

CAREERS 360

PREPARATION **Series**

NMAT 2025

Success Kit

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About

NMAT 2023 by GMAC is the national-level MBA entrance test that candidates need to take if they want to pursue MBA from NMIMS Mumbai or other top B-schools in India. NMAT exam 2023 provides multiple chances to candidates to improve their score and secure admission. NMAT exam 2023 conducted by GMAC will be conducted in computer based mode tentatively from October to December 2023. NMAT 2023 by GMAC will test the skills of candidates in Language, Logic and Quantitative aptitude with 108 questions and 2 hours. This article will tell you everything you need to know about NMAT 2023.

Securing admission to a prominent management institution is the key to a rewarding career in today's brutally competitive market. This eBook has been painstakingly created to provide you with the information, tactics, and tools required to ace the NMAT and build your path to success.

Navigating Your NMAT Journey

You'll start a trip within these digital pages that will turn your NMAT preparation into a methodical and successful procedure. Our extensive eBook is broken up into a number of categories to provide you a full view of NMAT readiness:

NMAT Exam Pattern: Learn about the exam's format, scoring system, and key ideas it will be evaluating. The first step to passing the NMAT is comprehending the pattern.

Previous Year NMAT Exam Analysis: To be ready for the future, learn from the past. We dive into the knowledge gleaned from prior NMAT tests to provide you with an accurate picture of what to anticipate.

NMAT Section-wise Time Limit: In the NMAT, time management is essential. To optimise your score, learn how to spend your time effectively for each area.

NMAT Preparation Tips: To succeed in every area of the NMAT, have access to professional advice and techniques that have been refined over many years of practice.

Important Books for NMAT: To assist you in laying a solid foundation for your preparation, we have put together a list of key reference resources.

Other Helpful materials: Our eBook offers you a plethora of other materials to further your NMAT preparation beyond the fundamentals. We've got you covered with everything from a veritable gold mine of idioms and phrases to in-depth video lessons on permutation and combination and expert answers for DILR problems.

NMAT Sample Paper: With our carefully produced sample paper, you may assess your knowledge and gain a sense for the genuine test.

NMAT Full Mock Test: Our thorough mock exam will get you ready for the NMAT experience by serving as the ultimate barometer of your preparation.

Your Success Awaits

We think that being successful on the NMAT requires both hard effort and smart work. This eBook is your one-stop resource for everything NMAT-related, from comprehending the test structure to becoming an expert in each part. Your goal of earning a management degree is completely attainable with hard work and the appropriate direction.

Therefore, fasten your seatbelt and get ready to explore the NMAT universe as you set off on a voyage that will influence your future. On this thrilling journey, let "Unlocking Success: Your ultimate NMAT Preparation Guide" be your dependable travel partner.

**Your path to NMAT success starts right now.
Good fortune!**



NMAT Exam Pattern

The exam pattern for NMAT 2023 is expected to be similar to the previous year's pattern. The exam will have three sections - Language Skills, Logical Reasoning, and Quantitative Skills - with a total of 108 questions and a duration of 2 hours. No marks will be deducted for incorrect answers. The candidates have the option to select the sequence of sections as they like. The table below shows the number of questions and marks for each section.

Particulars	Details of NMAT 2023
Duration of exam	120 minutes
Mode of Exam	Online
Type of questions	MCQs
Total number of sections	Three sections with 36 questions in each of them
Total number of questions	108
Marking scheme	1 mark for each correct answer and there will be no negative marking for every wrong answer or unattempted question

NMAT by GMAC 2023 Syllabus

Sections in NMAT	NMAT Exam Important Topics
NMAT Language Skills important topics	<ul style="list-style-type: none"> • Reading Comprehension • Para Forming • Error Identification Prepositions • Sentence Completion • Analogies
NMAT exam 2023: Quantitative Skills topics	<ul style="list-style-type: none"> • Number Properties • Arithmetic • Algebra and Probability • DI Caselets and Tables • DI Graphs and Charts • Data Sufficiency • Profit, Loss and Discount • Time and Work • TSD • Permutations and Combinations • AP/GP • Quadratic Equations
Logical Reasoning section of NMAT 2023	<ul style="list-style-type: none"> • Critical Reasoning • Analytical Puzzles • Deductions • Other Reasoning

Section	Number of Questions	Allotted Time	NMAT good attempts
Language Skills	36	28 minutes	24-26
Quantitative Skills	36	52 minutes	28-30
Logical Reasoning	36	40 minutes	25-27
Total	108 questions	120 minutes	77-83

Previous Year NMAT Exam Analysis

Based on a review of exam results from the previous year, Gradsquare predicts that the NMAT 2023 exam will contain the following amount of questions from various themes in each of the three sections. The majority of test takers from the previous year stated that they had numerous concerns before taking the NMAT exam, such as if it was simple. How can I achieve the highest NMAT score? But the exam was surprisingly simple. So, we anticipate scoring well on the NMAT exam.

Topic	No. of Questions
Language Skills (Verbal ability and reading comprehension)	
Reading Comprehension (2 passages, 1 passage = 4 qs.)	8
Para jumbles	4
Analogy	9
Fill in the blanks (Grammar and Vocabulary)	6
Prepositions	3
Contextual Words	6
Quantitative ability	
Algebra	5
Ratio and Proportion/Average	1
Time Speed and Distance	1
Time and Work	1
Profit Loss	3
Number System & Set Theory	4
Data Interpretation	8
Data Sufficiency	4
Calendar	1
Mixtures & solution	1
Permutation and Combination / Probability	6

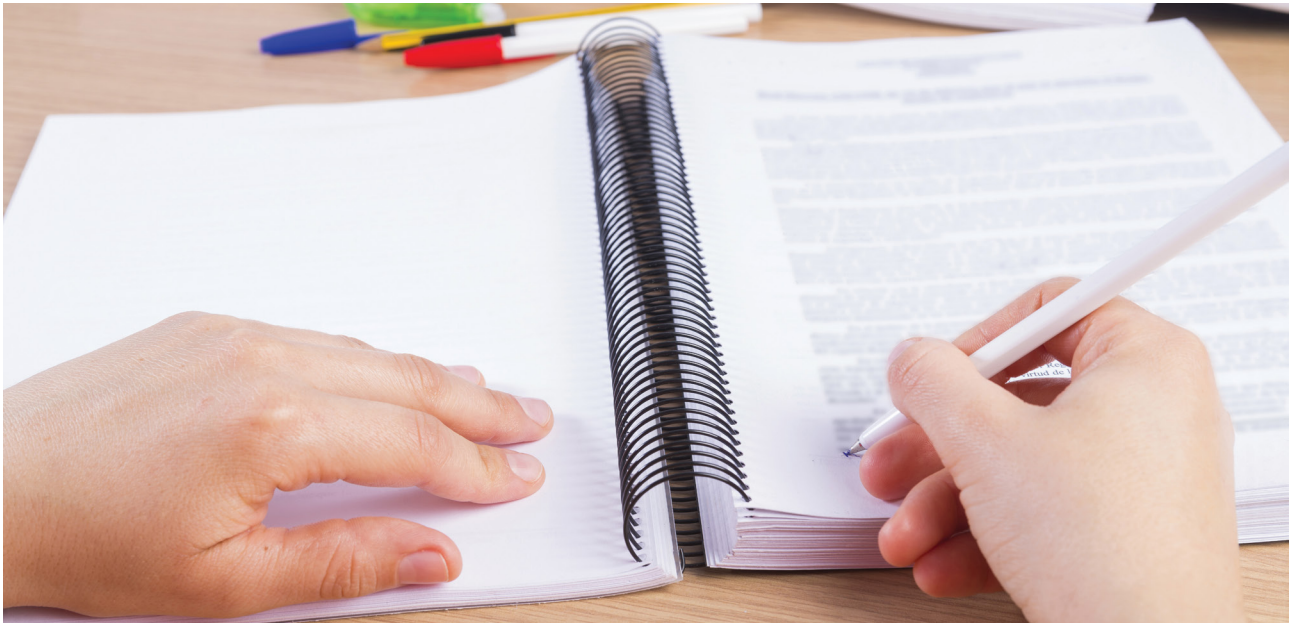
Topic	No. of Questions
Logical Reasoning	
Analytical Reasoning	4
Input-Output	4
Ranking- Linear Arrangement	1
Syllogism	2
Venn Diagram based	1
Puzzles	1
Set Theory	1
Statement – Assumption - Conclusion	8
Course of Action – Decision Making	4
Strong Argument / Weak Argument	4
Facts	2
Logical	2
Implicit Statement	2

Based on the trend from the previous year, the NMAT exam's overall level of difficulty will be moderate in terms of the questions presented. NMAT 2023 will be a "Computer-Adaptive" exam, therefore it will also depend on the candidate's skills.

NMAT Sectional Time Limit Over the Years

Candidates can check below the changes in NMAT pattern in terms of sectional time limit over the years:

NMAT sections	NMAT 2022	NMAT 2021/2020	NMAT 2019
Language Skills	28 minutes	28 minutes	22 minutes
Logical Reasoning	40 minutes	40 minutes	38 minutes
Quantitative Skills	52 minutes	52 minutes	60 minutes
Total Duration	120 minutes	120 minutes	120 minutes



NMAT Preparation Tips

Preparing for the NMAT (Narsee Monjee Management Aptitude Test) exam requires a structured approach and comprehensive coverage of the exam syllabus. The NMAT exam consists of three sections: Language Skills, Quantitative Skills, and Logical Reasoning. Here are some subject-wise preparation tips for each section:

1. Language Skills important topics

A. Reading Comprehension:

Understanding the Exam Pattern: NMAT typically includes passages followed by questions. The questions may pertain to the main idea, specific details, inference, author's tone, etc.

Preparation Strategy:

- **Reading Practice:** Regularly read newspapers, magazines, articles, and essays. Focus on understanding the main ideas, supporting details, and the author's tone.
- **Active Reading:** Engage with the text actively. Take notes while reading, underline key points, and make summaries to ensure better comprehension.
- **Vocabulary Building:** Enhance your vocabulary to

understand and interpret complex passages effectively. Learn new words and their meanings.

- **Practice Comprehension Questions:** Solve a variety of comprehension questions to get used to the types of questions asked. Analyse the passages for context, tone, and main ideas.
- **Time Management:** During the exam, allocate specific time limits for each passage and its corresponding questions. Avoid spending too much time on a single passage.

Here's an example of a Reading Comprehension (RC) question from a previous year's NMAT exam, along with a step-by-step explanation of how to solve it:

Reading Comprehension Passage Example:

"Climate change is a global phenomenon that has far-reaching effects on the environment, economy, and society. Rising global temperatures are leading to more frequent and severe weather events, such as hurricanes, droughts, and heatwaves. Additionally, the melting of polar ice caps is contributing to rising sea levels, threatening coastal communities. In order to address these challenges, it is crucial for countries around the world to work together and implement sustainable policies to

reduce greenhouse gas emissions and mitigate the impacts of climate change.”

Question:

What are some of the effects of climate change mentioned in the passage?

Explanation:

- **Read the Passage Carefully:** Begin by reading the passage carefully to understand the main ideas and supporting details. Pay attention to the effects of climate change mentioned in the passage.
- **Identify Key Information:** In this case, the question is asking about the effects of climate change. Make a mental note of the specific effects mentioned in the passage.
- **Refer Back to the Passage:** Go back to the passage and look for the sentences or phrases that mention the effects of climate change. In this passage, the effects mentioned are:
- More frequent and severe weather events (hurricanes, droughts, heatwaves).
- Melting of polar ice caps leading to rising sea levels.
- **Answer the Question:** Based on the information identified in step 3, you can now provide an accurate answer to the question. In this case, you would mention the effects listed above.
- **Answer:** The effects of climate change mentioned in the passage are more frequent and severe weather events (hurricanes, droughts, heatwaves) and the melting of polar ice caps leading to rising sea levels.

Tips for Solving Reading Comprehension Questions:

- **Read Actively:** Engage with the passage actively. Take notes, underline key points, and make summaries to ensure better comprehension.
- **Focus on Main Ideas:** Identify the main ideas and supporting details. These will be crucial in answering questions about the passage.
- **Understand Relationships:** Pay attention to how different pieces of information relate to each other. This can help you make sense of the passage as a whole.
- **Refer Back to the Passage:** Always refer back to the passage to find the specific information needed to answer the question. Avoid relying solely on memory.
- **Practice Regularly:** Regular practice with a variety of RC passages will help improve your reading comprehension skills over time.

- **Time Management:** Allocate specific time limits for each passage and its corresponding questions. Avoid spending too much time on a single passage.

B. Para Forming:

Understanding the Exam Pattern:

This section involves arranging jumbled sentences to form a coherent paragraph.

Preparation Strategy:

- **Logical Flow:** Focus on creating a logical flow in the paragraph. Look for connecting words and phrases that indicate transitions between sentences.
- **Understanding Context:** Analyse the meaning and context of each sentence to determine its position in the paragraph.
- **Practice Regularly:** Solve para forming exercises to get accustomed to arranging sentences in a logical sequence.
- **Sure, let’s create a paragraph forming a question for the NMAT exam, and I’ll explain how to solve it.**

Question: Below are four jumbled sentences (A, B, C, and D). Arrange them in the correct order to form a coherent paragraph.

- (A) Furthermore, renewable energy sources such as solar and wind power have gained prominence as alternatives to fossil fuels.
- (B) The consequences of climate change are becoming increasingly severe, with rising global temperatures and more frequent extreme weather events.
- (C) To combat climate change, it is imperative to transition to sustainable and environmentally friendly energy options.
- (D) In recent years, there has been a growing awareness of the need to address environmental issues and reduce greenhouse gas emissions.

Solution:

To solve this paragraph forming question, you need to arrange the sentences in a logical and coherent order to create a meaningful paragraph. Here’s how you can do it:

1. **Identify the Topic Sentence:** Look for the sentence that introduces the main topic or idea of the paragraph. In this case, sentence (D) mentions “growing awareness of the need to address environmental issues,” which is a good candidate for the topic sentence.

So, we start with sentence (D).

Paragraph so far: “In recent years, there has been a growing

awareness of the need to address environmental issues...”

2. **Identify Supporting Sentences:** The other sentences (B), (A), and (C) provide additional information and support the main idea.
 - Sentence (B) talks about the consequences of climate change, which is related to environmental issues.
 - Sentence (A) mentions renewable energy sources, which are part of the solution to environmental problems.
 - Sentence (C) directly addresses the solution to combat climate change.
3. **Logical Flow:** Arrange the supporting sentences in a logical flow that follows the topic sentence. In this case, it makes sense to talk about the growing awareness of environmental issues (sentence D) first, then discuss the consequences of climate change (sentence B), followed by the mention of renewable energy sources (sentence A), and finally, the imperative need to transition to sustainable energy options (sentence C).

Paragraph in the correct order: “In recent years, there has been a growing awareness of the need to address environmental issues. The consequences of climate change are becoming increasingly severe, with rising global temperatures and more frequent extreme weather events. Furthermore, renewable energy sources such as solar and wind power have gained prominence as alternatives to fossil fuels. To combat climate change, it is imperative to transition to sustainable and environmentally friendly energy options.”

By following these steps, you can logically arrange the sentences to form a coherent paragraph that addresses the topic of environmental awareness, climate change consequences, and the shift toward sustainable energy sources, as requested in the question.

C. Error Identification:

Understanding the Exam Pattern:

This section involves identifying and correcting errors in sentences.

Preparation Strategy:

- **Grammar Review:** Brush up on grammar rules, including tenses, subject-verb agreement, pronoun usage, and sentence structure.
- **Proofreading Practice:** Develop the habit of proofreading written material. Identify and correct errors in sentences.

- **Sentence Structure:** Understand the structure of a sentence and look for common grammatical errors.

Here’s an example of an Error Identification question from a previous year’s NMAT exam, along with a step-by-step explanation of how to solve it:

Error Identification Question:

Question:

“Despite of the heavy rain, the football match continued as scheduled.”

Explanation:

- **Read the Sentence Carefully:** Begin by reading the sentence provided in the question. Pay close attention to the structure and grammar.
- **Identify the Error:** In this sentence, the error is in the phrase “Despite of the heavy rain.” The correct form should be “Despite the heavy rain” or “In spite of the heavy rain.”
- **Correct the Error:** Replace the incorrect phrase with the correct form. The corrected sentence is: “Despite the heavy rain, the football match continued as scheduled.”

Tips for Solving Error Identification Questions:

- **Grammar Rules:** Brush up on basic grammar rules, including subject-verb agreement, tense usage, prepositions, and sentence structure. This will help you identify errors more accurately.
- **Read the Sentence Aloud:** Sometimes, reading the sentence aloud can help you catch errors that might not be immediately obvious when reading silently.
- **Pay Attention to Common Mistakes:** Be on the lookout for common mistakes such as incorrect verb forms, misplaced modifiers, and faulty parallelism.
- **Consider Context:** Think about the context of the sentence. Does the structure and wording make sense given the surrounding information?
- **Eliminate Options:** If you’re unsure about which part of the sentence contains the error, try eliminating options. Read through the sentence with each option to see which one sounds correct.
- **Practice Regularly:** Engage in regular practice with a variety of error identification questions. This will help you become more adept at spotting and correcting errors.
- **Review Previous Year’s Papers:** Analyse past question papers to understand the types of error identification

questions asked in previous exams. This will give you a sense of the patterns and difficulty levels.

Remember, error identification questions require a keen eye for detail and a solid understanding of grammar rules.

D. Prepositions:

Understanding the Exam Pattern:

Prepositions involve understanding the correct usage of prepositions in sentences.

- **Prepositions:** Prepositions are one of the entities in English grammar to define the relation between nouns and pronouns along with an object to form a meaningful sentence.

Types of prepositions:

- **Basic Prepositions:** Prepositions that indicate time, direction, location etc. Example: in, at, on, under, since, over, off, etc
- **Prepositions using participles:** These can be made using 'ed, ing' etc. Example: during, regarding
- **Phrase Prepositions:** It defines the connection of an object with the object modifier. Example: after dawn, etc

Example 1:

Incorrect Sentence: She spilled the beans about the surprise party.

Corrected Form: She let the cat out of the bag about the surprise party.

Explanation: The idiom "let the cat out of the bag" means to reveal a secret, while "spill the beans" is not the correct idiom here.

Example 2:

Incorrect Sentence: He's always crying over spilled water.

Corrected Form: He's always crying over spilled milk.

Explanation: The idiom "crying over spilled milk" means to lament something that cannot be undone, while "spilled water" is not the correct idiom.

Preparation Strategy:

- **Learn Common Prepositions:** Familiarise yourself with common prepositions and their appropriate usage in different contexts.
- **Contextual Usage:** Pay attention to the context in which prepositions are used. Understand how they affect the meaning of a sentence.

- **Practice Exercises:** Solve exercises specifically focused on prepositions to reinforce your understanding.

E. Sentence Completion:

Understanding the Exam Pattern: Sentence completion involves filling in the blanks with the appropriate word or phrase.

Preparation Strategy:

- **Vocabulary Building:** A strong vocabulary is crucial for sentence completion questions. Learn a variety of words and their contextual usage.
- **Context Clues:** Use context clues to determine the most suitable word to complete the sentence.
- **Synonyms and Antonyms:** Understand the relationships between words. Identify synonyms or antonyms that fit the context.

Here's an example of a Sentence Completion question from a previous year's NMAT exam, along with a step-by-step explanation of how to solve it:

Question:

"The novel's plot was so _____ that it kept me engaged from beginning to end."

Explanation:

- **Read the Sentence and Identify Context:** Begin by reading the sentence carefully. In this case, the sentence is describing the plot of a novel and expressing how engaging it was.
- **Consider Appropriate Word Choices:** Think about what word would appropriately fill in the blank to convey the intended meaning. In this context, we need a word that means "interesting" or "captivating."
- **Choose the Correct Word:** Based on the context, a suitable word to complete the sentence could be "compelling," "riveting," or "intriguing." These words all convey the idea of being highly engaging.
- **Complete the Sentence:** The completed sentence would be: "The novel's plot was so compelling that it kept me engaged from beginning to end."

Tips for Solving Sentence Completion Questions:

- **Read the Context:** Understand the context in which the sentence is presented. Consider the tone, subject matter, and any cues provided.

- **Identify the Missing Word:** Determine what type of word is needed to complete the sentence. Is it an adjective, verb, noun, or adverb? This will guide your word choice.
- **Consider Synonyms and Antonyms:** Think about words that are similar in meaning to the one you're trying to find. Also, consider words that are opposite in meaning, as they might fit the context.
- **Use Context Clues:** Pay attention to the surrounding words in the sentence. They may provide clues about the type of word needed.
- **Avoid Redundancy or Repetition:** Ensure that the completed sentence flows naturally and that the word you choose doesn't repeat information already provided.
- **Practice Vocabulary Building:** Enhance your vocabulary to have a broader range of words to choose from. This can be accomplished through reading, vocabulary exercises, and learning new words.
- **Review Previous Year's Papers:** Analyse past question papers to understand the types of sentence completion questions asked in previous exams. This will give you a sense of the patterns and difficulty levels.

Remember, sentence completion questions test your understanding of the context and your ability to select the most appropriate word. With practice and a thoughtful approach, you can improve your proficiency in completing sentences in the NMAT exam.

F. Analogies:

Understanding the Exam Pattern: Analogies involve establishing relationships between pairs of words and applying the same relationship to a different pair.

Preparation Strategy:

- **Recognize Patterns:** Practise recognizing common patterns and relationships between words (e.g., synonyms, antonyms, cause-effect, part-whole).
- **Vocabulary Enhancement:** A strong vocabulary is essential for solving analogy questions. Learn new words and understand their meanings.
- **Practice Regularly:** Solve a variety of analogy questions to become comfortable with different types of relationships.

Here's an example of an Analogy question from a previous year's NMAT exam, along with a step-by-step explanation of how to solve it:

Question:

"Book is to Reading as Fork is to _____."

Explanation:

- **Understand the Relationship:** In this analogy, we need to identify the relationship between "Book" and "Reading." The relationship here is that a book is something that is read.
- **Identify the Analogous Pair:** Now, we need to find a pair of words that share a similar relationship to "Fork" and the missing word.
- **Consider Options:** Think about what action or function is associated with a fork. A fork is a utensil used for eating. So, the analogous word should be something that is associated with using a fork.
- **Choose the Correct Word:** Based on this relationship, a suitable word to complete the analogy could be "Eating."
- **Complete the Analogy:** The completed analogy would be: "Book is to Reading as Fork is to Eating."

Tips for Solving Analogy Questions:

- **Understand the Relationship:** Analyse the relationship between the first pair of words carefully. This is crucial for finding the analogous pair.
- **Use Synonyms and Antonyms:** Sometimes, analogies involve words that are synonymous or antonymous. Consider words that share similar meanings or have opposite meanings.
- **Look for Functional Relationships:** Consider the function or purpose of the words in the analogy. For example, in the example above, the relationship between "Book" and "Reading" is functional.
- **Avoid Superficial Similarities:** Don't be misled by surface-level similarities between words. Look for deeper, meaningful connections.
- **Consider Part-Whole Relationships:** Analogies can also involve part-whole relationships. For example, "Leaf is to Tree as Petal is to Flower."
- **Practice Regularly:** Engage in regular practice with a variety of analogy questions. This will help you become more adept at identifying and completing analogies.
- **Review Previous Year's Papers:** Analyse past question papers to understand the types of analogy questions asked in previous exams. This will give you a sense of the patterns and difficulty levels.
- **Stay Calm and Focused:** Maintain a calm and focused

mindset during the exam. If you're unsure about an analogy, try to approach it logically and systematically.

- Remember, analogy questions test your ability to recognize relationships between words. With practice and a thoughtful approach, you can improve your proficiency in solving analogies in the NMAT exam.

2. For Mathematical Skills Preparation

This section generally comprises 36 questions. Reviewing previous year's question papers can give you insights into the types of questions asked, the difficulty level, and the distribution of topics. Identify common question formats and recurring topics. It takes a lot of work to master this level, so be sure to consistently solve sums. Work on your accuracy and speed. Start by answering the simpler questions on sample tests before moving on to the more difficult ones.

A. Number Properties:

The number system encompasses the fundamental properties and characteristics of numbers, including concepts like divisibility rules, prime numbers, factors, and multiples.

This can involve tasks like finding all the factors of a number (e.g., factors of 12 are 1, 2, 3, 4, 6, 12) or determining if a given number is prime (e.g. 7 is a prime number because it's only divisible by 1 and itself).

Regularly practice tasks related to finding factors, identifying prime numbers, calculating multiples, and understanding divisibility rules. This strengthens your foundational understanding of numbers.

For Basic Numbers and Conversions, focus on understanding the underlying concepts. Practice converting between different number systems, such as decimal to fractions and vice versa. Use shortcut techniques for quick calculations, especially for conversions involving recurring decimals.

B. Arithmetic

Ratio and Proportion: Ratio and proportion problems revolve around establishing relationships between quantities and finding unknown values based on these relationships.

Ratio and Proportion are explained majorly based on fractions. When a fraction is represented in the form of a:b, then it is a ratio whereas a proportion states that two ratios are equal. Here, a and b are any two integers. The ratio and proportion

are the two important concepts, and it is the foundation to understand the various concepts in mathematics as well as in science.

For example, $\frac{4}{5}$ is a ratio and the proportion statement is $\frac{20}{25} = \frac{4}{5}$. If we solve this proportional statement, we get:

$$\frac{20}{25} = \frac{4}{5}$$

$$20 \times 5 = 25 \times 4$$

$$100 = 100$$

This section can involve tasks like determining the missing quantity in a proportion equation (e.g., if $3:4 = x:8$, find the value of x).

Practise different types of ratio and proportion problems. This will help you develop a solid grasp of how quantities relate to each other and how to solve for unknowns in such scenarios. Practice solving problems related to ratios and proportions.

C. Algebra and Probability

I. ALGEBRA

Linear Equations and Inequalities: This involves solving equations and inequalities that involve one or more variables.

This could entail tasks like solving equations such as $2x + 3 = 7$ or inequalities like $3x - 5 < 10$.

Linear equations are mathematical statements which are used to find the value of some unknown variable(s). Graphically linear equations always form a straight-line curve.

Types/ Representation of Linear Equations:

- Linear Equation in one variable: $ax + b = 0$ $a \neq 0$ and x is the variable.
- Linear Equation in two variables: $ax + by + c = 0$ $a \neq 0$, $b \neq 0$, x and y are the variables.
- Linear Equation in three variables: $ax + by + cz + d = 0$ $a \neq 0$, $b \neq 0$, $c \neq 0$, x, y, z are the variables.
- Slope intercept form: $y = mx + b$; m = slope of the line b = y intercept
- Point Slope form: $(y - y_1) = m(x - x_1)$

Engage in consistent practice solving linear equations and inequalities. Familiarise yourself with the various methods and approaches for handling such equations.

II. PROBABILITY

Probability deals with the likelihood of events occurring. This includes calculating probabilities of specific events and

understanding conditional probability (probability of an event occurring given that another event has already occurred).

Important concepts:

1. NMAT Probability or Chance:

Probability is a quantitative measure of the chance of occurrence of a particular event.

Where $PE = n(E)/n(S)$, $n(E)$ = no of favourable events; $n(S)$ = Sample Space.

2. Random Experiment probability problems:

If all the possible outcomes of an experiment are known but the exact output cannot be predicted in advance.

- (i) Tossing of a fair coin (Total Outcome 2)
- (ii) Dice probability questions

Throwing an unbiased die (Total Outcome 6)

- (iii) Cards game probability questions

Drawing a card from a pack of shuffled cards

A pack or deck of playing cards has 52 cards which are divided into four categories as given below:

- a. Spades (♠)
- b. Clubs (♣)
- c. Hearts (♥)
- d. Diamonds (♦)

3. Sample Space: Sample Space is the set of all possible outcomes of an experiment. It is denoted by S.

4. Event: Any subset of a Sample Space is an event.

5. Equally Likely Events: Events are said to be equally likely if there is no preference for a particular event over the other. Example: When a coin is tossed, Head (H) or Tail is equally likely to occur.

6. Mutually Exclusive Events: if the occurrence of one of the events excludes the occurrence of the other

Examples:

- (i) Tossing of a coin: Either Head or Tail.
- (iii) Rolling of a die: Either odd or even.

7. Independent Events: The occurrence or non-occurrence of one event does not influence the occurrence or non-occurrence of the other.

8. Exhaustive Event is the total number of all possible outcomes of an experiment.

Example:

- (i) When a coin is tossed, we get either Head or Tail. Hence there are 2 exhaustive events.

For instance, Calculating the probability of rolling a certain number on a six-sided die or finding the probability of drawing

a certain card from a deck.

To ace this section, learn the basics of probability theory. Practice calculating probabilities of events using different approaches. Understand conditional probability and how it impacts the overall probability of an event. Focus on understanding the concepts of probability and practice problems related to independent and dependent events.

D. DI Caselet

Data Interpretation involves the process of extracting meaningful insights and conclusions from data presented in various forms, such as tables, graphs, charts, and figures. It tests your ability to understand and analyse data to answer questions accurately.

Caselet Analysis involves a set of information (caselet) followed by a series of questions related to that information. It tests your ability to extract relevant details and apply them to answer questions. Case let or case study consists of a set of information in the form of a passage. A set of questions based on it were asked. No tables or graphs were given. You have to read the information to deduce the information and organise the given data to solve the questions.

Approach:

- Read the caselet thoroughly: Understand the context and information provided in the caselet.
- Analyse the questions: Identify the specific details or data points required to answer each question.
- Refer back to the caselet: Extract the necessary information from the caselet to answer the questions.

Preparation Strategy:

- Practice analysing caselets from different domains, such as business, finance, or market research.
- Focus on improving your speed in extracting relevant information from the caselet.

Example Questions:

1. Calculate the number of smartphones produced in Unit A in 2022.
2. Calculate the percentage of laptops in the total production of XYZ Corporation in 2022.
3. Determine the total production of gaming consoles and smartwatches in Unit C combined.

Solution:

1. Number of Smartphones in Unit A:

- Percentage of Smartphones in Unit A: 60%
- Total Production in Unit A: 150,000 devices.
- Number of Smartphones = 60% of 150,000
- Number of Smartphones = $0.60 \times 150,000$
- Number of Smartphones = 90,000

Therefore, 90,000 smartphones were produced in Unit A in 2022.

2. Percentage of Laptops in Total Production:

- Percentage of Laptops in Unit B: 45%
- Total Production of Unit B: 100,000 devices.
- Percentage of Laptops in Total Production = 45%

Therefore, the percentage of laptops in the total production of XYZ Corporation in 2022 is 45%.

3. Total Production of Gaming Consoles and Smartwatches in Unit C:

- Percentage of Gaming Consoles in Unit C: 30%
- Percentage of Smartwatches in Unit C: 70%
- Total Production of Unit C: 80,000 devices.
- Production of Gaming Consoles = 30% of 80,000
- Production of Smartwatches = 70% of 80,000
- Total Production of Gaming Consoles and Smartwatches = Production of Gaming Consoles + Production of Smartwatches

Total Production of Gaming Consoles = $0.30 \times 80,000 = 24,000$ devices.

Total Production of Smartwatches = $0.70 \times 80,000 = 56,000$ devices.

Total Production of Gaming Consoles and Smartwatches = $24,000 + 56,000 = 80,000$ devices.

Therefore, the total production of gaming consoles and smartwatches in Unit C combined is 80,000 devices.

E. DI Tables

Practise interpreting information presented in tabular form. This may involve calculations like percentages, ratios, and averages based on the data provided.

The boxes of the table consist of different types of information such as the population of a town, marks of a student, expenses of a company, production data of any industry etc. Table Chart questions are extremely important and have a good weightage as well. Many students sometimes find it difficult to solve these types of questions. Therefore,

it's recommended for students to practise these questions rigorously.

Sample:

Average marks of students of class 10 of different schools of a city are represented subject wise as shown in table:

	Maths	Science	English	Social Science	Hindi
St. Marry	81	81	81	81	81
Elite	78	78	78	78	78
Romex	64	64	64	64	64
DPS	91	91	91	91	91

F. DI Graphs and Charts

I. Bar Charts: Learn how to read and analyse bar graphs, including single and multiple bar charts. Understand how to compare data from different categories.

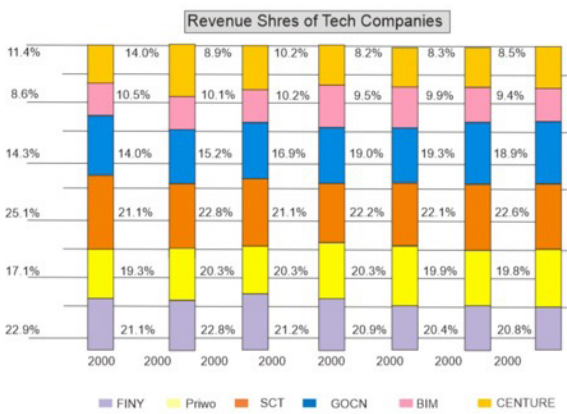
Extracting information from a bar graph involves a few key steps, here is a step by step guide:

- a. Title and Labels: Start by examining the title of the graph and any labels on the axes. This will give you an overview of what the graph is representing.
- b. Read the Bars: Look at the bars themselves. Each bar represents a category or a data point. In a horizontal bar graph, the length of the bars indicates the value. In a vertical bar graph, it's the height.
- c. Axis Values: Pay attention to the values on the axes. These will indicate the range of data being represented. For example, if the vertical axis is labelled from 0 to 100, it means the data points are within that range.
- d. Identify Categories: If the graph represents different categories (e.g., different years, different products), identify them. This will help you understand what each bar represents.
- e. Compare Bars: Compare the lengths or heights of the bars. This is crucial for understanding the relationships between different data points. Note which bars are taller or shorter in relation to each other.
- f. Analyse Trends: Look for patterns or trends in the data. Are certain categories consistently higher or lower? Is there a sudden spike or drop?

- g. Interpolation: Sometimes you might need to estimate values that aren't explicitly shown on the graph. For instance, if the vertical axis is labelled from 0 to 10, and a bar reaches halfway between 4 and 5, you can estimate it to be around 4.5.
- h. Consider Units: Pay attention to the units used on the axes. For instance, if the vertical axis is labelled in thousands, each tick represents a thousand units.
- i. Refer to the Legend: If there is a legend, it will explain what each colour or pattern represents. This is especially important if there are multiple data sets on the same graph.
- j. Read Any Additional Information: Sometimes there might be additional notes or annotations on the graph that provide context or extra details.
- k. Draw Conclusions: Based on your analysis, draw conclusions about the data presented in the graph.

Example: In 2001, the company that grew the quickest grew by 100%. What was the growth rate of the company that had the least growth rate?

- a) 50%
- b) 25%
- c) 20%
- d) 33% - correct answer



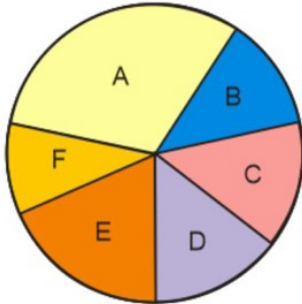
Revenue shares of Tech Companies

II. Pie Charts: Familiarise yourself with interpreting pie charts, which represent data in the form of slices. Focus on understanding percentages and fractions represented by each slice. In the pie chart, data is distributed in a circle, which forms 360 degrees at its centre and comprises 100% of its area. Students must know to derive the relation

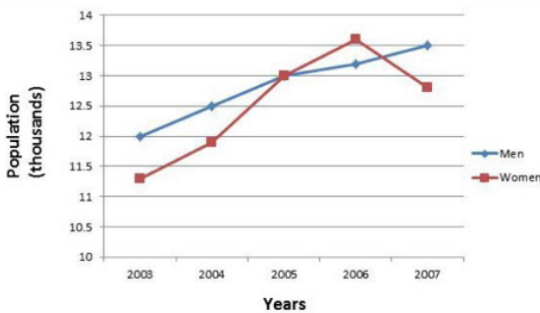
between angle and percentage to calculate the parameter's value.

Extracting information from a pie chart involves visually interpreting the chart and making numerical estimates based on the proportions of the different segments. Here are step-by-step instructions to help you do this:

- a. Observe the Pie Chart: Start by looking at the pie chart as a whole. Understand what it is representing and what each segment represents.
- b. Identify the Segments: Take note of each segment (or slice) of the pie. Each segment represents a category or a portion of the whole.
- c. Determine the Total: Find any information that provides the total value or percentage the pie chart is representing. It might be stated in the chart title, legend, or somewhere nearby.
- d. Estimate Segment Sizes: Visually estimate the size of each segment relative to the whole pie. You can do this by comparing angles or areas.
- e. Calculate Percentages: For each segment, estimate the percentage it represents by comparing its size to the total size of the pie. You can do this by dividing the size of the segment by the total size of the pie and then multiplying by 100.
- f. Read Labels (if available): If the pie chart has labels, they can provide specific information about each segment. These labels might include names, values, or percentages.
- g. Analyse the Legend (if available): If there's a legend, it can provide additional information about what each segment represents. It might include numerical values, percentages, or categorical labels.
- h. Cross-Reference Data (if available): If there's additional data available, like a table or a graph alongside the pie chart, cross-reference it to gain a deeper understanding of the information being presented.
- i. Check for Additional Information: Look for any accompanying text or notes that might provide further context or specific values related to the pie chart.
- j. Interpret the Data: Based on your observations, calculate or estimate the numerical values associated with each segment. This could be in absolute numbers or percentages.
- k. Verify with Precision (if possible): If precision is critical, see if there's a source document or data set that contains exact values for the pie chart. This will provide the most accurate information.



III. Line Graphs: Practise extracting trends and patterns from line graphs, which display data points over a period of time. Pay attention to changes in trends and comparisons. Work on your speed and accuracy in solving Line Graph questions. Identify the trend and pattern in the data to answer questions related to the line graph quickly. In this section we will focus on the most basic aspects of a line graph.



1. On the y-axis, a dependent variable is taken while on the x-axis, an independent variable is taken.
2. Dots represent the values of x and y variables at that point.
3. Line gives a visual representation of the data, and its variation.
4. Vertical Label: Name of Dependent Variable
5. Horizontal Label: Name of Independent Variable
6. Slope of line gives the variation of data i.e. if slope is positive then growth is positive and if slope is negative then growth is negative.

IV. Mixed Graphs: Work on questions that involve a combination of different types of graphs. Practice extracting relevant information from each component.

G. Data Sufficiency

Data Sufficiency questions assess your ability to determine whether the information provided is sufficient to answer a specific question. You are not required to find the actual answer, but rather to assess if the given data is enough.

Approach:

- Understand the question: Read the question and the data provided carefully to identify what information is required to answer the question
- Evaluate each statement: Analyse each statement individually to determine if it provides enough information to answer the question.
- Consider both statements together: Determine if combining both statements (if necessary) is sufficient to answer the question.
- Identify the answer choices: Select the appropriate option based on your evaluation.

Preparation Strategy:

- Practise regularly with a wide range of Data Sufficiency questions.
- Focus on identifying redundant or unnecessary information in the statements.
- Develop the ability to make quick assessments of sufficiency.

Here’s an example of a Data Sufficiency question at a CAT (Common Admission Test) level:

Question:

Statement 1: The sum of two numbers is 10.
Statement 2: Both numbers are positive integers.

Question: Are the two statements, by themselves, sufficient to answer the question of what the two numbers are?

Options:

- A. Statement 1 alone is sufficient, but statement 2 alone is not sufficient.
- B. Statement 2 alone is sufficient, but statement 1 alone is not sufficient.
- C. Both statements together are sufficient, but neither statement alone is sufficient
- D. Each statement alone is sufficient.
- E. Statements 1 and 2 together are not sufficient.

Explanation:

Statement 1: “The sum of two numbers is 10.”

This statement alone is not sufficient to determine the two numbers. They could be 3 and 7, 4 and 6, or any other combination that adds up to 10.

Statement 2: “Both numbers are positive integers.”

This statement alone is still not sufficient to determine the two numbers, as there are still multiple combinations of positive integers that add up to 10.

Combining both statements:

When we combine both statements, we still have multiple possible combinations. For example, the numbers could be 3 and 7 or 4 and 6. Thus, even when combined, the statements are not sufficient.

Correct Answer: E. Statements 1 and 2 together are not sufficient.

Explanation:

This example illustrates the importance of evaluating the sufficiency of information in Data Sufficiency questions. Even when combining both statements, it’s crucial to ensure that they provide enough information to uniquely determine the answer.

H. Percentage, Profit and Loss

These concepts involve dealing with percentages, calculating profits or losses in business transactions, and understanding the calculations of both simple and compound interest.

This section involves finding the percentage increase in the price of a product, or solving problems related to profit and loss percentages in a business transaction.

Percentage: The percentage is the basic building block of Arithmetic. It is one of the most important topics for the NMAT Exam.

The word “Percent” means “per 100” or “out of 100”.

To Ease your preparation, divide the percentage questions in 4 parts as below:

- a. Questions of the type where x% of y is to be calculated
 $x\% \text{ of } y = xy/100$
 Ex: 20 % of 30 = 20 30/100 = 6
- b. Questions of the type where x is what % of y is to be calculated
 $x \text{ is what } \% \text{ of } y = x 100/ y$
 Ex: 20 is what % of 30 = 20 100/30 = 66.66 %
- c. Questions of the type where x is what % more/ less than y is to be calculated
 $x \text{ is what } \% \text{ more/ less than } y = (\text{Difference between } x \text{ and } y) 100/ y$

y) $100/ y$

Ex: 20 is what % less than 30 = 10 100/30 = 33.33 %

d. Successive change:

Ex: Price of a commodity is increased by 10% first and then decreased by 5%. Find the net percentage change.

If the initial price is 100 then after the first change value will be 110. Now decrease this value by 5%. The final value after the second change will be 104.5. So, the Net percentage change will be 4.5%.

Engage in a variety of problems that pertain to percentages, profit and loss calculations, as well as interest computations. This practice will enhance your proficiency in these crucial financial aspects.

Profit and Loss: Understand the concepts of cost price, selling price, and profit/loss percentage. Focus on solving problems involving successive profit/loss and discount/markup. The price at which we purchase something is the “cost price” (CP).

The price that we mark or print on the article is the marked price (MP).

The price at which we sell something is its selling price (SP).

Marked Up % = $(MP-CP) \times 100/CP$

Discount % = $(MP-SP) \times 100/MP$

Profit % = $(SP-CP) \times 100/CP$

Simple Interest and Compound Interest: Learn the formulas for calculating SI and CI. Practice solving questions that involve different interest rates and time periods.

a. Simple Interest is calculated by:

$SI = \{(P \times R \times T)/ 100\}$

Where, P = Principal Sum, R = rate of interest at which sum is borrowed or lent and T = time period (the duration for which money is borrowed/deposited).

Alternatively, calculate the interest for 1 year and multiplied by the time for which interest is to be calculated.

b. Compound Interest:

Compound interest is nothing but interest on interest. We can understand this by following the example:

Let Rs 1000 be lent at the rate of 20% per annum compounded annually for 3 years.

Year- Wise Interest

1st year

2nd year

3rd year

Rs 1000 (Principal)

20% of 1000 = 200

20% of (1000 + 200) = 240

20% of (1200 + 240) = 240 + 48 = 288

Total Interest for 3 years = 200 + 240 + 288 = Rs 728.

Alternatively, we can use the formula

Amount = $P(1 + R/100)^n$

P = Principal

R = Rate of interest per annum compounded annually

n = no of years

If the rate is compounded half yearly: the rate is to be taken per six months, and the time will be a multiple of half years.

Also, for SI and CI, understand the concepts of EMIs, reducing balance method, and equated monthly instalments. Practice solving questions related to loans and instalment payments.

I. Time and Work

Time and work is a fundamental concept in mathematics and is often used in various real-life situations, such as project management, production, and resource allocation. Here are some key notes on time and work:

1. Basic Formula: The basic formula for time and work is:

Work = Rate × Time

Where:

- Work is the amount of work done.
- Rate is the rate at which work is done.
- Time is the duration in which the work is completed.

2. Inverse Relationship: Time and work have an inverse relationship. This means that if the rate of work remains constant, then as the time increases, the amount of work completed decreases, and vice versa.

3. Work Units: Make sure that the work and rate units are consistent. For example, if work is measured in units like widgets produced, the rate should be in widgets per unit of time (e.g., widgets per hour).

4. Combined Work: When multiple people or machines are working together to complete a task, you can add their rates to find the combined rate. For example, if A can do a job in 4 hours, and B can do it in 6 hours, their combined rate is $1/4 + 1/6$.

5. Work Done by Partial Teams: To find the work done by a subset of the team, multiply their combined rate by the time they worked. For example, if A and B worked together

for 3 hours, they completed $(1/4 + 1/6) \times 3$ of the work.

6. Fractional Work: Sometimes, work is divided into fractions. For example, if A can do half of a job in 2 hours, their rate is $1/2$ job per hour.

7. Reciprocal Rates: When dealing with rates in time and work problems, it's common to work with reciprocal rates. For example, if A can complete a job in 4 hours, their rate is $1/4$ job per hour.

8. Work Completion Problems: In some cases, you might be given the work completed by a person or team and need to find the time or rate. In such situations, rearrange the formula as needed:

- To find time: Time = Rate/Work

- To find rate: Rate = Time/Work

9. Common Work Problems: Common types of time and work problems include finding when a task will be completed if certain individuals work together, determining how long it takes for an individual to complete a task, and finding how many people are needed to complete a task in a given time frame.

10. Practice: To become proficient in solving time and work problems, practice is essential. Work through various examples and exercises to understand the concepts thoroughly.

Remember that time and work problems can vary in complexity, so it's important to read the problem carefully, set up the equations correctly, and solve systematically to find the desired information.

J. Time, Speed and Distance

These problems pertain to calculating the time required to cover a specific distance at a given speed.

This might involve determining how long it will take to travel a certain distance at a particular speed (e.g., if you're driving at 60 miles per hour, how long will it take to cover 120 miles?).

Understand the concepts of upstream and downstream motion of boats in rivers, and the relative speed of trains while crossing each other.

Regularly solve problems related to time, speed, and distance. Familiarise yourself with the various formulas and concepts involved in these calculations such as:

1. Speed = Distance/Time

2. Concept of proportionality

- a. $S_1/S_2 = T_2/T_1$, when distance is fixed
- b. $S_1/S_2 = D_1/D_2$, when time is fixed
 - S_1 , speed when the time taken, is T_1
 - S_2 , speed, when the time taken is T_2
 - D_1, D_2 are distances for S_1 and S_2 respectively.

3. Average speed = Total Distance/Time taken

4. Concept of relative speed

- $S_{rel} = S_1 + S_2$, if both are moving in opposite direction
- $S_{rel} = S_1 - S_2$, if both are moving in same direction

Tips and Tricks for problems on time and distance

- Divide questions into the categories of proportionality, Average Speed and Relative Speed.
- Average Speed = $2 S_1 S_2 / (S_1 + S_2)$ If distances covered with both speeds are the same.
- Using the concept of ratio while solving the questions proportionality.
- Relative Speed can be calculated by the Distance covered by both A and B/ Time taken if they are approaching each other.
- Relative Speed can be calculated by the Difference between distances covered by A and B/ Time taken if they are going away from each other.
- Practise different problems based on NMAT Previous years questions.

K. Permutations and combinations

Permutations and combinations involve counting the number of ways to arrange or select items from a set. This is crucial for various counting problems.

This section involves determining the number of ways to arrange a set of letters or selecting a certain number of items from a group.

Understand the fundamental counting principles. Practice problems involving arrangements and combinations. Familiarise yourself with formulas for permutations and combinations. Understand when to apply the formulas for combinations and permutations.

Concept and Formula for NMAT Permutation and Combination Questions:

1. Fundamental Principle of Counting

Rule of Product: Taking 1 out of m objects and taking 1 out of n objects, the total number of ways taking 1 out of each of m and $n = m \times n$

Rule of Addition: Taking 1 out of m objects or taking 1 out of n objects, the total number of ways taking 1 out of each of either m or $n = m + n$

2. Linear Arrangements: Arranging n objects at n different places = $n!$
3. Circular Arrangements: Arranging n objects at n different places (circularly) = $(n-1)!$

Tips and Tricks for NMAT Permutation and Combination Questions:

- Learn to calculate factorial
 $n! = n(n-1)(n-2)(n-3).....1$
 Ex: $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$
- $0! = 1$
- $1! = 1$
- Learn all the basic rules.
- Practice questions to get more clarity in concepts.

L. AP/GP

Arithmetic Progression (AP) and Geometric Progression (GP) are important topics in mathematics that are often tested in various competitive exams, including the NMAT (Narsee Monjee Management Aptitude Test). Here are some key notes on AP and GP for NMAT preparation:

Arithmetic Progression (AP):

1. **Definition:** An Arithmetic Progression is a sequence of numbers in which the difference between any two consecutive terms is constant. This constant difference is called the common difference and is denoted by 'd.'
2. **General Form:** The general form of an AP is $a, a+d, a+2d, a+3d, \dots$, where 'a' is the first term and 'd' is the common difference.
3. **Nth Term:** The nth term of an AP can be found using the formula: $a_n = a + (n - 1)d$.
4. **Sum of First 'n' Terms:** The sum of the first 'n' terms of an AP, denoted by 'S_n,' can be calculated using the formula: $S_n = \frac{n}{2} [2a + (n-1)d]$.
5. **Special APs:**
 - If the common difference 'd' is positive, the AP is an increasing sequence.
 - If 'd' is negative, the AP is a decreasing sequence.

- If 'd' is zero, all terms of the sequence are equal.

- Examples:** Practise solving problems involving finding the nth term or the sum of an AP, especially problems that involve word problems or real-life situations.

Geometric Progression (GP):

- Definition:** A Geometric Progression is a sequence of numbers in which each term is obtained by multiplying the preceding term by a constant number called the common ratio, denoted by 'r.'
- General Form:** The general form of a GP is a, ar, ar^2, ar^3, \dots , where 'a' is the first term, and 'r' is the common ratio.
- Nth Term:** The nth term of a GP can be found using the formula: $a_n = a \cdot r^{(n-1)}$
- Sum of First 'n' Terms:** The sum of the first 'n' terms of a GP, denoted by 'S_n' can be calculated using the formula: $S_n = \frac{a(r^n - 1)}{(r-1)}$
- Infinite GP:** An infinite GP converges to a finite value if the absolute value of the common ratio 'r' is less than 1.
- Special GPs:**
 - If 'r' is positive, the GP is an increasing sequence.
 - If 'r' is negative, the GP is a decreasing sequence.
 - If 'r' is 1, all terms of the sequence are equal.
- Examples:** Practise solving problems involving finding the nth term or the sum of a GP, especially problems that involve interest rates, growth rates, or population growth.
For NMAT or any other exam, it's crucial to understand the concepts, formulas, and their applications in various types of problems. Regular practice and solving a variety of AP and GP problems will help you excel in these topics and perform well in the exam.

M. Quadratic Equations

Quadratic equations are equations that include a variable raised to the power of 2.

This might involve solving equations like, $x^2 - 4x + 4 = 0$.

Quadratic Equations are an important part of Algebra as well as for the NMAT exam. You can expect 1 or 2 algebra questions for the NMAT Exam (based on analysis of previous years question papers).

Quadratic Equations are of the form of $ax^2 + bx + c = 0$.

Here 'x' denotes variables (unknown) and a, b, c are constants and $a \neq 0$.

To prepare Quadratic Equations, you should invest 4-5 hours.

Quadratic equation problems for NMAT can be categorised into the following types:

- Questions that involve calculations of some unknown variable.
- Questions that involve calculations of the nature of roots.
- Formation of the quadratic equation.

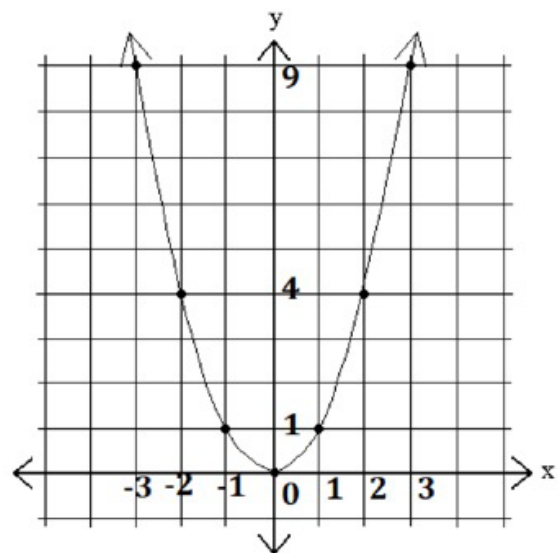
Get comfortable with methods like factoring, completing the square, and using the quadratic formula to solve quadratic equations. This will enable you to tackle a wide range of quadratic equation problems.

Focus on understanding the properties of polynomials and cubes. Memorise perfect cube values up to 10 to quickly solve related questions.

Functions: Functions describe a mathematical relationship between two sets of values, defining how one variable depends on the other.

An example of a function is $f(x) = 2x + 3$, which means that for any given value of x, the function will return 2 times that value plus 3.

Functions can be well represented by graphs and with the help of graphs, solutions can be drawn effectively.



The graph shows the variation of output with the inputs.

Practice working with different types of functions. Understand concepts like domain (the set of possible input values) and range (the set of possible output values) associated with functions.

3. Logical Reasoning

Logical Reasoning is an important section in the NMAT exam. It evaluates your ability to think critically and logically. Here are some tips for preparing for this section:

The Logical Reasoning section in NMAT typically consists of various types of logical reasoning questions. These may include arrangements, series, puzzles, and more.

Key topics to focus on-:

A. Critical Reasoning:

- Critical reasoning assesses your ability to evaluate arguments, identify assumptions, and draw conclusions based on the information provided.
- You might be presented with a statement and asked to evaluate whether it's true, false, or if you can't determine its validity based on the information provided.
- Practice questions that involve evaluating arguments, identifying assumptions, and drawing conclusions. Focus on strengthening your ability to critically assess statements and arguments.

Here's an explanation, examples, and tips for approaching Critical Reasoning questions in the NMAT exam:

Explanation:

Critical Reasoning questions typically involve a short passage or statement followed by a question that requires you to assess the validity of the argument or draw a conclusion. These questions test your ability to think critically and make sound judgments based on the given information.

Example:

Statement: "All mammals are warm-blooded. Dolphins are mammals. Therefore, dolphins are warm-blooded."

Question: Is the conclusion logically valid based on the provided information?

Explanation:

In this example, the conclusion ("dolphins are warm-blooded") logically follows from the premises ("all mammals are warm-blooded" and "dolphins are mammals"). Therefore, the conclusion is valid.

Tips for Solving Critical Reasoning Questions:

- **Read Carefully:** Read the passage or statement carefully to understand the argument and the information provided.

- **Identify the Premises and Conclusion:** Identify the premises (statements providing information) and the conclusion (the point the argument is trying to make).
- **Analyse the Logic:** Assess whether the conclusion logically follows from the premises. Consider if there are any missing pieces of information that could affect the validity of the argument.
- **Beware of Assumptions:** Consider whether any assumptions are being made in the argument. These are unstated premises that the argument relies on.
- **Consider Alternative Scenarios:** Think about whether there are alternative scenarios or explanations that could weaken the argument.
- **Practice Dissecting Arguments:** Engage in regular practice with a variety of Critical Reasoning questions. This will help you become more adept at evaluating arguments.

B. Analytical Puzzles

Analytical puzzles are a common type of question in the Logical Reasoning section of the NMAT exam. These puzzles require you to use deductive reasoning and critical thinking to solve a problem based on a set of conditions or constraints. Here are some examples and tips for tackling analytical puzzles in the NMAT exam:

Example 1 - Seating Arrangement:

Question: Seven friends - A, B, C, D, E, F, and G - are sitting in a row of seats facing forward. A and B can only sit next to each other. D and E can only sit next to each other. C cannot sit next to either F or G. Find the possible seating arrangements.

Solution:

First, identify the constraints: A & B must sit together, D & E must sit together, and C cannot sit next to F or G.

Use this information to create different scenarios:

Scenario 1:

A B _ _ _ _

Scenario 2:

_ A B _ _ _

...

Continue to fill in the seats based on the given conditions and constraints.

Example 2 - Distribution Puzzle:

Question: There are five friends - P, Q, R, S, and T. They have five different coloured pens - Red, Blue, Green, Yellow, and

Black. Each friend has a different favourite colour. Use the given clues to determine who owns which colour.

P's favourite colour is Yellow.

The owner of the Green pen likes the colour Blue.

R does not own the Red or Black pen.

T does not own the Yellow or Green pen.

S's favourite colour is Black.

Solution:

Use the given clues to eliminate possibilities and narrow down the options.

For example, since S's favourite colour is Black, S must own the Black pen.

Continue to use the clues to deduce who owns which colour.

Tips for Solving Analytical Puzzles:

- **Read the Question and Clues Carefully:** Pay close attention to the information provided in the question and the given clues. Understand the conditions and constraints.
- **Draw Diagrams or Tables:** Create a visual representation to keep track of the information. This can be a seating arrangement, a distribution chart, or any other relevant diagram.
- **Eliminate Possibilities:** Use the given clues to rule out options that are not possible. This will help narrow down the possibilities.
- **Make Inferences:** Use the information provided to make logical inferences. For example, if A is next to B, and B is next to C, then A must also be next to C.
- **Practice Regularly:** Engage in regular practice with a variety of analytical puzzles. This will help you become more comfortable with different types of scenarios.
- **Stay Organized:** Keep your work neat and organised. This will make it easier to track your progress and ensure you don't miss any important information.
- **Manage Your Time:** Allocate specific time limits for each puzzle. If you're struggling with a particular puzzle, move on to the next one and come back later if needed.
- **Stay Calm and Focused:** Maintain a calm and focused mindset during the exam. If you're feeling stuck, take a deep breath and approach the puzzle with a clear mind.

C. Deductions:

Deductions in logical reasoning involve drawing conclusions based on the information provided in the question. These conclusions are derived through logical analysis and inference. In

the NMAT exam, deduction-based questions can take various forms, including syllogisms, logical inferences, and conditional statements. Here are examples and tips for tackling deduction-based questions:

Example 1 - Syllogism:

Question:

All dogs are mammals.

Some mammals are carnivores.

Therefore, some dogs are carnivores.

Explanation:

In this syllogism, we have two premises followed by a conclusion. The conclusion is derived from the given premises through logical inference.

Tips:

Pay close attention to the wording of the statements. The accuracy of deductions relies on the accuracy of the given information.

Understand the relationships between categories (e.g., dogs, mammals, carnivores) and use that information to draw valid conclusions.

Example 2 - Conditional Statements:

Question:

If it rains, then the ground will be wet.

The ground is wet.

Therefore, it rained.

Explanation:

This is an example of a conditional statement. If the first statement is true (the antecedent), and the second statement is also true (the consequent), we can conclude that the condition has occurred.

Tips:

Pay attention to the structure of conditional statements. They often follow an "if-then" format.

Be careful with negations. A negation of a conditional statement can lead to a different conclusion.

Example 3 - Logical Inference:

Question:

John is wearing a red shirt.

All people wearing red shirts are participants in the event.

Therefore, John is a participant in the event.

Explanation:

In this example, we are making a logical inference based on the information provided. If John is wearing a red shirt and all people wearing red shirts are participants, then we can infer that John is a participant.

Tips:

Look for direct or implied relationships between the statements. Logical inferences rely on connecting pieces of information.

Tips for Solving Deduction-Based Questions:

- **Analyse Each Statement:** Carefully read and understand each statement provided. Pay attention to the relationships and conditions presented.
- **Identify Key Terms:** Pay attention to terms like “all,” “some,” “if-then,” “unless,” and other conditional or quantifying phrases. They provide important clues for making deductions.
- **Visualise Relationships:** Mentally visualise the relationships between categories or conditions. Create mental models to help you see how the information connects.
- **Avoid Making Assumptions:** Base your deductions solely on the information given. Avoid making additional assumptions or drawing conclusions not supported by the provided statements.
- **Practice Regularly:** Engage in regular practice with a variety of deduction-based questions. This will help you become more comfortable with different types of scenarios.
- **Review Previous Year’s Papers:** Analyse past question papers to understand the types of deduction-based questions asked in previous exams. This will give you a sense of the patterns and difficulty levels.
- **Stay Calm and Focused:** Maintain a calm and focused mindset during the exam. Take your time to carefully analyse each statement and draw valid conclusions.

Remember, deduction-based questions require logical thinking and a clear understanding of the provided information. With practice and a systematic approach, you can improve your proficiency in solving these types of questions in the NMAT exam.

D. Other Reasoning:**I. Analytical Reasoning:**

- Analytical reasoning involves the ability to identify

patterns, relationships, and make logical deductions based on provided information.

- Questions in this category might ask you to determine the relationship between different elements, solve puzzles, or make inferences based on given statements.
- Practise different types of analytical reasoning questions. Familiarise yourself with various puzzle formats, and work on improving your ability to make logical connections.

II. Series and Sequences:

- This category involves identifying patterns in sequences of numbers, letters, or figures and predicting the next item in the series.
- You might be given a sequence of numbers (e.g., 2, 4, 6, 8) and asked to identify the next number in the sequence.
- Practise various types of series and sequences. Pay attention to number patterns, letter series, and figure sequences. Work on your ability to recognize and predict patterns.

III. Coding-Decoding:

- Coding-decoding questions involve manipulating letters or words based on a specific coding scheme.
- You might be given a coded message and asked to decipher it using a given code.
- Practise different types of coding-decoding questions. Focus on understanding the coding rules and applying them to decode or encode messages.

IV. Directions:

- Questions related to directions test your ability to understand and interpret information about spatial relationships, distances, and directions.
- You might be given a series of directions (e.g., North, South, East, West) and asked to determine the final direction or location.
- Familiarise yourself with basic directions and their relationships. Practice questions that involve finding directions and distances.

V. Visual Reasoning:

- Visual reasoning questions involve interpreting and manipulating visual information, such as figures, shapes, and patterns.
- You might be given a set of figures with a pattern, and asked to identify the next figure in the sequence.
- Practice questions that involve visual patterns, mirror images, water images, analogies, and figure completion. Strengthen your ability to recognize visual relationships.



Important Books for NMAT Exam

Preparing for the NMAT exam requires a thorough understanding of the exam pattern and syllabus. While there isn't a specific set of "must-read" books for NMAT, you can use a combination of study materials, reference books, and online resources to cover the relevant topics. Here are some resources that can help you prepare effectively:

- 1. Official NMAT by GMAC Guide:** This is a comprehensive guide published by the Graduate Management Admission Council (GMAC), which conducts the NMAT exam. It provides a detailed overview of the exam pattern, syllabus, and sample questions.
- 2. Arun Sharma's Book for Quantitative Aptitude:** This book covers a wide range of topics in quantitative aptitude, including arithmetic, algebra, geometry, and data interpretation. It's a popular choice for preparing for MBA entrance exams.
- 3. RS Aggarwal's Book for Verbal and Non-Verbal Reasoning:** This book is widely used for practising reasoning questions. It covers a variety of topics including analogy, coding-decoding, series, and more.
- 4. Wren & Martin's High School English Grammar & Composition:** This is a classic book for improving your grammar and language skills. It's beneficial for both the language comprehension and language skills sections of the NMAT exam.
- 5. Word Power Made Easy by Norman Lewis:** This book is highly recommended for building vocabulary. It provides a structured approach to learning new words and their usage.
- 6. NCERT Books (Class 9th to 12th):** For the Language Skills section, reading English textbooks from these classes can help you strengthen your comprehension and grammar skills.
- 7. Any Good Book on Data Interpretation and Logical Reasoning:** There are various books available that focus specifically on Data Interpretation and Logical Reasoning. You can choose one that aligns with your learning style and preferences.
- 8. Previous Year Question Papers and Mock Tests:** Solving previous year question papers and taking mock tests is essential for familiarising yourself with the exam pattern and improving your time management skills.
- 9. Online Resources and Practice Websites:** There are several websites and online platforms that offer NMAT practice questions, quizzes, and study materials. These can be valuable resources for your preparation.

Other Useful Resources

Are you preparing for the NMAT 2023 examination, a pivotal milestone on your journey toward your desired MBA program? Achieving success in this fiercely competitive examination necessitates more than just unwavering commitment and diligence; it also hinges upon having unfettered access to top-tier study resources. To facilitate your triumph in the NMAT 2023 examination, we have meticulously assembled a collection of indispensable eBooks and video lectures that comprehensively address key subject matter and furnish expert solutions. Let us delve into these invaluable resources:

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- **Assess Your Readiness:** Mock tests provide a clear snapshot of your current preparedness. They help you identify strengths and areas that need improvement, enabling you to focus your efforts effectively.
- **Hone Time Management:** Time is of the essence in NMAT. Mock tests allow you to practice time management skills, ensuring you can complete all sections within the stipulated time, a crucial aspect of your success.
- **Simulate Real Exam Conditions:** Familiarity breeds confidence. Our mock tests closely mimic the NMAT exam environment, helping you become comfortable with the format, difficulty level, and question types you'll encounter.
- **Benchmark Your Performance:** With our mock tests, you'll receive detailed performance reports, including section-wise analysis. This not only helps you track your progress but also gives you a competitive edge by showing you where you stand compared to your peers.

Why Our Mock Tests Shine:

- **Exact NMAT Exam Simulation:** Our mock tests are designed to replicate the NMAT exam experience as closely as possible. When you practice with us, you're

essentially rehearsing for the real deal.

- **Comprehensive Section Coverage:** Our tests comprehensively cover all sections of the NMAT exam, ensuring you're well-prepared for every aspect of the test – Quantitative, Verbal, and Logical Reasoning.
- **In-depth Answer Explanations:** We provide detailed explanations for each question, not just revealing the correct answer but also helping you understand the reasoning behind it. This enhances your overall comprehension and problem-solving skills.
- **Real-time Performance Analytics:** Receive instant feedback on your performance after each mock test. Our analytics tools track your progress and areas that require more attention, allowing you to fine-tune your strategy.
- **Adaptive Testing Tailored to You:** Our mock tests adapt to your performance level. If you excel in a specific area, we'll challenge you accordingly, ensuring you make the most efficient use of your study time.

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