *The furniture in the office needs to be replaced* - Correct. *Furniture* is uncountable in standard English and takes a singular verb. **Verdict:** correct.

Answers to Drill Sets

Drill Set 1A

1. *I am having three siblings* - wrong; *have* in the sense of possessing is non-progressive. Should be *I have three siblings*.
2. *Since two years* - wrong; *since* requires a point in time, not a duration. Should be *for two years*.
3. *Discuss about* - *discuss* takes a direct object without a preposition. Should be *discuss the proposal*.
4. *One of my friend* - the noun after *one of my* must be plural. Should be *one of my friends*.
5. *The team are planning* - collective nouns take singular verbs in standard exam English. Should be *the team is planning*.

Drill Set 1B

1. **(B)** *The number of* + plural noun takes a singular verb (*has*); *a number of* + plural noun takes a plural verb. The distinction is small but consistent. (A) and (C) use the plural verb. (D) reorders the modifier awkwardly. (E) uses *since* with a duration, which is wrong. **Insight:** *the number of* refers to a single count, hence singular; *a number of* means *several*, hence plural.

2. **(B)** The subject is *the minister*, singular; *accompanied by several senior officials and a small group of journalists* is a parenthetical modifier that does not change the number of the subject. The verb must be singular (*was*). (A) and (D) use the plural. (E) uses *arriving to*, which is wrong (the standard idiom is *arriving at*). (C) shifts the tense. **Insight:** modifying phrases set off by commas - *accompanied by*, *along with*, *together with*, *in addition to* - do not affect subject-verb agreement.

3. **(B)** Double-conjunction error: *although* and *but* cannot be paired. (B) drops *but* while keeping *although*; this is the standard correction. (C) and (E) keep one of the two conjunctions but introduce other errors (*those it replaced* in (C) is awkward; *yet* in (E) does not pair smoothly with *although*). (D) drops *but* but uses *more complicated as*, which is wrong (the standard form is *more complicated than*). **Insight:** any sentence beginning with *although*, *though*, *even though*, *despite*, or *in spite of* should be scanned for a paired *but*, *yet*, *still*. If one is found, the second conjunction must go.

Chapter 2: Nouns, Pronouns, and Adjectives

2.1 Nouns

A **noun** is a word that names something. That "something" can be a person, a place, a thing, an animal, an idea, a feeling, or a quality. If you can point at it, think about it, or even just imagine it, there is almost certainly a noun for it.

A simple five-bucket test works almost every time. Ask: is this word the name of a...

- Person? - *teacher, Ravi, doctor, citizen*
- Place? - *Mumbai, office, market, river*
- Thing? - *pen, laptop, train, mango*
- Animal? - *tiger, sparrow, ant*
- Idea or feeling? - *honesty, fear, freedom, happiness*

If yes to any of these, you are looking at a noun.

Example: *Anjali placed the book on the table with great care.*

Here *Anjali* (person), *book* (thing), *table* (thing), and *care* (idea) are all nouns.

Pop Quiz 2.1

Underline the nouns in each sentence.

- The children ran across the playground with excitement.
- Honesty is the best policy for a successful life.
- My uncle bought a car from the dealer in Pune.

Categories of Nouns

Nouns come in flavours. You do not need to memorise a scientific taxonomy; you need to recognise the five categories that exams test again and again.

2.2.1 Common Nouns

A **common noun** names a *kind* of thing, not a specific one. *City, girl, phone, river* - all common nouns. They do not get capital letters (unless they start a sentence).

2.2.2 Proper Nouns

A **proper noun** names a specific person, place, or thing. *Delhi, Rohan, Ganga, Infosys*. Proper nouns **always** start with a capital letter, no matter where they sit in the sentence.

Quick distinction:

- *river* → common noun
- *Ganga* → proper noun

2.2.3 Concrete Nouns

A **concrete noun** is anything you can perceive with your five senses - see, hear, touch, smell, or taste. *Chair, rose, music, pizza, wind.*

2.2.4 Abstract Nouns

An **abstract noun** names an idea, a feeling, a quality, or a state. You cannot touch it. *Love, anger, bravery, democracy, childhood.*

A good test: if you can only "feel" or "think" it, never hold it, it is abstract.

2.2.5 Collective Nouns

A **collective noun** names a *group* seen as a single unit. *Team, crowd, family, herd, jury, committee, fleet.*

Collective nouns are famous for causing subject–verb agreement trouble. A full section in Chapter 3 is waiting for that fight, but here is a preview:

- *The team is winning.* (the group acting as one)
- *The team are arguing among themselves.* (the members acting as individuals)

Indian English usually prefers the first form for formal exams. Pick singular unless the sentence clearly shows members acting separately.

2.2.6 A Note on Countable vs. Uncountable Nouns

Some nouns can be counted: *one book, two books, three books.* These are **countable**.

Others cannot be counted directly: *water, sugar, information, advice, furniture, equipment.* These are **uncountable** (also called mass nouns). You do not say *two waters*; you say *two glasses of water*.

Exam trap - memorise these as uncountable:

information, advice, furniture, luggage, equipment, news, scenery, machinery, poetry, homework.

So you say *a piece of information, a piece of advice, an item of furniture* - never *an information* or *an advice*.

Pop Quiz 2.2

Label each noun as **Common (C)**, **Proper (P)**, **Abstract (A)**, or **Collective (CI)**.

- honesty
- Kolkata
- bunch
- teacher
- freedom

SOLVED ANALYSIS

Question: Choose the correct option.

"The professor offered me several useful _____."

(a) advices (b) advice (c) pieces of advice (d) advise

Concept Tested: Countable vs. uncountable nouns.

Analysis:

- *Advice* is an uncountable noun. It has no plural form.
- That immediately kills option (a) - *advices* is not a word in formal English.
- Option (d) - *advise* - is a verb, not a noun. The slot after "several useful" must be a noun. Eliminated.
- Between (b) and (c): the word "several" demands a countable plural. *Advice* alone is singular-only, so "several advice" sounds wrong.
- The trick for uncountable nouns is to add a **counter**: "pieces of advice", "items of furniture", "glasses of water". That makes the idea countable without breaking the grammar.

Answer: (c) pieces of advice.

Exam Insight: Whenever you see a quantifier like *several*, *many*, *a few* in front of an uncountable noun, your first instinct should be to look for a "piece / item / bit of" counter. If the options don't include it, re-read - the question is probably testing whether you know the noun is uncountable to begin with.

2.3 Singular and Plural

A **singular** noun names one thing. A **plural** noun names more than one. Most plurals are made by adding -s. That is the easy part. The exam part is the exceptions.

2.3.1 The regular rule

Add -s: *book* → *books*, *chair* → *chairs*, *idea* → *ideas*.

2.3.2 Add -es

For nouns ending in -s, -ss, -sh, -ch, -x, -z:

bus → *buses*, *class* → *classes*, *brush* → *brushes*, *church* → *churches*, *box* → *boxes*.

2.3.3 Nouns ending in -y

- If a **consonant** comes before the -y, change y to i and add -es: *city* → *cities*, *baby* → *babies*, *story* → *stories*.
- If a **vowel** comes before the -y, just add -s: *boy* → *boys*, *key* → *keys*, *day* → *days*.

2.3.4 Nouns ending in -f or -fe

Change f / fe to v and add -es: *leaf* → *leaves*, *wife* → *wives*, *knife* → *knives*, *half* → *halves*.

But a handful just add -s: *roof* → *roofs*, *chief* → *chiefs*, *belief* → *beliefs*, *proof* → *proofs*.

2.3.5 Nouns ending in -o

- Usually add -es: *potato* → *potatoes*, *tomato* → *tomatoes*, *hero* → *heroes*.
- Some just add -s: *photo* → *photos*, *piano* → *pianos*, *radio* → *radios*, *zoo* → *zoos*.

2.3.6 Irregular plurals (memorise these - exams adore them)

Goose-Geese, Person-People etc.

2.3.7 Same in singular and plural

Example: *Sheep*, *deer*, *fish*, *series*, *species*, *aircraft*. (One sheep, ten sheep)

2.3.8 Plural-looking nouns that are singular

These look plural because of the -s but act singular:

news, *mathematics*, *physics*, *economics*, *politics*, *athletics*, *measles*, *mumps*.

The news is good. ✓ *The news are good.* ✗

2.3.9 Singular-looking nouns that are plural

Police, cattle, people, poultry.

The police are investigating. ✓ The police is investigating. ✗

2.3.10 Foreign plurals

Singular	Plural
datum	data
medium	media
criterion	criteria
phenomenon	phenomena
analysis	analyses
thesis	theses
crisis	crises
radius	radii
syllabus	syllabi

Pop Quiz 2.3

Write the correct plural.

- leaf → _____
- child → _____
- photo → _____
- criterion → _____
- deer → _____

SOLVED ANALYSIS

Question: Find the error:

The criterias for selection / have been revised / by the committee / last week.

- (a) The criterias for selection
- (b) have been revised
- (c) by the committee
- (d) last week

Concept Tested: Foreign plural nouns.

Analysis:

- "Criterion" is Greek in origin. Its plural is **criteria**, not *criterias*.
- *Criteria* is already plural. Adding an extra -s doubles up the plural marker, which is ungrammatical.
- The same trap hits *phenomena*, *data*, *media* - no -s needed (and you should never say *a data* either; say *a data point*).
- Parts (b), (c), and (d) are grammatically fine.

Answer: (a) - it should read "The criteria for selection".

Exam Insight: Any word ending in *-on* or *-um* (Greek/Latin origin) is a red flag. Quickly check whether it is singular or plural before touching the verb. A wrong plural and a wrong verb often come as a pair.

2.4 Pronouns

A **pronoun** is a word that stands in for a noun so you don't have to keep repeating it.

Ravi said that Ravi would finish Ravi's homework before Ravi ate dinner.

Painful. Pronouns fix it:

Ravi said that he would finish his homework before he ate dinner.

Without pronouns, English would crawl. With them, it flows.

2.4.1 The main types of pronouns

Type	Examples	Does what
Personal	I, you, he, she, it, we, they, me, him, her, us, them	Refers to people or things
Possessive	my, mine, your, yours, his, her, hers, its, our, ours, their, theirs	Shows ownership
Reflexive	myself, yourself, himself, herself, itself, ourselves, yourselves, themselves	Refers back to the subject
Relative	who, whom, whose, which, that	Joins a clause to a noun
Demonstrative	this, that, these, those	Points to something
Indefinite	anyone, everyone, nobody, someone, each, all, some, few	Refers to unspecified people/things
Interrogative	who, whom, whose, which, what	Asks questions

2.4.2 Subject vs. Object pronouns

This is where students lose marks.

- **Subject pronouns** do the action: *I, you, he, she, it, we, they*.
- **Object pronouns** receive the action: *me, you, him, her, it, us, them*.

She called him. ← *She* is doing the calling. *Him* is being called.

The classic trap: "**between you and ____**". Many students write *between you and I*. The correct form is *between you and me**, because *between* is a preposition and takes object pronouns.

- *Between you and me, he is not ready.* ✓
- *Between you and I, he is not ready.* ✗

A quick self-check trick: drop the other person and see if the pronoun still sounds right.

"He gave the gift to Meera and I." → drop Meera → *"He gave the gift to I."* That sounds wrong.
Correct it to *me*. → *"He gave the gift to Meera and me."* ✓

2.4.3 Possessive pronouns - watch the apostrophe

- *its* = belonging to it (possessive)
- *it's* = it is / it has (contraction)

The dog wagged its tail. (possessive - no apostrophe)

It's raining. (= it is raining - contraction)

Same story for *your* / *you're*, *their* / *they're*, *whose* / *who's*. Apostrophes mean something is missing, not something is owned.

2.4.4 Reflexive pronouns

Use these when the subject and the object are the same person.

I hurt myself. ✓ (I = the one hurt)

She taught herself French. ✓

Do **not** use a reflexive pronoun as a fancy substitute for *I* or *me*.

Please send the report to myself. ✗

Please send the report to me. ✓

2.4.5 Relative pronouns - who, whom, whose, which, that

- *Who* → for people, acting as a subject. *The man who called me.*
- *Whom* → for people, acting as an object. *The man whom I called.*
- *Whose* → shows possession. *The man whose car broke down.*
- *Which* → for things and animals. *The book which I read.*
- *That* → for people, animals, or things, in essential (defining) clauses. *The book that changed my life.*

Who or whom? Replace with *he* / *him*. If *he* fits, use *who*. If *him* fits, use *whom*.

- ____ *called?* - *He called.* → *Who* called?
- *To* ____ *did you speak?* - *I spoke to him.* → *To whom?*

Pop Quiz 2.5

Choose the correct pronoun.

- This secret is strictly between you and (I / me).
- The girl (who / whom) I met yesterday is a lawyer.

- The cat licked (its / it's) paws.
- She treated (her / herself) to a new dress.
- (Who / Whom) did you give the book to?

2.6 Antecedents

An **antecedent** is the noun that a pronoun replaces. The whole pronoun–antecedent relationship is built on **agreement** in three things:

- **Number** - singular with singular, plural with plural.
- **Gender** - masculine, feminine, or neuter must match.
- **Person** - first, second, or third must match.

Rohan forgot his wallet. (Rohan = antecedent; *his* agrees with it.)

2.6.1 Common trap: indefinite pronouns as antecedents

These **indefinite pronouns are singular** even if they feel plural:

each, either, neither, everyone, everybody, anyone, anybody, someone, somebody, no one, nobody, one.

So you say:

- *Everyone must bring his or her (or their) own pen.* ✓
- *Everyone must bring their own pen.* - modern usage accepts this; classical grammar prefers "his or her".
- *Each of the boys has his book.* ✓

2.6.2 Collective nouns as antecedents

The group acting as one unit → singular pronoun.

The group acting as individuals → plural pronoun.

- *The team celebrated its victory.* (one unit)
- *The team removed their jerseys.* (individual members)

2.6.3 Compound antecedents

Two nouns joined by *and* → plural pronoun.

Rahul and Anil finished their project.

Two nouns joined by *or* / *nor* → pronoun agrees with the **nearer** noun.

Neither the teacher nor the students have submitted their forms.

Neither the students nor the teacher has submitted her form.

2.6.4 Vague antecedents - the silent killer

A pronoun must point clearly to **one** noun. If the reader cannot tell which noun, it is a vague reference, and exams love to test this.

When Riya met Kavya, she looked tired. - Who looked tired? Unclear.

Better: *When Riya met Kavya, Kavya looked tired.*

Pop Quiz 2.6

Pick the correct pronoun.

- Each of the girls brought (her / their) notebook.
- Neither the manager nor the employees have shared (his / their) opinions.
- The committee has announced (its / their) decision.

SOLVED ANALYSIS

Question: Identify the error.

Every student in the hostel must submit their identity card / to the warden / before nine p.m. / on Monday.

- (a) must submit their identity card
- (b) to the warden
- (c) before nine p.m.
- (d) No error

Concept Tested: Pronoun–antecedent agreement (singular indefinite antecedent).

Analysis:

- The antecedent is *Every student*. The word *every* turns the following noun into a singular idea, even if you are picturing many students.
- A singular antecedent must take a singular pronoun: *his*, *her*, or the gender-neutral *his or her*. In classical/formal exam grammar, *their* here is marked wrong.

- Modern spoken English allows the singular *they*. But on exams like GATE, CAT, and competitive government exams, the safer answer is still to flag it.
- Parts (b), (c), (d) are fine on their own.

Answer: (a) - it should read "must submit his or her identity card" (or, in less formal registers, "their").

Exam Insight: When you see *every, each, one of, anyone, everyone, somebody* in a sentence, immediately circle the pronoun that follows. The exam is almost always checking singular agreement.

2.7 A Special Note about the Pronoun *One*

The pronoun *one* is a small word with a big personality on exams.

Use *one* when you want to talk about people in general, in a formal or impersonal way.

One should respect one's elders.

The rule: once you start with *one*, **stay with the *one* family**. Do not slide into *he, his, you, or their* halfway through.

- *One should do one's duty.* ✓
- *One should do his duty.* ✗ (in formal British/Indian exam grammar)
- *One should do their duty.* ✗

Similarly:

- *If one loses one's way, one must ask for help.* ✓
- *If one loses his way, he must ask for help.* ✗

This strict "stay in the family" rule is a favourite trap in SSC, Bank PO, and state-level government exams.

2.8 Adjectives

An **adjective** is a word that describes or modifies a noun or pronoun. It tells you *what kind, how many, which one, or whose*.

- *A tall building.* (what kind)
- *Three apples.* (how many)

- *This pen.* (which one)
- *My bag.* (whose)

2.8.1 The five useful kinds of adjectives

- **Descriptive (qualitative)** - tell us a quality: *kind, blue, happy, heavy*.
- **Quantitative** - tell us quantity: *some, many, little, enough*.
- **Numeral** - tell us number (cardinal: *one, two*; ordinal: *first, second*).
- **Demonstrative** - *this, that, these, those*.
- **Possessive** - *my, your, his, her, our, their*.

2.8.2 Order of adjectives

When several descriptive adjectives come together, English prefers a specific order. The standard sequence (you do not need to memorise the word but the order matters):

Opinion → Size → Age → Shape → Colour → Origin → Material → Purpose → Noun

A lovely small old round red Italian leather riding boot.

You will rarely stack eight adjectives, but exams love to test short combinations:

- *a beautiful old wooden chair* ✓
- *a wooden old beautiful chair* ✗

2.8.3 Degrees of comparison

Adjectives come in three degrees:

- **Positive:** *tall, good, beautiful*.
- **Comparative:** *taller, better, more beautiful*.
- **Superlative:** *tallest, best, most beautiful*.

Rules:

- For short adjectives (one syllable): add *-er / -est*. *fast → faster → fastest*.
- For long adjectives (two+ syllables): use *more / most*. *beautiful → more beautiful → most beautiful*.
- For two-syllable adjectives ending in *-y*: change *y* to *i* and add *-er / -est*. *happy → happier → happiest*.

2.8.4 Irregular comparison - memorise

Positive	Comparative	Superlative
good	better	best
bad	worse	worst
much / many	more	most
little	less	least
far	farther / further	farthest / furthest
late	later / latter	latest / last
old	older / elder	oldest / eldest

Tip: *Elder / eldest* is used only for people within a family - *my elder brother*. For everything else, use *older / oldest*.

2.8.5 Common comparison traps

- **Double comparison** is wrong.
- *more taller* ✗ *taller* ✓
- *most tallest* ✗ *tallest* ✓
- **"Than" vs "then"** - different words. *Taller than* (comparison). *First do this, then* that (time).
- **Comparing two items:** use the comparative, not the superlative.
- *Between the two candidates, Anil is the better.* ✓
- *Between the two candidates, Anil is the best.* ✗
 - **"Any" vs "any other"** in comparatives.
- *Delhi is larger than any other city in Haryana.* ✓
- *Delhi is larger than any city in Haryana.* ✗ (Delhi cannot be larger than itself, and Delhi is a city.)

But when comparing across categories where the subject isn't part of the group:

- *Delhi is larger than any city in Kerala.* ✓ (Delhi isn't in Kerala, so "any" is fine.)

Pop Quiz 2.8

Correct each sentence.

- She is more smarter than her sister.
- This is the most best biryani I have ever eaten.
- A red big beautiful balloon flew away.
- Of the two options, the second one is the best.
- Mumbai is bigger than any city in Maharashtra.

SOLVED ANALYSIS

Question: Choose the correct sentence.

- (a) Ravi is taller than any boy in his class.
- (b) Ravi is taller than any other boy in his class.
- (c) Ravi is the tallest than any other boy in his class.
- (d) Ravi is the most tallest of all boys in his class.

Concept Tested: Comparative with "any" vs. "any other"; also the double-comparative/superlative trap.

Analysis:

- Option (a): Ravi is part of his class. Saying "taller than any boy in his class" includes Ravi himself - logically, Ravi cannot be taller than Ravi. Wrong.
- Option (b): "any **other** boy" excludes Ravi. Now the comparison is clean. Grammatically correct.
- Option (c): mixes superlative ("the tallest") with comparative ("than"). You either say *the tallest in the class* **or** *taller than any other boy*. Mixing them is a classic error.
- Option (d): "the most tallest" is a double superlative. *Tallest* already is superlative; adding *most* makes it wrong.

Answer: (b).

Exam Insight: When the subject belongs to the group being compared, you **must** write "any other". That single word is worth a full question on banking and SSC exams.

2.9 Absolute Adjectives

Some adjectives describe a quality that is already at its maximum. You cannot be "more perfect" than perfect, or "more unique" than unique - because something is either unique or it isn't.

These are **absolute adjectives**. They should not take comparative or superlative forms, and they should not be modified by words like *very*, *more*, *most*, *less*, *least*.

Memorise this list:

unique, perfect, complete, supreme, empty, full, absolute, universal, square, round, circular, infinite, eternal, dead, impossible, final, chief, extreme.

- *This design is more unique.* ✗
- *This design is unique.* ✓
- *Her solution is the most perfect one.* ✗
- *Her solution is perfect.* ✓

If you really want to soften an absolute adjective, you can say *nearly unique*, *almost perfect*, *virtually complete* - but never *more*, *most*, or *very*.

Pop Quiz 2.9

Mark the sentence correct (✓) or incorrect (✗).

- This painting is more unique than that one.
- His answer was the most perfect of all.
- The bottle is almost full.
- She is the most supreme authority in the country.

Drill Set 2A - Nouns

Mark the correct option.

- The _____ are investigating the case.

(a) police (b) polices (c) police's (d) policeman

- She gave me some valuable _____.

(a) informations (b) information (c) informations' (d) an information

- The jury _____ given its verdict.

(a) have (b) are (c) has (d) were

- The plural of "analysis" is:

(a) analyses (b) analysises (c) analyses (d) analysi

- Identify the collective noun: *A herd of cattle grazed in the field.*

(a) herd (b) cattle (c) field (d) grazed

Drill Set 2B - Pronouns

- There was a serious quarrel between he and _____.

(a) I (b) me (c) myself (d) mine

- The boy _____ bicycle was stolen reported the matter.

(a) who (b) whom (c) whose (d) which

- Every one of the girls must bring _____ own lunch.

(a) their (b) her (c) his (d) our

- Neither Rahul nor his brothers could find _____ keys.

(a) his (b) their (c) our (d) its

- If one does _____ duty, success follows.

(a) his (b) their (c) one's (d) our

Drill Set 2C - Adjectives

- Of the two sisters, Priya is the _____.

(a) tall (b) taller (c) tallest (d) most tall

- This is the _____ film I have ever seen.

(a) worse (b) worst (c) more bad (d) most worst

- A _____ Italian leather jacket was on display.

(a) beautiful small old (b) old small beautiful

(c) small beautiful old (d) beautiful small old

- Kolkata is larger than _____ city in West Bengal.

(a) any (b) any other (c) some other (d) none

- The proposal is _____ unique in its approach.

(a) more (b) most (c) very (d) quite

2.10 Answers to Pop Quizzes

Pop Quiz 2.1 - Nouns underlined.

- **children, playground, excitement**
- **Honesty, policy, life**
- **uncle, car, dealer, Pune**

Pop Quiz 2.2

- honesty - **A**
- Kolkata - **P**
- bunch - **CI**
- teacher - **C**
- freedom - **A**

Pop Quiz 2.3

- leaves
- children
- photos
- criteria
- deer

Pop Quiz 2.5

- me 2. whom 3. its 4. herself 5. Whom

Pop Quiz 2.6

- her 2. their 3. its

Pop Quiz 2.8

- She is **smarter** than her sister.
- This is the **best** biryani I have ever eaten.
- A **beautiful big red** balloon flew away.
- Of the two options, the second one is the **better**.
- Mumbai is bigger than **any other** city in Maharashtra.

Pop Quiz 2.9

- 1. ✗ 2. ✗ 3. ✓ 4. ✗

2.11 Answers to Drill Sets

Drill 2A: 1-(a), 2-(b), 3-(c), 4-(c), 5-(a).

Drill 2B: 1-(b), 2-(c), 3-(b), 4-(b), 5-(c).

Drill 2C: 1-(b), 2-(b), 3-(d), 4-(b), 5-(d) - *quite* is acceptable as a softener; *more*, *most*, *very* are not.

Chapter 3: Verbs and Adverbs

Nouns name things. Verbs make them move. Without a verb, no English sentence can stand on its own two feet. This chapter also tackles the two sleeper topics - **subject-verb agreement** and **tenses with has/have/had** - that between them account for a huge slice of every competitive exam's grammar marks.

3.1 Verbs

A **verb** is a word that expresses an action, a state, or a relationship.

- **Action:** *run, write, eat, build, think.*
- **Linking:** *is, am, are, was, were, seem, appear, become.*
- **Helping (auxiliary):** *have, has, had, do, does, did, will, shall, can, may, must, might.*

Example: *Sunita wrote a letter.* → *wrote* is the verb (action).

Example: *She is a teacher.* → *is* is the verb (linking - no action, just a connection).

3.1.1 Main verb vs. helping verb

A single verb idea can be built from one main verb and one or more helping verbs.

- *She has written the letter.* (helping: *has*; main: *written*)
- *They will be playing by evening.* (helping: *will be*; main: *playing*)

When you are asked to identify "the verb" on an exam, identify **the entire verb phrase**, not just the last word.

3.1.2 Transitive vs. intransitive

- A **transitive verb** needs an object. *She kicked the ball.* (*ball* = object)
- An **intransitive verb** doesn't. *She laughed.*

This matters because some verbs are famously tricky:

- *lay / lie* - **lay** is transitive (*I lay the book on the table*), **lie** is intransitive (*I lie on the bed*). Past tenses: *lay* → *laid*; *lie* → *lay* → *lain*. Yes, confusing - but exams test it regularly.
- *raise / rise* - **raise** is transitive (*He raised his hand*), **rise** is intransitive (*The sun rises*).
- *set / sit* - **set** is transitive (*Set the cup down*), **sit** is intransitive (*Please sit*).

3.1.3 Regular vs. irregular verbs

- Regular verbs form the past tense with *-ed*: *walk* → *walked* → *walked*.
- Irregular verbs change spelling: *go* → *went* → *gone*; *see* → *saw* → *seen*; *write* → *wrote* → *written*.

Short list of irregular verbs:

Base	Past	Past Participle
see	saw	seen
write	wrote	written
begin	began	begun
drink	drank	drunk
swim	swam	swum

A heads-up about *run* and *come*: base form and past participle are identical - *I have run the marathon, I have come home*.

Pop Quiz 3.1

Fill in the past and past participle.

- choose → _____ → _____
- rise → _____ → _____
- lay → _____ → _____
- fly → _____ → _____
- teach → _____ → _____

3.2 Gerunds

A **gerund** is a verb's *-ing* form used as a noun.

Swimming is good exercise. ← *Swimming* is the subject; it's acting like a noun.

Because the gerund acts as a noun, it can sit in any noun slot - subject, object, object of a preposition.

- As subject: ***Reading** improves vocabulary.

- As object: *I enjoy reading.*
- After a preposition: *She is fond of reading.*

3.2.1 The tell-tale test

If you can replace the *-ing* word with *it* or *the thing*, it is a gerund.

- *I enjoy swimming.* → *I enjoy it.* ✓ → gerund.
- *She is swimming.* → *She is it.* ✗ → here *swimming* is part of a verb phrase, not a gerund.

3.2.2 Verbs that must be followed by a gerund

Some verbs, when followed by another verb, **always** take the *-ing* form:

enjoy, avoid, finish, mind, admit, deny, suggest, consider, practice, postpone, risk, miss, imagine, appreciate.

- *I enjoy reading.* ✓
- *I enjoy to read.* ✗

3.2.3 The possessive-with-gerund rule

When a gerund has a "doer" before it, the doer should ideally be **possessive** in formal English.

- *I appreciate your helping me.* ✓ (formal)
- *I appreciate you helping me.* (informal but common)

Exam answer in most cases: **possessive + gerund**.

3.3 Infinitives

An **infinitive** is the word *to* + the base form of the verb: *to run, to eat, to think*.

Infinitives can act as nouns, adjectives, or adverbs.

- As noun: ***To err** is human.
- As adjective: *I need a book to read.*
- As adverb: *She came here to study.*

3.3.1 Gerund or Infinitive - the 90% rule

Some verbs prefer infinitives, some prefer gerunds, some accept both.

Take infinitive: *agree, decide, plan, hope, want, wish, refuse, promise, offer, manage.*

- *She agreed to help.* ✓

Take gerund: *enjoy, avoid, finish, mind, admit, deny, suggest* (from the earlier list).

- *He suggested waiting.* ✓

Take both, same meaning: *begin, start, continue, like, love, hate, prefer.*

- *She began to sing / She began singing.* - both fine.

Take both, different meaning: *stop, remember, forget, try.*

- *She stopped to smoke.* (stopped walking in order to smoke)
- *She stopped smoking.* (quit the habit)

3.3.2 The split infinitive

"Never split an infinitive" used to be a rule, which is why you may have heard it. Modern grammar accepts split infinitives when they sound natural - *to boldly go* is fine. Still, on a strict exam, keep *to* + *verb* together if the options allow.

Pop Quiz 3.3

Choose gerund or infinitive.

- I can't afford (to waste / wasting) any more time.
- She enjoys (to cook / cooking) for her friends.
- He stopped (to smoke / smoking) and has not touched a cigarette since.
- Would you mind (to close / closing) the door?
- They agreed (to meet / meeting) at six.

3.4 Subject–Verb Agreement

This is the single highest-scoring grammar topic on almost every competitive exam. Master these fifteen rules and you will not lose a mark here again.

The golden rule: **a singular subject takes a singular verb; a plural subject takes a plural verb.**

The boy runs fast. (singular subject, singular verb)

The boys run fast. (plural subject, plural verb)

Do **not** get distracted by words between the subject and the verb.

Rule 1: Prepositional phrases between subject and verb do not change the number.

The basket of apples is on the table. ✓

The basket of apples are on the table. ✗

The subject is *basket* (singular), not *apples*.

Rule 2: Two subjects joined by *and* = plural verb.

Ram and Shyam are friends.

Exception: when two nouns joined by *and* express a single idea, use a singular verb.

Bread and butter is my breakfast. ✓

Time and tide waits for no man. ✓

Rule 3: Subjects joined by *or*, *nor*, *either...or*, *neither...nor* - verb agrees with the nearer subject.

Either the teacher or the students are at fault.

Either the students or the teacher is at fault.

Rule 4: Indefinite pronouns ending in *-one*, *-body*, *-thing* are singular.

everyone, someone, no one, anyone, everybody, somebody, nobody, everything, something, anything, nothing.

Everyone is ready. ✓

Rule 5: *Each*, *every*, *either*, *neither* - singular.

Each of the candidates has submitted a form.

Neither of them is correct.

Rule 6: *Both*, *few*, *many*, *several* - plural.

Both of them are happy.

Rule 7: *Some*, *any*, *all*, *most*, *none* - depend on the noun they refer to.

Some of the water is dirty. (water = uncountable = singular)

Some of the students are absent. (students = countable plural = plural verb)

Rule 8: Collective nouns - usually singular.

The team is strong. ✓

Rule 9: Plural-looking nouns that are singular - *news, mathematics, physics, economics, measles.*

Mathematics is my favourite subject. ✓

Rule 10: Nouns that are always plural - *scissors, trousers, spectacles, pliers, tongs, clothes, goods, cattle, police.*

My trousers are torn. ✓

The police are investigating. ✓

Rule 11: "A pair of" - singular.

A pair of scissors is on the table. ✓

Rule 12: *Number* vs. *Number of*.

- *The number of students is rising.* (the number = singular)
- *A number of students are absent.* (a number of = many = plural)

Rule 13: Distance, money, time, weight - treated as a unit → singular.

Ten kilometres is a long walk.

Five hundred rupees is too little.

Two years is a long time.

Rule 14: *One of the* + plural noun + plural verb in the relative clause.

She is one of the students who have passed. ✓ (the students have passed)

But: *She is the only one of the students who has passed. ✓* (only one has)

Rule 15: Titles of books, names of countries - singular even if plural-looking.

"The Arabian Nights" is a classic.

The United States is a federation.

Pop Quiz 3.4

Choose the correct verb.

- The quality of the products (is / are) excellent.
- Neither of the answers (is / are) correct.
- A number of guests (has / have) arrived.
- Mathematics (is / are) tough for her.

- He is one of those players who (practice / practices) daily.

SOLVED ANALYSIS

Question: Pick the correct sentence.

- (a) The list of candidates who have applied were submitted yesterday.
- (b) The list of candidates who has applied were submitted yesterday.
- (c) The list of candidates who have applied was submitted yesterday.
- (d) The list of candidates who has applied was submitted yesterday.

Concept Tested: Subject–verb agreement with a prepositional phrase; correct verb for the relative clause.

Analysis:

- Main subject of the outer sentence: **list** (singular). So the main verb must be singular → *was*, not *were*. That eliminates (a) and (b).
- Inside the relative clause, **who** refers to **candidates** (plural), so the verb inside that clause must be plural → *have applied*, not *has applied*. That eliminates (d).
- Only (c) satisfies both: *was* (for *list*) + *have applied* (for *candidates*).

Answer: (c).

Exam Insight: Long sentences with a prepositional phrase + a relative clause are designed to trick you. Train yourself to ask two questions in order: (1) *what is the real subject of the main verb?* and (2) *what is the antecedent of "who / which / that" in the clause?*

3.5 Has / Have Verbs

Has and *have* are the building blocks of the **present perfect tense**. They are also helping verbs you'll see a thousand times on exam day.

- **has** → used with third-person **singular**: *he, she, it*, or any singular noun.
- **have** → used with *I, you, we, they*, or any plural noun.

She has finished her homework. ✓

They have finished their homework. ✓

3.5.1 Present Perfect: has/have + past participle

Use the present perfect when:

- The action started in the past and is **still relevant now** or **still continuing**.

I have lived in Chennai since 2015. (and I still live here)

- The action happened at some unspecified time in the past, and the exact time does not matter.

She has visited Japan. (at some point before now)

- The action just finished.

He has just finished the exam.

3.5.2 Signal words for present perfect

since, for, just, already, yet, ever, never, so far, recently, lately, this week, this month, this year.

- *I have not seen him **since** Tuesday.*
- *She has lived here **for** ten years.*

3.5.3 Since vs. For

- *Since* + a **point** in time: *since 2010, since Monday, since morning.*
- *For* + a **duration**: *for ten years, for two days, for a week.*

Exam banana peel: *I have been here since three hours. ✗ → for three hours. ✓*

3.5.4 Present perfect vs. Simple past

- **Present perfect** = action connected to now.
- **Simple past** = action finished in a clearly past time.

I have seen that movie. (sometime in life)

I saw that movie last Sunday. (specific past moment)

If the sentence names a completed past time (*yesterday, last week, in 1990, ago*), use the **simple past**, not the present perfect.

I have seen him yesterday. ✗

I saw him yesterday. ✓

Pop Quiz 3.5

Choose the correct form.

- She (has lived / lived) in Pune since 2012.
- They (have visited / visited) the Taj Mahal last summer.
- I (have known / know / knew) him for five years.
- He (has just / just) arrived.
- Mathematics (has / have) always been her favourite subject.

3.6 Had Verbs

Had + past participle gives you the **past perfect tense**.

Use the past perfect to show that **one past action happened before another past action**.

By the time I reached the station, the train had left.

Here, "the train had left" happened *before* "I reached the station." Past perfect (*had left*) is the earlier event; simple past (*reached*) is the later event.

3.6.1 The order of events rule

Line up both events on a timeline.

- Earlier event → **had + past participle**
- Later event → **simple past**

She had finished dinner when the guests arrived.

(finished first, arrived second)

3.6.2 Classic signal words

before, after, when, by the time, until, as soon as, hardly...when, scarcely...when, no sooner...than.

- ***Hardly had** I reached the station **when** the train left.
- ***No sooner had** I reached the station **than** the train left.

Note the **inversion** - after *hardly, scarcely, no sooner*, the helping verb *had* comes **before** the subject. This is a popular exam question.

3.6.3 Past perfect in conditionals

In **third conditional** (imaginary past), use *had* + *past participle* in the *if* clause:

If I had studied, I would have passed.

Do **not** write *if I would have studied*. That form is wrong in formal grammar.

Pop Quiz 3.6

Rewrite using the past perfect.

- The bell rang. I had reached the class (before the bell).
- They had already left. I arrived (after).
- If he (study) harder, he would have scored higher.

SOLVED ANALYSIS

Question: Identify the correct sentence.

- (a) No sooner I had reached the airport than the flight took off.
- (b) No sooner had I reached the airport than the flight took off.
- (c) No sooner I reached the airport than the flight had taken off.
- (d) No sooner had I reached the airport when the flight took off.

Concept Tested: Inversion with *no sooner...than*, and correct tense sequence in past perfect structures.

Analysis:

- The structure is fixed: **No sooner had + subject + past participle + than + simple past**.
- (a) "No sooner I had reached" - no inversion. Wrong.
- (b) "No sooner had I reached... than the flight took off" - correct inversion, correct connector (*than*), correct tenses.
- (c) Tenses are flipped - the flight's takeoff (later event) is marked as earlier with *had taken*. Also no inversion. Wrong.
- (d) Inversion is correct, but it uses *when* instead of *than*. Wrong - *no sooner* is always paired with *than*; *hardly* / *scarcely* are paired with *when*.

Answer: (b).

Exam Insight: Burn this pair into your memory: *no sooner...than* and *hardly / scarcely...when*. The connector is the single easiest thing to get wrong, and the exam knows it.

3.7 Adverbs

An **adverb** is a word that modifies a verb, an adjective, or another adverb.

- Modifies a verb: *She sings beautifully*.
- Modifies an adjective: *He is very tall*.
- Modifies another adverb: *She sings very beautifully*.

3.7.1 Types of adverbs by meaning

Type	Answers	Examples
Manner	<i>How?</i>	quickly, slowly, carefully, well
Place	<i>Where?</i>	here, there, outside, above
Time	<i>When?</i>	now, then, yesterday, soon
Frequency	<i>How often?</i>	always, often, sometimes, never
Degree	<i>How much?</i>	very, quite, almost, enough
Affirmation / Negation	-	surely, certainly, not, never

3.7.2 Forming adverbs - the -ly rule

Most adverbs are made by adding *-ly* to an adjective.

quick → *quickly*; *careful* → *carefully*; *happy* → *happily*; *true* → *truly*.

But not every *-ly* word is an adverb. *Friendly, lovely, lonely, silly, ugly* **end in -ly but are adjectives**. You cannot say *She sang friendly*; you would say *in a friendly way*.

And a few adverbs do not take *-ly* at all: *fast, hard, late, early, well, straight, much, little, long*.

- *He runs fast*. (not *fastly*)
- *She works hard*. (not *hardly*)

3.7.3 *Hard* vs. *Hardly* - the trap

These look related but mean opposite things.

- *hard* = adjective/adverb meaning difficult or with effort.

She works hard. (with effort)

- *hardly* = adverb meaning *almost not* / *scarcely*.

She hardly works. (she barely works at all)

Same story for *late* / *lately* and *near* / *nearly*:

- *He came late.* (not on time)
- *I haven't seen him lately.* (recently)
- *The station is near.* (close)
- *I nearly fell.* (almost)

3.7.4 Position of adverbs

Adverbs are movable, but the position can change the meaning or the emphasis.

- **Adverbs of manner** usually come after the verb or at the end: *She sang beautifully.*
- **Adverbs of place** usually come after the verb or after the object: *She lives here.*
- **Adverbs of time** usually come at the end: *She came yesterday.*
- **Adverbs of frequency** (*always, often, usually, rarely, never*) come **before the main verb** but **after be-verbs**:
 - *She always helps me.*
 - *She is always helpful.*

3.7.5 *Only* - the most misplaced adverb in English

The position of *only* changes the meaning.

- *Only she loves him.* (she alone)
- *She only loves him.* (she just loves him - doesn't, say, admire him)
- *She loves only him.* (him, and no one else)
- *She loves him only on Sundays.* (on Sundays, not other days)

Exam rule: place *only* **immediately before** the word it is meant to limit.

Pop Quiz 3.7

Choose the correct word.

- She sings (beautiful / beautifully).
- He works very (hard / hardly) for his family.
- I (hard / hardly) know her.
- We reached the station (late / lately).
- (Only she / She only) can solve this problem - no one else can.

3.8 Adverbial Phrases

An **adverbial phrase** is a group of words that works together to do an adverb's job - answer *how*, *when*, *where*, *why*, or *to what extent*.

- *He spoke with great confidence.* (how = adverbial phrase of manner)
- *She will come in a few minutes.* (when = adverbial phrase of time)
- *They met in the old library.* (where = adverbial phrase of place)
- *He studied to pass the exam.* (why = adverbial phrase of purpose)

3.8.1 Why this matters

Adverbial phrases behave exactly like single-word adverbs - they can move around the sentence. But they can also create **ambiguity** if placed wrongly.

The man saw the dog with the telescope.

Who has the telescope - the man or the dog? The phrase is floating too far from what it should modify. To fix:

With the telescope, the man saw the dog. or *The man saw the dog through the telescope.*

This problem has a famous name: the **misplaced modifier**. The rule is simple - place the phrase **as close as possible to the word it modifies**.

3.8.2 Dangling modifiers

An even more dangerous cousin: a modifier that has nothing in the sentence to modify.

Walking down the street, the tree fell on me. → This says the tree was walking. Wrong.

Fixed: *Walking down the street, I saw the tree fall.* or *While I was walking down the street, the tree fell on me.*

Whenever a sentence **begins with an ‘-ing’ phrase** (or a past participle phrase), the **subject that follows the comma** must be the one doing that action.

Pop Quiz 3.8

Identify the error and rewrite.

- Running fast, the bus was missed by Ravi.
- She read the book on the table that was dusty.
- Walking in the garden, a snake was seen.

SOLVED ANALYSIS

Question: Which sentence is correctly structured?

- (a) Having completed the assignment, the library was left by the students.
- (b) Having completed the assignment, the students left the library.
- (c) Having completed the assignment, leaving the library was done by the students.
- (d) Having completed the assignment, the students had left the library.

Concept Tested: Dangling modifier / participial phrase.

Analysis:

- The sentence opens with "Having completed the assignment". Ask: who completed it? The subject that follows the comma must answer that.
- (a) Subject after the comma is "the library" - but the library didn't complete an assignment. Dangling. Wrong.
- (b) Subject after the comma is "the students" - they are the ones who completed the assignment. Clean.
- (c) Subject after the comma is "leaving" (a gerund phrase), not a person or thing that completes assignments. Awkward and still dangling in logic.
- (d) Same structural point as (b), but the tense "had left" suggests leaving happened before completing - which reverses the logic. Wrong.

Answer: (b).

Exam Insight: Whenever you see a sentence that starts with *-ing* or *having + past participle* followed by a comma, your first job is to check the subject right after the comma. It **must** match the doer of the opening phrase.

Drill Set 3A - Verbs and Agreement

- One of my friends _____ coming today.

(a) is (b) are (c) were (d) have been

- The committee _____ its report yesterday.

(a) have submitted (b) submitted (c) has submitted (d) were submitted

- Neither the teacher nor the students _____ present.

(a) is (b) was (c) are (d) has been

- I _____ him for ten years.

(a) know (b) am knowing (c) have known (d) had known

- Scarcely had he entered the room _____ the lights went off.

(a) than (b) then (c) when (d) while

Drill Set 3B - Gerunds and Infinitives

- She avoided _____ him at the party.

(a) to meet (b) meeting (c) meet (d) to be meeting

- They agreed _____ the contract.

(a) signing (b) to sign (c) having signed (d) to signing

- I look forward to _____ from you.

(a) hear (b) hearing (c) have heard (d) be hearing

- He stopped _____ (buy) a newspaper on his way home.

(a) to buy (b) buying (c) bought (d) buy

- Would you mind _____ the window?

(a) to close (b) close (c) closing (d) closed

Drill Set 3C - Adverbs and Modifiers

- He is _____ the most brilliant student in his class.

(a) hardly (b) hard (c) quite (d) lately

- She _____ speaks in meetings - maybe once a month.

(a) hardly (b) nearly (c) lately (d) rarely

- Choose the correctly placed adverb:

(a) She only drinks coffee in the morning.

(b) She drinks only coffee in the morning.

(c) She drinks coffee only in the morning.

(d) All of the above are correct depending on meaning.

- Which sentence has a dangling modifier?

(a) Reading the novel, I found it boring.

(b) Reading the novel, the time flew by.

(c) I found the novel boring while reading it.

(d) The novel, which I read, was boring.

- Fill in: *I haven't visited them* _____.

(a) late (b) lately (c) later (d) latest

3.9 Answers to Pop Quizzes

Pop Quiz 3.1

- choose → chose → chosen, rise → rose → risen, lay → laid → laid, fly → flew → flown, teach → taught → taught

Pop Quiz 3.3

- to waste 2. cooking 3. smoking 4. closing 5. to meet

Pop Quiz 3.4

- is 2. is 3. have 4. is 5. practice

Pop Quiz 3.5

- has lived 2. visited 3. have known 4. has just 5. has

Pop Quiz 3.6

- I had reached the class before the bell rang.
- They had already left when I arrived.
- If he had studied harder, he would have scored higher.

Pop Quiz 3.7

- beautifully 2. hard 3. hardly 4. late 5. Only she

Pop Quiz 3.8

- *Running fast, Ravi missed the bus.*
- *She read the dusty book that was on the table. (or She read the book, which was dusty, on the table.)*
- *Walking in the garden, I saw a snake.*

3.10 Answers to Drill Sets

Drill 3A: 1-(a), 2-(c), 3-(c), 4-(c), 5-(c).

Drill 3B: 1-(b), 2-(b), 3-(b), 4-(a) - he stopped *in order to* buy; 5-(c).

Drill 3C: 1-(c), 2-(a), 3-(d), 4-(b), 5-(b).

Chapter 4: Prepositions, Conjunctions, and Mixed Drills

By the time you finish this chapter, you will have met every major part of speech. Prepositions are small - *in, on, at, by, with, for* - but they carry huge weight on exam day. Conjunctions glue sentences together. And the mixed drills at the end of the chapter will force you to pull every rule from the past three chapters into one place.

4.1 Prepositions

A **preposition** is a word that shows the relationship between a noun (or pronoun) and some other word in the sentence - usually the relationship of *place, time, direction, cause, manner, or possession*.

- *The book is on the table.* (place)
- *We met at 7 p.m.* (time)
- *She walked into the room.* (direction)
- *He left because of illness.* (cause)
- *She spoke with confidence.* (manner)
- *The top of the box.* (possession/part)

4.1.1 The three famous small ones: *in, on, at*

These three are where most students lose marks. A simple ladder works:

- **at** → a **point** or a specific time. *at the door, at 5 o'clock, at the corner, at night.*
- **on** → a **surface** or a specific day/date. *on the table, on Monday, on 5 May, on the wall.*
- **in** → an **enclosed space** or a longer period. *in the box, in Mumbai, in July, in 2024, in the morning.*

A useful mental picture:

- *At* is a dot.
- *On* is a flat surface.
- *In* is a box.

4.1.2 Prepositions of time - cheat sheet

Expression	Preposition
A specific time	at (<i>at 5 p.m.</i>)
A day	on (<i>on Monday</i>)
A date	on (<i>on 15 August</i>)
Months, seasons, years	in (<i>in July, in summer, in 2024</i>)
Centuries, long periods	in (<i>in the 21st century</i>)
Parts of the day	in (<i>in the morning / evening</i>)
Night	at (<i>at night</i>)
Weekend	on / at (<i>on the weekend</i> - Indian/US; <i>at the weekend</i> - British)

4.1.3 Prepositions of place

- **at** + a point or address. *at the station, at 22 Park Street.*
- **on** + a surface, a line, a street name (in general usage). *on the shelf, on page 5, on MG Road.*
- **in** + a larger area or a 3-D space. *in Chennai, in the kitchen, in the car.*

A small but famous exception: *in* a car, but *on* a bus/train/plane/bicycle. Why? Because you can stand up and walk in a bus; you can't in a car.

Pop Quiz 4.1

Fill in the blank.

- I'll see you _____ Monday _____ 6 p.m.
- She lives _____ Pune, _____ a small flat _____ the third floor.
- He is suffering _____ a bad cold.
- I congratulated him _____ his success.
- The committee consists _____ seven members.

4.2 Prepositional Phrases

A **prepositional phrase** is a preposition + a noun/pronoun + any modifiers.

The cat under the bed is mine. ← *under the bed* is a prepositional phrase.

Prepositional phrases can act as **adjectives** (describing a noun) or **adverbs** (describing a verb).

- As adjective: *The boy with the blue bag is my brother.* (describes *boy*)
- As adverb: *He spoke with great confidence.* (describes *spoke*)

4.2.1 Prepositional phrases add information - not identity

A prepositional phrase can never be the subject of a sentence. The subject is always outside the prepositional phrase. This small fact solves our next section.

4.3 Prepositions Separating Subjects and Verbs

This is the trap that costs students the most marks on sentence-correction questions.

Look at: *The box of chocolates is on the shelf.*

What's the subject? **Box**. Not *chocolates*. The prepositional phrase "of chocolates" just describes *box*; it does not become the subject.

The rule: **ignore the prepositional phrase between the subject and the verb**, and then check agreement.

- *The bouquet of roses is beautiful.* ✓
- *The bouquet of roses are beautiful.* ✗
- *The list of names was published.* ✓
- *One of the students has failed.* ✓ (subject = *one*, not *students*)
- *Each of the boys has a bicycle.* ✓

4.3.1 A quick trick: bracket the phrase

Whenever you see *of*, *with*, *along with*, *together with*, *as well as*, *in addition to*, *including*, *besides*, put the whole thing in mental brackets.

- *The teacher, [along with her students], is going on a trip.* ✓
- *The teacher, [along with her students], are going on a trip.* ✗

The phrases *along with*, *together with*, *as well as*, *in addition to* do **not** make the subject plural. Only the word *and* does.

- *The teacher and her students are going.* ✓ (now plural because of *and*)

SOLVED ANALYSIS

Question: Identify the correct sentence.

- (a) The principal, along with the teachers, are attending the seminar.
- (b) The principal, along with the teachers, is attending the seminar.
- (c) The principal along with the teachers attending the seminar.
- (d) The principal and the teachers is attending the seminar.

Concept Tested: Subject–verb agreement with intervening phrases.

Analysis:

- Subject: **principal** (singular). *Along with the teachers* is a parenthetical add-on, not part of the subject. Correct verb: **is**.
- (a) uses *are*. Wrong.
- (b) uses *is*. Correct.
- (c) has no finite main verb. Ungrammatical.
- (d) uses *and* to join the subjects, making them plural. But then the verb is *is* (singular). Wrong.

Answer: (b).

Exam Insight: The phrases *along with*, *together with*, *as well as*, *in addition to*, *besides*, *including* are **smokescreens**. The subject before them is the only thing that decides the verb. Bracket the smokescreen and read the sentence without it.

4.4 Ending a Sentence with a Preposition

You may have been told, "Never end a sentence with a preposition." That rule comes from a Latinist named John Dryden in the 1600s. Most modern grammarians - and every serious style guide today - have rejected it as a myth.

- *This is the book I was talking about.* ✓ (perfectly acceptable)
- *This is the book about which I was talking.* ✓ (also fine, but stiffer)

On a formal exam, however, both forms usually appear as options, and the "stiffer" form may be marked as the "more formal" answer. A safe test:

- In a **sentence-correction** question with two equally grammatical options, pick the **more formal** one (preposition moved to the front).
- In a **reading-comprehension** passage or casual writing context, a preposition at the end is fine.

What is **always wrong**, however, is a **dangling** preposition with nothing to attach to.

Where are you at? - the *at* is unnecessary. Use: *Where are you?*

4.5 Conjunctions

A **conjunction** is a word that joins words, phrases, or clauses.

4.5.1 Coordinating conjunctions - FANBOYS

These seven join elements of **equal grammatical weight**:

For, And, Nor, But, Or, Yet, So.

- *I was tired but happy.* (joins adjectives)
- *She studied hard, so she passed.* (joins clauses)
- *He didn't call nor did he write.* (note the inversion after *nor*)

When two independent clauses are joined by a coordinating conjunction, place a **comma before** the conjunction (in American and Indian English):

I finished my homework, and I went to bed.

4.5.2 Correlative conjunctions - come in pairs

- *either ... or*
- *neither ... nor*
- *both ... and*
- *not only ... but also*
- *whether ... or*
- *no sooner ... than*

The rule with correlatives: **parallelism**. What follows the first part of the pair must match, grammatically, what follows the second.

- *She is not only beautiful but also intelligent.* ✓
- *She is not only beautiful but also has intelligence.* ✗ (beautiful = adjective; has intelligence = verb phrase; not parallel)

Fix: *She is not only beautiful but also intelligent.*

Another:

- *He wants either to stay home or to go out.* ✓
- *He wants either to stay home or going out.* ✗

4.6 Subordinating Conjunctions

A **subordinating conjunction** joins a **dependent clause** (one that cannot stand alone) to an **independent clause** (one that can).

Common subordinating conjunctions:

- **Time:** when, while, before, after, as soon as, until, since.
- **Cause/Reason:** because, since, as.
- **Purpose:** so that, in order that, lest.
- **Condition:** if, unless, provided that, in case.
- **Contrast:** although, though, even though, whereas, while.
- **Comparison:** as, than.

Example: ***Because** it was raining, we stayed indoors.

Although it was raining, *we went out.*

4.6.1 Common exam traps with subordinating conjunctions

Trap 1: Because vs. since

Both mean "for the reason that", but *since* also means "from a point in time." If the sentence could be read as a time-reference, use *because* to be safe.

Trap 2: Unless = "if...not"

Do not double-negate.

- *Unless you hurry, you will miss the bus.* ✓

- *Unless you don't hurry, you will miss the bus.* ✗ (redundant)

Trap 3: Lest = "for fear that"; always followed by should (not shouldn't)

- *Run fast lest you should miss the bus.* ✓
- *Run fast lest you might miss the bus.* ✗
- *Run fast lest you don't miss the bus.* ✗ - *lest* already carries a negative meaning.

Trap 4: Although and but - don't use both

Although already contrasts; adding *but* makes the sentence redundant.

- *Although he is rich, but he is not happy.* ✗
- *Although he is rich, he is not happy.* ✓
- *He is rich, but he is not happy.* ✓

Same rule for *though* / *yet* - use one, not both.

Trap 5: As... as vs so... as

- In positive sentences: *as ... as*. *She is as tall as her brother.*
- In negative sentences: traditionally *so ... as*, though modern usage accepts *as ... as* in both. *She is not so/as tall as her brother.*

Trap 6: No sooner ... than, Hardly ... when, Scarcely ... when

Already met in Chapter 3. A quick reminder: *no sooner* pairs with *than*; *hardly/scarcely* pair with *when*.

Pop Quiz 4.6

Fill in the correct conjunction.

- She works hard _____ she may succeed.
- _____ he is poor, he is honest.
- Wait here _____ I return.
- You will not pass _____ you work hard.
- Hardly had I sat down _____ the bell rang.

SOLVED ANALYSIS

Question: Choose the correct sentence.

- (a) Although he was tired, but he continued working.
- (b) Although he was tired, he continued working.
- (c) He was tired, although but he continued working.
- (d) Although tired, but he continued working.

Concept Tested: Correct use of contrast conjunctions - *although* with or without *but*.

Analysis:

- Rule: *Although* already expresses contrast. Adding *but* makes the contrast appear twice, which is wrong in formal English.
- (a) contains both *although* and *but*. Double contrast - wrong.
- (b) uses *although* alone. Clean. Correct.
- (c) muddles the order and repeats the contrast marker. Wrong.
- (d) mixes *although* with *but*, even though it drops the subject. Still wrong - you cannot pair them.

Answer: (b).

Exam Insight: Memorise this pair list of "never-together" connectors: *although* + *but*, *though* + *yet*, *because* + *so*, *as* + *so* (as in "*As he was ill, so he stayed home*" - wrong). If you see any of these pairs in one sentence, that sentence is almost certainly the wrong option.

4.7 Mixed Drill - Identify Parts of Speech in Sentences

- The [bright] sun [rose] [slowly] [over] the [hills].
- [She] gave [him] [her] notebook [before] the exam.
- [Although] it rained heavily, we [reached] the station [on] [time].
- The children [played] [happily] [in] the [garden].
- [Everyone] must submit [their] forms [before] Friday.

(Bracket indicates the word to label.)

4.8 Mixed Drill - Identify Pronoun Errors

Mark C (correct) or I (incorrect) and correct the incorrect ones.

- He invited Rohan and I to the wedding.
- Between you and me, this is a secret.
- Everyone should do their best.
- The prize was given to whom submitted the best essay.
- She is taller than me.
- Please send the package to myself.
- Each of the boys has finished his homework.
- Whose knocking at the door?

4.9 Mixed Drill - Identify Certain Kinds of Errors

Each sentence has an error from somewhere in Chapters 2–4. Find it, name it, and fix it.

- The list of passengers who were stranded were published by the airline.
- Neither of the candidates were selected for the post.
- I have met him yesterday at the seminar.
- Although he is intelligent, but he is lazy.
- He is one of the students who has topped the exam.
- Hardly had I entered the hall than the principal arrived.
- Each boy and every girl are required to bring their own pen.
- The committee have decided to postpone its meeting.

4.10 Answers to Pop Quizzes

Pop Quiz 4.1

- on Monday at 6 p.m.
- in Pune, in a small flat, on the third floor.
- from
- on
- of

Pop Quiz 4.6

- so that
- Although / Though
- until / till
- unless
- when

4.11 Answers to Drill Sets

Mixed Drill 4.7

- *bright* - ADJ, *rose* - V, *slowly* - ADV, *over* - P, *hills* - N.
- *She* - PN, *him* - PN, *her* - ADJ (possessive used as a determiner), *before* - P.
- *Although* - C, *reached* - V, *on* - P, *time* - N.
- *played* - V, *happily* - ADV, *in* - P, *garden* - N.
- *Everyone* - PN, *their* - ADJ/possessive pronoun (modern usage allows *their* with *everyone*; classical exam grammar prefers *his or her*), *before* - P.

Mixed Drill 4.8

- I - drop "Rohan and" → *He invited I* sounds wrong. Correct: *He invited Rohan and me*.
- C - *between you and me* is correct.
- C (modern); classical exam grammar: *Everyone should do his or her best*.
- I - *whom* should be *whoever*. The clause needs a subject → *The prize was given to whoever submitted the best essay*.
- I/C - formal: *taller than I (am)*; spoken English accepts *me*. Exam safe answer: *than I*.
- I - *myself* is wrong. Should be *me*. *Please send the package to me*.
- C - each boy's *his* homework is singular correctly.
- I - *Whose* is possessive. Correct: *Who's knocking at the door?* (= Who is).

Mixed Drill 4.9

- **Subject-verb agreement.** Main subject = *list* (singular). Correct: *The list of passengers who were stranded was published by the airline*.

- **Indefinite pronoun agreement.** *Neither* is singular. Correct: *Neither of the candidates was selected.*
- **Tense mismatch.** *Yesterday* demands simple past, not present perfect. Correct: *I met him yesterday at the seminar.*
- **Double conjunction.** *Although* + *but* = wrong. Correct: *Although he is intelligent, he is lazy.*
- **One of + relative clause.** Verb agrees with the plural antecedent *students*. Correct: *He is one of the students who have topped the exam.*
- **Wrong correlative.** *Hardly* pairs with *when*, not *than*. Correct: *Hardly had I entered the hall when the principal arrived.*
- **Agreement and singular antecedent.** *Each* / *every* take singular verbs and pronouns. Correct: *Each boy and every girl is required to bring his or her own pen.*
- **Collective noun.** *Committee* as one unit = singular verb. Correct: *The committee has decided to postpone its meeting.*

Chapter 5: Subjects & Predicates, Fragments and Run-Ons, and Punctuation

5.1 Subjects & Predicates

Every English sentence, no matter how short or long, is built from two halves: the part that **names something** (the subject) and the part that **says something about it** (the predicate).

Ravi / laughed.

The old man with the blue umbrella / walked slowly down the street.

The slash marks the border. Everything before it is the **subject**. Everything from it onward - the verb plus all the words attached to the verb - is the **predicate**.

5.1.1 Finding the Subject (the simple pass)

To find the subject, find the verb first, then ask *who* or *what* is doing that verb.

- *The dog barked.* Verb = *barked*. Who barked? *The dog*. Subject = *the dog*.
- *The children were playing in the park.* Verb = *were playing*. Who were playing? *The children*.

5.1.2 Simple vs. Complete Subject

- The **simple subject** is the single noun or pronoun at the heart of the subject. (*dog, children, Anjali*)
- The **complete subject** is the simple subject plus everything that describes it. (*the brown dog with the red collar*)

The simple subject is the one that decides the verb. That is the whole reason this topic matters on exams.

5.1.3 Simple vs. Complete Predicate

- The **simple predicate** is the main verb (or verb phrase) alone.
- The **complete predicate** is the verb plus every word that belongs with it - objects, complements, adverbs, prepositional phrases.

The students / have been preparing for the final exam since March.

- Simple subject: *students*
- Simple predicate: *have been preparing*
- Complete predicate: *have been preparing for the final exam since March*

Pop Quiz 5.1 (E)

Underline the simple subject once and the simple predicate twice.

- The old man in the corner is sleeping.
- My brother's friends have left already.
- The committee of senior doctors recommends early intervention.

5.1.4 Going Deeper - Where Subjects Hide

Real exam sentences almost never hand you a clean "noun + verb" on a plate. They hide the subject, disguise it, and reward the student who can still find it. Here are the six places subjects like to hide.

(a) *The Implied Subject in Commands*

In an imperative sentence, the subject is *you*, understood but not written.

(You) Close the door.

(You) Please hand in your forms by Friday.

Exam significance: when you are asked to identify the subject of a command, the answer is *you*, not the first visible noun.

(b) *Expletive Constructions: there is / there are / it is*

Words like *there* and *it* in these constructions are **placeholders**, not subjects. The real subject sits after the verb.

There are three students waiting outside. - subject is *students* (plural, so *are*).

There is a student waiting outside. - subject is *student* (singular, so *is*).

There have been several complaints. - subject is *complaints*.

A classic exam sentence:

There is a cup, two plates, and a spoon on the table. ✗

There are a cup, two plates, and a spoon on the table. ✓ - subject is compound (cup, plates, spoon).

In *it is / it was* used for emphasis, *it* is also just a placeholder:

It is the students who are complaining. - the real subject of *are* is *students*, which is why the relative-clause verb is plural.

(c) *Inverted Sentences (verb before subject)*

When a sentence begins with a location or negative adverb, the verb often comes before the subject. The subject is still the noun, not the opening adverb.

Down the hill rolled the stone. - subject = *stone*.

Among the guests was a famous singer. - subject = *singer*, so verb is singular *was*.

Hardly had the match begun when it rained. - subject = *the match*.

Not only does she sing, but she also dances. - subject = *she*.

(d) Delayed (Postponed) Subjects

It is difficult to solve this problem.

Here *it* is a dummy subject. The real subject is the infinitive phrase *to solve this problem*. Grammarians call this a **postponed subject**. The verb agrees with *it* (singular), not with what follows.

It is the ideas of the students that matter. - here *it is* introduces emphasis, but the relative-clause verb agrees with *ideas*.

(e) Compound Subjects & Compound Predicates

A compound subject has two or more simple subjects joined by *and*, *or*, *nor*:

Rohan and his sister are studying. (plural)

Neither Rohan nor his sister is studying. (singular - *or/nor* takes nearer subject's number)

A compound predicate has two or more verbs that share the same subject:

She opened the book, read the first page, and closed it.

Exam value: in sentence correction, watch for parallelism in compound predicates - all verbs should be in the same tense and form.

(f) Gerund & Clause Subjects

The subject need not be a noun at all. It can be a gerund phrase or an entire clause.

Studying every day pays off. - subject = *Studying every day*.

What he said was shocking. - subject = *What he said*.

Whether she will come depends on the weather. - subject = the whole *whether*-clause.

These are always treated as **singular** for agreement, no matter how plural the ideas inside feel.

Pop Quiz 5.1.4 (M–H)

Identify the real subject.

- On the wall hung two portraits of the founders.
- It is his relentless questions that annoy the teacher.
- Deep in the woods stood an old, abandoned temple.
- What the senior engineers recommend matters to the board.

- Neither the captain nor the sailors were found alive.

SOLVED ANALYSIS

Question: Pick the correct verb.

In the centre of the room, under the flickering bulb, _____ a table covered with old photographs and a single candle.

(a) stands (b) stand (c) were standing (d) are standing

Concept Tested: Inverted sentence - finding the real subject behind a long opening phrase.

Analysis:

- The sentence is inverted. Two location phrases sit in front of the verb: *In the centre of the room* and *under the flickering bulb*.
- Strip them away: _____ *a table covered with old photographs and a single candle*.
- Real subject = *a table* (singular). Not *photographs*, not *candle*, not both together - those are inside a modifier attached to *table*.
- A singular subject needs a singular verb → *stands* or *was standing*. Eliminate (b), (c), (d).

Answer: (a) stands.

Exam Insight: Whenever a sentence opens with one or more prepositional phrases and no visible subject, **mentally flip** it back to normal order: *A table ... stands in the centre of the room*. The verb will become obvious.

5.2 Subjects & Predicates Wrap-Up

- Every sentence splits into **subject** (what it's about) and **predicate** (what's said about it).
- The **simple subject** is the single noun/pronoun that controls the verb.
- Subjects hide in six places: imperatives (*you* implied), *there is* / *it is* constructions, inverted sentences, postponed subjects, compound subjects, and gerund/clause subjects.
- Always strip the sentence to simple subject + simple verb before you check agreement.

5.3 Sentence Fragments & Run-On Sentences

A **complete sentence** must have three things:

- A subject.
- A finite verb.
- A complete thought that can stand on its own.

Miss any of the three and you have a **fragment**. String two complete thoughts together without the right connector and you have a **run-on**.

5.3.1 Sentence Fragments - the simple pass

A **fragment** is an incomplete sentence pretending to be complete.

- *Running down the street.* ✗ (no subject, no finite verb - just a gerund phrase)
- *The boy was running down the street.* ✓
- *Because she was late.* ✗ (this is a dependent clause; it needs a main clause to attach to)
- *She missed the bus because she was late.* ✓
- *A decision of great importance.* ✗ (no verb at all)
- *It was a decision of great importance.* ✓

Quick test: read the group of words aloud. If someone else stopped you halfway and said "*and then what?*", it's a fragment.

5.3.2 Run-On Sentences - the simple pass

A **run-on** is two or more complete sentences joined incorrectly.

Two flavours:

- **Fused sentence:** two complete thoughts with nothing between them.

The sun set the sky turned red. ✗

- **Comma splice:** two complete thoughts joined by only a comma.

The sun set, the sky turned red. ✗

Five correct fixes:

- Period: *The sun set. The sky turned red.*
- Semicolon: *The sun set; the sky turned red.*

- Comma + coordinating conjunction (FANBOYS): *The sun set, and the sky turned red.*
- Subordinator: *When the sun set, the sky turned red.*
- Dash (for emphasis): *The sun set - and the sky turned red.*

Pop Quiz 5.3 (E)

Mark each as **F (fragment)**, **R (run-on)**, or **C (correct)**.

- Although the match was delayed.
- She arrived late, the meeting had ended.
- Because of the storm, all flights were cancelled.
- Running across the field in the rain.
- He studied hard he passed with distinction.

5.3.3 Going Deeper - Fragments You Might Not Catch

Not every fragment is obvious. Here are the subtle ones exams love.

(a) *-ing Fragments Masquerading as Sentences*

A verb in *-ing* form alone is never a finite verb. You need a helping verb.

- *The students studying for the exam.* ✗ (no finite verb)
- *The students are studying for the exam.* ✓
- *The students studying for the exam passed.* ✓ (now *passed* is the finite verb; *studying for the exam* is just a modifier)

(b) *Appositive Fragments*

An appositive renames a noun but cannot stand alone.

- *Dr. Rao, a leading cardiologist at the city hospital.* ✗
- *Dr. Rao, a leading cardiologist at the city hospital, spoke at the seminar.* ✓

(c) *Added-Detail Fragments (beginning with especially, particularly, for example, such as, including, like)*

- *We enjoyed the conference. Especially the keynote speech.* ✗
- *We enjoyed the conference, especially the keynote speech.* ✓
- *We enjoyed the conference. The keynote speech was especially good.* ✓

(d) Relative-Clause Fragments

- *The candidate who was nominated last week.* ✗
- *The candidate who was nominated last week withdrew today.* ✓

(e) Stylistic Fragments - When Fragments Are Allowed

Published writers use fragments for emphasis and rhythm:

She had lost everything. Her home. Her job. Her family.

In fiction, journalism, and persuasive writing, this is a legitimate stylistic choice. But on **grammar-correction sections of exams**, every fragment is to be treated as wrong unless the question specifically asks about style. If the options include a fragment, it is almost always the wrong option.

5.3.4 Going Deeper - Run-Ons with Conjunctive Adverbs

Words like *however, therefore, moreover, consequently, furthermore, nevertheless, thus, hence, otherwise, instead, meanwhile* are **not** coordinating conjunctions. They are adverbs. They cannot join two independent clauses with just a comma.

- *He was tired, however, he kept walking.* ✗ (comma splice)
- *He was tired; however, he kept walking.* ✓
- *He was tired. However, he kept walking.* ✓
- *He was tired, but he kept walking.* ✓ (*but* is a true coordinating conjunction)

Memorise the punctuation pattern: *Independent clause ; conjunctive adverb , independent clause.*

This single rule is the most frequently tested run-on pattern on GMAT and CAT.

(b) The Tricky So and For

So and *for* are FANBOYS coordinating conjunctions - commas, not semicolons.

He was tired, so he sat down. ✓

But *so that* is a subordinator, not a coordinator:

He sat down so that he could rest. ✓ (no comma needed before *so that*)

Pop Quiz 5.3.4 (M)

Fix each sentence.

- The plan looks good, however, we need board approval.
- She was exhausted she refused to stop.

- The report was late. Although the research was solid.
- We missed the train, therefore, we had to take a taxi.
- Running around the corner, the cat was caught by the child.

SOLVED ANALYSIS

Question: Which is correct?

- (a) The auditor questioned every entry, she was known for her thoroughness.
- (b) The auditor questioned every entry; she was known for her thoroughness.
- (c) The auditor questioned every entry, however, she missed a key one.
- (d) The auditor questioned every entry, therefore, finding the fraud.

Concept Tested: Comma splice vs. semicolon; use of conjunctive adverbs.

Analysis:

- (a) joins two independent clauses with a comma alone - that's a comma splice. Wrong.
- (b) joins two independent clauses with a semicolon - perfect. Correct.
- (c) "however" is a conjunctive adverb and needs a semicolon before it (or a full stop), not a comma. Wrong.
- (d) mixes wrong punctuation (*therefore* before a participle) and creates a fragment after it. Wrong.

Answer: (b).

Exam Insight: The presence of *however*, *therefore*, *moreover*, *thus*, *consequently* inside a sentence is a red flag. Immediately ask: what's before and after this word? If both sides are complete sentences, you need a semicolon before the word and a comma after - every single time.

5.4 Fragments & Run-Ons Wrap-Up

- A **fragment** lacks a subject, a finite verb, or a complete thought.

- Watch for *-ing* fragments, appositive fragments, relative-clause fragments, and added-detail fragments.
- A **run-on** joins two complete thoughts incorrectly. Fix with period, semicolon, comma + FANBOYS, subordinator, or dash.
- *However, therefore, moreover, consequently* take a **semicolon before, comma after** when they join two complete thoughts.
- On grammar-based exam questions, treat every fragment as wrong unless the question explicitly tests style.

5.5 Punctuation

Punctuation marks are the traffic signs of a sentence. A missed signal and the whole meaning crashes. On competitive exams, punctuation is tested directly and also baked into sentence-correction questions.

5.5.1 The Comma - the simple pass

Use a comma to:

- **Separate items in a list.** *I bought apples, oranges, and bananas.*
- **Join two independent clauses with a FANBOYS conjunction.** *She studied hard, and she passed.*
- **Set off introductory words and phrases.** *After the rain, we went for a walk.*
- **Set off non-essential information.** *My brother, who lives in Pune, is a doctor.*
- **Separate coordinate adjectives.** *It was a long, boring movie.*
- **Separate city and state, date parts, direct address.** *Mumbai, India; August 15, 1947; Ravi, please sit down.*

5.5.2 The Period, Question Mark, Exclamation Mark

- **Period (.)** ends a statement. *She is here.*
- **Question mark (?)** ends a direct question. *Is she here?*
- **Exclamation mark (!)** shows strong emotion. Use sparingly.

Subtle point: indirect questions take a period, not a question mark.

I asked if she was here. ✓ (not a question; it reports one)

I asked, "Are you here?" ✓ (direct question inside quotation marks)

5.5.3 The Semicolon - the simple pass

The semicolon joins two closely related independent clauses.

The sky darkened; a storm was coming.

Think of it as a "soft period" - stronger than a comma, weaker than a full stop.

5.5.4 The Colon - the simple pass

Use a colon to introduce a list, explanation, or quotation **after a complete sentence**.

- *She packed three things: a torch, a map, and a whistle.*
- *His reason was simple: he was bored.*

Golden rule: the words **before** the colon must form a complete sentence.

- *She packed: a torch, a map, and a whistle.* ✗ (the words before the colon don't make a complete sentence)
- *She packed three things: a torch, a map, and a whistle.* ✓

5.5.5 The Apostrophe - the simple pass

The apostrophe shows **possession** or marks **missing letters** in contractions.

Possession:

- Singular noun: add 's → *the boy's bag, James's car.*
- Plural noun ending in -s: add just ' → *the boys' bags, the teachers' lounge.*
- Plural noun not ending in -s: add 's → *children's books, men's room.*

Contractions:

- *it's* = it is / it has
- *don't* = do not
- *they're* = they are
- *who's* = who is

5.5.6 Quotation Marks - the simple pass

Use quotation marks for direct speech and titles of short works.

- *"I'm coming," she said.*

- *I read "The Lottery" last night.* (short story title)

Period and comma go **inside** the closing quotation mark in American/Indian English:

- *"Please stop," she whispered.* ✓
- *"Please stop", she whispered.* ✗ (British style allows this; American/Indian exams usually don't)

Pop Quiz 5.5 (E)

Insert the correct punctuation.

- I went to the market and bought apples oranges and grapes.
- He asked me where I lived
- Its been a long day
- She said Im tired
- My uncle who lives in Delhi is visiting us

5.5.7 Going Deeper - Advanced Comma Rules

(a) *The Oxford (Serial) Comma*

The comma before the final *and* in a list. It is **optional in most styles** but **recommended when its absence creates ambiguity**.

- *I dedicate this book to my parents, Amitabh Bachchan and Mother Teresa.*

Without the Oxford comma, this suggests your parents are Amitabh Bachchan and Mother Teresa. With it:

- *I dedicate this book to my parents, Amitabh Bachchan, and Mother Teresa.*

On GMAT and most Indian exams, the Oxford comma is **accepted either way**. On a sentence-correction item, if ambiguity exists, the version **with** the Oxford comma is safer.

(b) *Coordinate vs. Cumulative Adjectives*

- Coordinate adjectives describe the noun independently and need commas between them.

She is a kind, intelligent woman. ✓ (*kind* and *intelligent* could swap; you could also say *kind and intelligent*)

- Cumulative adjectives build on each other and take no comma.

He wore a bright red silk shirt. ✓ (bright red silk shirt, not bright, red, silk shirt)

Test: if you can insert *and* between the adjectives or swap their order without weirdness, use a comma. Otherwise, no comma.

(c) Restrictive vs. Non-Restrictive Clauses

This is the comma rule that appears on almost every major exam.

- **Restrictive (essential) clauses** define the noun and take **no commas**. Use *that*.

The book that I borrowed from the library is overdue.

(Without the clause, we don't know *which* book.)

- **Non-restrictive (non-essential) clauses** add extra information and take **commas**. Use *which*.

My car, which I bought last year, is already giving trouble.

(The clause is just extra info; the sentence works without it.)

Fast rule: *that* = no commas. *which* = commas.

(d) Commas with Too and Either

- When *too* means "also," the comma before it is optional in modern usage: *I like coffee, too.* or *I like coffee too.*
- When *too* means "excessively," no comma: *That is too hot.*

5.5.8 Going Deeper - The Semicolon's Second Job

Beyond joining sentences, the semicolon **separates items in a complex list** where the items themselves contain commas.

- *The delegates came from Mumbai, India; Lahore, Pakistan; Colombo, Sri Lanka; and Kathmandu, Nepal.*

Without the semicolons, the list of city-country pairs becomes an unreadable jumble of commas.

5.5.9 Going Deeper - The Colon's Rare Uses

Besides introducing lists, the colon can:

- Introduce a formal quotation. *He began with these words: "Friends, Romans, countrymen..."*
- Introduce a restatement or amplification. *There is only one rule: never surrender.*
- Separate a title from a subtitle. *India: A Portrait.*
- Separate hours from minutes. *6:30 p.m.*

A rule often broken: never use a colon after a linking verb or a preposition.

- *My favourite fruits are: mangoes and apples.* ✗ (the verb *are* cannot be followed by a colon)
- *My favourite fruits are mangoes and apples.* ✓
- *I am fond of: chess and reading.* ✗
- *I am fond of chess and reading.* ✓

5.5.10 Going Deeper - Dashes and Hyphens

Many students confuse these. They are three different marks.

- **Hyphen (-)**: joins compound words. *well-known author, twenty-one, mother-in-law.*
- **En dash (–)**: shows a range. *pages 10–20, 1947–1950.*
- **Em dash (—)**: sets off a parenthetical or dramatic break. *He was — how shall I put it — unprepared.*

On exams, the em dash is tested mostly in context: it can replace a comma, colon, or parentheses for emphasis.

- *She made one request — silence.*
- *The three finalists — Ravi, Meera, and Arjun — will be interviewed tomorrow.*

5.5.11 Going Deeper - Apostrophe Edge Cases

(a) Possessive of a name ending in s

Two accepted styles: *Dickens's novel* (add 's) or *Dickens' novel* (add just '). On Indian and American exams, **add *'s unless the name is ancient** (Moses', Jesus'). On British exams, either is fine.

(b) Joint vs. Separate Possession

- Joint possession: apostrophe on the last name only. *Ravi and Priya's car* (they share one car).
- Separate possession: apostrophe on both names. *Ravi's and Priya's cars* (they each own a car).

(c) Possessive with gerunds

- *I appreciate John's finishing the work.* (formal)
- *I appreciate John finishing the work.* (informal)

Formal exam answer is the possessive form.

(d) No apostrophe in regular plurals

- *The 1990s* ✓ *The 1990's* ✗ (old style; now avoided)
- *CDs, DVDs, MCQs* ✓ (no apostrophe for plurals of acronyms)

5.5.12 Going Deeper - Quotation Marks in Indirect Speech

Quotation marks are used **only** for direct speech.

- *She said, "I am tired."* ✓
- *She said that "she was tired".* ✗ (indirect; no quotation marks)
- *She said that she was tired.* ✓

Single quotation marks enclose a quote within a quote:

The teacher said, "The word 'serendipity' comes from Persian."

5.5.13 Going Deeper - The Ellipsis (...)

Three dots indicate omitted material within a quotation.

Original: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights."

Quoted: "We hold these truths to be self-evident ... that they are endowed by their Creator with certain unalienable rights."

Use ellipsis sparingly; never use it to change the meaning of the original.

Pop Quiz 5.5.7 (M–H)

- Which is correctly punctuated?
- (a) The novel which won the Booker Prize is now a bestseller.
- (b) The novel, which won the Booker Prize, is now a bestseller.
- (c) The novel, that won the Booker Prize, is now a bestseller.
- (d) The novel that won the Booker Prize, is now a bestseller.
- Fix: *The conference featured speakers from New York USA London UK and Tokyo Japan.*
 - Fix: *My favourite authors are: Tagore, Premchand, and R. K. Narayan.*
 - Fix: *It was a long boring dull lecture.*
 - *I enjoy coffee (in the morning) tea (in the afternoon) and milk (at night).* - rewrite using correct punctuation.

SOLVED ANALYSIS

Question: Which sentence is punctuated correctly?

- (a) The panel included three experts; Dr. Roy, a cardiologist, Dr. Iyer, a paediatrician, and Dr. Khan, a surgeon.
- (b) The panel included three experts: Dr. Roy, a cardiologist; Dr. Iyer, a paediatrician; and Dr. Khan, a surgeon.
- (c) The panel included three experts, Dr. Roy a cardiologist, Dr. Iyer a paediatrician, and Dr. Khan a surgeon.
- (d) The panel included three experts, Dr. Roy, a cardiologist, Dr. Iyer, a paediatrician and Dr. Khan, a surgeon.

Concept Tested: Colon to introduce a list; semicolons to separate complex list items that already contain commas.

Analysis:

- We have a complete clause ("The panel included three experts") followed by a list - that's exactly where a colon belongs. Eliminate (c) and (d), which use commas to introduce the list.
- The list items are "Dr. Roy, a cardiologist" etc. - each contains an internal comma. Mixing these with more commas creates confusion. The professional fix is **semicolons between items**.
- (a) puts a semicolon after "experts" (wrong - needs a colon), then commas between items (wrong - needs semicolons). Fails twice.
- (b) uses a colon to introduce the list and semicolons to separate the items. Clean and correct.

Answer: (b).

Exam Insight: The moment you see a list where each item has its own internal comma, your punctuation should automatically upgrade: **colon to introduce, semicolons to separate**. This is one of the most professional-looking fixes on any exam.

5.6 Punctuation Wrap-Up

- **Comma** separates, sets off, and joins - but with a FANBOYS conjunction, not alone.

- **Semicolon** joins closely related complete sentences and separates list items that already contain commas.
- **Colon** introduces lists, explanations, and quotations - only after a complete sentence.
- **Apostrophe** shows possession or contraction; never used for plural nouns.
- **Quotation marks** mark direct speech; period/comma go inside in American/Indian style.
- **Dashes** (em, en, hyphen) have distinct jobs - know them.
- *That* clauses = no commas. *Which* clauses = commas.
- Cumulative adjectives take no comma; coordinate adjectives do.

Drill Set 5A - Subjects & Predicates

(E) Easy - Identify the simple subject.

- The old wooden door creaked open slowly.
- Beneath the mango tree, a cat slept.
- There were three reasons for his absence.

(M) Medium

- It is the students, not the teacher, who are responsible.

(a) it (b) students (c) teacher (d) who

- Finding a parking spot in the city centre is nearly impossible.

(a) Finding (b) spot (c) centre (d) Finding a parking spot in the city centre

(H) Hard

- Select the correct verb:

Among the applications received from the finalists _____ one from a self-taught programmer who built an entire compiler in a month.

(a) is (b) are (c) was (d) were

- *Not only the lead actor but also the supporting cast _____ praised by every critic.*

(a) was (b) were (c) has been (d) have been

Drill Set 5B - Fragments & Run-Ons

(E) Easy - Mark F, R, or C.

- When the bell rang.
- She left the party, he stayed behind.
- The rain stopped suddenly, and a rainbow appeared.

(M) Medium - Choose the best correction.

- *The scientist presented her findings, however, the panel was not convinced.*

(a) findings, however the panel (b) findings; however, the panel (c) findings. however, the panel
(d) findings however; the panel

- *We cancelled the picnic. Because of the storm.*

(a) picnic, because of the storm. (b) picnic; because of the storm. (c) picnic. Because of the storm.
(d) picnic because of the storm.

(H) Hard - Find and fix.

- *The manuscript was old its pages crumbled at the slightest touch the ink had faded to a pale brown.*
- *Having reviewed all the submissions carefully, especially the ones from first-time authors.*
- *The verdict was unanimous, therefore, the defendant was released the courtroom erupted in applause.*

Drill Set 5C - Punctuation

(E) Easy - Insert the missing punctuation.

- She bought bread butter and jam.
- My sister is a doctor she works in Bangalore.
- Its time to leave isnt it

(M) Medium - Choose the correctly punctuated sentence.

- (a) The book, which I bought yesterday is fascinating.

(b) The book which I bought yesterday, is fascinating.

(c) The book that I bought yesterday is fascinating.

(d) The book, that I bought yesterday, is fascinating.

- (a) He had three goals; to win, to learn, and to inspire.

(b) He had three goals: to win, to learn, and to inspire.

(c) He had three goals, to win, to learn, and to inspire.

(d) He had three goals - to win. To learn. To inspire.

(H) Hard

- Rewrite with correct punctuation:

The finalists are Arun a lawyer from Chennai Priya an engineer from Pune and Sameer a journalist from Delhi.

- Find and fix all errors:

"I cant believe shes late" muttered Ravi "shes been planning this trip for months".

- Identify the error (if any):

The professor, whose work has been cited over a thousand times; is retiring this year.

5.7 Answers to Pop Quizzes

Pop Quiz 5.1

- Simple subject: *man*; simple predicate: *is sleeping*.
- Simple subject: *friends*; simple predicate: *have left*.
- Simple subject: *committee*; simple predicate: *recommends*.

Pop Quiz 5.1.4

- *portraits* (inverted) 2. *questions* (real subject despite "It is") 3. *temple* 4. *what the senior engineers recommend* (clause subject - singular) 5. *sailors* (verb agrees with nearer subject in *neither/nor*)

Pop Quiz 5.3

- F 2. R 3. C 4. F 5. R

Pop Quiz 5.3.4

- *The plan looks good; however, we need board approval.*
- *She was exhausted, but she refused to stop.* (or semicolon)
- *The report was late, although the research was solid.*
- *We missed the train; therefore, we had to take a taxi.*
- *Running around the corner, the child caught the cat.* (fix dangling modifier)

Pop Quiz 5.5

- *I went to the market and bought apples, oranges, and grapes.*
- *He asked me where I lived.*
- *It's been a long day.*
- *She said, "I'm tired."*
- *My uncle, who lives in Delhi, is visiting us.*

Pop Quiz 5.5.7

- (b). *Which* takes commas; *that* takes none and (c), (d) break that rule.
- *The conference featured speakers from New York, USA; London, UK; and Tokyo, Japan.*
- *My favourite authors are Tagore, Premchand, and R. K. Narayan.* (Never put a colon after a linking verb.)
- *It was a long, boring, dull lecture.* (coordinate adjectives)
- *I enjoy coffee in the morning, tea in the afternoon, and milk at night.*

5.8 Answers to Drill Sets

Drill 5A: 1. *door* 2. *cat* 3. *reasons* 4. (b) - *who* refers to *students*, so *are* is right; simple subject in the relative clause is *students*. 5. (d) - the entire gerund phrase is the subject, but the simple subject for agreement is *Finding* (singular). 6. (a) - subject = *one* (singular). 7. (a) - in *not only...but also*, the verb agrees with the nearer subject, *supporting cast* (singular collective, treated as one unit).

Drill 5B:

- F - dependent clause alone.
- R - comma splice.
- C.
- (b).
- (d) - the "because" clause is not independent, so rejoin without a period/comma.
- *The manuscript was old; its pages crumbled at the slightest touch, and the ink had faded to a pale brown.* (semicolon + comma + *and*)
- Fragment - add a subject/verb: *Having reviewed all the submissions carefully, especially the ones from first-time authors, the committee was ready to announce the winner.*
- *The verdict was unanimous; therefore, the defendant was released, and the courtroom erupted in applause.*

Drill 5C:

- *She bought bread, butter, and jam.*
- *My sister is a doctor; she works in Bangalore.* (or period)
- *It's time to leave, isn't it?*
- (c) - essential clause, no commas, *that*.
- (b) - colon to introduce a list after a complete clause.
- *The finalists are Arun, a lawyer from Chennai; Priya, an engineer from Pune; and Sameer, a journalist from Delhi.*
- *"I can't believe she's late," muttered Ravi. "She's been planning this trip for months."*
(apostrophes restored; comma inside the quote; period to separate the two quoted sentences; period inside the final quotation mark)
- *The professor, whose work has been cited over a thousand times, is retiring this year.*
(replace the semicolon with a comma - no independent clauses flank that punctuation)

Chapter 6: Modifiers, Parallelism, and Comparisons

If Chapter 5 taught you how sentences are built, Chapter 6 teaches you how sentences **fail gracefully or fail loudly**. Misplaced modifiers, broken parallelism, and illogical comparisons are the three most common sentence-correction errors on CAT, GMAT, and GRE. Learn them well and the sentence-correction section becomes a mark-gaining zone rather than a mark-losing one.

6.1 Modifiers

A **modifier** is a word, phrase, or clause that describes (or "modifies") another word in the sentence.

The red car is mine. (*red* modifies *car*)

She spoke softly. (*softly* modifies *spoke*)

The book on the table is mine. (*on the table* modifies *book*)

The student who topped the exam received a medal. (clause modifies *student*)

6.1.1 The Golden Rule of Modifier Placement

A modifier should sit **as close as possible to the word it modifies**. The farther it drifts, the easier it is for readers (and exam graders) to attach it to the wrong word.

6.1.2 Misplaced Modifiers - the simple pass

A **misplaced modifier** is placed next to the wrong word, creating an unintended meaning.

- *She almost drove her friends to school every day.* ✗ (did she nearly drive, but stop?)
- *She drove her friends to school almost every day.* ✓
- *The man bought a dog for his daughter called Rex.* ✗ (is the daughter called Rex?)
- *The man bought a dog called Rex for his daughter.* ✓

Test: ask yourself what the modifier is describing, then slide it as close to that word as possible.

6.1.3 Dangling Modifiers - the simple pass

A **dangling modifier** is one whose target word is **missing from the sentence**. The reader can't figure out what it modifies.

- *Walking to school, the rain started to fall.* ✗ (the rain wasn't walking)
- *Walking to school, I felt the rain start to fall.* ✓

Rule: whenever a sentence opens with a participial phrase (*-ing* or *-ed*) followed by a comma, the subject that immediately follows the comma must be the doer of the phrase.

Pop Quiz 6.1 (E)

Fix each sentence.

- Running down the street, my hat flew off.
- She served pasta to the guests on paper plates.
- I saw a dog driving home from work.
- Covered in mud, the mother scolded the child.
- The teacher explained the lesson carefully to the students that was complicated.

6.1.4 Going Deeper - Four Modifier Errors Beginners Miss

(a) *Squinting Modifiers*

A squinting modifier sits between two possible targets and could modify either. It looks in two directions at once - hence "squinting."

Students who study hard often succeed.

Does *often* describe *study* or *succeed*? It's ambiguous. Fix by moving it:

- *Students who often study hard succeed.* (often modifies *study*)
- *Students who study hard succeed often.* (often modifies *succeed*)

Squinting modifiers are favourite GMAT/CAT trap material because the sentence looks grammatical on first reading.

(b) *Limiting Modifiers - only, just, merely, almost, nearly, even, hardly, scarcely, simply*

These words change meaning dramatically with position. Place them **immediately before** the word they limit.

- *Only* Rohan ate the cake. (Rohan alone - no one else did)
- Rohan *only* ate the cake. (he didn't do anything else to it)
- Rohan ate *only* the cake. (nothing else)
- Rohan ate the *only* cake. (there was just one cake)

On exams, misplaced *only* is the most tested limiting-modifier error. Every time you see *only* in a sentence-correction question, mentally slide it to each possible position and ask which meaning is intended.

(c) *Restrictive vs. Non-Restrictive Modifiers - the that / which Rule Revisited*

You met this in Chapter 5 under commas. Now see it as a modifier rule.

- A **restrictive (essential) modifier** narrows down which noun we mean. Use *that*, no commas.

The employees that work from home get a stipend. (only those, not all)

- A **non-restrictive (non-essential) modifier** adds extra info but doesn't define the noun. Use *which*, with commas.

The employees, which work from home, get a stipend. - grammatically fine, but now the sentence means **all** employees work from home and all get the stipend.

Changing *that* to *which* (or dropping/adding commas) can flip the meaning of an entire exam sentence. Treat this rule as non-negotiable.

(d) Absolute Phrases

An **absolute phrase** modifies the whole sentence rather than any single word. It usually consists of a noun + a participle.

The work finished, she left the office.

His hands trembling, he signed the contract.

Absolute phrases take a comma but do **not** need a grammatical subject to connect to. They are fine on their own - but weak writers often mistake them for dangling modifiers. On exams, an absolute phrase is typically correct as long as it is logically connected to the rest of the sentence.

6.1.5 Going Deeper - Modifier Sequencing in Complex Sentences

When multiple modifiers pile up, order them by specificity - most specific modifier closest to the noun.

Awkward: *The red silk Italian luxury shirt.*

Better: *The luxury Italian red silk shirt.*

You already met the long adjective order in Chapter 2. Remember it: **opinion** → **size** → **age** → **shape** → **colour** → **origin** → **material** → **purpose** → **noun**.

Pop Quiz 6.1.4 (M–H)

Identify the error and fix.

- We nearly waited for two hours.
- The detective questioned the witness calmly who had seen the crime.
- Swimming in the cold lake, the sun was blinding.
- Residents who exercise often live longer.
- My grandmother cooked the biryani covered in spices.

SOLVED ANALYSIS

Question: Which sentence is correctly constructed?

- (a) Only the committee approved three of the ten proposals.
- (b) The committee only approved three of the ten proposals.
- (c) The committee approved only three of the ten proposals.
- (d) The committee approved three of the only ten proposals.

Concept Tested: Placement of the limiting modifier *only*.

Analysis:

Each option says something different. Read them literally.

- (a): The committee, and nobody else, approved three proposals. (Meaning = no one else approved them)
- (b): The committee did only this - approved; it didn't discuss, amend, or debate. (Strange meaning)
- (c): Of the ten proposals, only three were approved. (The most natural, exam-intended meaning)
- (d): Implies there are "only ten" proposals total - awkward and likely unintended.

The question asks which is correctly constructed. Option (c) matches the standard meaning that "out of ten, just three were approved" - and *only* is correctly placed right before *three*, the word it limits.

Answer: (c).

Exam Insight: *Only* is a tiny word that can rewrite a whole sentence. In any exam with *only* in the options, read each version aloud as if it were the final truth. The one whose meaning matches the rest of the passage is the intended answer.

6.2 Modifiers Wrap-Up

- Keep modifiers next to what they modify.

- An opening participial phrase must logically match the subject right after the comma.
- *Only* and its limiting-modifier siblings change meaning with position - slide them carefully.
- *That* clauses define (no commas); *which* clauses add info (commas).
- Squinting modifiers look both ways - reposition them to one side.
- Absolute phrases modify whole sentences and don't need a grammatical anchor.

6.3 Parallelism and Comparisons

6.3.1 Parallelism - the simple pass

Parallelism means that ideas of equal weight should be expressed in matching grammatical form.

If you join several items in a list, with conjunctions, or across a comparison, every item must have the **same grammatical shape**.

- *She likes reading, writing, and to paint.* ✗ (two gerunds, one infinitive)
- *She likes reading, writing, and painting.* ✓ (three gerunds)
- *He is kind, funny, and has intelligence.* ✗ (two adjectives, one verb phrase)
- *He is kind, funny, and intelligent.* ✓ (three adjectives)

The trick is simple: whenever you see a list or a "X and Y" structure, check that both sides are the same kind of animal.

6.3.2 Parallelism with Correlative Conjunctions

Correlatives - *either/or*, *neither/nor*, *not only/but also*, *both/and*, *whether/or* - demand especially strict parallelism.

- *He not only sings but also dances.* ✓
- *He not only sings but also is a good dancer.* ✗ (verb on one side, linking-verb phrase on the other)
- *She wants either to study engineering or to study medicine.* ✓
- *She wants either to study engineering or medicine.* ✗ (infinitive phrase vs. noun)

Strict rule: whatever grammatical unit appears after the first part of the correlative must appear after the second part.

Pop Quiz 6.3 (E)

Fix each sentence.

- I like swimming, cycling, and to run.
- She is neither rude nor is she lazy.
- The manager wants his team to be punctual, respectful, and show enthusiasm.
- He is not only hard-working but also has talent.
- My aim is to study well, to score high, and winning a scholarship.

6.3.3 Going Deeper - Parallelism in Complex Structures

(a) *Parallelism Across Full Clauses*

When two or more clauses share a construction, the pattern should repeat.

- *The speaker argued that education is a right, that healthcare is a necessity, and that housing is a basic human need.*

Notice how each clause starts with *that*. Break that pattern and the parallelism breaks:

- *The speaker argued that education is a right, healthcare is a necessity, and that housing is a basic human need.* ✗ (second item drops *that*)

(b) *Parallelism with Prepositions*

When a preposition applies to multiple items, you either repeat it consistently or use it once for all items. Mixing is wrong.

- *She is interested in music, in art, and in literature.* ✓ (repeated consistently)
- *She is interested in music, art, and literature.* ✓ (used once)
- *She is interested in music, art, and in literature.* ✗ (mixed)

(c) *Parallelism in Idioms*

Several English idioms demand strict parallel structures. Memorise the shapes:

Idiom	Required Parallel Structure
not only X but also Y	X and Y must match

either X or Y	X and Y must match
neither X nor Y	X and Y must match
both X and Y	X and Y must match
X rather than Y	X and Y must match
prefer X to Y	X and Y must match
the more X, the more Y	X and Y must match
so X that Y	X adj/adv; Y clause
as X as Y	X and Y must match
from X to Y	X and Y must match
between X and Y	X and Y must match

(d) *Parallelism with Helping Verbs*

When a helping verb applies to multiple main verbs, decide once: either repeat it or drop it for all.

- *She has finished the report, has sent it to the editor, and has left for home.* ✓ (repeated)
- *She has finished the report, sent it to the editor, and left for home.* ✓ (dropped consistently; all share *has*)
- *She has finished the report, sent it to the editor, and has left for home.* ✗ (inconsistent)

6.3.4 Comparisons - the simple pass

A **comparison** lines up two things to show how they relate. The rule: compare **like with like**.

- *My car is faster than his car.* ✓ (car vs. car)
- *My car is faster than him.* ✗ (car vs. person)

Similarly:

- *The climate of Delhi is hotter than Mumbai.* ✗ (climate vs. city)
- *The climate of Delhi is hotter than that of Mumbai.* ✓ (climate vs. climate)

- *The climate of Delhi is hotter than Mumbai's.* ✓ (climate vs. Mumbai's climate, using possessive)

This is the **"logical comparison"** rule, and it is the single most-tested error on GMAT.

6.3.5 The "*than any*" vs "*than any other*" Trap (revisited)

Already met in Chapter 2. Quick re-up:

- If the subject is part of the compared group → *than any other*.

Kolkata is bigger than any other city in West Bengal. ✓ (Kolkata IS in West Bengal)

- If the subject is not in the group → *than any*.

Kolkata is bigger than any city in Kerala. ✓ (Kolkata is not in Kerala)

Pop Quiz 6.3.4 (M)

Correct each sentence.

- Her paintings are better than her sister.
- The population of India is larger than China.
- Mumbai is more crowded than any city in India.
- The weather in Chennai is more humid than Bangalore.
- A dog's sense of smell is far better than a human.

6.3.6 Going Deeper - Advanced Comparisons

(a) *Completing the Comparison*

A comparison is grammatically complete only when both sides are stated or clearly implied.

- *This model is more efficient.* ✗ (more efficient than what?)
- *This model is more efficient than the previous one.* ✓

Exam phrasing often leaves the comparison hanging - spot it.

(b) *As ... As Parallelism*

Both sides of an *as ... as* structure must match in grammatical form.

- *Her explanation was as clear as her teacher's.* ✓ (explanation vs. teacher's explanation - possessive match)
- *Her explanation was as clear as her teacher.* ✗ (compares explanation to a person)

- *Her work is as meticulous as that of her mentor.* ✓

(c) Double Negatives in Comparisons

No sooner had I arrived than/when the rain started.

- *than* is standard with *no sooner*.
- Using a negative again (*had hardly no sooner*) would be a double negative - wrong.

(d) Like vs. As vs. Such As

This is a frequent upper-difficulty question on GMAT.

- **Like** compares nouns. *She sings like her mother.* (noun vs. noun)
- **As** introduces a clause (has its own verb). *She sings as her mother does.* (full clause)
- **Such as** introduces examples. *Fruits such as apples and oranges.*

Using *like* where *as* is needed is the single most common error:

- *She plays tennis like her sister does.* ✗ (there's a verb, so use *as*)
- *She plays tennis as her sister does.* ✓
- *She plays tennis like her sister.* ✓ (no verb after *like*)

(e) Ambiguous Comparisons

Some comparisons are grammatical but logically ambiguous.

I love coffee more than my husband.

Do you love coffee more than your husband loves coffee, or do you love coffee more than you love your husband?

Fix by completing:

- *I love coffee more than my husband does.*
- *I love coffee more than I love my husband.*

Exam options often include both interpretations; the unambiguous one is the answer.

(f) Comparisons with Possessives and "That of / Those of"

When comparing a quality or attribute (not the object itself), use *that of* (singular) or *those of* (plural).

- *The products of this company are superior to those of its competitors.* ✓
- *The turnover of our branch exceeds that of the Delhi office.* ✓

Without *that of / those of*, you end up comparing a product to a company, or a turnover to an office - a logical mismatch.

Pop Quiz 6.3.6 (H)

Choose the correct option.

- *The climate of Rajasthan is drier than _____ of Kerala.*

(a) this (b) which (c) that (d) those

- *She solved the problem _____ her teacher had shown her.*

(a) like (b) as (c) such as (d) so as

- *No one in the class writes as elegantly _____.*

(a) like he (b) like him (c) as he (d) as him

- *The essays of Bertrand Russell are more analytical than _____.*

(a) George Orwell (b) George Orwell's (c) those of George Orwell (d) (b) and (c) both correct

- *Meera's explanation was as clear _____.*

(a) as her teacher (b) like her teacher (c) as her teacher's (d) as of her teacher

SOLVED ANALYSIS

Question: Choose the correct sentence.

- (a) The technology used in modern smartphones is far more advanced than older mobile phones.
- (b) The technology used in modern smartphones is far more advanced than that of older mobile phones.
- (c) The technology used in modern smartphones is far more advanced than older mobile phones are.
- (d) Modern smartphones are more advanced than older mobile phones' technology.

Concept Tested: Logical comparison - compare like with like.

Analysis:

- We are comparing **the technology of modern smartphones** to ... what? It has to be **the technology of older mobile phones**, not the phones themselves.
- (a) compares "technology" to "older mobile phones". Category mismatch. Wrong.
- (b) uses *that of* - a pronoun phrase standing in for "the technology of". Now both sides are *technology*. Correct.
- (c) compares "technology" to "older mobile phones" with an added verb; the category mismatch is still there. Wrong.
- (d) flips the comparison awkwardly and makes "older mobile phones' technology" sound inferior to "modern smartphones" as whole objects - again apples to oranges. Wrong.

Answer: (b).

Exam Insight: Whenever you see "*the X of A is more ... than B*", your first test is: **is B also an X?** If not, you need *that of B* (or *those of B* for plurals). This one rule solves roughly half of all GMAT comparison questions.

6.4 Parallelism and Comparisons Wrap-Up

- Items in a list, pair, or correlative construction must share **the same grammatical form**.
- Repeat prepositions and helping verbs consistently - either every time or only once, never mixed.
- Compare like with like. Use *that of* / *those of* when comparing qualities across nouns.
- Use *like* before a noun, *as* before a clause, and *such as* to introduce examples.
- *Than any other* if the subject belongs to the group; *than any* if it doesn't.
- A comparison must name both sides - never leave one dangling.

Drill Set 6A - Modifiers

(E) Easy - Fix the misplaced or dangling modifier.

- Riding my bicycle, a truck nearly hit me.
- She bought a cake for her daughter with pink icing.
- The dog followed the boy that was limping.

(M) Medium - Choose the correct option.

- _____, *the report was rejected by the board.*

(a) After carefully reviewing the data (b) Having carefully reviewed the data (c) After the data had been reviewed carefully (d) Careful review of the data

- *The teacher handed the paper to the student covered in red ink.*

(a) The teacher handed the paper covered in red ink to the student.
 (b) The student, covered in red ink, received the paper from the teacher.
 (c) Covered in red ink, the paper was handed by the teacher to the student.
 (d) Both (a) and (c) are correct.

(H) Hard

- Identify the error:

Residents who exercise regularly live longer, healthier lives than those who don't.

(a) modifier error (b) parallelism error (c) squinting modifier (d) no error

- Rewrite correctly:

Trained since childhood in classical music, the piano, violin, and flute were all mastered by her.

- Which is the clearest?

(a) Almost every student scored above eighty.
 (b) Every student almost scored above eighty.
 (c) Every student scored above almost eighty.
 (d) Every almost student scored above eighty.

Drill Set 6B - Parallelism

(E) Easy

- *She enjoys reading, dancing, and to sing.* - fix.
- *He is neither clever nor he is hard-working.* - fix.
- *My goals are to study, travelling, and to write.* - fix.

(M) Medium

- Choose the correct:

(a) The course will teach you how to budget, saving, and investing.

- (b) The course will teach you budgeting, how to save, and to invest.
- (c) The course will teach you how to budget, how to save, and how to invest.
- (d) The course will teach you how to budget, saving tips, and investing principles.

- Which is parallel?

- (a) He is interested in painting, music, and to write poetry.
- (b) He is interested in painting, music, and poetry.
- (c) He is interested in painting, in music, and writing poetry.
- (d) He is interested to paint, to listen to music, and in poetry.

(H) Hard

- *The report recommended that the budget be increased, that the staff be expanded, and to hire new consultants.* - fix.
- *She was respected not only for her intelligence but also because she was honest.* - fix.
- *The judge found the defendant's testimony thoughtful, detailed, and she was convincing.* - fix.

Drill Set 6C - Comparisons

(E) Easy

- *The food at this restaurant is better than the other one.* - fix.
- *Her dress is prettier than Priya.* - fix.

(M) Medium

- Choose the correct:

- (a) The poems of Tagore are more lyrical than Kipling.
- (b) The poems of Tagore are more lyrical than Kipling's.
- (c) The poems of Tagore are more lyrical than of Kipling.
- (d) Both (b) and "*than those of Kipling*" are correct.

- *He plays the violin _____ a concert artist.*

- (a) like (b) as (c) such as (d) as does

(H) Hard

- *The company's new policy is as strict, if not stricter than, its old one.* - fix.

- *No other scientist of the last century has influenced modern physics as much as Einstein.* - is this logically and grammatically correct? Explain.

6.5 Answers to Pop Quizzes

Pop Quiz 6.1

- *As I ran down the street, my hat flew off.* (or: *Running down the street, I lost my hat.*)
- *On paper plates, she served pasta to the guests.* (or *move on paper plates* right after *pasta*)
- *Driving home from work, I saw a dog.*
- *The mother scolded the child who was covered in mud.*
- *The teacher carefully explained the lesson, which was complicated, to the students.*

Pop Quiz 6.1.4

- *We waited for nearly two hours.*
- *The detective calmly questioned the witness who had seen the crime.*
- *As I was swimming in the cold lake, the sun blinded me.* (or: *Swimming in the cold lake, I was blinded by the sun.*)
- *Squinting* - rewrite as *Residents who often exercise live longer* or *Residents who exercise live longer, often.*
- *My grandmother cooked the biryani, which was covered in spices.* (or *move the modifier after biryani*)

Pop Quiz 6.3

- *...swimming, cycling, and running.*
- *She is neither rude nor lazy.*
- *...punctual, respectful, and enthusiastic.*
- *He is not only hard-working but also talented.*
- *...to study well, to score high, and to win a scholarship.*

Pop Quiz 6.3.4

- *...better than her sister's.*
- *...larger than that of China.* (or *China's*)

- *Mumbai is more crowded than any other city in India.*
- *...more humid than that of Bangalore.*
- *...far better than that of a human. (or a human's)*

Pop Quiz 6.3.6

- (c) 2. (b) 3. (c) - *as he (does)* is grammatical; *as him* is incorrect in formal usage. 4. (d) 5. (c)

6.6 Answers to Drill Sets

Drill 6A:

- *As I was riding my bicycle, a truck nearly hit me.*
- *She bought her daughter a cake with pink icing.*
- *The limping dog followed the boy.* (or keep the original if the boy was limping - depends on intent)
- (b).
- (a).
- (c) - squinting; *regularly* could modify *exercise* or *live*. Fix: *Residents who exercise regularly have longer, healthier lives than those who don't.*
- *Trained since childhood in classical music, she mastered the piano, violin, and flute.*
- (a).

Drill 6B:

- *...reading, dancing, and singing.*
- *He is neither clever nor hard-working.*
- *My goals are to study, to travel, and to write.*
- (c).
- (b).
- *The report recommended that the budget be increased, that the staff be expanded, and that new consultants be hired.*
- *She was respected not only for her intelligence but also for her honesty.*
- *The judge found the defendant's testimony thoughtful, detailed, and convincing.*

Drill 6C:

- ...*better than that at the other one.* (or *the other one's*)
- *Her dress is prettier than Priya's.*
- (d).
- (b) - *as* is correct when a verb follows (*as a concert artist plays*, implied); also acceptable: *like a concert artist* (pure noun comparison).
- *The company's new policy is as strict as, if not stricter than, its old one.* (complete the first comparison)
- Correct. *Einstein* is excluded (*no other scientist*), so *as much as Einstein* is logical and grammatical.

Chapter 7: Idioms and Sentence Correction

Idioms are where English grammar hands you its bill. After every rule, pattern, and structure, there remain thousands of phrases that are right "because they are right" - and whose correctness you must learn by exposure. This final chapter pulls together everything you've studied, equips you with the most exam-tested idioms, and gives you a repeatable process for any sentence-correction question the exam can throw at you.

7.1 Idioms

An **idiom**, in the sentence-correction sense, is a **fixed expression** - a specific word paired with a specific preposition, a specific verb with a specific form - where changing one small piece makes the whole thing wrong.

She is afraid of the dark. ✓

She is afraid from the dark. ✗

Both might seem understandable. Only one is correct English. No logical rule will help you - you just have to know.

7.1.1 Why Idioms Matter on Exams

GMAT, CAT, SSC, and most descriptive-test interviews test idioms constantly because they reveal whether a student has **read** English - not just studied it. The good news: the list of idioms *actually tested* on competitive exams is finite. Learn the list below and you will recognise most idiom questions on sight.

7.1.2 The Core Exam Idioms - Level 1 (Beginner)

Prepositional idioms (verb or adjective + fixed preposition):

Idiom	Example
agree with (a person)	I agree with you.
agree to (a proposal)	She agreed to the terms.
agree on (a plan/issue)	They agreed on the route.
angry with (a person)	He is angry with me.
angry at (a thing/situation)	She is angry at the delay.

afraid of	He is afraid of dogs.
ashamed of	She is ashamed of her lie.
aware of	I am aware of the risk.
confident of	He is confident of success.
dependent on	She is dependent on her parents.
different from	This is different from that.
familiar with	I am familiar with the system.
full of	The room is full of people.
good at	He is good at maths.
jealous of	He is jealous of his brother.
married to	She is married to Rohit.
proud of	I am proud of you.
responsible for	He is responsible for the error.
satisfied with	She is satisfied with the result.
similar to	This is similar to that.
suspicious of	The guard was suspicious of the stranger.
tired of	I am tired of waiting.

Pop Quiz 7.1.2 (E)

Fill in the correct preposition.

1. I am not familiar _____ this software.
2. She is married _____ a lawyer.
3. He is responsible _____ the accident.

4. Are you aware _____ the new rules?
5. Their proposal is quite different _____ ours.

7.1.3 Going Deeper - Verb-Preposition Idioms That Change Meaning

These are the idioms that catch even strong students off guard. The same verb paired with a different preposition can mean something entirely different.

(a) *Agree*

- *agree with* (a person) - share an opinion.
- *agree to* (a proposal) - accept.
- *agree on* (a plan) - reach consensus.

I agree with you on the plan we agreed to yesterday.

(b) *Differ*

- *differ from* - be unlike (about things or qualities).
- *differ with* - disagree (about people's opinions).

My view differs from yours. (my view is unlike yours)

I differ with you on this matter. (I disagree)

(c) *Blame*

- *blame (someone) for (something)* - standard.
- *blame (something) on (someone)* - also standard.

They blamed him for the accident. ✓

They blamed the accident on him. ✓

(d) *Substitute vs. Replace*

- *substitute X for Y* - put X in place of Y.
- *replace Y with X* - also put X in place of Y, but the grammar flips.

She substituted butter for oil. ✓ (butter took oil's place)

She replaced oil with butter. ✓

She replaced butter for oil. ✗

She substituted butter with oil. ✗

This swap (*substitute with, replace for*) is a favourite GMAT trap.

(e) Prefer

- *prefer X to Y* - standard.
- *prefer X over Y* - acceptable in modern usage, less formal.
- *prefer X than Y* ✗ - never correct.

I prefer tea to coffee. ✓

(f) Consist vs. Comprise

- *consist of* - be made up of. *The team consists of ten members.*
- *comprise* - contain (no preposition). *The team comprises ten members.*
- *is composed of* - formal equivalent.
- *comprise of* ✗ - wrong, despite being common in speech.

(g) Compare to vs. Compare with

- *compare to* - suggest resemblance, often poetic. *Shall I compare thee to a summer's day?*
- *compare with* - examine side-by-side for similarity and difference. *The teacher compared the two essays with each other.*

Both are accepted in everyday use, but exam makers often distinguish them.

7.1.4 Going Deeper - Idioms with Infinitives vs. Gerunds

Certain verbs and phrases demand a specific form of the following verb. Getting these wrong is a sentence-correction staple.

Take infinitive (to + verb):

Idiom	Example
ability to	ability to think
attempt to	attempt to solve
decide to	decide to leave
demand to	demand to know
expect to	expect to win

fail to	fail to notice
hope to	hope to meet
manage to	manage to finish
offer to	offer to help
plan to	plan to travel
promise to	promise to return
refuse to	refuse to speak
seek to	seek to understand
tend to	tend to forget
wish to	wish to apply

Take gerund (-ing):

Idiom	Example
capable of	capable of solving
committed to	committed to improving
devoted to	devoted to serving
dedicated to	dedicated to helping
look forward to	look forward to meeting
object to	object to being questioned
opposed to	opposed to lying
accustomed to	accustomed to waking early

used to (= habituated to)	used to driving
succeed in	succeed in finishing
insist on	insist on leaving
think of	think of retiring

Classic trap: *look forward to* and *be used to* both take *-ing*, because the *to* here is a preposition, not an infinitive marker.

- *I look forward to meet you.* ✗
- *I look forward to meeting you.* ✓
- *She is used to work long hours.* ✗
- *She is used to working long hours.* ✓

7.1.5 Going Deeper - Comparison and Logical Idioms

These appear frequently in CAT and GMAT sentence correction:

Idiom	Notes
as X as Y	Parallel structure on both sides.
so X that Y	X = adjective/adverb; Y = clause. <i>So tired that he slept.</i>
such X that Y	X = noun phrase; Y = clause. <i>Such a noise that sleep was impossible.</i>
not so much X as Y	Both sides must be parallel. <i>Not so much angry as disappointed.</i>
more X than Y	Both sides parallel.
the more X, the more Y	Parallel structure; both use comparative form.
between X and Y	Used for two; X and Y must be parallel.

from X to Y	X and Y must be parallel.
distinguish between X and Y	Parallel; both are things being distinguished.
distinguish X from Y	Parallel alternative.
regard X as Y	<i>The board regards him as a genius.</i>
consider X (to be) Y	<i>I consider him (to be) a friend.</i> Dropping <i>to be</i> is standard.
view X as Y	Same pattern as <i>regard as</i> .
estimate X at Y	<i>The damage is estimated at one crore.</i>

Red flag list - idioms that are often misformed:

- *consider as* ✗ (should be just *consider*, or *consider to be*)
- *regard to be* ✗ (should be *regard as*)
- *view to be* ✗ (should be *view as*)
- *declared him to be guilty* - informal; formal: *declared him guilty*.
- *named as winner* ✗ (just *named him the winner*)
- *not so much angry but disappointed* ✗ (should be *as disappointed*)

7.1.6 Going Deeper - Subtle Idiom Pairs

Memorise these, because exams love them:

Incorrect	Correct
different than	different from (preferred in British/Indian English; <i>different than</i> accepted in American writing)
comprised of	composed of (or: <i>comprises</i> , no preposition)
in regards to	with regard to / in regard to

centred around	centred on
in spite of the fact that	although
on account of the fact that	because
the reason is because	the reason is that
each and every	each (or every) - redundant
end result	result
past history	history
return back	return
repeat again	repeat
free gift	gift
ATM machine	ATM

Most of these are redundancies. Exam sentences will include them as incorrect options.

Pop Quiz 7.1.6 (M–H)

Correct each sentence.

- I prefer tea than coffee.
- She is looking forward to meet her mentor.
- The committee is comprised of seven members.
- He was accused for stealing the money.
- The results differ with last year's.
- I am opposed to lie under oath.
- We need to substitute sugar with honey.
- The reason for his absence is because he was ill.

SOLVED ANALYSIS

Question: Choose the correct sentence.

- (a) She is regarded as one of the finest authors of her generation.
- (b) She is regarded to be one of the finest authors of her generation.
- (c) She is regarded as being one of the finest authors of her generation.
- (d) She is considered as one of the finest authors of her generation.

Concept Tested: The fixed idioms *regard as* and *consider (to be)*.

Analysis:

- The idiom is **regard X as Y** - never *regard to be* or *regard as being*. That eliminates (b) and (c).
- The idiom is **consider X (to be) Y** - *consider as* is wrong. That eliminates (d).
- (a) uses *regarded as* cleanly. Correct.

Answer: (a).

Exam Insight: Keep a short mental checklist for the most confused idiom pairs:

- **regard as** (never *to be*)
- **consider (to be)** (never *as*)
- **view as** (never *to be*)
- **substitute X for Y / replace Y with X** (never swap the prepositions)

These four alone will save you marks in at least one question per sitting.

7.2 Parts of Speech and Sentence Structure Wrap-Up

Before we move to the sentence-correction process, a final aerial view of everything you've learned.

7.2.1 The Eight Parts of Speech

Every word belongs to one of these categories:

- **Noun** - names.
- **Pronoun** - replaces a noun.
- **Verb** - states an action or condition.

- **Adjective** - describes a noun or pronoun.
- **Adverb** - describes a verb, adjective, or adverb.
- **Preposition** - shows a relationship between a noun and another word.
- **Conjunction** - joins words, phrases, or clauses.
- **Interjection** - expresses emotion (rarely tested).

7.2.2 The Architecture of a Sentence

- **Subject + Predicate** = Sentence
- **Simple subject** controls the verb.
- **Dependent clauses** need an independent clause to survive.
- **Modifiers** must stay close to what they modify.
- **Parallel structures** must share the same grammatical form.
- **Comparisons** must compare like with like.

7.2.3 The Core Error Types on Competitive Exams

Almost every sentence-correction question comes from one of these nine error buckets:

- Subject–verb agreement.
- Pronoun–antecedent agreement.
- Tense sequence.
- Modifier placement.
- Parallelism.
- Comparison logic.
- Idiom/preposition choice.
- Conjunction/connector misuse.
- Redundancy and wordiness.

If you recognise the error bucket, half the work is already done - you just need to pick the option that fixes that specific error without introducing a new one.

7.3 The Sentence Correction Process

Here is a repeatable, six-step method you can use on any sentence-correction question. Practise it until it becomes reflex.

Step 1: Read the whole sentence first

Do not jump into options. Read the complete sentence slowly, letting the meaning settle. Ask: *what is this sentence trying to say?*

Step 2: Identify the underlined portion (or the part in question)

Note exactly what can change. Anything outside the underlined portion is fixed and cannot be rewritten.

Step 3: Hunt for the error - use the Nine Checkpoints

Run the sentence through these checkpoints in order. The first failure you find is almost certainly the tested error.

- **Subject-verb agreement** - find the simple subject; strip away prepositional phrases; check the verb.
- **Pronoun** - every pronoun must have a clear, agreeing antecedent.
- **Tense sequence** - events in the past need consistent tense; *had* for earlier of two past actions.
- **Modifiers** - especially opening participles; also *only, just, nearly*.
- **Parallelism** - lists, correlatives, comparisons.
- **Comparison logic** - compare like with like; use *that of / those of* when needed.
- **Idiom** - fixed preposition, fixed verb form.
- **Connectors** - *although/but, no sooner/than, hardly/when, unless/not*.
- **Redundancy** - any word that could be removed without loss?

Step 4: Scan the options for the pattern

Once you know the error, scan the options quickly. Eliminate any option that repeats the same error.

Step 5: Eliminate the "new error" options

Some options fix the original error but introduce a new one - a wrong idiom, a broken parallel, an added comma splice. Kill those too.

Step 6: Re-read the whole sentence with your chosen option

Before locking in, plug your answer back into the sentence and read it as a whole. Does it sound natural, correct, and complete? If yes, commit.

7.3.1 A Walkthrough Example

Sentence: *Neither the principal nor the teachers has submitted their reports on time, which is why the meeting was postponed.*

Options:

- (a) has submitted their reports on time, which is why
- (b) have submitted their reports on time, which is why
- (c) has submitted their reports on time, a fact that caused
- (d) have submitted their reports on time, a fact that caused

Step 1: Read. Principal or teachers failed to submit on time, causing a postponement.

Step 2: Underlined portion is the verb + the *which* clause.

Step 3: Hunt for errors.

- Subject–verb: *Neither...nor* agrees with the **nearer** subject, *teachers* (plural). Verb should be **have**, not *has*. Error #1.
- Pronoun: *which* refers vaguely to the whole previous clause, not a specific noun. Error #2. In formal grammar, *which* must have a clear noun antecedent. Using *a fact that* is cleaner.

Step 4: Scan.

- (a) repeats the singular verb error. Out.
- (b) fixes the verb but keeps the vague *which*. Partial fix.
- (c) fixes the vague reference but keeps the verb error. Out.
- (d) fixes both. ✓

Step 5: (d) doesn't introduce a new error.

Step 6: Re-read: *Neither the principal nor the teachers have submitted their reports on time, a fact that caused the meeting to be postponed.* Clean.

Answer: (d).

Drill Set 7A - Idioms

(E) Easy - Fill in the correct preposition.

- She is good _____ chess.
- The team consists _____ ten players.
- I am tired _____ waiting.
- He is proud _____ his son.
- The book is different _____ the film.

(M) Medium - Choose the correct form.

- *He is accustomed to _____ early.*

(a) wake (b) waking (c) have waked (d) be waking

- *She is regarded _____ the finest singer of her generation.*

(a) to be (b) as being (c) as (d) for

- *The report is comprised _____ three sections.*

(a) of (b) by (c) with (d) none - *is comprised of* is wrong; use *comprises* or *is composed of*

- *We must substitute ghee _____ butter.*

(a) for (b) with (c) to (d) by

- *I prefer walking _____ driving.*

(a) than (b) over (c) to (d) from

(H) Hard - Find and fix the idiom error.

- The reason for the delay is because the files were lost.
- She insists to go alone.
- He was accused of to cheat in the exam.
- Centred around the old mosque, the market has stood for two centuries.
- Not only was he intelligent, but he was hard-working also.

Drill Set 7B - Comprehensive Sentence Correction

Apply the six-step process. Choose the best option.

(E) Easy

- *Each of the candidates _____ their aptitude test.*

(a) have passed (b) has passed (c) have pass (d) has pass

- *The book, as well as the magazines, _____ on the shelf.*

(a) are (b) were (c) is (d) have been

(M) Medium

- *Having studied diligently for years, the scholarship _____.*

(a) was won by her (b) was offered to her (c) she finally earned (d) had been earned by her

- *The findings of the committee were neither surprising _____.*

(a) nor were they conclusive (b) nor conclusive (c) nor did they conclude (d) or conclusive

- *Not only did the storm destroy the crops, _____.*

(a) it also flooded the roads (b) but the roads were also flooded (c) but it also flooded the roads
(d) and it flooded the roads also

(H) Hard

- *Unlike the novels of her earlier period, _____.*

(a) her later novels are introspective and dense
(b) her later novels were written with introspection and density
(c) she wrote her later novels with more introspection and density
(d) in her later novels, she was introspective and dense

- *The professor's lectures, _____, were considered the highlight of the semester.*

(a) that drew crowds from other universities
(b) which drew crowds from other universities
(c) drew crowds from other universities
(d) had drawn crowds from other universities

- *Neither the students nor the teacher _____ pleased with the revised schedule, which _____ announced only yesterday.*

(a) was / had been (b) were / was (c) was / was (d) were / had been

- *The new policy requires that every applicant _____ a medical test before _____ for an interview.*

(a) takes / being called (b) take / being called (c) takes / he is called (d) take / they are called

7.4 Answers to Pop Quiz

Pop Quiz 7.1.2

- with 2. to 3. for 4. of 5. from

Pop Quiz 7.1.6

- *I prefer tea to coffee.*
- *She is looking forward to meeting her mentor.*
- *The committee comprises seven members. (or is composed of)*
- *He was accused of stealing the money.*
- *The results differ from last year's.*
- *I am opposed to lying under oath.*
- *We need to substitute honey for sugar. (or replace sugar with honey)*
- *The reason for his absence is that he was ill.*

Answers to Drill Sets

Drill 7A:

- at 2. of 3. of 4. of 5. from
- (b) - *accustomed to* + gerund.
- (c) - *regarded as*.
- (d) - *is comprised of* is widely considered wrong in formal exams.
- (a) - *substitute X for Y*.
- (c) - *prefer X to Y*.
- *The reason for the delay is that the files were lost.*
- *She insists on going alone.*
- *He was accused of cheating in the exam.*
- *Centred on the old mosque, the market has stood for two centuries.*
- *Not only was he intelligent, but he was also hard-working. (position of also)*

Drill 7B:

- (b) - *each* is singular → *has*.

- (c) - *as well as* doesn't add to the subject; *book* is the singular subject → *is*.
- (c) - only (c) places the subject (*she*) right after the participial phrase *having studied*. The others dangle.
- (b) - *neither ... nor* demands parallel grammar; *surprising / conclusive* (both adjectives).
- (c) - *not only ... but also* takes inversion in the first clause and *but ... also* in the second; parallel subject structure.
- (a) - *Unlike the novels..., her later novels...* compares novels to novels. (b) is wordy and compares novels to a writing style; (c) changes the comparison to *she* vs. *novels*; (d) dangles.
- (b) - *which* with commas for a non-essential clause. *That* in (a) would require no commas. (c) and (d) create fragments or awkward attachments.
- (b) - *neither...nor* agrees with *teacher* (singular) if closest, but here *teacher* is last - wait: rule is nearer subject. *Teacher* is nearer → singular. But check carefully: the sentence reads "Neither the students nor the teacher". Nearer = *teacher* (singular) → *was*. Second blank: "which was announced only yesterday" - simple past, not past perfect. Correct pair: **was / was** = (c). (*Correcting to (c).*)
- (b) - *require that* triggers the subjunctive: **that every applicant take** (no -s). Second blank: *before being called* (gerund after preposition).

Reading Comprehension

Chapter 8: Reading Strategies for GMAT, CAT, and Other Entrance Exams

RC is hard for almost everyone the first time, and it is hard for a specific reason: exam reading is not the same activity as the reading you do every day. It uses different muscles. This chapter is about those muscles - why they ache at first, and how to train them so that, by the time you sit for the actual exam, the passages feel familiar even when the topics do not.

We are not going to teach you a hundred tricks. We are going to teach you a small number of habits. The habits are simple to describe and slow to build, which is why most students never bother to build them. The students who do build them stop being scared of RC. That is the whole goal of this chapter.

8.1 Effective Reading Techniques for Entrance Exams

The Three Questions

The simplest tool in this whole book - and possibly the only one you will need to remember on test day - is a list of three questions. Ask them silently as you read every passage:

- **What is the author talking about?** (the topic)
- **What is the author saying about it?** (the main point)
- **Why is the author saying it?** (the purpose)

These look almost the same, but they are different. The topic is the subject - *galaxy formation*, or *the cotton trade in colonial Bengal*. The main point is the author's specific claim about the topic - *galaxy formation cannot be fully explained by current dark-matter models*, or *the cotton trade reshaped rural labour in unexpected ways*. The purpose is the *function* of the passage - *to challenge a popular theory*, or *to revise a historical narrative*, or *to compare two competing explanations*.

If you can answer all three questions in plain English by the end of the passage, you will be able to answer most main-idea, primary-purpose, and structure questions without re-reading. You will also have the scaffolding you need to find specific details quickly when an inference question forces you back into the passage.

Pop Quiz 8.1

For each short passage, answer the three questions: topic, main point, purpose. Keep your answers to one short sentence each. (E)

A. *Despite their reputation as solitary creatures, octopuses display surprisingly social behaviour in certain conditions. Recent observations off the coast of Australia document groups of up to sixteen individuals living in close quarters, exchanging signals, and even cooperating in hunting. These findings suggest that octopus social life may be far richer than biologists have long assumed.*

B. *The standard view of the Industrial Revolution credits a small number of British inventors. This account, while not entirely false, ignores the dense network of skilled artisans, tinkerers, and informal workshops without which those inventions could not have been refined for industrial use. A more accurate history would treat invention as a collective process, not a series of isolated breakthroughs.*

8.2 Discover the Basic Story

If you can label each paragraph with one of these moves as you read, you have found the story. The story is the sequence of moves.

A typical passage might run: *introduce* → *explain* → *support* → *qualify* → *conclude*. Another might run: *introduce common view* → *contrast with new view* → *support new view* → *consider objection* → *reaffirm new view*. Each is a story, and each one tells you what the author is doing.

Try it now with a passage you have lying around. After each paragraph, write down a single verb that captures what that paragraph did. Do not summarise the content. Just name the move.

Going Deeper: The Four Common Passage Structures

If you read enough exam passages, you will start to notice that they are not infinitely varied. Most fall into one of four broad structures. Learning to recognise the structure within the first paragraph or two is one of the highest-return skills in RC, because once you recognise the structure, you know roughly what is coming.

Structure 1: The Argument Passage. The author has a thesis, and the passage exists to defend it. Typical shape: *claim* → *evidence* → *objection considered* → *claim reaffirmed*. Signal phrases: *I argue, the evidence suggests, contrary to the common view, while critics maintain*. Question types you will see: primary purpose, weakening, strengthening, author's attitude.

Structure 2: The Compare-and-Contrast Passage. Two views, two methods, two phenomena are placed side by side. Typical shape: *introduce A* → *introduce B* → *describe their differences* → sometimes a verdict. Signal phrases: *unlike, whereas, by contrast, similarly, both*. Question types: which view holds what, where the author stands, specific details about either side.

Structure 3: The Description / Process Passage. The author is explaining how something works - a biological process, an economic mechanism, a historical sequence. Typical shape: introduce phenomenon → break it into parts → explain each part → optionally note significance. Signal phrases: *first, next, the process begins, as a result*. Question types: function of detail, specific information, sometimes inference.

Structure 4: The Narrative History Passage. The author traces how a thing changed over time - an idea, a profession, a movement. Typical shape: earlier state → change → later state → significance. Signal phrases: *until recently, in the early period, by the late nineteenth century, over time*. Question types: cause and effect, specific information, sometimes author's tone toward the change.

Most exam passages are some variant of these four. Learning to recognise the structure early lets you predict the moves. By paragraph two of an Argument passage, you should already be looking for the objection that paragraph three or four will raise; by paragraph two of a Compare-and-Contrast passage, you should already be looking for view B.

SOLVED ANALYSIS

Question: Read the short passage and select the best description of its structure.

Recent attempts to explain the rise of populist movements have focused on economic anxiety: the loss of manufacturing jobs, stagnant wages, and the perceived decline of industrial communities. While such explanations capture part of the story, they leave a great deal unexplained. Many populist supporters, after all, are economically secure, and economic distress alone does not predict populist sympathies in any straightforward way. A more complete explanation must include cultural factors - perceptions of national identity, anxieties about demographic change, and a sense that traditional sources of authority have lost their footing. These cultural elements do not replace economic ones; they sit alongside them, and the interaction is what shapes the political result.

- Introduce a phenomenon, describe it, and conclude
- Present a common explanation, identify its limits, and propose a more complete account
- Compare two competing theories and reject both
- Trace the historical development of populist movements
- Argue that economic explanations of populism are entirely mistaken

Concept Tested: Identifying the sequence of moves the author makes.

Analysis: The passage starts by reporting a common explanation (economic anxiety). It then qualifies that explanation - "While such explanations capture part of the story, they leave a great deal unexplained" - and offers reasons why economic accounts alone are insufficient. It then introduces

additional factors (cultural ones) and concludes that the two work together. This is *not* a rejection of the economic view but a supplementing of it. (A) misses the corrective move and treats the passage as flat description. (C) is too strong - the author does not reject either theory. (D) confuses the passage's logical structure with a historical one; there is no time-traced narrative here. (E) overstates the author's position; the passage explicitly says economic factors capture *part* of the story.

Answer: (B)

Exam Insight: When a passage opens with “many people think X” or “the standard view is X,” expect the author to qualify or correct X within a paragraph or two. The opening claim is rarely where the author will end up.

Pop Quiz 8.3

For each passage, name the structure (Argument, Compare-Contrast, Description/Process, or Narrative History) and one short sentence describing the spine. (M)

A. *In the early twentieth century, urban planning in India was dominated by colonial assumptions: cities should be designed for administrators, with native quarters kept at a careful distance from European ones. By independence, this model was untenable. The first generation of post-independence planners attempted, with mixed success, to reimagine the Indian city as a space organised around equality of access. By the 1980s, however, market forces had begun to shape urban development in ways neither colonial nor post-colonial planners had anticipated, and contemporary Indian cities reflect the layered residue of all three eras.*

B. *Photosynthesis in most green plants depends on a pair of linked reactions. In the first, called the light reaction, chlorophyll molecules absorb photons and use the resulting energy to split water, releasing oxygen and producing energy-carrier molecules. In the second, called the dark reaction (although it does not require darkness), these energy carriers are used to convert carbon dioxide into sugar. The two reactions are not separate processes but stages of a single integrated cycle.*

Going Deeper: When to Slow Down Mid-Sentence

A subtler version of balanced reading happens within sentences, not just between paragraphs. Long, complex sentences in exam passages often have one critical word or phrase that flips their meaning. If you skim past the critical word, the sentence is gone. If you slow down for it, the sentence becomes clear.

Watch for these mid-sentence flippers:

- **Negation buried inside a long clause:** *Recent research, contrary to what the standard textbooks have suggested for decades, finds little evidence of...*

- **Qualifying phrases:** *under most conditions, with the notable exception of, in cases where... does not apply*
- **Comparative pivots:** *more so than, far less than, comparable not to X but to Y*
- **Restrictive modifiers:** *only when, except when, provided that*

These small phrases do enormous logical work. A student who reads at a uniform pace will glide past them; a student who reads with balance will catch the small phrase, slow for half a second, and let the meaning settle.

If a sentence runs longer than two lines, it is almost certainly load-bearing. Treat long sentences as high-density regions even when they sit in the middle of a low-density paragraph. The exam puts complexity into long sentences on purpose; that is where the question is hiding.

Going Deeper: The Map and the Territory

As you read, you should be doing two things at once - reading the actual sentences, and building a mental map of the passage. The mental map is rough and short. It might look like:

- ¶1: introduces the puzzle of why X happens; common explanation Y
- ¶2: problems with Y
- ¶3: alternative Z
- ¶4: support for Z
- ¶5: limits of Z; tentative conclusion

That five-line map, built in your head as you read, is what you will use to answer questions. The map tells you where to look. The actual sentences tell you the details when you look there.

The mistake most students make is to focus only on the territory (the actual sentences) and never build the map. They finish the passage with a vague sense of what was discussed but no spatial sense of the structure. When a question asks about a specific detail, they have to re-read the entire passage to find it. They do not have time for that.

The opposite mistake - focusing only on the map and never reading the territory carefully - is rarer but possible. These readers can describe the structure of the passage but cannot answer detail questions because they did not actually read the sentences.

The skill is to do both at once: read the territory while building the map. With practice, the two activities merge into a single act of reading. You stop noticing them as separate. That is the goal.

SOLVED ANALYSIS

Question: Below is the opening of a passage. Which sentence deserves the most careful reading on a first pass?

(1) The economic literature on financial crises has long been divided between two camps. (2) The first, broadly Keynesian, holds that crises are largely the product of speculative excess in private credit markets and that the appropriate response is active government intervention. (3) The second, broadly monetarist, holds that crises are typically the result of central-bank errors in managing the money supply and that the appropriate response is rule-based monetary discipline. (4) Until recently, this division was treated almost as a permanent feature of the field. (5) A new generation of empirical work, however, has begun to suggest that both camps may be capturing real but partial truths, and that crises differ enough in their causes that no single framework can accommodate them all.

- Sentence 1
- Sentence 2
- Sentence 3
- Sentence 4
- Sentence 5

Concept Tested: Recognising high-density regions and pivot points.

Analysis: Sentences 2 and 3 describe the two existing camps; they are informative but predictable in shape - the passage was almost guaranteed to give us two views once sentence 1 said “two camps.” Sentence 4 sets up a temporal frame (“until recently”) that is itself a flag, but the actual move comes in sentence 5: the pivot word “however” signals that the author is about to say something the previous four sentences did not say. Sentence 5 introduces the author’s actual position - that both camps are partially right and that no single framework is adequate. This is the high-density sentence; it tells us where the rest of the passage is going. (A) is too generic to be the most important. (B) and (C) are descriptive of others’ views. (D) is structural setup but not the move itself. The move happens in (E).

Answer: (E)

Exam Insight: When a passage opens by setting up a familiar division (“two camps,” “two schools,” “two views”), the author’s actual position usually arrives just after a pivot word like *however*, *yet*, *but*, or *recently*. Train your eye to land on that pivot. It is almost always the most important sentence in the opening.

Drill Set 8A: Finding the Spine

For each passage, choose the option that best describes its structure or main move.

1. (E) *The wolf, once nearly eliminated from the contiguous United States, has returned to several western states over the past three decades. This recovery has been uneven, controversial, and instructive. It offers a rare opportunity to study how a top predator reshapes an ecosystem after a long absence - and what such reshaping costs the human communities that share the landscape.*

The author's primary purpose is to:

1. Argue that wolf reintroduction has been a failure
2. Introduce the wolf recovery as a case worth examining for both ecological and social reasons
3. Describe the legal history of wolf protection in the United States
4. Compare wolf populations in different regions
5. Advocate for stronger protection of top predators

2. (E) *The chemistry of fireworks is, at heart, a study in controlled combustion. A typical aerial shell contains an oxidiser, a fuel, a binder to hold them together, and metallic salts whose particular electrons, when excited, emit specific colours. When the shell ignites, the components combine in a rapid exothermic reaction; the gases produced expand and propel the burning particles outward, where they continue to burn long enough to be seen.*

The passage is best described as:

- An argument about the safety of fireworks
- A historical narrative of pyrotechnic invention
- A description of how fireworks work
- A comparison between traditional and modern fireworks
- A defence of fireworks displays against critics

3. (M) *For most of the twentieth century, museum curators believed their primary obligation was to the objects in their care: to preserve, classify, and display them. Visitors were almost an afterthought. By the 1980s, this view had begun to shift, and museums increasingly described themselves as institutions whose primary obligation was to the public - to educate, engage, and welcome. More recently, however, a growing number of curators have begun to ask whether the pendulum has swung too far. A museum that prioritises engagement over scholarship, they argue, risks becoming a kind of theme park, and the objects, once again, are at risk of becoming props.*

The structure of the passage is best described as:

- A description of museum practices in three eras
- An argument that the older curatorial model was superior
- A trace of changing curatorial priorities, ending with a recent corrective concern
- A defence of public engagement as the proper goal of museums
- A comparison between American and European museum practices

Drill Set 8B: Balanced Reading and Mid-Sentence Attention

For each passage, identify which sentence is the most important to read carefully, or, in items 4 and 5, where the critical phrase lies within a single sentence.

1. (E) *(1) The cinema of South India encompasses several major industries: Tamil, Telugu, Kannada, Malayalam. (2) Each has its own stars, conventions, and audiences. (3) For decades, these industries developed largely in parallel, with limited crossover. (4) In the past ten years, however, the simultaneous release of dubbed versions across all four languages has begun to dissolve those boundaries, and a new pan-South cinema has emerged that no longer maps neatly onto any single industry.*

Which sentence carries the most weight on a first read?

1. Sentence 1 - (B) Sentence 2 - (C) Sentence 3 - (D) Sentence 4

2. (M) *(1) Vaccination, in the centuries before its mechanisms were understood, was a practice surrounded by both enthusiasm and dread. (2) Variolation - the deliberate exposure of a healthy person to material from a smallpox sore - was practised in parts of Asia centuries before it reached Europe. (3) When it did reach Europe, in the early eighteenth century, it provoked exactly the kinds of debate one might expect: medical, theological, and political. (4) The story usually told is one of progress, of superstition giving way to science. (5) But the practice itself moved across cultures long before science could explain it, and the supposedly superstitious populations of pre-modern Asia were doing, with their own justifications, what European modernity would later claim as its own.*

Which sentence carries the most weight on a first read?

1. Sentence 1 - (B) Sentence 2 - (C) Sentence 3 - (D) Sentence 4 - (E) Sentence 5

3. (M) *(1) Ant colonies have long been studied as models of self-organisation, in which complex collective behaviour emerges from the simple actions of individuals. (2) The classic account holds that ants follow a small number of local rules - follow pheromone trails, avoid obstacles, return to the nest when carrying food - and that these rules, repeated across thousands of individuals, produce sophisticated colony-level patterns. (3) Recent work has begun to complicate this picture. (4) Several*

studies suggest that the rules ants follow are themselves modulated by colony state, and that what looks like fixed individual behaviour is, in fact, flexibly responsive to global conditions in ways the classic account did not predict.

Which sentence carries the most weight on a first read?

1. Sentence 1 - (B) Sentence 2 - (C) Sentence 3 - (D) Sentence 4

4. (H) *Although the new constitutional amendment was widely described, both by its supporters and by its critics, as a sweeping expansion of executive authority, a careful reading of its actual text reveals that, with the notable exception of emergency-power provisions in Article 14, most of its substantive changes merely codify practices that successive governments had already adopted informally over the previous two decades.*

Which phrase, if missed, would most distort the meaning of the sentence?

1. “Both by its supporters and by its critics”
2. “A sweeping expansion of executive authority”
3. “With the notable exception of emergency-power provisions in Article 14”
4. “Successive governments”
5. “Over the previous two decades”

Answers to Pop Quizzes

Pop Quiz 8.1

A. Topic: octopus social behaviour. Main point: octopuses are more social than commonly believed. Purpose: to revise the popular view that octopuses are solitary, using recent observations.

B. Topic: the standard account of the Industrial Revolution. Main point: the standard account ignores the broader network of artisans and workshops behind named inventors. Purpose: to argue for a more collective understanding of invention.

Pop Quiz 8.3

A. Structure: Narrative History. Spine: Indian urban planning has passed through three eras - colonial, post-independence, market-driven - and contemporary cities reflect all three.

B. Structure: Description / Process. Spine: Photosynthesis consists of two linked stages (light reaction and dark reaction) that together form a single integrated cycle.

Answers to Drill Sets

Drill Set 8A: Finding the Spine

1. **(B)** The opening paragraph introduces the wolf recovery as a case worth examining, mentioning both ecological reshaping and human costs. (A) is too negative; the passage does not call the recovery a failure. (C), (D), and (E) are not the focus of the introduction. The author is setting up a study, not arguing or comparing. **Insight:** opening paragraphs that say *X is instructive*, *X offers a rare opportunity*, or *X is worth examining* almost always set up an exploratory or descriptive structure.
2. **(C)** The passage walks through how fireworks work - components, ignition, expansion, burning. This is a textbook description-of-process passage. (A) and (E) introduce values the passage never expresses. (B) and (D) introduce historical or comparative frames the passage never adopts.
3. **(C)** The passage traces three positions across time - old curatorial focus on objects, shift toward the public, recent worry that the pendulum has swung too far. (A) misses the corrective ending and treats the passage as flat description. (B) and (D) take sides the author does not. (E) introduces a comparison the passage never makes. **Insight:** when a passage moves through *for most of the twentieth century* → *by the 1980s* → *more recently*, it is almost always a Narrative History structure, and you should look for whether the most recent move is corrective.

Drill Set 8B: Balanced Reading and Mid-Sentence Attention

1. **(D)** Sentences 1–3 set up the parallel-development framing; sentence 4, marked by *however*, makes the move - that the parallel development is dissolving. The pivot is the high-density region.
2. **(E)** Sentences 1–4 set up the conventional progress narrative. Sentence 5, marked by *but*, makes the author's actual move - that the practice predated the science and that the supposedly superstitious populations were doing the same thing for their own reasons. Sentence 5 carries the entire interpretive weight.
3. **(D)** Sentence 4 is where the author actually states the new finding. Sentence 3 (*Recent work has begun to complicate this picture*) only signals that something is coming; sentence 4 delivers it. **Insight:** when one sentence sets up a move (*recent work has changed our understanding*) and the next sentence delivers it, both matter, but the delivery sentence is where the substance lives.
4. **(C)** The phrase *with the notable exception of emergency-power provisions in Article 14* is the critical mid-sentence qualifier. Without it, the sentence reads as a flat dismissal of the amendment as merely codifying existing practice; with it, the sentence concedes that one substantive area - emergency powers - does represent real expansion. Missing the *exception* phrase reverses your reading of the amendment's significance. **Insight:** *with the notable exception of* and similar phrases (*except where*, *save for*, *apart from*) carve out genuinely important counter-cases. They are short and easy to miss; do not miss them.

Chapter 9: Specific Questions

This chapter covers the three families of specific questions you will see on every major exam:

1. **Detail questions:** *According to the passage, X did Y because...*
2. **Inference questions:** *Which of the following can be inferred from the passage?*
3. **Specific purpose / function questions:** *The author mentions X primarily in order to...*

These three families are different in important ways, and the GMAT, CAT, GRE, GATE, SSC, and Banking exams test them with different emphases. We will work through each in turn.

9.1 What Specific Questions Test

A specific question is one that points at a particular spot in the passage. Sometimes the spot is named explicitly - *in the second paragraph, the author's reference to Mehta's study, the example of the cotton industry*. Sometimes it is named only by content - *the passage suggests that early urbanisation...* and you have to find the sentence that talks about early urbanisation.

Either way, the work is the same: locate the relevant sentence, read it carefully, and use it (with its surrounding context) to evaluate the options. You are no longer working from memory. You are working from re-reading.

The single most important skill for specific questions is what we will call **proof-of-text discipline**. For every specific question, you should be able to point at a sentence (or a short cluster of sentences) in the passage that supports your answer. If you cannot find that sentence, your answer is a guess.

9.2 Detail Questions: The Simple Pass

Detail questions ask you to retrieve a specific fact from the passage. The fact may be small - a date, a name, a result - or it may be a sentence-length claim. The question stem usually contains a phrase like:

- a) *According to the passage...*
- b) *The passage states that...*
- c) *The author indicates that...*
- d) *Which of the following is mentioned as...*

These signal a detail question. For these, the answer is *in the passage*. You do not need to infer anything. You need to find the right sentence and match it to the right option.

The Three-Step Procedure

Step 1: Locate the relevant section of the passage. Use your map. If the question is about *Mehta's study*, find the paragraph where Mehta was discussed. If the question is about the second of three eras of Indian urban planning, find the second era. The map you built in Chapter 12 is doing its work here.

Step 2: Read carefully. Find the specific sentence (or sentences) that contains the fact. Read the whole sentence, not a fragment. Detail questions often punish students who skim past a qualifying clause.

Step 3: Match the sentence to an option. The right option will paraphrase the sentence - sometimes closely, sometimes with vocabulary changes. The wrong options will distort, contradict, exaggerate, or refer to facts from a different part of the passage.

That is the entire procedure for the Simple Pass. Locate, read, match. Practised, it takes thirty to forty-five seconds per detail question.

A Worked Example

A passage states: *Studies of regional minimum-wage variation in the United States and elsewhere have found employment effects far smaller than classical theory predicts, and in some cases no effect at all.*

A detail question might ask: *According to the passage, what have studies of regional minimum-wage variation found?*

- a) Employment effects identical to those predicted by classical theory
- b) Employment effects that are far larger than classical theory predicts
- c) Employment effects that are smaller than classical theory predicts, and sometimes nonexistent
- d) Employment effects only in countries other than the United States
- e) Employment effects that are too small to measure reliably

Locate: the sentence is about minimum-wage studies. Read: smaller than predicted, sometimes no effect. Match: (C) is a paraphrase of *smaller than classical theory predicts... in some cases no effect at all*. (A) and (B) are the opposite or wrong direction. (D) introduces a geographic restriction the passage does not make. (E) is a distortion - the passage does not say the effects are unmeasurable, only that they are smaller than predicted.

The answer is (C), and you should be able to point at the supporting sentence. That is proof-of-text discipline.

9.3 Going Deeper: The Five Detail Traps

Wrong options on detail questions fall into recognisable patterns. Naming the trap as you eliminate is the fastest way to train yourself out of falling for it.

Trap 1: The Plausible-but-Unsupported Option

This option says something that is reasonable, that fits with the topic of the passage, but that the passage *does not actually state*. Many readers fall for it because their gut tells them, *yes, that sounds right*. Detail questions are not about what sounds right; they are about what the passage says.

Defence: if you cannot point at a sentence supporting an option, that option is unsupported. Even if it sounds true, eliminate it.

Trap 2: The Distortion

The option uses words from the passage but rearranges or modifies them in a way that changes the meaning. Common distortions:

- a) Removing a hedge: *suggests* becomes *proves*; *some* becomes *all*; *under certain conditions* becomes a flat assertion.
- b) Reversing a relationship: *X causes Y* becomes *Y causes X*.
- c) Substituting a near-synonym that is not actually equivalent: *unsupported* becomes *unfounded*; *significant* becomes *primary*.

Defence: check the option's qualifying language against the passage's qualifying language word by word. The qualifiers are usually where the trap lives.

Trap 3: The Wrong-Section Option

The option mentions something that is true in the passage but is from a different section than the question is asking about. The author talked about Mehta's study in paragraph two and about Sharma's study in paragraph four; the question asks about Sharma's study; the wrong option describes Mehta's study correctly.

Defence: make sure the option corresponds to the *specific section* the question is asking about, not just to the passage in general.

Trap 4: The Outside-the-Passage Option

The option contains information that is true in the world but not stated in the passage. This trap is especially common on exams that draw passages from popular topics - economics, technology, biology - where students may have outside knowledge that contradicts or supplements what the passage says.

Defence: answer only from the passage. If you find yourself thinking *I know from outside reading that this is true*, set that knowledge aside. The exam tests your reading of the passage, not your general knowledge.

Trap 5: The Half-Right Option

The option contains two clauses, one of which matches the passage and one of which does not. Tired readers register the matching clause and miss the second clause that does not match.

Defence: read each option as a whole. If an option has two parts joined by *and* or *but*, both parts must be supported.

SOLVED ANALYSIS

Question: According to the passage, what was the principal reason that Indian post-independence urban planning could not simply continue colonial models?

In the early twentieth century, urban planning in India was dominated by colonial assumptions: cities should be designed for administrators, with native quarters kept at a careful distance from European ones. By independence, this model was untenable. The political conditions that had supported it - a small administrative elite served by a separated Indian population - no longer existed in a republic that had committed itself to citizenship of equal standing. The first generation of post-independence planners attempted, with mixed success, to reimagine the Indian city as a space organised around equality of access.

- a) Colonial planning had produced inadequate urban infrastructure
- b) Indian planners after independence lacked the technical training to apply colonial models
- c) The political foundation of colonial planning - a small administrative elite served by a separated population - was incompatible with the principles of the new republic
- d) The first generation of post-independence planners had committed themselves to entirely new urban theories developed abroad
- e) Colonial models had failed in other newly independent countries

Concept Tested: Detail retrieval with a focus on cause-and-effect language in the passage.

Analysis: Locate the relevant sentence: *The political conditions that had supported it - a small administrative elite served by a separated Indian population - no longer existed in a republic that had committed itself to citizenship of equal standing.* The reason is the change in political conditions. (A) is plausible-but-unsupported; the passage does not say colonial infrastructure was inadequate. (B) is outside-the-passages; nothing about technical training is stated. (C) paraphrases the passage's actual reason - the elite/separated-population political model versus a republic of equal citizens. (D) is a

distortion; the passage says they tried to *reimagine* the city, not that they imported foreign theories. (E) is outside-the-passage entirely.

Answer: (C)

Exam Insight: When a passage gives a reason or cause, the right detail option will paraphrase that reason almost word for word, while wrong options offer plausible-sounding alternative reasons that the passage does not actually state. Discipline yourself: the correct option must be a paraphrase of an actual sentence, not a sentence that sounds like it should be in the passage.

Pop Quiz 9.3

For the Green Revolution passage in Chapter 13's Solved Analysis, answer the following detail question. (M)

According to the passage, in places where extension services, irrigation, and credit systems were weak, the new high-yielding varieties:

- a) Were not introduced
- b) Produced disappointing results, sometimes worse than those of traditional crops
- c) Performed exactly as well as in places with strong institutions
- d) Were rejected by farmers
- e) Required different breeding techniques

9.4 Inference Questions: The Core Concept

Inference questions are where most students lose marks on RC. They are also where the GMAT and CAT diverge most clearly in style, which is why this chapter has separate sections for each.

The basic concept of an inference question is simple: the answer is *not stated* in the passage but can be *concluded* from what is stated. The trap is that this gives test-makers room to play with how much conclusion is reasonable - and the right inference is almost always smaller and more conservative than students expect.

Common inference question stems:

- a) *Which of the following can be inferred from the passage?*
- b) *The passage suggests that...*
- c) *The author would most likely agree that...*
- d) *It can be concluded from the passage that...*
- e) *Which of the following is most strongly supported by the passage?*

These all ask for a claim that is not directly written but is logically supported by what is written.

The Cardinal Rule of Inference

Here is the most important rule for inference questions on every exam: **the right inference is the most conservative one that the passage actually supports.** Inferences that go beyond what the passage strictly licenses are wrong, even if they seem reasonable in the real world.

Read that again. It is the single sentence that, if you internalise it, will improve your inference accuracy more than any technique. The right answer is not the most interesting inference, the most insightful inference, or the most “advanced” inference. It is the smallest inference the passage strictly supports.

What This Means in Practice

The right inference is typically just a half-step beyond what the passage states. If the passage says *most cities of size X have been growing slowly*, an inference might be *some cities of size X have not been growing rapidly*. That is a small step. It does not say all cities, it does not predict the future, it does not extend to other size classes. It is conservative.

Wrong inferences typically take a bigger step. *Cities of size X will continue to decline.* (Adds prediction.) *Cities of size X cannot grow.* (Removes the qualifier.) *Other cities are also growing slowly.* (Extends to a class the passage did not discuss.) These all sound reasonable, but each goes beyond what the passage strictly supports.

Inference Is Not Implication

A common confusion: inference is what the *reader* can conclude from what the passage says. Implication is what the *passage* hints at without saying outright. They overlap, but they are not the same.

An exam inference question, on every major exam, is asking for what you can logically conclude - staying close to the text, not interpreting too far beyond it. If you find yourself making a creative leap, you are probably wrong.

9.5 The Inference Spectrum (Simple Pass)

Inferences exist on a spectrum from “almost stated” to “wildly extended.” The right answer is almost always at the conservative end of the spectrum.

Position 1: Almost stated. The right inference is essentially a paraphrase of a sentence in the passage, with a slightly different framing. The passage says *X is true under conditions C*; the inference says *if conditions C are present, X holds*. This is the safest kind of inference and is common on the GMAT.

Position 2: A small logical step. The passage states A, and A clearly entails B; the inference is B. Example: the passage says *only programmes meeting condition X have succeeded*; the inference is that *programmes not meeting condition X have not succeeded*. This is a slightly bigger step but still strictly supported.

Position 3: A combination of two facts. The passage states A in paragraph one and B in paragraph three; the inference combines them. Example: the passage says (paragraph one) *all major reforms have required parliamentary approval* and (paragraph three) *the proposed change is a major reform*; the inference is that *the proposed change requires parliamentary approval*.

Position 4: A reasonable extension. The passage suggests a pattern, and the inference applies that pattern to a case the passage did not explicitly discuss. This is rare on exam questions but does appear, especially on the CAT.

Position 5: A creative leap. The passage hints, and the reader extends substantially. This is almost always wrong on exam questions. The exam does not reward creativity in inference; it rewards conservatism.

The Simple Pass for inference questions is: pick the option that lives at Position 1, 2, or 3 - never higher. If two options are plausible, choose the more conservative one.

A Worked Example

A passage states: *Carefully designed microfinance programmes - with reasonable rates, transparent terms, and complementary services - have, in several countries, produced measurable gains in household income and women's economic participation.*

An inference question might ask: *Which of the following can be inferred from the passage?*

- a) All microfinance programmes produce gains in household income.
- b) Microfinance programmes that lack reasonable rates, transparent terms, or complementary services may not produce comparable gains.
- c) Microfinance is the most effective tool for poverty reduction.
- d) Microfinance has been adopted in every developing country.
- e) Women's economic participation has increased globally.

The passage strictly supports (B). If the gains came from *carefully designed* programmes with three specific features, then programmes lacking those features cannot be assumed to produce the same results - that is a small, conservative inference. (A) overgeneralises; the passage qualifies the gains to a specific subset. (C) goes beyond the passage; nothing is said about microfinance compared to other tools. (D) is unsupported. (E) is too broad.

A Critical Subtlety: Negative Inference

Some of the hardest GMAT inference questions test what you can infer from the *absence* of something - what we will call a negative inference.

If a passage discusses three causes of a phenomenon and explicitly emphasises that these are the *primary* causes, you may sometimes be able to infer that other potential causes are *not* primary, even though the passage does not say so directly. This is a subtle move and you should make it only when the passage's language is strong enough to support it.

Example. A passage says: *The decline of the industry can be traced to three factors: regulatory change, shifting consumer preferences, and technological obsolescence.* From this, you might infer: *The author does not consider labour costs to be a primary factor in the industry's decline.* This is supported because the passage explicitly limits the factors to three, and labour costs are not among them.

But you may *not* infer: *Labour costs played no role at all in the industry's decline.* That is a stronger claim, and the passage does not support it; the author identifies primary factors but says nothing about whether other secondary factors might also matter.

The difference between *not primary* and *played no role* is small but decisive. Negative inferences are tempting and often wrong because students push them too far.

SOLVED ANALYSIS

Question: Which of the following can most reasonably be inferred from the passage below?

Most studies of long-term unemployment have focused on the experience of workers in their forties and fifties, for whom the consequences of an extended jobless period are typically severe - diminished earnings, withdrawal from the labour force, and significant declines in mental and physical health. The corresponding experience of younger workers, however, has been less well studied, in part because the standard data sets contain relatively few cases of long-term unemployment among those under thirty, and in part because researchers have assumed that younger workers' greater flexibility allows them to recover more easily. Recent work casts doubt on the second assumption: among the younger workers who do experience extended unemployment, the long-run effects on earnings appear to be at least as durable as those observed among older workers, and possibly more so.

- a) Long-term unemployment is more common among younger workers than older workers.
- b) The assumption that younger workers recover more easily from long-term unemployment is supported by recent research.
- c) Recent research suggests that the long-run earnings consequences of long-term unemployment for younger workers may be at least as severe as for older workers.

- d) Younger workers should be the primary focus of future unemployment research.
- e) Workers in their forties and fifties recover from unemployment more quickly than younger workers.

Concept Tested: Identifying the most conservative inference supported by the passage.

Analysis: The passage explicitly says: *the long-run effects on earnings appear to be at least as durable as those observed among older workers, and possibly more so*. This is the inference the passage most directly supports. (A) is a distortion of the passage's claim about prevalence in datasets - the passage says the data sets contain few cases of long-term unemployment among the young, which is not the same as saying long-term unemployment is more common among the young. (B) is the opposite of what the passage says; the recent work *casts doubt on* the assumption. (C) is essentially a paraphrase of the passage's most direct claim - Position 1 inference. (D) is a recommendation the passage does not make. (E) is a reversal - the passage suggests the opposite, that younger workers' recovery may be no better and possibly worse.

Answer: (C)

Exam Insight: When the passage explicitly says "X is at least as durable / severe / large as Y," the right inference will use the same calibrated language. Watch for options that drop the qualifier (turning "at least as durable" into "more durable") or reverse the direction (turning "the assumption is doubted" into "the assumption is supported"). The qualifying language is doing real work, and the right inference preserves it.

9.6 GMAT Inferences

GMAT inference questions reward conservatism above all else. The right answer is almost always at Position 1 or Position 2 on the inference spectrum - close to what the passage actually says, with a small but logically airtight step.

GMAT wrong inferences typically:

1. Add quantifiers the passage does not contain (*all, every, no, none*)
2. Remove qualifiers the passage does contain (*may, suggests, in some cases, under certain conditions*)
3. Predict outcomes the passage does not address (especially future predictions)
4. Make causal claims the passage describes only as correlational
5. Make value judgements the passage does not make (the author *should, must, ought to*)

A useful diagnostic: when evaluating a GMAT inference option, ask, *would the author of the passage be willing to sign her name under this statement?* If the option says something stronger or more sweeping than what the author actually wrote, the author would hesitate, and the option is wrong.

A GMAT-Specific Habit: The Two-Word Test

GMAT inference options are typically short - fifteen to thirty words - and the difference between the right option and a near-miss is often two or three words. Train yourself to find the precise word that distinguishes the right option from the wrong one. This is the same diagnostic re-reading we discussed in Chapter 13, applied at the level of inference rather than overview.

Example. Two GMAT inference options:

- a) Microfinance programmes that succeed share three specific features.
- b) Microfinance programmes succeed only when they share three specific features.

The two-word difference is *only when*. If the passage said *carefully designed programmes have produced gains*, option (A) is supported (the successful ones do share features). Option (B) is too strong (the passage does not say success is impossible without these features). The difference is small. The grading is binary.

Pop Quiz 9.7 (GMAT-Style Inference)

Read the passage and answer the question. (M)

The historical record of plague epidemics in early modern Europe shows considerable variation in mortality rates from one outbreak to the next. Some communities lost as much as half their population in a single year; others, exposed to apparently identical strains, lost less than ten percent. Recent demographic and epidemiological work suggests that this variation reflects the interaction of three factors: population density, prior exposure (which may have produced some immunological resistance), and the timing of public-health responses such as quarantine. None of these factors alone explains the variation, but together they account for most of the observed differences.

Which of the following can most reasonably be inferred from the passage?

- Public-health quarantines were the primary cause of the differences in mortality between communities.
- Communities that had not been previously exposed to plague experienced higher mortality than those that had been.
- The interaction of population density, prior exposure, and timing of public-health responses appears to account for most of the variation in plague mortality between communities.
- Population density was the most important of the three factors.
- The remaining variation, not accounted for by these three factors, is mostly random.

9.8 CAT Inferences

CAT inference questions are stylistically distinct from GMAT ones in two ways. First, the options tend to be longer - sometimes a full sentence or two. Second, CAT is more willing to test what we earlier called Position 3 and 4 inferences - combinations of facts from different paragraphs, or modest extensions of the author's logic to cases the passage did not explicitly discuss.

This means that on the CAT, the right inference is sometimes slightly more interpretive than the equivalent GMAT inference. But "slightly more" is the key phrase. CAT inferences are still grounded in the passage; they still require proof of text. The latitude is small.

CAT also loves the *which of the following would the author most likely agree with* style of question. These are essentially inference questions about the author's voice, and they require both inference skill (Chapter 14) and voice-hearing skill (Chapter 12). The right option will be one that the author's actual statements logically commit her to, even if she did not say it directly.

The CAT-Specific Trap: The Plausible Distractor

CAT options often include one option that sounds wise - that captures something interesting about the topic, that an educated reader might agree with - but that the passage does not strictly support. CAT trap-writers know that students under time pressure are tempted by intelligent-sounding options. Discipline yourself: the right answer is what the passage supports, not what is wise.

A Specific CAT Pattern: The "Best Supported" Question

CAT often asks *which of the following is most strongly supported by the passage* rather than *which can be inferred*. The phrase *most strongly supported* is doing work: it acknowledges that several options might have *some* support, and you must find the one with the *most*. This is a kind of relative grading, and it requires you to evaluate options against each other, not just against an abstract standard.

When you see "most strongly supported," go through the options and rate each on a scale: explicitly stated > directly implied > weakly implied > unsupported > contradicted. The right option is at the top of the scale. If two options are at the same level, look for the one closer to the passage's actual language.

SOLVED ANALYSIS

Question: Which of the following statements would the author of the passage below most likely agree with?

The current orthodoxy in development economics treats institutions as the deepest determinant of long-run prosperity. Countries with strong property rights, independent courts, and well-functioning

bureaucracies grow rich; countries without them do not. The orthodoxy has the merit of explaining patterns that simpler theories - those focused on geography, culture, or natural resources - cannot. Yet the orthodoxy faces a question it has not adequately answered: what determines whether a country develops the institutions in the first place? To say that institutions cause prosperity, while saying nothing about why some countries acquire good institutions and others do not, is not so much an explanation as a relabelling. A more complete theory must account not only for what institutions do but for the historical conditions under which good institutions arise - and on this question, the orthodoxy has so far had little to say.

- Institutions are not, in fact, important for long-run prosperity.
- The institutionalist view of development is essentially correct and does not require modification.
- The institutionalist view captures something important about long-run development but is incomplete because it does not explain how institutions themselves arise.
- Geographic and cultural factors are more important than institutions for long-run development.
- The institutionalist orthodoxy has been rejected by most contemporary development economists.

Concept Tested: Identifying what the author would agree with - combining inference skill with voice-hearing.

Analysis: The author concedes that the orthodoxy has merit (“the merit of explaining patterns that simpler theories cannot”) but argues that it is incomplete because it does not explain the origin of institutions. The author’s overall position is one of qualified critique - accepting part of the orthodoxy while pushing for a fuller theory. (A) is a reversal. (B) is the opposite of the author’s main argument. (C) captures both halves of the author’s position - the partial endorsement and the specific critique. (D) is unsupported; the author does not endorse geographical or cultural explanations, only mentions them as alternatives the orthodoxy correctly outperforms. (E) is unsupported; the author treats the orthodoxy as the current orthodoxy, not as one that has been rejected.

Answer: (C)

Exam Insight: On CAT-style “would most likely agree with” questions, the right option usually mirrors the author’s own qualified position - accepting partly, criticising partly. Options that take a one-sided stance (full endorsement or full rejection) are usually wrong because they fail to capture the author’s actual nuance.

9.9 Inference Questions on Other Exams

SSC and Banking Exam Inferences

Inference questions on SSC and Banking RC are usually at Position 1 or Position 2 - close to the text. The trap on these exams is rarely that the inference is too strong; more often, it is that the option uses outside knowledge or describes something not addressed in the passage.

For these exams, the most reliable habit is the proof-of-text discipline we discussed earlier: for any inference you choose, be able to point at one or two sentences in the passage that support it. If you cannot, do not pick it.

A second pattern to watch on Banking RC: options that paraphrase the passage's vocabulary very closely - almost too closely. Banking RC sometimes rewards options that are simple paraphrases, where the trick is just to recognise that *enables* and *makes possible* mean the same thing, that *contributed to* and *helped cause* are equivalent. Be alert to this. Banking RC is less about subtle inference and more about careful matching.

GATE Inference Questions

GATE RC is typically about scientific or technical topics, and inference questions on GATE follow a pattern: the right answer is a logical step that any careful reader of the technical content would take, while wrong answers either misread the technical content or extend beyond it.

GATE inferences are conservative. If you have prepared for GMAT or CAT inferences, GATE inferences will feel mechanical. The main thing to watch is technical vocabulary - make sure you know what each term in the passage and the options actually means.

GRE Inference Questions

GRE inferences are similar in flavour to GMAT inferences - short options, conservative answers, careful attention to qualifiers. The topics tend to be more humanities-leaning than GMAT topics, but the underlying logic is the same. The skills transfer.

GRE also includes a question type called "select all that apply," in which more than one option may be correct. For these, evaluate each option separately as a yes/no inference. The standard for "yes" is the same - the passage must support the option - and you may select multiple. Do not get rattled by the format change.

9.10 Specific Purpose / Function Questions

The third family of specific questions asks not what the author said but what *function* a particular sentence, paragraph, or piece of evidence performs in the passage.

Common stems:

1. *The author mentions X primarily in order to...*
2. *The reference to X serves to...*
3. *The example of X is used to...*
4. *The function of the second paragraph is to...*

These questions test whether you understood the *role* a piece of text plays in the larger argument, not what the text literally says. They are answered by asking: *why is this here? what work is it doing for the author?*

The Five Common Functions

In exam passages, references and examples typically perform one of these functions:

- a) **To support a claim** - the author is offering this as evidence for a thesis.
- b) **To illustrate a concept** - the author is making an abstract idea concrete.
- c) **To raise an objection** - the author is bringing up a view that will then be addressed.
- d) **To concede a point** - the author is acknowledging the strength of a counter-position before pushing back.
- e) **To set up a contrast** - the author is establishing one position so that a different position can be presented against it.

When a function question appears, ask which of these five the cited material is doing. You can usually tell from the surrounding context - what comes immediately before and after the cited material.

A Specific Trick: Read One Sentence Before, One After

Function questions are often answerable by reading exactly three sentences: the cited one, the one immediately before, and the one immediately after. The function of a sentence is almost always defined by what surrounds it. If the sentence before says *some critics argue* and the sentence after says *but this view rests on a misreading*, then the cited sentence is performing the function *raise an objection that will then be refuted*.

This is one of the highest-return habits in RC. When a question asks about the function of a specific sentence, do not re-read the whole paragraph - read three sentences. The answer is almost always there.

SOLVED ANALYSIS

Question: The author refers to the variation in plague mortality between communities (mentioned in the second sentence of the passage) primarily in order to:

The historical record of plague epidemics in early modern Europe shows considerable variation in mortality rates from one outbreak to the next. Some communities lost as much as half their population in a single year; others, exposed to apparently identical strains, lost less than ten percent. Recent demographic and epidemiological work suggests that this variation reflects the interaction of three factors: population density, prior exposure (which may have produced some immunological resistance), and the timing of public-health responses such as quarantine. None of these factors alone explains the variation, but together they account for most of the observed differences.

- a) To prove that the strains of plague differed substantially across communities
- b) To establish the puzzle that the rest of the passage will explain
- c) To argue that public-health responses were ineffective
- d) To compare early modern epidemics with modern ones
- e) To identify the specific causes of the highest-mortality outbreak

Concept Tested: Recognising the function of a piece of evidence within the passage's structure.

Analysis: Read three sentences: the first sentence introduces the variation; the second describes its range (half the population versus less than ten percent); the third offers the explanation (interaction of three factors). The variation is the puzzle that the rest of the passage explains. (A) is contradicted by the passage, which explicitly says the strains were *apparently identical*. (B) names the function correctly: the variation sets up the explanatory work that follows. (C) reads in an argument the passage does not make - the passage does not say public-health responses were ineffective; it lists them as one of three factors. (D) is unsupported. (E) is too narrow - the variation is presented as a general puzzle, not as a setup for a specific case.

Answer: (B)

Exam Insight: When an early sentence in a passage describes a striking variation, an unexpected pattern, or a puzzling fact, its function is almost always to set up the explanatory work that follows. The author is saying, *here is the puzzle*, and the rest of the passage solves it.

Drill Set 9A: Detail Questions

For each passage and question, choose the option best supported by the passage. After choosing, identify which sentence supports your answer.

1. (E) *The economist Joan Robinson once observed that the purpose of studying economics is not to acquire a set of ready-made answers to economic questions, but to learn how to avoid being deceived by economists. The remark, often quoted, is sometimes taken as a kind of joke. It is in fact a quite serious claim about the discipline. Economics, on Robinson's view, is unusual among the social sciences in that its practitioners frequently advise public policy and frequently disagree among themselves about what advice to give. A citizen unable to evaluate the disagreements is at the mercy of whichever economist she happens to encounter.*

According to the passage, Robinson believed that the study of economics:

- a) Should be limited to professional economists
- b) Provides a clear set of policy answers
- c) Should equip students to evaluate disagreements among economists rather than to accept any one economist's advice
- d) Is fundamentally similar to the study of natural sciences
- e) Has been corrupted by the involvement of economists in public policy

2. (M) *The earliest fossils of feathered dinosaurs, discovered in the 1990s, were initially controversial. Some palaeontologists argued that the apparent feathers were actually misinterpreted skin structures or post-mortem decomposition artefacts. As more specimens were unearthed across multiple sites in China and Mongolia, the controversy receded; the feathered structures showed too much consistency, and too clear a resemblance to modern feathers, to be dismissed as artefact. Today, the existence of feathered dinosaurs is uncontested, and attention has shifted to questions about the function of those feathers - insulation, display, or possibly proto-flight - and what their distribution across dinosaur lineages tells us about the evolution of birds.*

According to the passage, the early controversy over feathered dinosaur fossils was resolved by:

- 1. The publication of a single decisive study
- 2. The accumulation of consistent evidence across multiple specimens and sites
- 3. Improvements in fossil dating techniques
- 4. New theoretical frameworks for interpreting dinosaur anatomy
- 5. The retirement of the most prominent sceptics

Drill Set 9B: Inference Questions (GMAT and CAT Style)

1. (E) *Studies of attention in classroom settings have shown that, after the first ten to fifteen minutes of a lecture, average student attention declines steadily. Several pedagogical implications follow. Long, uninterrupted lectures are likely to be less effective than shorter ones; periodic breaks, questions, or activities can re-engage attention; and the most important content may be best placed in the first fifteen minutes rather than at the end. Although these implications are sometimes resisted by traditionalists, the evidence in their favour has accumulated to a point where they are difficult to dismiss.*

Which of the following can most reasonably be inferred from the passage?

- a) All forms of traditional lecturing should be abandoned
- b) Lectures shorter than fifteen minutes are more effective than longer ones
- c) The most important content of a long lecture, if placed at the end, is likely to receive less attention than if placed near the beginning
- d) Student attention can be sustained indefinitely with appropriate techniques
- e) Periodic breaks are the only way to maintain attention in a classroom

2. (M) *The recent enthusiasm for working from home, accelerated by the pandemic, has produced contradictory effects on different categories of workers. Knowledge workers, whose tasks are largely independent of physical location, have generally reported gains in flexibility and reductions in commuting time, though some have also reported difficulty separating work from non-work life. Service workers and those in roles requiring physical presence have not benefited from the shift, and in some cases have seen their working conditions deteriorate as employer attention has flowed toward the more visible needs of remote workers. The aggregate picture is therefore not one of universal benefit but of redistribution: gains for some, losses for others, with the distribution shaped by the existing structure of the labour market.*

Which of the following is most strongly supported by the passage?

- a) Working from home has produced uniform benefits across all categories of workers
- b) The benefits of working from home have been distributed unevenly, with knowledge workers gaining more than service workers
- c) Service workers should also be allowed to work from home
- d) The pre-pandemic labour market was equitable
- e) Employer attention to remote workers has improved working conditions for all employees

3. (M) *Although the proposal to expand the city's metro network has been presented as a uniformly progressive reform, a closer look at the route map reveals that the new lines pass primarily through*

high-income residential districts and major commercial zones, while leaving most of the lower-income peripheral areas largely unconnected. The proposal will undoubtedly improve commutes for those it serves. Whether it can be described as progressive - in the redistributive sense - is a different question.

Which of the following can be inferred from the passage?

- a) The proposed metro expansion will not benefit any commuters
- b) The author opposes all metro expansion
- c) The proposed expansion would primarily benefit residents of higher-income areas, raising questions about whether it is progressive in a redistributive sense
- d) Metro expansion is generally regressive
- e) Lower-income peripheral areas are unsuited for metro service

4. (H) *A long-running debate in the philosophy of science concerns whether scientific theories should be evaluated on their predictive power alone or on broader criteria such as explanatory depth, theoretical elegance, and consistency with established results. Defenders of predictive purism argue that the other criteria are subjective and admit too much that is unscientific into the evaluation of theories. Critics counter that strict predictive purism, applied consistently, would have rejected several theories now regarded as central to modern physics during their early stages of development, when their predictive accuracy was poor or untestable. The debate has not been resolved, but the historical record at least suggests that practising scientists typically apply a mix of criteria, even when they describe themselves as committed to a single one.*

Which of the following can most reasonably be inferred from the passage?

- a) Strict predictive purism, if rigorously applied, would have prevented the development of some theories now considered central to modern physics
- b) Practising scientists rarely care about predictive accuracy
- c) Theoretical elegance is the most important criterion for evaluating scientific theories
- d) The debate over evaluation criteria has been resolved in favour of broader criteria
- e) Predictive purism has been abandoned by most contemporary philosophers of science

Drill Set 9C: Specific Purpose / Function Questions

1. (E) *Modern accounts of memory often distinguish between short-term and long-term storage, treating the two as separate systems. This distinction has long been useful, and it remains a serviceable starting point for introductory psychology courses. But over the past two decades,*

neuroscientists studying the actual mechanisms of memory formation have come to question the sharpness of the boundary. Evidence from imaging studies, lesion patients, and animal models suggests that what looks like two systems is in fact a single graded process.

The author refers to “introductory psychology courses” primarily in order to:

- a) Argue that introductory psychology should be reformed
- b) Identify the context in which the older distinction between short-term and long-term memory remains useful
- c) Demonstrate that university teaching has not kept up with research
- d) Compare introductory courses with advanced ones
- e) Defend the older account against newer evidence

2. (M) *The conventional account of the Green Revolution credits a small number of plant scientists, working largely in international research institutes, with the development of high-yielding crop varieties that transformed agriculture in much of Asia and Latin America during the 1960s and 1970s. This account is not wrong, but it is incomplete. The new varieties succeeded only in places where extension services, irrigation infrastructure, and credit systems made it possible for ordinary farmers to adopt them. Where these complementary systems were weak, the same varieties produced disappointing results, sometimes worse than the traditional crops they replaced.*

The reference to *places where the new varieties produced disappointing results* serves primarily to:

- 2. Argue that the Green Revolution was a failure
- 3. Provide evidence that the conventional account, focused only on plant breeders, is incomplete
- 4. Compare the Green Revolution in Asia with that in Latin America
- 5. Identify the specific countries where extension services were weak
- 6. Describe the technical limitations of the new crop varieties

Answers to Pop Quizzes

Pop Quiz 9.3

(B). The passage states: *Where these complementary systems were weak, the same varieties produced disappointing results, sometimes worse than the traditional crops they replaced.* (A) is unsupported; the passage does not say the varieties were not introduced in those places. (C) contradicts the passage. (D) and (E) are outside-the-passages.

Pop Quiz 9.7

(C). The passage explicitly states: *None of these factors alone explains the variation, but together they account for most of the observed differences.* (A) overstates the role of public-health responses; the passage names them as one of three factors, not the primary cause. (B) is plausible but not stated; the passage discusses prior exposure as a factor but does not directly compare communities with and without prior exposure. (D) is unsupported. (E) is unsupported; the passage says *most* of the variation is accounted for, but does not characterise the remaining variation as random.

Answers to Drill Sets

Drill Set 9A: Detail Questions

1. (C) Supporting sentence: *the purpose of studying economics is not to acquire a set of ready-made answers to economic questions, but to learn how to avoid being deceived by economists.* (A), (B), (D), and (E) are all unsupported by the passage. **Insight:** Robinson’s remark is paraphrased almost word-for-word in (C); when an option closely paraphrases a quoted statement, it is usually correct.

2. (B) Supporting sentence: *As more specimens were unearthed across multiple sites in China and Mongolia, the controversy receded; the feathered structures showed too much consistency, and too clear a resemblance to modern feathers, to be dismissed as artefact.* (A) is plausible-but-unsupported. (C), (D), (E) are all outside-the-passage.

Drill Set 9B: Inferences

1. (C) The passage explicitly says attention declines after fifteen minutes and that the most important content may be best placed in the first fifteen minutes. From this, you can conservatively infer that important content placed at the end of a long lecture would receive less attention than if placed near the beginning. (A) is too strong (passage says “long, uninterrupted lectures” are likely less effective, not that all traditional lecturing should be abandoned). (B) is unsupported (no comparison with very short lectures is made). (D) is unsupported. (E) is too strong (“the only way”).

2. (B) The passage describes a redistribution of benefits - knowledge workers gain, service workers lose. (B) captures this. (A) is contradicted. (C) is a recommendation the passage does not make. (D) is unsupported. (E) is contradicted by the passage’s claim that service workers’ conditions sometimes deteriorated.

3. (C) The passage describes the route map’s bias toward higher-income areas and questions whether the proposal is progressive in the redistributive sense. (C) captures this exactly. (A) overstates (“will

not benefit any”) - the passage says the proposal will improve commutes for those it serves. (B) is too strong. (D) generalises beyond the passage. (E) is unsupported.

4. (A) The passage explicitly says strict predictive purism *would have rejected several theories now regarded as central to modern physics during their early stages of development*. (A) is a paraphrase of this. (B) is contradicted. (C) is too strong; the passage does not endorse any one criterion as most important. (D) and (E) are unsupported. **Insight:** when a passage explicitly says *X would have done Y if rigorously applied*, the inference is exactly that - be cautious about turning *would have* into present-tense or absolute claims.

Drill Set 9C: Specific Purpose / Function

1. (B) Read three sentences: the introduction of the older distinction; the comment about introductory courses; the pivot to recent neuroscience. The introductory-courses reference is identifying *where the older view still has a place* before the author challenges it for advanced research. (A), (C), and (D) are unsupported. (E) reverses the function - the author is qualifying the older view, not defending it.

2. (B) The reference to disappointing results follows directly from *this account is not wrong, but it is incomplete*. The disappointing results are evidence that something more than plant breeding mattered. (A) is too strong; the author does not call the Green Revolution a failure. (C), (D), and (E) misidentify the function.

3. (C) The author is making a concession: *there is some basis for the concern* and the observation about characteristic errors supports that concession. The author then pivots (*But the argument moves too quickly...*). The function of mentioning the errors is to acknowledge what is true in the defenders' view before disagreeing with the conclusion they draw. (A) and (B) reverse the function; the cited material supports the defenders, not the author. (D) is too literal - the function is not just to describe errors but to perform the concession. (E) is contradicted by the rest of the passage.

9.11 The Practice Question

Passage 4 - Advanced (Philosophy of Science)

Recommended time: 10 minutes (read + 5 questions)

The image of science as the steady accumulation of established truths has had a remarkable durability, despite generations of philosophical and historical work suggesting that the actual practice of science looks rather different. On the cumulative view, science begins with observations, develops hypotheses to organise them, tests the hypotheses against further observations, and gradually constructs a body of theory that approximates more and more closely to the way the world is. Errors

are made, but they are corrected; theories are revised, but the revisions converge on something stable. The picture is one of progress, however slow and bumpy, toward a destination.

Against this picture, philosophers since at least the mid-twentieth century have raised a series of objections that, taken together, are difficult to dismiss. The most famous, associated with Thomas Kuhn, holds that the history of science does not show steady accumulation but periodic upheavals - paradigm shifts - in which the framework within which observations are interpreted is itself replaced, and replaced not because the new framework is straightforwardly better at the same task as the old one, but because it makes possible different kinds of investigation that are not always commensurable with what came before. A related objection, associated with Imre Lakatos, allows for a more continuous picture but emphasises that what counts as progress within a research programme is internal to that programme; from outside it, progress may look like nothing of the kind.

These objections have been productive, in that they have forced philosophers and historians of science to confront the gap between the rhetoric of science (which often speaks the language of accumulation) and the practice of science (which often does not). They have also been controversial, in that some of their stronger formulations seem to imply a relativism about scientific knowledge that practising scientists, with some justice, find difficult to recognise in their own work. If paradigms are incommensurable, then on what basis is one preferred over another? If progress is internal to a research programme, then on what basis can the long-run claim that science approximates more and more closely to truth be sustained?

The most careful work in the philosophy of science over the past three decades has tried to navigate between these positions. It has accepted that the cumulative picture, in its naive form, is misleading: science does undergo discontinuities, theoretical frameworks do shift in ways that are not simple refinements, and progress is not always best described as approximation to a fixed truth. But it has also resisted the strongest forms of relativism: paradigms, while not always commensurable in every respect, are usually commensurable enough that scientists working within different ones can communicate, compare results, and reach a measure of agreement; research programmes, while internally evaluated, also confront external constraints - predictive failure, technological inability, anomalous observations - that operate across programmes and shape which programmes survive over the long run.

What has emerged from this work is a picture of science that is neither purely cumulative nor purely revolutionary, neither linearly progressive nor merely conventional. It acknowledges that scientific practice is more historical, more contingent, and more shaped by institutional and social factors than the older image admitted; it also acknowledges that scientific knowledge, despite all this, has a durability and a connection to the world that distinguishes it from other forms of belief. Holding these acknowledgements together is harder than committing to either of the simpler stories, and the

philosophical work of the past three decades has, more than anything else, been work in support of the harder position.

Questions:

Q1. The primary purpose of the passage is to:

- a) Defend the cumulative view of science against its critics
- b) Argue that science is essentially a social construction
- c) Trace the development of philosophical objections to the cumulative view of science and describe the current more nuanced position
- d) Compare the philosophical positions of Kuhn and Lakatos
- e) Argue that paradigm shifts are the most important feature of scientific change

Q2. Which of the following best describes the organisation of the passage?

- a) A view is presented and defended with evidence
- b) Two competing views are described, and one is rejected
- c) A traditional view is described, philosophical objections to it are reviewed, problems with the strongest forms of those objections are noted, and a more careful synthesising position is described
- d) A historical narrative is traced from antiquity to the present
- e) A paradox is presented and resolved

Q3. According to the passage, the strongest forms of the objections associated with Kuhn and Lakatos:

- a) Have been entirely accepted by contemporary philosophers of science
- b) Were directed only at particular subfields of science
- c) Seem to imply a relativism that practising scientists find difficult to recognise in their own work
- d) Have been refuted by recent empirical work
- e) Were never taken seriously in mainstream philosophy

Q4. Which of the following statements would the author most likely agree with?

- a) The naive form of the cumulative view of science is essentially correct
- b) Science is best understood as a series of arbitrary paradigm shifts with no overall direction

- c) Science is neither purely cumulative nor purely revolutionary, and any adequate account must acknowledge both its discontinuities and its long-run connection to the world
- d) Practising scientists are not qualified to evaluate philosophical claims about science
- e) The philosophy of science has resolved its central debates

Q5. The author refers to *predictive failure, technological inability, anomalous observations* primarily in order to:

- a) Argue that science makes no real progress
- b) Identify external constraints that operate across research programmes and that thereby resist a purely internalist picture of scientific evaluation
- c) Compare the work of Kuhn and Lakatos
- d) Suggest that scientific theories should be evaluated only on predictive grounds
- e) Describe the methods of contemporary science

9.12 Combining Everything: Solutions

Solutions for Passage 4 (Advanced - Philosophy of Science)

Q1. Answer: (C). Your overview: *the author traces the development of philosophical objections to the cumulative view and describes the current more nuanced synthesising position.* (C) is a near-paraphrase. (A) is wrong because the author critiques the naïve cumulative view. (B) overstates; the author resists strong relativism. (D) is too narrow - Kuhn and Lakatos are mentioned but not the focus. (E) takes one position the author treats as one objection among several.

Q2. Answer: (C). Map the moves: cumulative view → objections → problems with the strongest forms of those objections → careful synthesis. (C) names all four moves. (A) misses the synthesising structure. (B) is wrong because the author does not reject either side; the author synthesises. (D) is unsupported. (E) is misleading; this is not a paradox-and-resolution structure.

Q3. Answer: (C). Locate the relevant sentence: *some of their stronger formulations seem to imply a relativism about scientific knowledge that practising scientists, with some justice, find difficult to recognise in their own work.* (C) is a near-paraphrase. (A), (B), (D), (E) are all contradicted or unsupported.

Q4. Answer: (C). The author's synthesising position is stated in the closing paragraph: *neither purely cumulative nor purely revolutionary, neither linearly progressive nor merely conventional... scientific knowledge, despite all this, has a durability and a connection to the world that distinguishes it from other forms of belief.* (C) captures this. (A) and (B) take one-sided positions the author rejects. (D) is unsupported and uncharitable to the author's stated respect for practising

scientists' intuitions. (E) is too strong; the author describes the synthesis as having emerged from work, not as a final resolution.

Q5. Answer: (B). Read three sentences around the reference: the author has been describing how careful work resists strong relativism. The mention of *predictive failure*, *technological inability*, *anomalous observations* serves to identify the kind of external constraint that operates across research programmes - undermining the strict internalism that some Lakatosian formulations imply. (B) names this function. (A) and (D) are reversals of the author's position. (C) and (E) misidentify the function.

Vocabulary

Chapter 10: Vocabulary and RC Idioms

10.1 Vocabulary & RC Idioms

Grammar decides whether your sentence is correct. Vocabulary decides whether your sentence is *heard*. This chapter will not throw three thousand flashcards at you. Three thousand flashcards is how students burn out in the second week. Instead, we will teach you the **methods** that make vocabulary grow on its own - roots, mnemonics, clusters, contexts. By the end, you should not just *know* more words. You should have a **system** for learning new ones faster than you forget the old ones.

10.2 How to Learn Vocabulary for the GMAT

If you have ever written a word on a flashcard, stared at the definition, moved on, and forgotten it by Tuesday - you are not alone. Memory does not work by staring. It works by **encoding**: creating hooks that the brain can grab later.

There are six encoding techniques that actually work. Most students use one or two. Using three or four of them on the same word is how you make a word stick for life.

10.2.1 Method 1: Roots and Etymology - the simple pass

Most English words are built from a **Latin** or **Greek** root. If you know the root, you can often guess a word you have never seen before. One root, learned once, can unlock eight to ten words.

Take the root **BEN / BENE** (Latin: "good"):

Word	Meaning
benevolent	wishing good to others
benign	gentle, harmless
benediction	a blessing (a "good saying")
beneficiary	one who receives good
bonafide	genuine, in good faith
bonhomie	cheerful friendliness

There are six words and one root. Learn *bene* once and you will never forget any of them again.

Example: you're reading a passage and you see the word *malediction*. You have never seen it. But you know **mal** means "bad" (as in *malaria*, *malice*, *malignant*) and **dict** means "to say" (as in *dictate*, *predict*, *verdict*). Combine them: "a bad saying" - a curse.

10.2.2 Method 2: Mnemonics - the simple pass

A **mnemonic** is a memory trick. It works by attaching a strange, vivid, or funny image to a word so your brain cannot easily forget it.

The simplest mnemonic is **sound-alike substitution**:

- *Abase* (to humiliate, lower) → sounds like "a base" - you lower someone to "a base" level.
- *Cajole* (to persuade with flattery) → sounds like "car-goal" - someone flatters you into buying a car.
- *Lugubrious* (mournful, sad) → sounds like "lagoo-briyani" - a sad man eats briyani alone in a lagoon. Weird and therefore memorable.
- *Obsequious* (servile, excessively flattering) → "ab-say-quiz" - a man answers every quiz the boss asks with "yes sir, yes sir".

The stranger the image, the better it sticks. That is the whole secret: the brain remembers the ridiculous.

10.2.3 Method 3: Word Clusters - the simple pass

Instead of learning words alphabetically (a terrible idea), learn them in **meaning groups**.

Cluster: words for "to criticise"

admonish → *rebuke* → *reproach* → *censure* → *castigate* → *excoriate* → *vilify*

All mean roughly the same thing, but they line up from mild to severe. By learning them together, you don't just learn seven words - you learn the **scale** of English criticism, which is what the GMAT actually tests when it asks you to choose between *admonished* and *castigated*.

Cluster: words for "to praise"

commend → *laud* → *extol* → *eulogise* → *lionise* → *venerate* → *deify*

Same idea, opposite direction. A fluent exam-taker doesn't ask "what does *extol* mean?" - they ask "is *extol* stronger or weaker than *commend*?" Clusters give you that answer automatically.

10.2.4 Method 4: Context Reading

You cannot shortcut this one, and I won't pretend you can. The single largest predictor of a student's final RC score is **how much quality English they have read**.

10.2.5 Method 5: Spaced Repetition

The brain forgets on a predictable curve. Reviewing a word 1 day, 3 days, 7 days, and 21 days after you first learned it is roughly ten times more effective than reviewing it four times on the same day.

10.2.6 Method 6: Active Production

Memory for *recognition* (knowing a word when you see it) is not the same as memory for *recall* (pulling the word out when you need it). Reading-comprehension exams mostly need recognition. But the strongest kind of memory comes from **using** a word - speaking it, writing it, thinking in it.

The simplest discipline: every evening, write **one sentence** using a word you learned that day. Not a mechanical sentence - a sentence about your actual life.

- *I was incensed when the auto driver refused to return my change.*
- *The junior's obsequious smile made me want to give him harder work.*
- *The old library building had a certain melancholy beauty.*

Once you've used a word in a sentence about your own day, it is no longer a foreign word on a list. It is yours.

10.2.7 Going Deeper - Advanced Vocabulary Techniques

Once the basics are a habit, the following techniques separate a 700-level GMAT verbal score from a 650.

(a) Greek vs. Latin - What Each Signals

Latin roots tend to show up in **everyday academic prose**: *dict, port, scribe, voc, sent, vis, mit*.

Greek roots tend to show up in **technical, scientific, and philosophical prose**: *phon, graph, log, philo, psycho, bio, geo, chron*.

Knowing which language a root comes from also tells you, roughly, what register of writing you're in. A passage full of Greek-rooted words (*epistemology, teleology, phenomenology*) is almost certainly a philosophy or science passage. A passage heavy on Latin roots (*obligation, consequence, resolution*) is more likely a legal, political, or business passage. This context-prediction alone can save you two or three seconds per question in a reading set - which adds up to a real mark.

(b) Semantic Mapping (Mind-Maps for Words)

Instead of one flashcard per word, draw a **mind-map** for a concept. Put a word in the centre, and branch out into:

- Synonyms
- Antonyms

- Example sentence
- Root / etymology
- A stronger word on the same scale
- A weaker word on the same scale

A map for the word **sanguine** (optimistic, cheerful):

- *Synonyms*: hopeful, optimistic, buoyant.
- *Antonyms*: morose, despondent, pessimistic.
- *Stronger*: euphoric.
- *Weaker*: content.
- *Root*: Latin *sanguis* ("blood"); in old medicine, a "sanguine temperament" meant blood-dominated - warm and cheerful.
- *Example*: *Despite three rejections, she remained sanguine about her prospects.*

That one map teaches you eight related words.

(c) Collocations - Which Words Travel Together

Fluent readers recognise not just words but the **company words keep**. *Heavy rain*, not *strong rain*. *Strong coffee*, not *heavy coffee*. *Make a decision*, not *do a decision*. *Commit a crime*, not *make a crime*.

Start noting collocations as you read. This is what makes your own English sound natural, and what lets you spot the "slightly off" wording in a sentence-correction question.

(d) Register - Formal, Neutral, Informal

Every English word has a register - a level of formality.

- **Informal**: *kid, buddy, dude, loads of, huge, awesome, tough, broke*.
- **Neutral**: *child, friend, many, large, good, difficult, without money*.
- **Formal**: *juvenile, confidant, multitude, substantial, exemplary, arduous, impecunious*.

Exam passages are almost always neutral-to-formal. If an option uses a clearly informal word, it is often wrong - not because of grammar, but because of register.

(e) Connotation - Same Meaning, Different Feeling

Many "synonyms" carry different emotional weight.

- *thrifty* (positive: prudent with money) vs. *miserly* (negative: stingy).

- *confident* (positive) vs. *arrogant* (negative) vs. *cocky* (negative informal).
- *slim* (positive) vs. *skinny* (neutral-negative) vs. *emaciated* (strongly negative).

A GMAT RC question may ask: *Which word best describes the author's tone toward X?* The difference between *critical* and *scathing* is only connotation - but the answer depends on it.

10.3 Vocabulary List for the GMAT

The list below is organised the way a learner's brain wants it: **by cluster, by root, by confusion, and by scale** - not alphabetically. A definition alone is a flat note. A word in a cluster is a chord.

10.3.1 Cluster A - Everyday Word → Elevated Word

For every common word you already know, there is a more precise word that signals you've actually read some English. These are the first sixty words to own.

Simple	Elevated	Meaning
happy	elated	very happy, often because of success
	jubilant	joyful in a triumphant way
	euphoric	intensely, almost drug-like happy
sad	melancholy	gentle, thoughtful sadness
	despondent	without hope
	morose	sullenly sad
angry	indignant	angry at unfairness
	irate	openly, visibly angry
	incensed	deeply, furiously angry
afraid	apprehensive	worried about what might happen
	timorous	habitually fearful

	petrified	so afraid you can't move
strange	peculiar	uncommonly odd
	aberrant	departing from the norm
	esoteric	understood by few
brave	intrepid	fearless, especially in exploration
	audacious	boldly daring
	valiant	bravely heroic
lazy	indolent	habitually lazy
	slothful	reluctant to work
proud	haughty	proud in an arrogant, superior way
	supercilious	proud and contemptuous
	forthright	direct without pretence
	ingenuous	innocently honest
dishonest	duplicitous	two-faced
	mendacious	given to lying
	perfidious	treacherously unfaithful
quiet	reticent	not given to speaking freely
	taciturn	habitually silent
	reserved	self-restrained in speech
talkative	loquacious	fond of talking

	garrulous	talkative about trivial things
	voluble	smoothly and continuously talkative
stubborn	obstinate	refusing to change
	intransigent	unwilling to compromise
	recalcitrant	resistant to authority
clear	lucid	easily understood
	perspicuous	transparently clear
unclear	opaque	hard to see through, literally or figuratively
	abstruse	difficult to understand
	arcane	known only to a few

10.3.2 Cluster B - Root-Based Learning

Below are **twenty high-yield roots**. Each opens a family of five to ten words. Work through them one at a time, and you will have added roughly a hundred and fifty words to your vocabulary by the end of this single section - each one with a hook that keeps it from fading.

Root: BEN / BENE - good (Latin)

benevolent, benign, benediction, beneficial, beneficiary, bonafide, benefactor.

Hook: "Bon appétit" = "good appetite."

Root: MAL / MALE - bad (Latin)

malevolent, malice, malign, malady, malignant, maladroitness, malfeasance, malcontent.

Hook: *malaria* literally means "bad air" - Italians thought swamps gave off bad air.

Root: VID / VIS - to see (Latin)

vision, visible, evident, provide (pro = forward; "see ahead"), revise, supervise, improvise, video.

Hook: Latin *video* = "I see."

Root: DICT / DIC - to say, speak (Latin)

dictate, predict, verdict, benediction, malediction, contradict, indicate, edict, diction.

Hook: a *dictator* is literally one who "does the speaking."

Root: LOQU / LOC / LOG - to speak (Latin/Greek)

eloquent, loquacious, colloquial, soliloquy, grandiloquent, circumlocution, dialogue, prologue.

Hook: *loquacious* = loves to talk.

Root: SCRIB / SCRIPT - to write (Latin)

describe, inscribe, subscribe, scripture, manuscript, transcript, prescribe, proscribe, circumscribe.

Hook: *manuscript* = "written by hand" (*manu* = hand).

Root: PORT - to carry (Latin)

import, export, transport, portable, porter, deport, support, report, rapport.

Hook: a *portable* device you can carry.

Root: CHRON - time (Greek)

chronological, chronic, synchronise, anachronism, chronicle, chronometer.

Hook: *chronic* illness = one that lasts over time.

Root: PHIL - love (Greek)

philosophy (love of wisdom), philanthropist (lover of humanity), philology (love of language), bibliophile (book lover), Anglophile, Francophile.

Hook: *Philadelphia* = "city of brotherly love."

Root: PHOB - fear (Greek)

phobia, claustrophobic, xenophobia, hydrophobia, homophobia.

Hook: a *phobia* is an irrational fear.

Root: BENE- / MAL- pairs are exam gold. Scan a sentence and the root alone often decides the tone - positive or negative - before you even know the word.

Root: CRED - to believe (Latin)

credible, incredible, credulous (easily believing), incredulous (disbelieving), credentials, creed, accredit.

Hook: your *credit* score is how much someone will *believe* you'll pay back.

Root: FID - faith, trust (Latin)

fidelity, infidel, confidant, diffident, perfidy, bona fide.

Hook: *Fido* - the loyal ("faithful") dog name.

Root: VER / VERI - truth (Latin)

verify, veracity, verdict (true-saying), aver, veritable, verisimilitude.

Hook: a *verdict* is a "true-saying."

Root: MIS / MIT - to send (Latin)

transmit, submit, emit, admit, remit, intermittent, mission, missile, dismiss.

Hook: a *missile* is something "sent."

Root: TEN / TAIN - to hold (Latin)

tenacious, retain, detain, contain, sustain, abstain, tenant, tenet, tenure, tenable.

Hook: a *tenant* "holds" the lease; a *tenet* is a "held" belief.

Root: CAP / CEP / CIP / CAPT - to take (Latin)

capture, accept, receive, intercept, concept, perception, recipient, principal, municipal, incipient.

Hook: when you *accept* something, you take it.

Root: SPEC / SPECT - to look (Latin)

inspect, respect, prospect, spectacle, speculate, perspective, circumspect, retrospect, conspicuous.

Hook: *spectacles* = things to look through.

Root: PAN - all (Greek)

pandemic (all-people), panorama (all-view), panacea (cure-all), pantheon (all-gods), panoply.

Hook: *pan* = all, everywhere.

Root: GEN - birth, origin (Greek/Latin)

generate, genesis, genetic, genealogy, genre, indigenous, progeny, congenital, ingenuous.

Hook: your *genes* come from your parents - your origin.

Root: LOG / LOGY - study of, word (Greek)

biology, psychology, theology, monologue, dialogue, eulogy, logic, analogy.

Hook: any *-ology* = study of something.

Root: EU - good, well (Greek)

euphoria (good feeling), *eulogy* (good speech), *euphemism* (good-sounding substitute), *euthanasia* (good death), *euphony*.

Hook: *eu* = good (opposite of *dys* = bad, as in *dystopia*).

Root: DYS - bad, difficult (Greek)

dystopia, *dyslexia*, *dysfunctional*, *dyspepsia*.

Root: AUTO - self (Greek)

autobiography, *autonomous*, *automatic*, *autocrat*.

If you learn one root a day, in three weeks you own a spine of English so strong that most unfamiliar words become guessable on sight.

10.3.3 Cluster C - Confusable Pairs

These pairs are the ones Indian students most commonly mix up in RC, SC, and writing. Each pair is one exam trap. Learn them once.

Pair	Distinction
affect / effect	<i>affect</i> (verb) = to influence; <i>effect</i> (noun) = result. The rain affected the match; the effect was a delay.
adverse / averse	<i>adverse</i> = unfavourable (adverse weather); <i>averse</i> = unwilling (averse to risk).
allude / elude	<i>allude</i> = refer to indirectly; <i>elude</i> = escape from.
assure / ensure / insure	<i>assure</i> (people - give confidence); <i>ensure</i> (make certain); <i>insure</i> (financial protection).
complement / compliment	<i>complement</i> = completes (shoes complement the outfit); <i>compliment</i> = praise.
continual / continuous	<i>continual</i> = repeated often; <i>continuous</i> = uninterrupted.
discreet / discrete	<i>discreet</i> = careful, tactful; <i>discrete</i> = separate, distinct.

elicit / illicit	<i>elicit</i> (verb) = draw out; <i>illicit</i> (adj) = illegal.
eminent / imminent	<i>eminent</i> = famous; <i>imminent</i> = about to happen.
flaunt / flout	<i>flaunt</i> = show off; <i>flout</i> = openly ignore (a rule).
historic / historical	<i>historic</i> = important in history; <i>historical</i> = simply relating to history.
imply / infer	<i>Imply</i> is what the speaker does; <i>infer</i> is what the listener does.
ingenious / ingenuous	<i>ingenious</i> = clever; <i>ingenuous</i> = innocent, naive.
moral / morale	<i>moral</i> = ethical; <i>morale</i> = group spirit.
principal / principle	<i>principal</i> = main, or head of school (a "principal" is a "prince"); <i>principle</i> = fundamental rule.
stationary / stationery	<i>stationary</i> = not moving; <i>stationery</i> = writing supplies.
practice / practise	In British/Indian English, <i>practice</i> is the noun, <i>practise</i> is the verb.
lie / lay	<i>lie</i> = recline (I lie down); <i>lay</i> = put down (I lay the book). Past: <i>lay</i> / <i>laid</i> .
accept / except	accept = receive; except = excluding.
council / counsel	council = a group; counsel = advice (or lawyer).

10.3.4 Cluster D - GMAT / CAT Power Words (Advanced)

These are the high-frequency words that separate a 600-level scorer from a 700-level scorer. Each carries a short definition and an example. A memory hook follows where it helps.

- **Aberration** - a departure from the norm. *The warm December was an aberration.*
- **Abstemious** - moderate, especially in eating/drinking. *His abstemious diet kept him lean.*

- **Acquiesce** - to accept reluctantly. *She acquiesced to the demand after hours of argument.*
- **Admonish** - to warn or mildly rebuke. *The teacher admonished him for being late.*
- **Alacrity** - cheerful readiness. *She accepted the offer with alacrity.*
- **Ambivalent** - having mixed feelings. *I am ambivalent about the new policy.*
- **Ameliorate** - to make better. *The medicine ameliorated his symptoms.*
- **Anachronism** - something out of its proper time. *A smartphone in a medieval film is an anachronism.*
- **Ascetic** - severely self-disciplined, avoiding pleasure. *The monk lived an ascetic life.*
- **Assiduous** - diligent, persistent. *Her assiduous research led to the breakthrough.*
- **Banal** - boringly ordinary. *The speech was full of banal clichés.*
- **Belie** - to disguise, to contradict. *His calm tone belied his fury.*
- **Bellicose** - eager to fight. *A bellicose remark from the speaker triggered the walkout.*
- **Cacophony** - harsh noise. *A cacophony of horns rose from the traffic.*
- **Capricious** - suddenly changeable. *The capricious weather ruined the trek.*
- **Circumspect** - careful, cautious. *A circumspect diplomat weighs every word.*
- **Clandestine** - secret. *They held clandestine meetings at midnight.*
- **Cogent** - logically persuasive. *She made a cogent argument for reform.*
- **Debacle** - a complete failure. *The launch was a debacle.*
- **Denigrate** - to speak ill of, to belittle. *He denigrated his rivals in every speech.*
- **Didactic** - intended to teach (often preachy). *The novel felt too didactic.*
- **Disparate** - fundamentally different. *The team's disparate backgrounds made it strong.*
- **Ebullient** - overflowing with enthusiasm. *Her ebullient nature lit up the room.*
- **Effusive** - expressing feeling excessively. *His effusive praise was embarrassing.*
- **Egalitarian** - believing in equality. *The society is built on egalitarian ideals.*
- **Enervate** - to drain energy from. *The humidity enervated the entire team.*
- **Ephemeral** - short-lived. *Fame is often ephemeral.*
- **Equanimity** - calmness under stress. *She faced the crisis with equanimity.*

- **Equivocate** - to speak ambiguously to avoid commitment. *The minister equivocated on the budget.*
- **Erudite** - highly learned. *His erudite essays appear in major journals.*
- **Esoteric** - understood by few. *The topic was too esoteric for beginners.*
- **Exacerbate** - to make worse. *Shouting only exacerbated the argument.*
- **Exculpate** - to free from blame. *New evidence exculpated the accused.*
- **Extol** - to praise highly. *The paper extolled the new policy.*
- **Facetious** - jokingly not serious. *His facetious remark ended the debate.*
- **Fastidious** - extremely attentive to detail. *A fastidious editor catches every error.*
- **Feckless** - weak, irresponsible. *Her feckless cousin drifted from job to job.*
- **Fickle** - changing frequently, especially affections. *A fickle leader loses followers.*
- **Frugal** - economical. *A frugal household spends carefully.*
- **Garrulous** - excessively talkative. *The garrulous uncle dominated dinner.*
- **Gregarious** - sociable. *Gregarious students thrive in group work.*
- **Hackneyed** - overused, clichéd. *Avoid hackneyed phrases in your essays.*
- **Hegemony** - dominance, especially by one state over others. *Technological hegemony.*
- **Iconoclast** - one who attacks established beliefs. *The professor was an intellectual iconoclast.*
- **Impetuous** - acting quickly without thought. *An impetuous decision cost him dearly.*
- **Impugn** - to call into question. *No one impugned her integrity.*
- **Incongruous** - out of place. *The modern building looked incongruous beside the old temple.*
- **Indefatigable** - tireless. *Her indefatigable work on the project earned her a promotion.*
- **Indolent** - habitually lazy. *Indolent afternoons.*
- **Ineffable** - too great to be expressed in words. *The ineffable beauty of the mountains.*
- **Inimical** - harmful, hostile. *Inimical to democracy.*
- **Insidious** - sneakily harmful. *An insidious campaign of rumours.*
- **Inspid** - flavourless, uninteresting. *An inspid lecture.*

- **Intransigent** - unwilling to compromise. *The intransigent union refused every offer.*
- **Inveterate** - long-established, habitual. *An inveterate gambler.*
- **Irascible** - easily angered. *An irascible old boss.*
- **Jingoism** - extreme patriotism. *Film music can lean toward jingoism.*
- **Jubilant** - triumphantly joyful. *The jubilant team lifted the trophy.*
- **Laconic** - using very few words. *A laconic reply: "Done."*
- **Languid** - slow, relaxed, without energy. *A languid afternoon.*
- **Largesse** - generosity. *The donor's largesse built the library.*
- **Loquacious** - talkative. *Loquacious to a fault.*
- **Lucid** - clear, easy to understand. *A lucid explanation.*
- **Magnanimous** - generous, especially in forgiving. *A magnanimous victor.*
- **Maudlin** - sentimentally tearful. *Maudlin speeches at farewells.*
- **Meticulous** - extremely careful. *A meticulous scholar.*
- **Mitigate** - to make less severe. *A policy to mitigate inflation.*
- **Mundane** - ordinary, dull. *Mundane chores.*
- **Nebulous** - vague, unclear. *A nebulous plan.*
- **Nefarious** - deeply wicked. *Nefarious intentions.*
- **Obfuscate** - to make deliberately unclear. *Jargon that obfuscates meaning.*
- **Obsequious** - excessively flattering, servile. *An obsequious assistant.*
- **Obstinate** - stubborn. *Obstinate refusal.*
- **Ostensible** - apparent but not necessarily real. *The ostensible reason was illness.*
- **Panacea** - a cure for everything. *AI is not a panacea.*
- **Parsimonious** - extremely stingy. *Parsimonious budgets.*
- **Paucity** - scarcity. *A paucity of good options.*
- **Pejorative** - expressing contempt. *A pejorative term.*
- **Perfidious** - treacherous. *A perfidious ally.*
- **Perfunctory** - done with minimum effort. *A perfunctory apology.*
- **Pernicious** - quietly harmful. *A pernicious myth.*

- **Perspicacious** - mentally sharp. *Perspicacious observation.*
- **Pertinent** - relevant. *A pertinent question.*
- **Philanthropic** - generous to humanity. *Philanthropic foundation.*
- **Placate** - to soothe the angry. *Placate an irate customer.*
- **Precocious** - showing mature abilities early. *A precocious child.*
- **Prevaricate** - to speak evasively. *Politicians often prevaricate.*
- **Profligate** - recklessly wasteful. *A profligate lifestyle.*
- **Prolific** - producing much. *A prolific author.*
- **Propitious** - favourable. *A propitious time to begin.*
- **Prudent** - wise, cautious. *A prudent investor.*
- **Pugnacious** - eager to fight. *A pugnacious debater.*
- **Pusillanimous** - cowardly. *A pusillanimous retreat.*
- **Quell** - to suppress. *Police quelled the riot.*
- **Quixotic** - idealistic to an impractical degree. *A quixotic plan to end poverty.*
- **Reprehensible** - deserving condemnation. *Reprehensible conduct.*
- **Reticent** - reserved, not speaking freely. *Reticent by nature.*
- **Sagacious** - wise. *A sagacious ruler.*
- **Salubrious** - healthful. *A salubrious climate.*
- **Sanguine** - optimistic. *Sanguine about his chances.*
- **Sardonic** - mockingly bitter. *A sardonic smile.*
- **Scrupulous** - extremely thorough and principled. *Scrupulous honesty.*
- **Sedulous** - diligent. *Sedulous preparation.*
- **Soporific** - sleep-inducing. *A soporific lecture.*
- **Specious** - plausible but actually wrong. *A specious argument.*
- **Sporadic** - occurring at irregular intervals. *Sporadic rains.*
- **Spurious** - false, fake. *Spurious credentials.*
- **Stoic** - enduring hardship without complaint. *A stoic resolve.*
- **Surfeit** - an excessive amount. *A surfeit of data.*

- **Sycophant** - a flatterer. *Surrounded by sycophants.*
- **Taciturn** - habitually silent. *A taciturn neighbour.*
- **Tenuous** - weak, barely held. *A tenuous connection.*
- **Trepidation** - fear, nervousness. *She entered with trepidation.*
- **Truculent** - aggressively defiant. *A truculent response.*
- **Ubiquitous** - present everywhere. *Smartphones are ubiquitous.*
- **Umbrage** - offence, resentment. *She took umbrage at the remark.*
- **Unctuous** - oily in manner, falsely earnest. *An unctuous host.*
- **Vacillate** - to swing between opinions. *He vacillated before choosing.*
- **Venerate** - to regard with deep respect. *The town venerates its founder.*
- **Verbose** - using too many words. *A verbose report.*
- **Vicarious** - experienced through another. *Vicarious pleasure.*
- **Vindicate** - to clear from blame. *Results vindicated her methods.*
- **Vitriolic** - harshly bitter. *A vitriolic review.*
- **Voluble** - fluent and continuous in speech. *A voluble speaker.*
- **Zealous** - eagerly passionate. *A zealous campaigner.*

10.3.5 Cluster E - Shades of Meaning (The Scale Game)

Exams rarely ask "what does this word mean?" They ask "which word fits **this** sentence?" To answer, you need to feel the scale.

Criticism scale (mild → harsh):

admonish → chide → rebuke → reproach → censure → castigate → excoriate → vilify.

Praise scale (mild → exalted):

commend → laud → extol → eulogise → lionise → venerate → deify.

Anger scale (small → explosive):

annoyed → vexed → irritated → irate → furious → incensed → apoplectic.

Happy scale:

content → pleased → glad → cheerful → jubilant → elated → euphoric.

Sadness scale:

wistful → melancholy → dejected → despondent → morose → inconsolable.

Dislike scale:

indifferent → averse → disdainful → contemptuous → loathing.

Intelligence scale:

clever → shrewd → astute → perceptive → perspicacious → erudite.

Beauty scale:

pretty → attractive → lovely → beautiful → stunning → resplendent.

Bravery scale:

bold → courageous → valiant → audacious → intrepid.

Laziness scale:

relaxed → idle → indolent → slothful → lethargic.

Keep these scales on a single sheet of paper on your desk. When you read, try placing every emotional or evaluative adjective on the correct scale. Within a month, choosing between *censure* and *castigate* on a GMAT option becomes automatic.

10.4 Vocab Drill (E)

This first drill tests the elevated synonyms of everyday words from Cluster A. Pick the best synonym.

- The news made her **elated**.

(a) sad (b) overjoyed (c) angry (d) surprised

- He spoke in a **laconic** manner.

(a) using many words (b) loudly (c) using few words (d) rudely

- The old man lived in **indolent** retirement.

(a) peaceful (b) lazy (c) lonely (d) busy

- Her **benevolent** smile calmed the child.

(a) cruel (b) kind (c) mocking (d) nervous

- The report was **lucid**.

(a) confusing (b) long (c) clear (d) technical

- He remained **reticent** during the meeting.

(a) talkative (b) quiet (c) angry (d) bored

- The politician was **candid** about the losses.

(a) dishonest (b) frank (c) defensive (d) vague

10.5 Vocab Drill (M)

Use the root you have learned to guess the word. Choose the best meaning.

- **Malediction**

(a) a promise (b) a curse (c) a decree (d) a prayer

- **Philanthropic**

(a) studying plants (b) loving humanity (c) afraid of disease (d) hating luxury

- **Circumspect**

(a) careless (b) cautious (c) angry (d) indifferent

- **Loquacious**

(a) loyal (b) talkative (c) secretive (d) dishonest

- **Verisimilitude**

(a) the quality of seeming true (b) the quality of being simple (c) the habit of lying (d) a formal apology

- **Incredulous**

(a) willing to believe (b) unable to believe (c) easily fooled (d) intensely religious

- **Eulogy**

(a) a criticism (b) a speech of praise (c) a legal term (d) a study of logic

10.6 Vocab Drill (M)

Choose the correct word.

- The new rules will (affect / effect) the whole industry.
- He is (adverse / averse) to any form of risk.
- The politician would not (allude / elude) to the scandal.
- She gave him a (complement / compliment) on his writing.

- Our staff is (disinterested / uninterested) in the outcome, which is why they were chosen as judges.
- The accused (flaunted / flouted) every rule of the court.
- Their report is (ingenious / ingenuous), with a clever new method.

10.7 Vocab (H)

Each sentence has a blank. Choose the power word that fits best.

- The minister tried to _____ on the budget question, refusing to give a clear answer.
(a) extol (b) equivocate (c) placate (d) vindicate
- The new policy will _____ the crisis, not solve it.
(a) mitigate (b) exacerbate (c) ameliorate (d) quell
- Her _____ work ethic impressed even her harshest critics.
(a) feckless (b) indolent (c) assiduous (d) fickle
- The chairman's _____ tone suggested that he thought the question beneath him.
(a) magnanimous (b) condescending (c) gregarious (d) ebullient
- The argument was _____; it sounded plausible but rested on false premises.
(a) cogent (b) specious (c) lucid (d) pertinent
- Though the novel had flaws, the critics' praise was uniformly _____.
(a) effusive (b) laconic (c) sardonic (d) vitriolic
- Her _____ memory allowed her to cite page numbers from books read years ago.
(a) soporific (b) prodigious (c) nebulous (d) truculent
- A _____ opponent will simply refuse to compromise, no matter the cost.
(a) pliant (b) vacillating (c) intransigent (d) sanguine
- The speaker drew on _____ examples - a nineteenth-century war, an ancient legend, a modern lab result - to make his point.
(a) disparate (b) congruous (c) hackneyed (d) esoteric
- The two events were joined only by _____ logic; no real causal link existed.
(a) cogent (b) perspicacious (c) tenuous (d) robust

- She bore the scandal with _____, never once losing her composure.

(a) trepidation (b) equanimity (c) alacrity (d) apathy

- The manuscript, filled with jargon and elaborate diversions, seemed designed to _____ rather than illuminate.

(a) elucidate (b) obfuscate (c) vindicate (d) extol

10.8 Vocab Drill (H)

For each sentence, choose the word whose shade of meaning fits best. Multiple options may be "correct" in a rough sense; only one fits the precise register and intensity.

- After months of work with no result, she felt genuinely _____.

(a) content (b) wistful (c) despondent (d) euphoric

- The judge's _____ remarks stopped short of a formal reprimand.

(a) admonishing (b) castigating (c) vilifying (d) excoriating

- The junior employee's _____ contribution was small but pleasantly surprising.

(a) paltry (b) modest (c) negligible (d) prodigious

- Her parting words were _____ - a simple "Take care."

(a) laconic (b) verbose (c) maudlin (d) bombastic

- The film festival's opening address was _____; every line was a tired cliché.

(a) erudite (b) hackneyed (c) perspicacious (d) seminal

- When the results were announced, the whole team was _____, cheering and hugging.

(a) content (b) cheerful (c) jubilant (d) pleased

- The soldier accepted the punishment with _____, showing no emotion.

(a) ebullience (b) trepidation (c) stoicism (d) zeal

10.9 RC Idioms for the GMAT

A **reading-comprehension idiom** is a fixed phrase whose meaning cannot be guessed by adding up its words. A fluent reader processes them in one beat - "*on the contrary*" means "*not at all; in fact, the opposite*" - without stopping to think. A student who pauses at each idiom reads the passage twice and runs out of time.

The idioms below are the ones you are most likely to meet in a GMAT, CAT, GRE, or bank-exam passage. Learn them by **phrase + what it signals**, not by literal meaning.

10.9.1 Core RC Idioms - Level 1 (Beginner)

Idiom	What it signals
by no means	not at all
on the contrary	in opposition to what was just said
on the other hand	an opposing or alternative view
in contrast	a direct difference
a case in point	a specific example of a general claim
for instance / for example	illustration

10.9.2 Going Deeper - Idioms That Signal Structure

Good RC readers don't just understand sentences - they track the **structure of the argument**. Certain idioms are signals that the author is about to make a specific move. Learn to recognise the move the moment the phrase appears.

Signals of Contrast or Reversal

- **far from** being X - the opposite of X. *Far from helping, the policy made things worse.*
- **a far cry from** - very different from.
- **at odds with** - in disagreement with.
- **to the contrary** - the opposite is true.
- **in spite of / despite** - contrast that the author wants you to notice.
- **by contrast** - a comparison is coming.
- **all the same / nonetheless / nevertheless** - moving on despite objection.
- **be that as it may** - accepting a point but staying on course.

When you see any of these, the author is about to **pivot**. Mentally draw an arrow in the opposite direction.

Signals of Cause and Effect

- **as a result / consequently / therefore / thus / hence.**
- **owing to / due to / because of.**
- **on account of.**
- **in light of / in view of** - considering.

After these, the author is handing you a consequence or a conclusion. Underline them in practice.

Signals of Emphasis or Importance

- **above all** - the main point among many.
- **most importantly.**
- **of particular note / of note.**
- **to say the least** - the statement is actually even stronger than it sounds.
- **no less than** - emphasising significance.
- **beyond question.**

Signals of Concession (Author Gives Ground Before Pushing Back)

- **admittedly** - "yes, but..." is coming.
- **granted** - same.
- **it is true that** - a setup for a reversal.
- **while it is true / although it is true** - immediate concession with opposition about to follow.

Students who learn this pattern - *concession first, real point second* - jump up an entire RC level, because they stop being fooled by the concession into thinking the author agrees.

Signals of Similarity

- **in the same vein** - a similar point continues.
- **by the same token** - same reasoning applies.
- **likewise / similarly.**
- **on par with** - equal to.
- **no different from** - equivalent.

Signals of Summary or Conclusion

- **in sum / in summary / to sum up.**
- **in conclusion.**
- **all things considered.**
- **on the whole.**
- **in the final analysis.**
- **when all is said and done.**

10.9.3 Going Deeper - Figurative RC Idioms

Figurative idioms look like nonsense to a literal reader. Learn them as single units.

Idiom	Meaning
bear the brunt (of)	take the main impact
give short shrift (to)	dismiss quickly, give little attention
cut both ways	have advantages and disadvantages
split the difference	compromise halfway
the lion's share	the largest portion
a double-edged sword	carries both benefits and harms
a slippery slope	a small first step leading to a bad end
the tip of the iceberg	the small visible part of a larger problem
a mixed blessing	both good and bad
in the same boat	facing the same situation
on shaky ground	on uncertain foundations
level the playing field	make conditions equal
raise the bar	set a higher standard

hit the nail on the head	describe something exactly
read between the lines	infer what isn't said
miss the forest for the trees	get lost in detail and miss the main point
a Pyrrhic victory	a win that costs more than it was worth
a red herring	a distracting, irrelevant issue
a watershed moment	a turning point
a knee-jerk reaction	an immediate, unreflective response

SOLVED ANALYSIS

Question: In the sentence below, what does the underlined phrase most nearly mean?

"The new export policy may benefit large manufacturers, but it will cut both ways for small enterprises."

- (a) harm small enterprises severely
- (b) have both positive and negative consequences for small enterprises
- (c) completely exclude small enterprises
- (d) force small enterprises to merge with large ones

Concept Tested: RC idiom recognition - figurative meaning of *cut both ways*.

Analysis:

- *Cut both ways* does not mean "damage twice." The literal image - a blade with edges on both sides - signals **two directions at once**. In context it means a situation that **has both positive and negative consequences**.

- (a) captures only the negative side. Incomplete.
- (b) captures both sides. Correct.
- (c) is unrelated to the idiom's meaning.
- (d) imports content not in the sentence.

Answer: (b).

Exam Insight: Whenever an RC sentence uses a figurative idiom, read it twice: once to catch the image, once to read the neutral paraphrase in your own words. If you can't paraphrase, circle the idiom and come back after finishing the passage. Do not bluff - exam options are designed to punish half-guesses.

10.10 Answers to Drill Sets

Vocab Drill 10.4 - Foundations

- (b) overjoyed
- (c) using few words
- (b) lazy
- (b) kind
- (c) clear
- (b) quiet
- (b) frank

Vocab Drill 10.5 - Roots in Action

- (b) a curse - *mal* (bad) + *dict* (say) = "bad-saying" = curse.
- (b) loving humanity - *phil* (love) + *anthrop* (humanity).
- (b) cautious - *circum* (around) + *spect* (look) = "looking around" before acting.
- (b) talkative - *loqu* (speak).
- (a) the quality of seeming true - *veri* (truth) + *similitude* (likeness).
- (b) unable to believe - *in* (not) + *cred* (believe).
- (b) a speech of praise - *eu* (good) + *logy* (speech).

Vocab Drill 10.6 - Confusable Pairs

- affect
- averse

- allude
- compliment
- disinterested (impartial is a virtue in judges)
- flouted (openly disregarded)
- ingenious (clever)

Vocab Drill 10.7 - Power Words in Context

- (b) equivocate
- (b) exacerbate
- (c) assiduous
- (b) condescending
- (b) specious
- (a) effusive
- (b) prodigious
- (c) intransigent
- (a) disparate
- (c) tenuous
- (b) equanimity
- (b) obfuscate

Vocab Drill 10.8 - Shades of Meaning

- (c) despondent - months of failure make *content* and *wistful* too mild and *euphoric* wrong.
- (a) admonishing - "stopped short of a formal reprimand" signals mild.
- (b) modest - *paltry* and *negligible* are too negative; *prodigious* is the opposite direction.
- (a) laconic - a short two-word farewell is by definition laconic.
- (b) hackneyed - "every line was a tired cliché."
- (c) jubilant - the scale jumps to triumphant when people cheer and hug.
- (c) stoicism - "no emotion" signals stoic endurance.

Quantitative Aptitude

Chapter 11: Number System, Percentage, Ratio Proportion, LCM HCF, Average, Problems on Ages, Simple Interest and Compound Interest, Profit Loss, Time, Speed, Distance & Work, Pipes & Cisterns, Boats & Streams, Indices, Surds & Logarithms, Permutation & Combination, Probability

11.1 Number System

Various Types of Numbers

- Natural Numbers: Counting numbers are called natural numbers.

Thus, 1, 2, 3, 4, are all natural numbers.

- 11.1.2. Whole Numbers: All counting numbers, together with 0, form the set of whole numbers.

Thus, 0, 1, 2, 3, 4, are all whole numbers.

- Integers: All counting numbers, zero and negatives of counting numbers, form the set of integers.

Thus,, -3, -2, -1, 0, 1, 2, 3, are all integers.

Set of positive integers = {1, 2, 3, 4, 5, 6,}

Set of negative integers = {-1, -2, -3, -4, -5, -6,}

Set of all non-negative integers = {0, 1, 2, 3, 4, 5,}

- Even Numbers: A counting number divisible by 2 is called an even number.

Thus, 0, 2, 4, 6, 8, 10, 12, etc. are all even numbers.

- Odd Numbers: A counting number not divisible by 2 is called an odd number.

Thus, 1, 3, 5, 7, 9, 11, 13, etc. are all odd numbers.

- Prime Numbers: A counting number is called a prime number if it has exactly two factors, namely itself and 1.

Ex. All prime numbers less than 100 are:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.

- Rational Numbers: Numbers which can be expressed in the form p/q , where p and q are integers and $q \neq 0$, are called rational numbers.

Ex. 1, $4/3$, $-6/5$

- Irrational Numbers: Numbers which when expressed in decimal would be in non-terminating and non-repeating form, are called irrational numbers.

Ex. $\pi, e, \sqrt{2}, \sqrt{13}$.

- Test for a Number to be Prime:

Let p be a given number and let n be the smallest counting number such that $n^2 \geq p$.

Now, test whether p is divisible by any of the prime numbers less than or equal to n . If yes, then p is not prime otherwise, p is prime.

- Factorial of a Number

Let n be a positive integer.

Then, the continued product of first n natural numbers is called factorial n , denoted by $n!$ or n .

Thus, $n! = n(n-1)(n-2) \dots \dots \dots 3 \cdot 2 \cdot 1$

Ex. $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$.

Note: $0! = 1$

- Modulus of a Number

$|x| = -x$ when $x < 0$

x when $x \geq 0$

Ex. $|-5| = 5, |4| = 4, |-1| = 1$, etc.

Example 11.1.1

Which of the following are prime numbers?

(i) 241 (ii) 337 (iii) 391 (iv) 571

Sol.

(i) Clearly, $16 > 241$. Prime numbers less than 16 are 2, 3, 5, 7, 11, 13.

241 is not divisible by any of them.

$\therefore$ 241 is a prime number.

(ii) Clearly, $19 > 337$. Prime numbers less than 19 are 2, 3, 5, 7, 11, 13, 17.

337 is not divisible by any one of them.

$\therefore$ 337 is a prime number.

(iii) Clearly, $20 > 391$. Prime numbers less than 20 are 2, 3, 5, 7, 11, 13, 17, 19.

We find that 391 is divisible by 17.

$\therefore$ 391 is not a prime number.

(iv) Clearly, $24 > 571$. Prime numbers less than 24 are 2, 3, 5, 7, 11, 13, 17, 19, 23.

571 is not divisible by any one of them.

$\therefore 571$ is a prime number.

$\therefore 811$ is a prime number.

Which of the following numbers is divisible by 3?

(i) 541326 (ii) 5967013

Sol. (i) Sum of digits in 541326 = $(5 + 4 + 1 + 3 + 2 + 6) = 21$, which is divisible by 3.

Hence, 541326 is divisible by 3.

(ii) Sum of digits in 5967013 = $(5 + 9 + 6 + 7 + 0 + 1 + 3) = 31$, which is not divisible by 3.

Hence, 5967013 is not divisible by 3.

Example 11.1.2

Evaluate: (i) $986 \times 137 + 986 \times 863$

Sol. (i) $986 \times 137 + 986 \times 863 = 986 \times (137 + 863) = 986 \times 1000 = 986000$.

(i) $1605 \times 1605 = (1605)^2 = (1600 + 5)^2 = (1600)^2 + 5^2 + 2 \times 1600 \times 5$
 $= 2560000 + 25 + 16000 = 2576025$.

Example 11.1.3

Simplify: $7 \times 6 - 18 \div 3$

Sol.

Using BODMAS (BODMAS = Bracket, Order, Division, Multiplication, Addition, Subtraction) rule

$\Rightarrow 42 - 6 = 36$

Example 11.1.4

The sum of the squares of three consecutive odd numbers is 2531. Find the numbers. (R.R.B., 2010)

Sol. Let the numbers be $x, x + 2$ and $x + 4$.

Then, $x^2 + (x + 2)^2 + (x + 4)^2 = 2531$

$\Rightarrow 3x^2 + 12x - 2511 = 0 \Rightarrow x^2 + 4x - 837 = 0$

$\Rightarrow (x - 27)(x + 31) = 0 \Rightarrow x = 27$.

Hence, the required numbers are 27, 29 and 31.

11.2 Percentage

- **To find $x\%$ of y**

$$x\% \text{ of } y = \left(\frac{x}{100}\right) \times y$$

Example:

$$20\% \text{ of } 250 = \left(\frac{20}{100}\right) \times 250 = 50$$

- Population after increase:

$$P_n = P \left(1 - \frac{r}{100}\right)^n$$

Where:

- P_n = population after n years
- n = number of years
- P = initial population
- r = growth rate

Example 11.2.1

The price of a shirt increases from ₹800 to ₹920. Find the percentage increase.

Sol.

Increase in price:

$$920 - 800 = 120$$

$$\% \text{ Increase} = \left(\frac{120}{800}\right) \times 100\% = 15\%$$

Example 11.2.2

A village population decreases by 5% annually. If present population is 40,000, find population after 2 years.

Sol.

$$P = 40,000$$

$$r = 0.05$$

$$n = 2$$

$$P_n = P \left(1 - \frac{r}{100}\right)^n = 40,000 \left(1 - \frac{0.05}{100}\right)^2$$

$$= 40000 \times 0.95^2 = 36100$$

Answer 36100

Example 11.2.3

In a class of 200 students:

- 60% passed Mathematics
- 55% passed Physics

- 25% failed in both subjects

Find:

- Number of students who passed both subjects
- Number of students who passed only Mathematics

Sol.

Using Addition Theorem:

$$n(A \cup B) = n(A) + n(B) - n(A \cap B)$$

Mathematics:

$$60\% \text{ of } 200 = 120$$

Physics:

$$55\% \text{ of } 200 = 110$$

Let students passing both be x .

$$150 = 120 + 110 - x$$

$$\Rightarrow x = 80$$

Students passing only Mathematics:

$$120 - 80 = 40$$

Answer

- Passed both subjects = 80
- Passed only Mathematics = 40

Example 11.2.4

Pie Chart Data Analysis Problems: Expenditure Analysis

A company's annual expenditure is distributed as follows:

<i>Sector</i>	<i>Percentage</i>
<i>Salaries</i>	<i>35%</i>
<i>R & D</i>	<i>20%</i>
<i>Marketing</i>	<i>15%</i>

<i>Maintenance</i>	<i>10%</i>
<i>Miscellaneous</i>	<i>20%</i>

If the total annual expenditure is ₹80 lakh, answer the following:

- Amount spent on Salaries.
- Amount spent on R&D and Marketing together.
- Difference between Salaries and Maintenance expenditure.

Sol.

(i) Salaries

$$35\% \text{ of } 80,00,000 = (35/100) \times 80,00,000 = 28,00,000$$

Answer ₹28 lakh

(ii) R&D and Marketing together

$$20\% + 15\% = 35\%$$

$$35\% \text{ of } 80,00,000 = (35/100) \times 80,00,000 = 28,00,000$$

Answer ₹28 lakh

(iii) Difference between Salaries and Maintenance

Maintenance:

$$10\% \text{ of } 80,00,000 = (10/100) \times 80,00,000 = 8,00,000$$

Difference:

$$28,00,000 - 8,00,000 = 20,00,000$$

Answer ₹20 lakh

11.3 Ratio and Proportion

If two quantities are a and b , then their ratio is:

$$a:b = a/b$$

Important Points on Ratio

- Quantities must be of same unit.
- Ratio has no unit.
- Ratios can be simplified like fractions.

Example 11.3.1

A mixture contains milk and water in the ratio 7:3. If 10 litres of water are added, the ratio becomes 7:5. Find the quantity of milk.

Sol.

Initial mixture:

$$7x:3x$$

After adding 10 litres water:

$$7x:(3x + 10) = 7:5$$

Cross multiplication:

$$35x = 21x + 70$$

$$x = 5$$

Milk quantity:

$$7x=35$$

Answer 35 litres

Example 11.3.2

Tea costing ₹80/kg is mixed with tea costing ₹120/kg in such a way that the profit after selling the mixture at ₹110/kg is 20%. Find the ratio of mixing.

Sol.

Tea prices:

- First tea = ₹80/kg
- Second tea = ₹120/kg

Selling price of mixture = ₹110/kg

Profit = 20%

Step 1: Find Cost Price of Mixture

Using profit formula:

$$CP = \frac{SP \times 100}{100 + \text{Profit \%}} = \frac{110 \times 100}{100 + 20} = 91.67$$

So, mean cost price of mixture = ₹91.67/kg.

Step 2: Apply Alligation

$$(120 - 91.67):(91.67 - 80) = 28.33:11.67$$

Multiplying by 3:

$$85:35 \text{ or } 17:7$$

11.4 LCM & HCF

Factors and Multiples: If a number a divides another number b exactly, we say that a is a factor of b . In this case, b is called a multiple of a .

11.4.1. Highest Common Factor (H.C.F.) or Greatest Common Measure (G.C.M.) or Greatest Common Divisor (G.C.D.):

The H.C.F. of two or more than two numbers is the greatest number that divides each of them exactly.

There are two methods of finding the H.C.F. of a given set of numbers:

- i. **Factorization Method:** Express each one of the given numbers as the product of prime factors. The product of least powers of common prime factors gives H.C.F.
- ii. **Division Method:** Suppose we have to find the H.C.F. of two given numbers. Divide the larger number by the smaller one. Now, divide the divisor by the remainder. Repeat the process of dividing the preceding number by the remainder last obtained till zero is obtained as remainder. The last divisor is the required H.C.F.

Finding the H.C.F. of more than two numbers: Suppose we have to find the H.C.F. of three numbers.

Then, H.C.F. of [(H.C.F. of any two) and (the third number)] gives the H.C.F. of three given numbers.

Similarly, the H.C.F. of more than three numbers may be obtained.

11.4.2. Least Common Multiple (L.C.M.): The least number which is exactly divisible by each one of the given numbers is called their L.C.M.

- i. **Factorization Method of Finding L.C.M.:** Resolve each one of the given numbers into a product of prime factors. Then, L.C.M. is the product of highest powers of all the factors.
 - ii. **Common Division Method (Short-cut Method) of Finding L.C.M.:** Arrange the given numbers in a row in any order. Divide by a number which divides exactly at least two of the given numbers and carry forward the numbers which are not divisible. Repeat the above process till no two of the numbers are divisible by the same number except 1. The product of the divisors and the undivided numbers is the required L.C.M. of the given numbers.
- IV. Product of two numbers = Product of their H.C.F. and L.C.M.
 - Co-primes: Two numbers are said to be co-primes if their H.C.F. is 1.
 - H.C.F. and L.C.M. of Fractions:
 - H.C.F. = H.C.F. of Numerators / L.C.M. of Denominators
 - L.C.M. = L.C.M. of Numerators / H.C.F. of Denominators
 - H.C.F. and L.C.M. of Decimal Fractions: Make the number of decimal places same in all numbers by adding zeros if needed.
 - a) Remove the decimal points and consider them as whole numbers.
 - b) Find the H.C.F. or L.C.M. of these whole numbers.

- c) In the final answer, place the decimal point with the same number of decimal places as in the given numbers.
- Comparison of Fractions: Find the L.C.M. of the denominators of the given fractions. Convert each of the fractions into an equivalent fraction with L.C.M. as the denominator, by multiplying both the numerator and denominator by the same number. The resultant fraction with the greatest numerator is the greatest.

Example 11.4.1

Find the

(a) L.C.M. of 87 and 145

(b) HCF of 42, 63 and 140

Sol. (a) $87 = 3 \times 29$ and $145 = 5 \times 29$.

$\therefore$ L.C.M. $= 3 \times 5 \times 29 = 435$.

(a) $42 = 2 \times 3 \times 7$, $63 = 3 \times 3 \times 7$ and $140 = 2 \times 2 \times 5 \times 7$.

$\therefore$ H.C.F. $= 7$.

Example 11.4.2

Find the H.C.F. and L.C.M. of $\frac{2}{3}$, $\frac{8}{9}$, $\frac{16}{81}$ and $\frac{10}{27}$.

Sol.

H.C.F. of given fractions $= \frac{\text{HCF of } 2, 8, 16, 10}{\text{LCM of } 3, 9, 81, 27} = \frac{2}{81}$

L.C.M. of given fractions $= \frac{\text{LCM of } 2, 8, 16, 10}{\text{HCF of } 3, 9, 81, 27} = \frac{80}{3}$

Example 11.4.3

The H.C.F. of 0.54, 1.8 and 7.2 is

(a) 1.8 (b) 0.18

(c) 0.018 (d) 18

Sol.

Step 1: Make decimal places same

0.54, 1.80, 7.20

(All have 2 decimal places.)

Step 2: Remove decimal points

54, 180, 720

Step 3: Find H.C.F.

H.C.F. of 54, 180, 720=18

Step 4: Put decimal point back

Since original numbers had 2 decimal places:

$$\text{HCF}=18/100=0.18$$

Answer (a) 0.18

Example 11.4.4

The H.C.F. and L.C.M. of two numbers are 12 and 336 respectively. If one of the numbers is 84, what is the other number?

Sol.

Given:

$$\text{H.C.F.} = 12$$

$$\text{L.C.M.} = 336$$

$$\text{One number} = 84$$

Using the relation:

$$\text{Product of two numbers} = \text{HCF} \times \text{LCM}$$

Let the other number be x.

$$84 \times x = 12 \times 336$$

$$x = 48$$

Answer 48

Let the three numbers be:

$$3x, 4x, 5x$$

Since 3, 4, and 5 are co-prime, their H.C.F. is x.

Now,

$$\text{LCM of } 3x, 4x, 5x = 60x$$

Given:

$$60x = 2400$$

$$x = 40$$

Hence, the H.C.F. is: 40

Example 11.4.5

A person has to completely put each of three liquids: 403 litres of petrol, 465 litres of diesel and 496 litres of Mobil Oil in bottles of equal size without mixing any of the above three types of liquids such that each bottle is completely filled. What is the least possible number of bottles required?

Sol.

To get the least number of bottles, the capacity of each bottle should be the H.C.F. of the quantities.

Quantities:

- Petrol = 403 litres
- Diesel = 465 litres
- Mobil Oil = 496 litres

Step 1: Find H.C.F.

Prime factorization:

$$403 = 13 \times 31$$

$$465 = 3 \times 5 \times 31$$

$$496 = 16 \times 31$$

Common factor:

$$HCF = 31$$

So, each bottle capacity = 31 litres

Step 2: Find number of bottles

For petrol:

$$\frac{403}{31} = 13$$

For diesel:

$$\frac{465}{31} = 15$$

For Mobil Oil:

$$\frac{496}{31} = 16$$

Step 3: Total bottle

$$13 + 15 + 16 = 44$$

Answer 44

11.5 Average

Average = Sum of observations / Number of observations

Example 11.5.1

There are six numbers 30, 72, 53, 68, x and 87, out of which x is unknown. The average of the numbers is 60. What is the value of x?

Sol. Average of given numbers $= \frac{30+72+53+68+x+87}{6} = 60$

$\Rightarrow x = 50.$

Example 11.5.2

The average age of all the students of a class is 18 years. The average age of boys of the class is 20 years and that of the girls is 15 years. If the number of girls in the class is 20, then find the number of boys in the class.

Sol.

Let the number of boys be x.

Given:

- Average age of whole class = 18 years
- Average age of boys = 20 years
- Average age of girls = 15 years
- Number of girls = 20

Using average formula:

Total age of boys = $20x$

Total age of girls = $15 \times 20 = 300$

Total students: $(x + 20)$

According to the question:

$$\frac{20x+300}{(x+20)} = 18$$

$\Rightarrow x = 30.$

Answer 30

Example 11.5.3

The average salary of all the workers in a workshop is ₹8000. The average salary of 7 technicians is ₹12000 and the average salary of the rest is ₹6000. What is the total number of workers in the workshop?

Sol.

Let the total number of workers be x.

Given:

Average salary of all workers = ₹8000

Number of technicians = 7

Average salary of technicians = ₹12000

Average salary of remaining workers = ₹6000

Step 1: Total salary of technicians

$$7 \times 12000 = 84000$$

Step 2: Remaining workers: $x - 7$

Total salary of remaining workers: $6000(x - 7)$

Step 3: Apply average formula: $\frac{84000 + 6000(x-7)}{x} = 8000$

Simplify:

$$84000 + 6000x - 42000 = 8000x$$

$$\Rightarrow x = 21.$$

Answer 21

11.6 Problems on Ages

Example 11.6.1

A man's present age is two-fifths of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present? (M.A.T., 2009)

Sol.

Let mother's age be x years. Then, man's age $= \frac{2x}{5}$ years.

$$\frac{2x}{5} + 8 = \frac{x+8}{2}$$

$$\Rightarrow 5x - 4x = 40 \Rightarrow x = 40.$$

Example 11.6.2

The ratio between the ages of Ram and Mohan is 4 : 5 and that between the ages of Ram and Anil is 5 : 6. If the sum of the ages of the three is 69 years, what is Mohan's age? (Railways, 2008)

Sol.

Ram's age : Mohan's age = 4 : 5

Ram's age : Anil's age = 5 : 6

Let Ram's age be x years. Then, Mohan's age $= \frac{5x}{4}$ years.

And, Anil's age $= \frac{6x}{5}$ years.

$$\therefore x + \frac{5x}{4} + \frac{6x}{5} = 69$$

$$\Rightarrow 20x + 25x + 24x = 1380$$

$$\Rightarrow 69x = 1380$$

$$\Rightarrow x = 20.$$

$$\text{Mohan's age} = \frac{5 \times 20}{4} = 25 \text{ years}$$

11.7 Simple Interest & Compound Interest

In Simple Interest the principal and the Interest (occurred every period) remain constant.

- In Compound Interest the Interest earned over the period is added over to the existing principal after every compounding period. So the principal and the Interest over a period change after every compounding period.
- For the same principal, positive rate of interest and time period (>1 year), the compound interest on the loan is always greater than the simple interest.
- The sum of principal and the interest is called Amount.

$$\text{Amount (A)} = \text{Principal (P)} + \text{Interest (I)}$$

- The Simple Interest (I) occurred over a time period (T) for R% (rate of Interest per annum),

$$I = \frac{PTR}{100}$$

Example 11.7.1

The simple interest accrued on an amount of ₹2500 at the end of 6 years is ₹1875. What would be the simple interest accrued on an amount of ₹6875 at the same rate and for the same period? (Bank P.O., 2009)

Sol. $P = ₹2500$, $T = 6$ years, $S.I. = ₹1875$.

$$\text{Rate} = \frac{100 \times 1875}{2500 \times 6} = \frac{25}{2}$$

$$\text{Now, } P = ₹6875, T = 6 \text{ years, } R = \frac{25}{2}$$

$$S.I. = \frac{6875 \times 6 \times 25}{2 \times 100} = 5156.25.$$

Example 11.7.2

A sum of money amounts to ₹ 5200 in 5 years and to ₹ 5680 in 7 years at simple interest. What is the rate of interest per annum? (S.S.C., 2007)

Sol.

Difference in amount for 2 years:

$$5680 - 5200 = 480$$

So, simple interest for 2 years = ₹480

Interest for 1 year:

$$480/2=240$$

Step 1: Find Principal

Using:

$$A = P + SI$$

After 5 years:

$$5200 = P + (240 \times 5) = P + 1200$$

$$P = 4000$$

Step 2: Find Rate of Interest

Using simple interest formula:

$$SI = \frac{PTR}{100}$$

For 1 year:

$$240 = \frac{4000 \times R \times 1}{100}$$

$$R = 6$$

Answer 6%

11.8 Profit & Loss

▪ Cost Price

The amount paid to purchase an article or the cost of manufacturing an article is called Cost Price (C.P)

▪ Selling Price

The price at which a product is sold is called Selling price (S.P)

▪ Marked Price

The price at which an article is marked is called Marked price (M.P)

If $S.P > C.P$, then Profit or Gain, $P = S.P - C.P$

▪ If $C.P > S.P$, then Loss, $L = C.P - S.P$

▪ % Profit or Gain percentage or Profit Percentage = $\text{Profit} / C.P \times 100$

▪ % Loss = $\text{Loss} / C.P \times 100$

▪ Discount = $M.P - S.P$ (If no discount is given, then $M.P = S.P$)

Total increase in price due to two subsequent increases of $X\%$ and $Y\%$ is $\left(X + Y + \frac{XY}{100} \right) \%$

- If two items are sold at same price, each at Rs. x , one at a profit of $P\%$ and other at a loss of $P\%$ then there will be overall loss of $(P^2/100)\%$

$$\text{The absolute value of loss} = \frac{2P^2X}{100^2 - P^2}$$

If C.P of two items is same, and by selling of each item he earned $p\%$ profit on one article and $p\%$ loss on another, then there will be no loss or gain.

- If a trader professes to sell at C.P but uses false weight, then

$$\text{Gain\%} = \text{Error} \times 100 / (\text{True value} - \text{Error})$$

$$\text{Buy } x \text{ get } y \text{ free, then the \% discount} = \frac{y}{y+x} \times 100$$

(here $x+y$ articles are sold at C.P of x articles.)

- When there are two successive discounts of $a\%$ and $b\%$ are given then the Resultant discount

$$= (a + b - \frac{a*b}{100}) \times 100$$

- If C.P of x article is equal to the selling price of y articles then the,

$$\text{Resultant profit \% or loss \%} = \frac{y-x}{y} \times 100$$

Example 11.8.1

A manufacturer makes 800 articles at a cost of ₹ 1.50 per article. He fixes the selling price such that if only 600 articles are sold, he would make a profit of 30% on his outlay. However, he sold 620 articles at this price. Find his actual profit percent of the total outlay, assuming that the unsold articles are useless. (P.C.S., 2006)

Sol. C.P. of 800 articles = ₹ $(1.50 \times 800) = ₹ 1200$.

$$\text{S.P. of 600 articles} = \frac{₹1200 \times 130}{100} = ₹ 1560$$

$$\text{S.P. of 620 articles} = \frac{₹1560 \times 620}{600} = ₹ 1612$$

$$\text{Profit} = ₹ (1612 - 1200) = ₹ 412.$$

$$\text{Profit \%} = \frac{₹412 \times 100}{1200} \% = 34\frac{1}{3}\%$$

11.9 Time, Speed, Distance & Work

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Speed} = \text{Distance} / \text{Time}$$

If the ratio of the speeds of A and B is $a : b$, then

- The ratio of the times taken to cover the same distance is $1/a : 1/b$ or $b : a$.
- The ratio of distance travelled in equal time intervals is $a : b$

$$\text{Average speed} = \text{Total Distance travelled} / \text{Total Time taken}$$

- If a part of a journey is travelled at speed S_1 km/hr in T_1 hours and remaining part at speed S_2 km/hr in T_2 hours then,

$$\text{Average speed} = \frac{S_1 T_1 + S_2 T_2}{T_1 + T_2} \text{ km/hr}$$

- In a journey travelled with different speeds, if the time travelled in each stage is constant, the average speed is the arithmetic mean of the different speeds.
- If a person P starts from A and heads towards B and another person Q starts from B and heads towards A and they meet after a time 't' then,

$$t = \sqrt{xy}$$

where,

x = time taken (after meeting) by P to reach B and

y = time taken (after meeting) by Q to reach A.

- A and B started at a time towards each other. After crossing each other, they took T_1 hrs, T_2 hrs respectively to reach their destinations. If they travel at constant speeds S_1 and S_2 respectively all over the journey, Then

$$\frac{S_1}{S_2} = \sqrt{\frac{T_2}{T_1}}$$

- Two trains of length L_1 and L_2 travelling at speeds of S_1 and S_2 cross each other in a time

$$= (L_1 + L_2) / (S_1 + S_2) \quad (\text{if they are going in opposite directions})$$

$$= (L_1 + L_2) / |S_1 - S_2| \quad (\text{if they are going in the same direction})$$

- If X can do a piece of work in n days, then A's 1 day's work $= \frac{1}{n}$

- If X is thrice as good a workman as Y, then:

Ratio of work done by X and Y = 3: 1.

Ratio of times taken by X and Y to finish a work = 1: 3.

- If X can do a work in 'x' days, and Y can do a work in 'y' days, The number of days taken by both of them together is $\frac{xy}{x+y}$

- If M_1 men work for H_1 hours per day and worked for D_1 days and completed W_1 work, and if M_2 men work for H_2 hours per day and worked for D_2 days and completed W_2 work, then

$$\frac{M_1 H_1 D_1}{W_1} = \frac{M_2 H_2 D_2}{W_2}$$

Example 11.9.1

An aeroplane started 30 minutes later than the scheduled time from a place 1500 km away from its destination. To reach the destination at the scheduled time the pilot had to increase the speed by 250 km/hr. What was the speed of the aeroplane per hour during the journey? (P.C.S., 2006)

Sol.

Let the original speed of the aeroplane be x km/hr.

$$\frac{1500}{x} + \frac{1500}{x + 250} = \frac{1}{2}$$

$$\Leftrightarrow 3000(x + 250) - 3000x = x(x + 250)$$

$$\Leftrightarrow x^2 + 250x - 750000 = 0$$

$$\Leftrightarrow x^2 + 1000x - 750x - 750000 = 0$$

$$\Leftrightarrow x(x + 1000) - 750(x + 1000) = 0$$

$$\Leftrightarrow (x + 1000)(x - 750) = 0 \Leftrightarrow x = 750.$$

Example 11.9.2

A and B can do a piece of work in 9 days; B and C can do it in 12 days; A and C can do it in 18 days. In how many days will A, B and C finish it, working together and separately? (S.S.C., 2007)

Sol. (A + B)'s 1 day's work = $\frac{1}{9}$

(B + C)'s 1 day's work = $\frac{1}{12}$

(A + C)'s 1 day's work = $\frac{1}{18}$

Adding, we get: 2 (A + B + C)'s 1 day's work = $\frac{1}{9} + \frac{1}{12} + \frac{1}{18} = \frac{1}{4}$

(A + B + C)'s 1 day's work = $\frac{1}{8}$

Thus, A, B and C together can finish the work in 8 days.

Now, A's 1 day's work = [(A + B + C)'s 1 day's work – (B + C)'s 1 day's work] = $\frac{1}{8} - \frac{1}{12} = \frac{1}{24}$

A alone can finish the work in 24 days.

Similarly, B's 1 day's work

= [(A + B + C)'s 1 day's work – (A + C)'s 1 day's work] = $\frac{1}{8} - \frac{1}{18} = \frac{5}{72}$

B alone can finish the work in $14\frac{2}{5}$ days.

And, C's 1 day's work

= [(A + B + C)'s 1 day's work – (A + B)'s 1 day's work] = $\frac{1}{8} - \frac{1}{9} = \frac{1}{72}$

C alone can finish the work in 72 days.

Example 11.9.3

A train after travelling 150 km meets with an accident and then proceeds at $\frac{3}{5}$ of its former speed and

arrives at its destination 8 hours late. Had the accident occurred 360 km further, it would have reached the destination 4 hours late. What is the total distance travelled by the train? (M.A.T., 2007)

Sol. Let the original speed of the train be x km/hr.

$$\frac{360}{\frac{3}{5}x} - \frac{360}{x} = 4$$

$$\Rightarrow \frac{600}{x} - \frac{360}{x} = 4$$

$$\Rightarrow x = 60.$$

Let the total distance travelled by the train be y km.

$$\left[\frac{150}{60} - \frac{150 - y}{\frac{3}{5} \times 60} \right] - \frac{y}{60} = 8$$

$$\Rightarrow y = 870.$$

Hence, required distance = 870 km.

11.10 Pipes & Cisterns

Inlet: A pipe connected with a tank or a cistern or a reservoir, that fills it, is known as an inlet.

Outlet: A pipe connected with a tank or a cistern or a reservoir, emptying it, is known as an outlet.

(i) If a pipe can fill a tank in x hours, then part filled in 1 hour = $\frac{1}{x}$

(ii) If a pipe can empty a full tank in y hours, then part emptied in 1 hour = $\frac{1}{y}$

(iii) If a pipe can fill a tank in x hours and another pipe can empty the full tank in y hours (where $y > x$), then on opening both the pipes, the net part filled in 1 hour = $\frac{1}{x} - \frac{1}{y}$

(iv) If a pipe can fill a tank in x hours and another pipe can empty the full tank in y hours (where $x > y$), then on opening both the pipes, the net part emptied in 1 hour = $\frac{1}{y} - \frac{1}{x}$

Example 11.10.1.

A cistern has two taps which fill it in 12 minutes and 15 minutes respectively. There is also a waste pipe in the cistern. When all the three are opened, the empty cistern is full in 20 minutes. How long will the waste pipe take to empty the full cistern? (M.A.T., 2005)

Sol. Work done by the waste pipe in 1 minute = $\frac{1}{20} - \left(\frac{1}{12} + \frac{1}{15} \right) = -\frac{1}{10}$ [–ve sign means emptying]

$\therefore$ Waste pipe will empty the full cistern in 10 minutes.

11.11 Boats & Streams

(i) In water, the direction along the stream is called *downstream*. And, the direction against the stream is called *upstream*.

(ii) If the speed of a boat in still water is u km/hr and the speed of the stream is v km/hr, then:

$$\text{Speed downstream} = (u + v) \text{ km/hr}$$

$$\text{Speed upstream} = (u - v) \text{ km/hr}$$

(iii) If the speed downstream is a km/hr and the speed upstream is b km/hr, then:

$$\text{Speed in still water} = \frac{1}{2}(a + b) \text{ km/hr}$$

$$\text{Rate of stream} = \frac{1}{2}(a - b) \text{ km/hr}$$

(iv) Suppose a man can swim in still water at the rate of u km/hr, the speed of current/stream is v km/hr

and the man wishes to cross the stream (of width x metres) straight along its width, then time taken to cross the river is the same as time taken to swim x metres at u km/hr.

[**Note:** This is because the stream sways the man such that both the distance and the effective velocity increase and the time taken to cross the river remains unaffected.]

(v) A man can swim directly across a stream of width x km in t hours when there is no current and in t' hours when there is a current. Then, the rate of the current is $x\sqrt{\frac{1}{t^2} - \frac{1}{t'^2}}$ km/hr.

Example 11.11.1.

The speed of a motor boat is that of the current of water as 36 : 5. The boat goes along with the current in 5 hours 10 minutes. How much time will it take to come back? (S.S.C., 2007)

Sol.

Let the speed of the motor boat and that of the current be $36x$ km/hr and $5x$ km/hr respectively.

Then, speed downstream = $(36x + 5x)$ km/hr = $41x$ km/hr.

Speed upstream = $(36x - 5x)$ km/hr = $31x$ km/hr.

Let the distance be d km.

Then,

$$\frac{d}{41x} = 5\frac{10}{60} = \frac{31}{6}$$

$$\Leftrightarrow d = \frac{1271}{6}x$$

$$\text{Time taken while coming back} = \frac{d}{31x} = \frac{1271}{6}x \times \frac{1}{31x} = 41/6 \text{ hrs} = 6 \text{ hrs } 50 \text{ min.}$$

11.12 Indices, Surds & Logarithms

I. Laws of Indices

- i. $a^m \times a^n = a^{m+n}$
- ii. $\frac{a^m}{a^n} = a^{m-n}$
- iii. $(a^m)^n = a^{mn}$
- iv. $a^m \times b^m = ab^m$
- v. $\frac{a^m}{b^m} = \left(\frac{a}{b}\right)^m$
- vi. $a^{-m} = \frac{1}{a^m}$

II. Surds: Let a be a rational number and n be a positive integer such that $a^{1/n} = \sqrt[n]{a}$ is irrational. Then, $\sqrt[n]{a}$ is called a surd of order n .

III. Laws of Surds:

- i. $\sqrt[n]{a} \times \sqrt[n]{b} = \sqrt[n]{ab}$
- ii. $\sqrt[n]{a} / \sqrt[n]{b} = \sqrt[n]{a/b}$
- iii. $\sqrt[n]{a^n} = a$
- iv. $(\sqrt[n]{a})^m = \sqrt[n]{a^m}$
- v. $\sqrt[n]{\sqrt[m]{a}} = \sqrt[nm]{a}$
- vi. $\frac{1}{\sqrt{N+1} + \sqrt{N}} = \sqrt{N+1} - \sqrt{N}$

IV. Logarithm: If a is a positive real number, other than 1 and $a^m = x$, then we write : $m = \log_a x$ and we say that the value of $\log x$ to the base a is m .

Laws of Logarithms:

- a) $\log_a(1) = 0$
- b) $\log_a(a) = 1$
- c) $\log_a(x) + \log_a(y) = \log_a(xy)$
- d) $\log_a(x) - \log_a(y) = \log_a(x/y)$
- e) $\log_a(b^c) = c \log_a(b)$
- f) $x^{\log_b(y)} = y^{\log_b(x)}$
- g) $\log_a(x) = \frac{1}{\log_x(a)}$
- h) $a^{\log_a(x)} = x$
- i) $\log_a(b) = \frac{\log_c(b)}{\log_c(a)}$

Example 11.12.1.

What will come in place of both the question marks in the following question? (Bank Recruitment, 2010)

$$x^{\frac{1}{4}} = \frac{48}{x^{\frac{3}{4}}}$$

Sol.

$$x^{\frac{1}{4} + \frac{3}{4}} = 48$$

$$\Leftrightarrow x = 48$$

Example 11.12.2.

If $2^{n+4} - 2^{n+2} = 3$, what is the value of n ?

$$2^{n+2} (2^2 - 1) = 3$$

$$\Leftrightarrow 3 \cdot 2^{n+2} = 3$$

$$\text{Since } 2^0 = 1$$

$$\Leftrightarrow n + 2 = 0$$

$$\Leftrightarrow n = -2$$

Example 11.12.3.

Find the value of $\frac{6^{2/3} \times \sqrt[3]{6^7}}{\sqrt[3]{6^6}}$.

Sol.

$$6^{2/3} \times \sqrt[3]{\frac{6^7}{6^6}} = 6^{2/3} \times 6^{1/3} = 6^{\frac{2}{3} + \frac{1}{3}} = 6$$

Example 11.12.4.

Find the largest from among $\sqrt[4]{6}$, $\sqrt[3]{4}$ and $\sqrt{2}$.

Sol.

Given surds are of order 4, 3 and 2 respectively. Their L.C.M. is 12.

Changing each to a surd of order 12, we get:

$$\sqrt[4]{6} = 6^{1/4} = 6^{\frac{1 \cdot 3}{4 \cdot 3}} = 6^{3/12} = 216^{1/12}$$

$$\sqrt[3]{4} = 4^{1/3} = 4^{\frac{1 \cdot 4}{3 \cdot 4}} = 4^{4/12} = 256^{1/12}$$

$$\sqrt{2} = 2^{1/2} = 2^{\frac{1 \cdot 12}{2 \cdot 12}} = 2^{6/12} = 64^{1/12}$$

$$\Leftrightarrow 256^{1/12} > 216^{1/12} > 64^{1/12}$$

Example 11.12.5.

Evaluate: (i) $\log_3(27)$, (ii) $\log_{100}(0.01)$

Sol.

$$(i) \log_3(27) = \log_3(3)^3 = 3$$

$$(ii) \log_{100}(0.01) = \log_{100}(100)^{-1} = -1$$

Example 11.12.6.

Evaluate: $\log_5(3) \div \log_{27}(25)$

Sol.

$$\log_5(3)/\log_{27}(25) = \frac{\log 3}{\log 5} \times \frac{\log 25}{\log 27} = \frac{\log 3}{\log 5} \times \frac{2 \log 5}{3 \log 3} = \frac{2}{3}$$

Example 11.12.7.

Find the value of x which satisfies the relation $\log_{10}(3) + \log_{10}(4x + 1) = \log_{10}(x + 1) + 1$
(M.B.A., 2002)

Sol.

$$\log_{10}(3) + \log_{10}(4x + 1) = \log_{10}(x + 1) + 1 = \log_{10}(x + 1) + \log_{10}10$$

$$\Rightarrow \log_{10}(3(4x + 1)) = \log_{10}10(x + 1)$$

$$\Rightarrow 3(4x + 1) = 10(x + 1) \Rightarrow x = \frac{7}{2}$$

11.13 Permutation & Combination

11.13.1. Arrangement: n items can be arranged in $n!$ ways

11.13.2. Permutation: A way of selecting and arranging r objects out of a set of n objects,

$${}^n P_r = \frac{n!}{(n-r)!}$$

11.13.3. Combination: A way of selecting r objects out of n (arrangement does not matter)

$${}^n C_r = \frac{n!}{r!(n-r)!}$$

11.13.4. Number of ways to partition n identical things in r distinct slots is given by ${}^{n+r-1}C_{r-1}$

11.13.5. Number of ways to partition n identical things in r distinct slots so that each slot gets at least 1 is given by ${}^{n-1}C_{r-1}$

11.13.6. Number of ways to partition n distinct things in r distinct slots is given by r^n

11.13.7. Number of ways to partition n distinct things in r distinct slots where arrangement matters

$$\Rightarrow \binom{n+r-1}{r-1}$$

11.13.8. Arrangement with repetitions:

If x items out of n items are repeated, then the number of ways of arranging these n items is $n! / x!$ ways. If a items, b items and c items are repeated within n items, they can be arranged in $n! / (a! b! c!)$ ways.

Example 11.13.1

Evaluate: ${}^{10}C_3$

Soln.

$${}^{10}C_3 = \frac{10!}{3!7!} = \frac{10 \cdot 9 \cdot 8}{3!} = 120$$

Example 11.13.2

In how many different ways can the letters of the word 'DESIGN' be arranged so that the vowels are at the two ends? (Bank P.O., 2009)

Sol.

The given word 'DESIGN' contains 4 consonants and 2 vowels.

At the two ends the two vowels can be arranged in 2 ways.

Remaining 4 letters can be arranged in $4! = (4 \times 3 \times 2 \times 1) = 24$ ways.

Total number of ways = $(24 \times 2) = 48$.

$\therefore$ Required number of ways = 48.

Example 11.13.3

In how many ways, a committee of 6 members be selected from 7 men and 5 ladies, consisting of 4 men and 2 ladies?

Sol.

We have to select (4 men out of 7) and (2 ladies out of 5).

$$\therefore \text{Required number of ways} = {}^7C_4 \times {}^5C_2 = \frac{7!}{3!4!} \times \frac{5!}{3!2!} = \frac{7 \times 6 \times 5}{3 \times 2} \times \frac{5 \times 4 \times 3}{3 \times 2} = 350$$

11.14 Probability

Probability is a branch of mathematics that measures the likelihood or chance of occurrence of an event. The value of probability always lies between 0 and 1.

- Probability = 0 → Impossible event
- Probability = 1 → Certain event

The basic formula of probability is:

$$P(E) = \frac{\text{Number of favorable outcomes}}{\text{Total number of outcomes}}$$

Important Terms:

i. Experiment

An action that produces outcomes.

Example: Tossing a coin, Rolling a die

ii. Outcome

A possible result of an experiment.

Example:

When a die is rolled:

1, 2, 3, 4, 5, 6 are outcomes.

iii. Event

A collection of outcomes.

Example:

Getting an even number from a die.

❖ Occurrence of an Event An event is said to occur when the required outcome takes place.

Example 11.14.1.

When a die is rolled:

- Event A = getting an even number

Possible even numbers: 2,4,6

So, occurrence of Event A means obtaining:

2 or 4 or 6

Probability of occurrence:

$$P(A) = 3/6 = 1/2$$

❖ Non-Occurrence of an Event

Non-occurrence of an event means the event does not happen.

It is called the complement of the event.

If A is an event, then A' represents non-occurrence of A.

Relation:

$$P(A') = 1 - P(A)$$

Example 11.14.2.

For the same die experiment:

- Event A = getting an even number
- Non-occurrence of A = getting an odd number

Odd numbers: 1, 3, 5

Thus,

$$P(A') = 1 - 1/2 = 1/2$$

iv. Sample Space

The set of all possible outcomes.

Example:

For a die:

$$S = \{1, 2, 3, 4, 5, 6\}$$

v. Types of Events

- a) Simple Event: Contains only one outcome.

Example:

Getting 3 on a die.

- b) Compound Event: Contains more than one outcome.

Example:

Getting an even number.

- c) Independent Events: Occurrence of one event does not affect another.

Example 11.14.3.

A coin is tossed and a die is rolled simultaneously.

Find the probability of getting:

- *a head on the coin*
- *an even number on the die*

Sol

Let:

- Event A = Getting a head
- Event B = Getting an even number

Probability of head

$$P(A) = 1/2 = 0.50$$

Probability of even number on die

Even numbers are:

2,4,6

So,

$$P(B) = 3/6 = 1/2 = 0.50$$

Since tossing a coin does not affect rolling a die, the events are independent.

For independent events:

$$P(A \cap B) = P(A) \cdot P(B)$$

$$P(A) \approx 0.50, P(B) = 0.50$$

$$P(A \cap B) \approx 0.25$$

Hence, the probability of getting a head and an even number is 0.25.

d) Dependent Events: Occurrence of one event affects another event.

Example 11.14.4.

A bag contains 4 red balls and 3 blue balls. Two balls are drawn one after another without replacement. Find the probability that both balls are red.

Events

- *Event A: First ball is red*
- *Event B: Second ball is red*

Soln.

Since the first ball is not replaced, the second event depends on the first event. Therefore, these are dependent events.

Step 1: Probability that first ball is red

$$P(A) = 4/7$$

Probability that second ball is red given first ball is red

After one red ball is removed:

6. Remaining red balls = 3

7. Remaining total balls = 6

$$P(B|A) = 3/6$$

Total probability

$$P(A \cap B) = P(A) \cdot P(B|A) = \frac{4}{7} \cdot \frac{3}{6} = \frac{2}{7}$$

Hence, the probability of drawing two red balls successively without replacement is $\frac{2}{7}$.

❖ Addition Theorem of Probability

The Addition Theorem of Probability is used to find the probability of occurrence of at least one of two events.

For two events A and B:

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

Where:

- $P(A)$ = probability of event A
- $P(B)$ = probability of event B
- $P(A \cap B)$ = probability of both A and B occurring together

Example 11.14.5.

A card is drawn from a deck of 52 cards. Find the probability that the card is:

- *a king or*
- *a heart.*

Sol.

Let:

- Event A = drawing a king
- Event B = drawing a heart

Step 1: Probability of drawing a king

There are 4 kings in a deck.

$$P(A) = 4/52$$

Step 2: Probability of drawing a heart

There are 13 hearts.

$$P(B) = 13/52$$

Step 3: Probability of drawing king of hearts

There is only one king of hearts.

$$P(A \cap B) = 1/52$$

Step 4: Apply Addition Theorem

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = \frac{4}{52} + \frac{13}{52} - \frac{1}{52} = \frac{4}{13}$$

Hence, the probability of drawing a king or a heart is $\frac{4}{13}$.

e) **Conditional Probability:** Conditional probability means probability of an event occurring when another event has already occurred.

Formula:

$$P(A | B) = \frac{P(A \cap B)}{P(B)}$$

❖ **Bayes' Theorem** It is used to find the probability of an event based on prior knowledge of related conditions.

For two events A and B:

$$P(B) = \frac{P(B|A)P(A)}{P(B)}$$

Where:

1. $P(A|B)$ = probability of A given B
2. $P(B|A)$ = probability of B given A
3. $P(A)$ = probability of A
4. $P(B)$ = probability of B

Example 11.14.6.

A disease affects 2% of a population. A test detects the disease correctly 95% of the time. The false positive rate is 3%. If a person tests positive, find the probability that the person actually has the disease.

Sol.

Let:

- A = person has disease
- B = test is positive

Step 1: Given

$$P(A) = 0.02$$

$$P(B | A) = 0.95$$

$$P(B|A') = 0.03$$

Step 2: Total probability

$$P(B) = (0.95)(0.02) + (0.03)(0.98)$$

$$P(B) = 0.019 + 0.0294 = 0.0484$$

Step 3: Apply Bayes' theorem

$$P(B) = \frac{P(B|A)P(A)}{P(B)} = \frac{0.95 \times 0.02}{0.0484} = 0.393$$

Hence, the probability that the person actually has the disease is approximately 39.3%.

11.15 Drill Set

- (i) *In an examination there are three multiple choice questions and each question has 4 choices. The number of ways in which a student can fail to get all answers correct is:*

[MAT, 2012]

- (a) 11 (b) 27
(c) 12 (d) 63

- (ii) *Two consecutive even positive integers, sum of the squares of which is 1060, are*

[CLAT, 2016]

- (a) 12 and 14 (b) 20 and 22
(c) 22 and 24 (d) 15 and 18

(iii) The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is
(A.A.O., 2010; P.C.S., 2009)

- (a) 1 (b) 2
(c) 3 (d) 4

(iv) The ratio of two numbers is 3: 4 and their LCM is 120. The sum of numbers is
[SSC—CHSL (10 + 2) Exam, 2015]

- (a) 70 (b) 140
(c) 35 (d) 105

(v) Given that $(1^2 + 2^2 + 3^2 + \dots + 10^2) = 385$, the value of $(2^2 + 4^2 + 6^2 + \dots + 20^2)$ is equal to
(M.B.A., 2006)

- (a) 770 (b) 1155
(c) 1540 (d) $(385)^2$

(vi) A buyer purchased few books of equal value for a total cost of ₹ 720. If the value of each were ₹ 2 less than the price at which the buyer originally bought, she could have purchased 4 more books than what she had bought. How many books did she originally purchase? (M.A.T., 2006)

- (a) 18 (b) 20
(c) 34 (d) 36

(vii) In an examination, a student scores 4 marks for every correct answer and loses 1 mark for every wrong answer. A student attempted all the 200 questions and scored in all 200 marks. The number of questions he answered correctly was: (S.S.C., 2010)

- (a) 60 (b) 68
(c) 80 (d) 82

(viii) The square root of 535.9225 is: (R.R.B., 2006)

- (a) 23.15 (b) 23.45
(c) 24.15 (d) 28.25

(ix) Which smallest number must be added to 710 so that the sum is a perfect cube? (S.S.C., 2005)

- (a) 11 (b) 19
(c) 21 (d) 29

(x) The average marks of a student in 4 subjects is 75. If the student obtained 80 marks in the fifth subject, then the new average is (P.C.S., 2008)

- (a) 72.5 (b) 76
(c) 77 (d) 77.5

(xi) The average of odd numbers up to 100 is (S.S.C., 2010)

- (a) 49 (b) 49.5
(c) 50 (d) 50.5

(xii) The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is: (S.S.C., 2004)

- (a) 17 kg (b) 20 kg
(c) 26 kg (d) 31 kg

- (xiii) Find the whole number which when increased by 20 is equal to 69 times the reciprocal of the number. (M.A.T., 2007)
- (a) 2.5 (b) 3
(c) 5 (d) 7
- (xiv) Ratio between the ages of Subhash, Prasad and Amar is 3 : 6 : 7. If the difference between the ages of Prasad and Amar is 10 years, then what is the difference between the ages of Subhash and Prasad? (Railways, 2006)
- (a) 5 years (b) 10 years
(c) 20 years (d) 30 years
- (xv) $48^{-2/7} \times 16^{-5/7} \times 3^{-5/7} = ?$ (P.C.S., 2008)
- (a) $1/3$ (b) $1/48$
(c) 1 (d) 48
- (xvi) If $\log_{10}(2) = a$ and $\log_{10}(3) = b$, then $\log_5(12) = ?$ (M.B.A., 2010)
- (a) $\frac{a+b}{1+a}$ (b) $\frac{2a+b}{1+a}$
(c) $\frac{a+2b}{1+a}$ (d) $\frac{2a+b}{1-a}$
- (xvii) By selling a bicycle for ₹ 2850, a shopkeeper gains 14%. If the profit is reduced to 8% then the selling price will be (S.S.C., 2010)
- (a) ₹ 2600 (b) ₹ 2700
(c) ₹ 2800 (d) ₹ 3000
- (xviii) ₹ 33630 are divided among A, B and C in such a manner that the ratio of the amount of A to that of B is 3 : 7 and the ratio of the amount of B to that of C is 6 : 5. The amount of money received by B is: (S.S.C., 2007)
- (a) ₹12390 (b) ₹13290
(c) ₹14868 (d) ₹ 16257
- (xix) A can do a piece of work in 4 hours, B and C together in 3 hours, and A and C together in 2 hours. How long will B alone take to do it? (S.S.C., 2005)
- (a) 8 hours (b) 10 hours
(c) 12 hours (d) 24 hours
- (xx) A committee of 3 members is to be selected out of 3 men and 2 women. What is the probability that the committee has at least 1 woman? (Bank P.O., 2008)
- (a) $1/10$ (b) $9/20$
(c) $1/20$ (d) $9/10$

Answers to Drill Set 11.15

Drill 11.15: (i)-(d), (ii)-(c), (iii)-(b), (iv)-(a), (v)-(c), (vi)-(d), (vii)-(c), (viii)-(c), (ix)-(a), (x)-(b), (xi)-(c), (xii)-(d), (xiii)-(b), (xiv)-(d), (xv)-(b), (xvi)-(d), (xvii)-(b), (xviii)-(c), (xix)-(c), (xix)-(d).