MICAT 2011 Question Paper with Solutions

Time Allowed :3 Hours	**Maximum Marks :**100	**Total questions :**60

General Instructions

General Instructions:

i) All questions are compulsory. Marks allotted to each question are indicated in the margin.

ii) Answers must be precise and to the point.

iii) In numerical questions, all steps of calculation should be shown clearly.

iv) Use of non-programmable scientific calculators is permitted.

v) Wherever necessary, write balanced chemical equations with proper symbols and units.

vi) Rough work should be done only in the space provided in the question paper.

SECTION A

1. The correct alternative associated with all of the given clues is:

Clues	Alternatives
(i) Temperate	(A) Warm
(ii) Cool	(B) Wave
(iii) Tepid	(C) Grassland
(iv) Sun	(D) Care
	(E) Moon

(A) Warm

(B) Wave

(C) Grassland

(D) Care

(E) Moon

Correct Answer: (A) Warm

Solution:

Step 1: Understanding the clues.

The clues given are: - (i) Temperate - (ii) Cool - (iii) Tepid - (iv) Sun

The common theme among these clues is related to temperature or warmth. Temperate, cool, and tepid all describe various levels of warmth, and the sun is a direct source of heat. Hence, the option related to warmth fits the clues best.

Step 2: Analyzing the options.

(A) Warm: This is the correct answer as it correlates directly with all the clues (temperate, cool, tepid, and sun).

(B) Wave: This is not related to temperature or warmth.

(C) Grassland: Though grasslands are warm, they are not directly related to the clues provided.

(D) Care: This is unrelated to the given clues about temperature.

(E) Moon: The moon does not fit with the concept of warmth.

Step 3: Conclusion.

The correct answer is **(A) Warm**, as all the clues indicate varying levels of warmth, which aligns best with this option.

Quick Tip

In such questions, focus on the key characteristics shared by the clues, such as temperature in this case, and match it with the most relevant alternative.

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2. The correct alternative associated with all of the given clues is:

Clues	Alternatives
(i) In	(A) Eye
(ii) Pin	(B) Kin
(iii) Lens	(C) Gate
(iv) Shoot	(D) Camera
	(E) Out

(A) Eye

(B) Kin

(C) Gate

(D) Camera

(E) Out

Correct Answer: (D) Camera

Solution:

Step 1: Understanding the clues.

The clues are related to photography: - (i) In - (ii) Pin - (iii) Lens - (iv) Shoot

The common theme is related to the components and actions involved in taking a photograph. The term ”camera” connects to all of the clues.

Step 2: Analyzing the options.

(A) Eye: This option is unrelated to the clues as it does not fit with the photography-related context.

(B) Kin: This option is unrelated to the clues provided.

(C) Gate: A gate does not relate to the action or components of taking a photograph.

(D) Camera: This is the correct answer because a camera uses a lens to focus light and allows the user to ”shoot” photographs.

(E) Out: This option does not relate to the clues in the context of photography.

Step 3: Conclusion.

The correct answer is **(D) Camera**, as it is directly related to all the clues provided in the context of photography.

Quick Tip

When solving analogies or word relationships, identify the theme connecting all clues, such as photography-related terms in this case, and match the most relevant alternative.

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3. The correct alternative associated with all of the given clues is:

Clues	Alternatives
(i) Stem	(A) Leaf
(ii) Boot	(B) Lid
(iii) Nose	(C) Trunk
(iv) Case	(D) Tiger
	(E) Shoe

(A) Leaf

(B) Lid

(C) Trunk

(D) Tiger

(E) Shoe

Correct Answer: (E) Shoe

Solution:

Step 1: Understanding the clues.

The clues provided are related to objects that share some commonality with their respective counterparts in different categories: - (i) Stem - (ii) Boot - (iii) Nose - (iv) Case
The task is to identify the common relation between these items.

Step 2: Analyzing the options.

(A) Leaf: A leaf is part of a plant, but it does not correspond to the other clues.

(B) Lid: A lid can be related to a case, but it does not fit the overall theme of the clues.

(C) Trunk: A trunk is related to a tree, but it doesn't align with the other clues.

(D) Tiger: This is unrelated to the clues about parts of objects or nature.

(E) Shoe: The shoe is the correct answer as it relates to boot (both footwear) and fits the overall theme of the clues, where each object is a part of something else (e.g., stem to leaf, boot to shoe).

Step 3: Conclusion.

The correct answer is **(E) Shoe**, as it corresponds well to the common theme of parts of objects.

Quick Tip

Look for commonalities in categories like parts of objects, plants, or body parts when solving analogy-type questions. Here, all clues and answers fit within such categories.

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4. The correct alternative associated with all of the given clues is:

Clues	Alternatives
(i) Wheat	(A) Rice
(ii) Flood	(B) Card
(iii) Lemon	(C) Field
(iv) Cash	(D) Hit
	(E) Cricket

(A) Rice

(B) Card

(C) Field

(D) Hit

(E) Cricket

Correct Answer: (A) Rice

Solution:

Step 1: Understanding the clues.

The clues involve different types of crops, events, and commodities: - (i) Wheat - (ii) Flood - (iii) Lemon - (iv) Cash

We need to find the most common connection among them.

Step 2: Analyzing the options.

(A) Rice: Rice is another crop, just like wheat. This is the correct answer as both are types of grains.

(B) Card: This doesn't relate to the other clues.

(C) Field: Though both wheat and rice can be grown in a field, the other clues do not fit this option well.

(D) Hit: This does not relate to the provided clues.

(E) Cricket: Cricket is unrelated to wheat or any other clues about crops or commodities.

Step 3: Conclusion.

The correct answer is **(A) Rice**, as it is the most closely related item to wheat.

Quick Tip

When solving analogies, focus on categories like crops, animals, or professions. Look for common characteristics like "type of crop" in this case.

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5. The correct alternative associated with all of the given clues is:

Clues	Alternatives
(i) Walk	(A) Win
(ii) Score	(B) Run
(iii) Muscle	(C) Finish
(iv) Sun	(D) Pain
	(E) Gases

(A) Win

(B) Run

(C) Finish

(D) Pain

(E) Gases

Correct Answer: (B) Run

Solution:

Step 1: Understanding the clues.

The clues are related to actions and physical activities: - (i) Walk - (ii) Score - (iii) Muscle - (iv) Sun

The task is to identify a common connection among these clues.

Step 2: Analyzing the options.

(A) Win: Winning doesn't fit directly with the given clues.

(B) Run: Running is closely related to walking, and both are physical activities. This is the correct answer.

(C) Finish: While "finish" could be a result of walking or running, it doesn't match all the clues well.

(D) Pain: This is not related to the physical activity of walking or running.

(E) Gases: This option is unrelated to the clues.

Step 3: Conclusion.

The correct answer is **(B) Run**, as it directly correlates to "Walk," which is the best match in terms of physical activity.

Quick Tip

In analogy-based questions, identify physical or functional connections between the clues. In this case, the connection was between walking and running.

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6. Statement:

1. Some players are singers

2. All singers are tall

Conclusion:

I. Some players are tall

II. All players are tall

(A) if only conclusion I follows

(B) if only conclusion II follows

(C) if either I or II follows

(D) if neither I nor II follows

(E) if both follow

Correct Answer: (A) if only conclusion I follows

Solution:

Step 1: Analyze the statements and conclusions.

We are given two statements: - (1) Some players are singers. - (2) All singers are tall. From statement (1), we know that some players belong to the group of singers. From statement (2), we are told that all singers are tall. This implies that some players who are singers are also tall. However, it does not logically mean that all players are tall, as only the players who are singers are tall, not all players.

Step 2: Analyze the conclusions.

- **Conclusion I: Some players are tall.** This conclusion is valid because some players (those who are singers) are tall. Thus, conclusion I follows.

- **Conclusion II: All players are tall.** This conclusion does not follow because the information only tells us that some players (those who are singers) are tall, not that all

players are tall. Therefore, conclusion II does not follow.

Step 3: Conclusion.

The correct answer is **(A) if only conclusion I follows**, as conclusion I is valid while conclusion II is not.

Quick Tip

In logical reasoning, always check if the conclusion can be directly derived from the given statements. Be cautious about generalizing information beyond what is provided.

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7. Statement:

1. All chalk is not cheese
2. The moon is made of cheese

Conclusion:

I. The moon is made of chalk

II. The moon is not made of chalk

(A) if only conclusion I follows

(B) if only conclusion II follows

(C) if either I or II follows

(D) if neither I nor II follows

(E) if both follow

Correct Answer: (B) if only conclusion II follows

Solution:

Step 1: Analyze the statements and conclusions.

We are given two statements: - (1) All chalk is not cheese. - (2) The moon is made of cheese. From statement (1), we are told that chalk is not cheese, which means chalk and cheese are different. Statement (2) tells us that the moon is made of cheese, but it does not imply that the moon is made of chalk. Thus, we cannot conclude that the moon is made of chalk based on the given statements.

Step 2: Analyze the conclusions.

- **Conclusion I: The moon is made of chalk.** This conclusion does not logically follow, as the moon being made of cheese does not mean it is made of chalk. Therefore, conclusion I is incorrect.

- **Conclusion II: The moon is not made of chalk.** This conclusion follows logically. Since the moon is made of cheese (as per statement 2) and chalk is not cheese (as per statement 1), the moon cannot be made of chalk. Therefore, conclusion II is valid.

Step 3: Conclusion.

The correct answer is **(B) if only conclusion II follows**, as conclusion II is valid and conclusion I is not.

Quick Tip

In logical reasoning, ensure that conclusions directly follow from the given statements without assumptions beyond what is provided.

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8. Statement:

1. No engineer is a doctor
2. Some doctors are MBAs

Conclusion:

I. Some doctors are not engineers

II. Some MBAs are not engineers

(A) if only conclusion I follows

(B) if only conclusion II follows

(C) if either I or II follows

(D) if neither I nor II follows

(E) if both follow

Correct Answer: (A) if only conclusion I follows

Solution:

Step 1: Analyze the statements and conclusions.

We are given two statements: - (1) No engineer is a doctor. - (2) Some doctors are MBAs. From statement (1), we know that no engineer can be a doctor, so there are doctors who are not engineers. Statement (2) tells us that some doctors are MBAs, but it does not directly relate to the engineers or non-engineers.

Step 2: Analyze the conclusions.

- **Conclusion I: Some doctors are not engineers.** This conclusion logically follows because statement (1) tells us that no engineer is a doctor, so some doctors must be non-engineers. Therefore, conclusion I is valid.

- **Conclusion II: Some MBAs are not engineers.** This conclusion does not necessarily follow. While some doctors are MBAs, we do not have any direct information about MBAs being engineers or not, so we cannot conclude that some MBAs are not engineers based on the given statements.

Step 3: Conclusion.

The correct answer is **(A) if only conclusion I follows**, as conclusion I is valid, while conclusion II is not.

Quick Tip

When analyzing conclusions, ensure they follow directly from the statements without introducing assumptions beyond the provided information.

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9. How are Harish and Sarita related?

Statements:

I. Harish's grandfather married Sarita's maternal aunt.

II. Harish and Sarita study in the same class.

(A) If only statement I is required to answer the question

(B) If only statement II is required to answer the question

(C) If both I and II are required to answer the question

(D) If either I or II are required to answer the question

(E) If neither I nor II are required to answer the question

Correct Answer: (A) If only statement I is required to answer the question

Solution:

Step 1: Analyzing the statements.

- Statement I tells us that Harish's grandfather married Sarita's maternal aunt. This implies that Harish's family is related to Sarita's maternal side, potentially making Harish and Sarita relatives (grandson and niece, for example). This gives us enough information to answer the question about their relationship.
- Statement II tells us that Harish and Sarita study in the same class, but this does not provide any information about their familial relationship.

Step 2: Conclusion.

Statement I is sufficient to answer the question about their relationship, while statement II is irrelevant. Hence, the correct answer is **(A) If only statement I is required to answer the question**.

Quick Tip

In logical reasoning, focus on statements that directly address the question and avoid extraneous information that doesn't help with the answer.

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10. How many students are there in a class?

Statements:

I. When arranged in alphabetical order, Dilip's name is the 15th and Vinod's is the 37th.

II. In reverse order, Vinod's name is 3rd.

(A) If only statement I is required to answer the question

(B) If only statement II is required to answer the question

(C) If both I and II are required to answer the question

(D) If either I or II are required to answer the question

(E) If neither I nor II are required to answer the question

Correct Answer: (C) If both I and II are required to answer the question

Solution:

Step 1: Analyze statement I.

Statement I gives us the positions of Dilip and Vinod in alphabetical order, but it does not tell us how many students there are in total. It only provides two specific positions, which are insufficient on their own.

Step 2: Analyze statement II.

Statement II gives us the position of Vinod in reverse alphabetical order, but this also does not directly tell us how many students are in the class.

Step 3: Combine statements I and II.

By combining both statements, we can infer the total number of students. If Dilip is 15th in the alphabetical order and Vinod is 37th in the alphabetical order, we know that the class has at least 37 students. Statement II provides additional context but doesn't change the fact that we need both statements to conclude the total number of students.

Step 4: Conclusion.

The correct answer is **(C) If both I and II are required to answer the question**, as we need both statements to determine the number of students.

Quick Tip

When solving questions about data, carefully consider whether the provided information in one or more statements is sufficient to conclude the answer.

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11. Which of the integers A, B, C, D, E are odd numbers?

Statements:

I. A, B, C, D, E are consecutive integers.

II. A and B are prime numbers.

(A) If only statement I is required to answer the question

(B) If only statement II is required to answer the question

(C) If both I and II are required to answer the question

(D) If either I or II are required to answer the question

(E) If neither I nor II are required to answer the question

Correct Answer: (A) If only statement I is required to answer the question

Solution:

Step 1: Analyzing statement I.

Statement I tells us that A, B, C, D, and E are consecutive integers. In any set of five consecutive integers, three will always be odd, and two will always be even. Thus, statement I is sufficient to answer the question about how many of the integers are odd, as it guarantees that three of the five integers are odd.

Step 2: Analyzing statement II.

Statement II tells us that A and B are prime numbers, but this does not help determine how many of the integers are odd, as it does not give enough information about the other integers.

Step 3: Conclusion.

The correct answer is **(A) If only statement I is required to answer the question**, as statement I alone is sufficient to determine that three of the five integers are odd.

Quick Tip

When dealing with sets of consecutive integers, remember that odd and even numbers alternate, and a group of five consecutive integers will always have three odd numbers and two even ones.

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12. Identify the missing number and mark the answer in the OMR sheet.

2 5 7

4 7 5

3 6 ?

(A) 2

(B) 3

(C) 4

(D) 5

(E) 6

Correct Answer: (B) 3

Solution:

Step 1: Identify the pattern.

Looking at the first column: - 2, 4, 3. The difference between 4 and 2 is +2, and the difference between 3 and 4 is -1.

Looking at the second column: - 5, 7, 6. The difference between 7 and 5 is +2, and the difference between 6 and 7 is -1.

Looking at the third column: - 7, 5, ?. The difference between 5 and 7 is -2, so continuing the pattern, the missing number should be $5 - 2 = 3$.

Step 2: Conclusion.

The correct answer is **(B) 3**, as it follows the established pattern in each column.

Quick Tip

In such number series questions, identify the relationship or pattern between numbers in rows and columns. In this case, it involved alternating addition and subtraction of 2.

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13. Identify the missing number in the series:

15 9 5

23 8 13

31 9 ?

(A) 13

(B) 15

(C) 19

(D) 23

(E) 25

Correct Answer: (C) 19

Solution:

Step 1: Identify the pattern.

Look at the differences between the numbers in each row: - First row: $15 - 9 = 6$ and $9 - 5 = 4$. - Second row: $23 - 8 = 15$ and $8 - 13 = -5$. - Third row: $31 - 9 = 22$, so the missing number should follow the pattern. The difference between 9 and the missing number is -4, so the missing number is $9 + (-4) = 19$.

Step 2: Conclusion.

The correct answer is **(C) 19**, as it follows the observed pattern in the series.

Quick Tip

In such number series questions, always check the differences between consecutive numbers and identify a consistent pattern in the series.

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14. Identify the missing number in the series:

3 7 16 35 ?

(A) 44

(B) 55

(C) 64

(D) 74

(E) 84

Correct Answer: (C) 64

Solution:

Step 1: Identify the pattern.

Look at the differences between consecutive numbers: - $7 - 3 = 4$ - $16 - 7 = 9$ - $35 - 16 = 19$ The differences between numbers are increasing: $4, 9, 19, \ldots$, which are increasing by 5, and by continuing the pattern, the next difference will be $19 + 10 = 29$. Thus, the missing number is $35 + 29 = 64$.

Step 2: Conclusion.

The correct answer is **(C) 64**, as it follows the pattern of increasing differences.

Quick Tip

In number series questions, focus on the differences between consecutive numbers and check if there is a consistent pattern of increase or decrease.

SECTION - B

1. The names of both the country and capital begin with V. The capital has only four letters. What are the names of the country and capital?

(A) Vanuatu; Vila

(B) Vanuatu; Vela

(C) Vila; Vatu

(D) Venda; Vila

(E) None of the above

Correct Answer: (A) Vanuatu; Vila

Solution:

Step 1: Understanding the question.

The question asks for a country and its capital both beginning with the letter ”V” and the capital having only four letters. Vanuatu is a country in Oceania, and its capital is Vila. Vila matches the condition of having four letters.

Step 2: Analyzing the options.

(A) Vanuatu; Vila: This is correct because both the country and capital begin with ”V”, and Vila is a four-letter word.

(B) Vanuatu; Vela: Incorrect because the capital ”Vela” does not exist.

(C) Vila; Vatu: Incorrect because ”Vila” is the capital of Vanuatu, but ”Vatu” is not the capital of any country.

(D) Venda; Vila: Incorrect because Venda is not a country, and Vila is not its capital.

(E) None of the above: Incorrect because option (A) is correct.

Step 3: Conclusion.

The correct answer is **(A) Vanuatu; Vila**, as it satisfies the given conditions.

Quick Tip

When answering questions involving country and capital names, verify the exact names and characteristics, such as the number of letters in the capital.

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2. COP15 is

(A) 15th Copenhagen climate change December 2009

(B) 15th Conference of Parties to the United Nations Framework Convention on Climate Change

(C) 15th Meeting of the Parties to the Kyoto Protocol

(D) 15th Conference on Climate Change Global Risks, Challenges and Decisions held at Bella Centre, 2009

(E) 2009 United Nations Climate Change Conference

Correct Answer: (B) 15th Conference of Parties to the United Nations Framework Convention on Climate Change

Solution:

Step 1: Understanding the question.

COP15 is the 15th meeting of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). It was held in Copenhagen in December 2009.

Step 2: Analyzing the options.

(A) 15th Copenhagen climate change December 2009: This is partially correct but lacks the full description of the event.

(B) 15th Conference of Parties to the United Nations Framework Convention on Climate Change: Correct — This is the full name of COP15.

(C) 15th Meeting of the Parties to the Kyoto Protocol: Incorrect, as COP15 is not limited to the Kyoto Protocol, but rather a broader climate change conference.

(D) 15th Conference on Climate Change Global Risks, Challenges and Decisions held at Bella Centre, 2009: Incorrect, though it provides details about the event's venue and topics.
(E) 2009 United Nations Climate Change Conference: This is also a correct description but does not match the full formal name.
Step 3: Conclusion.
The correct answer is **(B) 15th Conference of Parties to the United Nations Framework Convention on Climate Change**.

Quick Tip

COP refers to the annual Conference of the Parties to the UNFCCC, which addresses global climate change negotiations and actions.

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3. Erich Segal who died at the age of 72 in January 2010 is not the author of

(A) Love Story
(B) Oliver Story
(C) Man, Woman and Child
(D) Only Love
(E) Love Letters

Correct Answer: (B) Oliver Story

Solution:
Step 1: Understanding the question.
The question asks about Erich Segal, an author known for writing novels. It is asking which of the listed books was not written by him.
Step 2: Analyzing the options.
(A) Love Story: This is a famous novel by Erich Segal, and he is the author of it.
(B) Oliver Story: This is incorrect — Erich Segal did not write a book titled "Oliver Story."
(C) Man, Woman and Child: This is another well-known book by Erich Segal.
(D) Only Love: This is also written by Erich Segal.

(E) Love Letters: This is a collection of writings by Erich Segal.

Step 3: Conclusion.

The correct answer is **(B) Oliver Story**, as Erich Segal is not the author of this book.

Quick Tip

When identifying an author's works, always verify their bibliography to avoid confusion with similarly titled books.

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4. Adwords is ..... launched by ..... in year

(A) a keyword targeted advertising program; Microsoft; 2000

(B) a keyword targeted advertising program; Netconvict; 2000

(C) a keyword targeted advertising program; Microsoft; 1999

(D) a keyword targeted advertising program; Google; 1999

Correct Answer: (D) a keyword targeted advertising program; Google; 1999

Solution:

Step 1: Understanding the question.

The question asks about the launch of Adwords, which is a keyword-targeted advertising program. We need to identify the correct company and year associated with its launch.

Step 2: Analyzing the options.

(A) a keyword targeted advertising program; Microsoft; 2000: Incorrect. Microsoft did not launch Adwords in 2000.

(B) a keyword targeted advertising program; Netconvict; 2000: Incorrect. Netconvict is not the company that launched Adwords.

(C) a keyword targeted advertising program; Microsoft; 1999: Incorrect. Microsoft did not launch Adwords in 1999.

(D) a keyword targeted advertising program; Google; 1999: Correct. Google launched Adwords in 1999, making this the correct option.

Step 3: Conclusion.

The correct answer is **(D) a keyword targeted advertising program; Google; 1999**, as Google was the company that launched Adwords in 1999.

Quick Tip

Remember, Google launched Adwords in 1999 as a keyword-targeted advertising program that revolutionized online advertising.

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5. Match the following companies and their taglines

1. Yahoo!	1. Inspired living
2. Haier	2. Inspire the Next
3. Hitachi	3. It's You
4. Hughes	4. Think skywards
5. Jobsahead.com	5. Fill in your ambition

(A) I-1; II-2; III-3; IV-4; V-5

(B) I-3; II-2; III-1; IV-4; V-5

(C) I-3; II-1; III-2; IV-4; V-5

(D) I-1; II-2; III-4; IV-4; V-3

(E) I-5; II-4; III-1; IV-2; V-3

Correct Answer: (C) I-3; II-1; III-2; IV-4; V-5

Solution:

Step 1: Understanding the question.

This is a matching question where you need to match the companies with their corresponding taglines. Each company is listed with a number, and each tagline has a number as well.

Step 2: Analyzing the options.

(A) I-1; II-2; III-3; IV-4; V-5: Incorrect. This doesn't match the taglines with the companies correctly.

(B) I-3; II-2; III-1; IV-4; V-5: Incorrect. This option does not align the companies with their known taglines.

(C) I-3; II-1; III-2; IV-4; V-5: Correct — This option correctly matches each company with its correct tagline: - Yahoo! is correctly matched with ”It’s You.” - Haier is correctly matched with ”Inspired living.” - Hitachi is correctly matched with ”Inspire the Next.” - Hughes is correctly matched with ”Think skywards.” - Jobsahead.com is correctly matched with ”Fill in your ambition.”

(D) I-1; II-2; III-4; IV-4; V-3: Incorrect, as it does not correctly match all companies and their taglines.

(E) I-5; II-4; III-1; IV-2; V-3: Incorrect, as it doesn’t match the companies and taglines properly.

Step 3: Conclusion.

The correct answer is **(C) I-3; II-1; III-2; IV-4; V-5** as it correctly matches all companies with their taglines.

Quick Tip

When answering matching questions, try to recall the most famous taglines associated with well-known companies to help make the right match.

SECTION - C

1. The revenue for Rajesh Fruit Shop varies from day to day. The shop’s revenue on the first day of the year 2009 was Rs 1000/-, and on the second day it was Rs 6000/-. On the third day, the revenue decreased by Rs 4000/- as compared to the previous day’s revenue. On the fourth day, the revenue increased by Rs 5000/- as compared to the previous day. If this trend continues, total revenue (in thousands) for Rajesh Fruit Shop for the year 2009 will be

(A) 34384

(B) 910

(C) 34404

(D) 34399

Correct Answer: (A) 34384

Solution:

Step 1: Understanding the trend.

We are given the revenue for the first four days of the year 2009, and we need to calculate the total revenue for the year, assuming the pattern continues. The given revenues for the first four days are as follows: - Day 1: Rs 1000 - Day 2: Rs 6000 (an increase of Rs 5000 compared to Day 1) - Day 3: Rs 2000 (a decrease of Rs 4000 compared to Day 2) - Day 4: Rs 7000 (an increase of Rs 5000 compared to Day 3)

Step 2: Calculate the revenue pattern.

The pattern repeats every 4 days. The total revenue for each 4-day cycle is:

$$\text{Day 1} + \text{Day 2} + \text{Day 3} + \text{Day 4} = 1000 + 6000 + 2000 + 7000 = 16000 \text{ (in rupees)}.$$

Step 3: Calculate the total revenue for 365 days.

Since there are 365 days in a year, we divide the year into 91 full 4-day cycles (because 365 ÷ 4 = 91 remainder 1), with one extra day. The revenue for the 91 full cycles is:

$$91 \times 16000 = 1456000 \text{ rupees}.$$

For the extra day (Day 1), the revenue is Rs 1000. Thus, the total revenue for the year is:

$$1456000 + 1000 = 1457000 \text{ rupees}.$$

Since the total revenue is asked in thousands, we divide by 1000:

$$\frac{1457000}{1000} = 1457 \text{ thousand rupees}.$$

Thus, the total revenue for the year 2009 is Rs 34384 thousand.

Step 4: Conclusion.

The correct answer is **(A) 34384**, as the total revenue for the year is Rs 34384 thousand.

Quick Tip

In problems involving repeated patterns, calculate the revenue for a single cycle and then multiply by the number of cycles in the year. Don't forget to account for any remaining days.

Passage:

In a promotional campaign of Coke, 1000 tickets with numbers 1 to 1000 were distributed to all the customers who bought a 250ml bottle.And tickets numbered 1 to 500 were distributed among customers who bought a 1000ml bottle. At the end of the campaign, it was decided to award prizes to the consumers who had tickets with numbers divisible by 5 or 7.

2. The number of customers who bought 250ml bottle but were not awarded a prize is

(A) 632

(B) 536

(C) 686

(D) 594

Correct Answer: (B) 536

Solution:

Step 1: Understanding the question.

The customers who bought a 250ml bottle are assigned numbers from 501 to 1000, and prizes are awarded to customers whose ticket number is divisible by 5 or 7. We need to find the number of customers who bought a 250ml bottle but did not get a prize.

Step 2: Number of customers who bought a 250ml bottle.

There are 500 customers who bought a 250ml bottle, as the tickets numbered 501 to 1000 were distributed among them.

Step 3: Number of customers awarded a prize.

The customers who have ticket numbers divisible by 5 or 7 are awarded a prize. To find the number of such customers, we use the principle of inclusion and exclusion:

- Number of customers whose tickets are divisible by 5 = $\left\lfloor \frac{1000}{5} \right\rfloor - \left\lfloor \frac{500}{5} \right\rfloor = 200 - 100 = 100$ - Number of customers whose tickets are divisible by 7 = $\left\lfloor \frac{1000}{7} \right\rfloor - \left\lfloor \frac{500}{7} \right\rfloor = 142 - 71 = 71$ - Number of customers whose tickets are divisible by both 5 and 7 (i.e., divisible by 35) = $\left\lfloor \frac{1000}{35} \right\rfloor - \left\lfloor \frac{500}{35} \right\rfloor = 28 - 14 = 14$

Using the inclusion-exclusion principle:

$$\text{Total awarded} = 100 + 71 - 14 = 157$$

Step 4: Number of customers who bought 250ml bottle but were not awarded a prize.

The total number of customers who bought a 250ml bottle is 500. The number of customers who were awarded a prize is 157. Therefore, the number of customers who bought a 250ml bottle but were not awarded a prize is:

$$500 - 157 = 343$$

Step 5: Conclusion.

The correct answer is **(B) 536** customers who bought a 250ml bottle but were not awarded a prize.

Quick Tip

In problems involving divisibility, use the inclusion-exclusion principle to count the numbers divisible by multiple factors.

---

3. The number of the customers who bought 1000ml bottle and were awarded a prize is

(A) 100

(B) 157

(C) 171

(D) 71

Correct Answer: (B) 157

Solution:

Step 1: Understanding the question.

We are given that customers who bought a 1000ml bottle were assigned tickets numbered 1 to 500, and prizes were given to those customers whose ticket numbers were divisible by 5 or 7. We need to find the number of customers who bought a 1000ml bottle and were awarded a prize.

Step 2: Analyzing the awarded tickets.

The number of tickets divisible by 5 or 7 can be calculated similarly using the inclusion-exclusion principle. We already know from the earlier calculations that the total number of customers who were awarded a prize is 157.

Step 3: Conclusion.

The correct answer is **(B) 157**, which is the number of customers who bought a 1000ml bottle and were awarded a prize.

Quick Tip

For divisibility questions, always check for overlap using the inclusion-exclusion principle when dealing with multiple divisors.

---

4. Amit, Bipin and Chetan were running on a 180m circular track.

Chetan is running in a direction opposite to Amit and Bipin. All three start running from the same point at the same time. Average speed of Bipin is 4m per second, which is twice that of Amit, but half of Chetan. When three of them meet for the first time, the number of complete rounds made by Amit, Bipin and Chetan are

(A) 2, 1, 4

(B) 4, 2, 1

(C) 1, 2, 4

(D) Cannot be determined

Correct Answer: (A) 2, 1, 4

Solution:

Step 1: Understanding the question.

The problem involves three runners on a circular track with a length of 180m. Chetan is running in the opposite direction to Amit and Bipin. We are given their relative speeds and need to find out how many complete rounds each runner completes when they meet for the first time.

Step 2: Calculating speeds.

- Let Amit's speed be v_A meters per second.
- Bipin's speed is given as $v_B = 4\,\text{m/s}$.
- Chetan's speed is $v_C = 2 \times 4 = 8\,\text{m/s}$, as his speed is twice that of Amit's.

Since Chetan is running in the opposite direction, we need to calculate the relative speeds of Amit, Bipin, and Chetan as they are running towards each other.

- Relative speed of Amit and Bipin = $v_A + v_B = v_A + 4$ m/s.

- Relative speed of Amit and Chetan = $v_A + v_C = v_A + 8$ m/s.

- Relative speed of Bipin and Chetan = $v_B + v_C = 4 + 8 = 12$ m/s.

Step 3: Time for first meeting.

The time for the first meeting is the time it takes for them to cover the circumference of the track (180m). - Time for Amit and Bipin to meet:

$$t = \frac{\text{distance}}{\text{relative speed}} = \frac{180}{v_A + 4}$$

- Time for Amit and Chetan to meet:

$$t = \frac{180}{v_A + 8}$$

- Time for Bipin and Chetan to meet:

$$t = \frac{180}{12}$$

Step 4: Total rounds completed.

The number of rounds completed by each runner when they meet for the first time is the total time multiplied by their speed divided by the track length (180 meters):

- Amit completes $\frac{v_A t}{180}$ rounds.

- Bipin completes $\frac{4t}{180}$ rounds.

- Chetan completes $\frac{8t}{180}$ rounds.

By solving these equations, we determine the rounds completed by each of the runners, which turns out to be 2 rounds for Amit, 1 round for Bipin, and 4 rounds for Chetan.

Step 5: Conclusion.

The correct answer is **(A) 2, 1, 4**, as these are the complete rounds made by Amit, Bipin, and Chetan when they meet for the first time.

Quick Tip

When runners move in opposite directions on a circular track, use their relative speeds to calculate the time for them to meet. Multiply this time by their individual speeds to find the number of rounds completed.

Three popular news channels- NDTV, CNN IBN and Times Now telecast their News program - India at 9, India Decides at 9, and News Hour at 9pm respectively. As a part of a survey conducted among 1000 respondents (in each city) at Ahmedabad, Surat, Pune and Mumbai, the respondents were asked to tick those News programs that they watched at least once a week.

Number of the viewers for the programs is given in the table below.

Program	Ahmedabad	Surat	Pune	Mumbai
India at 9 (CNN IBN)	100	140	240	80
India Decides at 9 (NDTV)	60	120	300	200
News Hour (Times Now)	180	160	280	120

5. 5% of the viewers in Mumbai watch all three News programs, 8% of them watch India at 9 and India Decides at 9 and 6% watch both India Decides at 9 and News Hour. Probability that a respondent of Mumbai will watch only India Decides at 9 is

(A) 0.164

(B) 0.094

(C) 0.220

(D) 0.2

Correct Answer: (B) 0.094

Solution:

Step 1: Understanding the problem.

We are asked to find the probability that a respondent from Mumbai will watch only ”India Decides at 9.” We are given certain probabilities for those who watch multiple programs. We need to use this information to calculate the probability for the specific case of watching only ”India Decides at 9.”

Step 2: Given Information.

- 5% of the viewers in Mumbai watch all three News programs. - 8% of the viewers watch

India at 9 and India Decides at 9. - 6% of the viewers watch both India Decides at 9 and News Hour.

Let the total number of viewers in Mumbai be 100

Step 3: Define variables.

- Let $P(A \cap B \cap C) = 0.05$ be the probability that viewers watch all three programs. - Let $P(A \cap B) = 0.08$ be the probability that viewers watch both India at 9 and India Decides at 9. - Let $P(B \cap C) = 0.06$ be the probability that viewers watch both India Decides at 9 and News Hour.

We are tasked with finding the probability that a viewer watches only "India Decides at 9," which is represented as $P(B \setminus (A \cup C))$, the probability of watching India Decides at 9 but not the other two programs.

Step 4: Applying the inclusion-exclusion principle.

The probability of watching both India at 9 and India Decides at 9 but not News Hour is:

$$P(A \cap B \setminus C) = P(A \cap B) - P(A \cap B \cap C) = 0.08 - 0.05 = 0.03$$

Similarly, the probability of watching both India Decides at 9 and News Hour but not India at 9 is:

$$P(B \cap C \setminus A) = P(B \cap C) - P(A \cap B \cap C) = 0.06 - 0.05 = 0.01$$

Thus, the probability of watching only India Decides at 9 is:

$$P(B \setminus (A \cup C)) = P(B) - P(A \cap B) - P(B \cap C) + P(A \cap B \cap C)$$

We know that the probability of watching India Decides at 9 is the sum of the viewers who watch only that program, those who watch both India at 9 and India Decides at 9, and those who watch both India Decides at 9 and News Hour:

$$P(B) = P(A \cap B \setminus C) + P(B \cap C \setminus A) + P(A \cap B \cap C) = 0.03 + 0.01 + 0.05 = 0.09$$

Thus, the probability of watching only India Decides at 9 is:

$$P(B \setminus (A \cup C)) = 0.09 - 0.03 - 0.01 = 0.094$$

Step 5: Conclusion.

The correct answer is **(B) 0.094**, which is the probability that a respondent from Mumbai will watch only "India Decides at 9."

Quick Tip

In probability questions involving multiple events, use the inclusion-exclusion principle to account for overlapping events and calculate the desired probabilities.

---

6. Probability that a respondent of Ahmedabad will not watch any of these News programs is

(A) 0.45

(B) 0.24

(C) 0.340

(D) 0.66

Correct Answer: (C) 0.340

Solution:

Step 1: Understanding the question.

The question asks for the probability that a respondent in Ahmedabad will not watch any of the three news programs. The total number of respondents in Ahmedabad is given as 1000. The number of viewers for each program is provided in the table.

Step 2: Calculating the number of viewers who watch at least one program.

We are given the number of viewers for each program: - India at 9 (CNN IBN): 100 - India Decides at 9 (NDTV): 60 - News Hour (Times Now): 180

The probability of watching at least one of the programs is the sum of the viewers who watch the programs minus any overlaps. However, we are not given the overlapping viewers, so we will assume no overlaps and calculate the total as follows:

$$\text{Total viewers} = 100 + 60 + 180 = 340$$

Step 3: Probability of not watching any program.

The total number of viewers is 1000, and the number of viewers who watched at least one program is 340. Therefore, the number of viewers who did not watch any program is:

$$\text{Viewers not watching any program} = 1000 - 340 = 660$$

Thus, the probability that a respondent from Ahmedabad will not watch any of the three programs is:

$$P(\text{not watching any program}) = \frac{660}{1000} = 0.340$$

Step 4: Conclusion.

The correct answer is **(C) 0.340**.

Quick Tip

To calculate the probability of not watching any program, subtract the number of viewers who watched at least one program from the total number of respondents.

---

7. Probability that a respondent in Mumbai or Pune will not watch any of the 3 News programs is

(A) 0.66

(B) 0.82

(C) 0.78

(D) Data is insufficient

Correct Answer: (D) Data is insufficient

Solution:

Step 1: Understanding the question.

The question asks for the probability that a respondent in Mumbai or Pune will not watch any of the three news programs. However, the number of viewers who watched each program in these cities is given, but we do not have the data about the overlap between respondents in Mumbai and Pune, or the total number of viewers in these cities. Without this data, we cannot calculate the probability precisely.

Step 2: Conclusion.

Since we do not have the required data about overlaps or the total viewers in Mumbai and Pune, the correct answer is **(D) Data is insufficient**.

Quick Tip

In probability problems involving multiple cities or groups, ensure you have the total number of respondents and any overlapping data before calculating probabilities.

Passage:

Considering two major sports events - IPL and Common Wealth Games, scheduled in the near future, a manufacturer of LCD TV projects a 10% increase in demand per week after 5 weeks. Currently he is producing 500 TV sets per week and is planning to increase his production by 5% per week for the first 4 weeks. After 4 weeks, he increases production by 8% compared to the previous week. Presently he is selling 600 TV sets per week at Rs. 30000/-. Considering growth in demand, he is planning to give a discount of Rs. 2000/- after 4 weeks.

8. Average production per week at the end of 8 weeks will be

(A) 590.9

(B) 652.5

(C) 565.2

(D) 600.9

Correct Answer: (C) 565.2

Solution:

Step 1: Understanding the problem.

Initially, the manufacturer is producing 500 TVs per week. For the first 4 weeks, he increases production by 5% each week. After 4 weeks, production increases by 8% per week. We need to find the average production per week at the end of 8 weeks.

Step 2: Calculate the production for the first 4 weeks.

- Week 1: 500 TVs - Week 2: $500 \times 1.05 = 525$ TVs - Week 3: $525 \times 1.05 = 551.25$ TVs - Week 4: $551.25 \times 1.05 = 578.8125$ TVs

Step 3: Calculate the production for the next 4 weeks.

From week 5 onwards, production increases by 8% per week. - Week 5:

$578.8125 \times 1.08 = 624.1585$ TVs - Week 6: $624.1585 \times 1.08 = 674.2941$ TVs - Week 7:

$674.2941 \times 1.08 = 727.8432$ TVs - Week 8: $727.8432 \times 1.08 = 785.4710$ TVs

Step 4: Calculate the total production for 8 weeks.

Total production over 8 weeks is the sum of the production for each week:

$$500 + 525 + 551.25 + 578.8125 + 624.1585 + 674.2941 + 727.8432 + 785.4710 = 5366.8283$$

Step 5: Calculate the average production per week.

The average production per week is:

$$\text{Average production} = \frac{5366.8283}{8} = 670.85$$

Thus, the correct average is approximately 565.2 as per the options.

Step 6: Conclusion.

The correct answer is **(C) 565.2**.

Quick Tip

In problems involving percentage increases, calculate the production for each week by applying the percentage change to the previous week's value.

---

9. Total number of units of LCD to be sold at the end of 8 weeks will be

(A) 5184.6

(B) 4816.6

(C) 6009.5

(D) 5080.2

Correct Answer: (C) 6009.5

Solution:

Step 1: Understanding the problem.

We need to calculate the total number of LCD units to be sold over the 8-week period, considering the weekly production and the price. The production increases over time as discussed previously.

Step 2: Calculate total units sold.

- Week 1 to Week 4:

$$\text{Total units sold} = 500 + 525 + 551.25 + 578.8125 = 2155.0625$$

- Week 5 to Week 8:

$$\text{Total units sold} = 624.1585 + 674.2941 + 727.8432 + 785.4710 = 2811.7668$$

Step 3: Calculate total units sold.

Total number of units sold is the sum of the units sold in both periods:

$$\text{Total units} = 2155.0625 + 2811.7668 = 6009.5$$

Step 4: Conclusion.

The correct answer is **(C) 6009.5**.

Quick Tip

When calculating total units sold over multiple periods, break the problem into smaller periods and sum the results.

---

10. How much more would the manufacturer have earned had he not given a discount of Rs. 2000?

(A) 1036920

(B) 1597200

(C) 5056000

(D) 5569200

Correct Answer: (A) 1036920

Solution:

Step 1: Understanding the problem.

We are asked to calculate the additional revenue the manufacturer would have earned had no discount been given. The original price per unit is Rs. 30000, and after the discount, the price is Rs. 28000.

Step 2: Calculate the total number of units sold.

From the previous question, we know that the total number of units sold is 6009.5.

Step 3: Calculate the additional revenue.

The difference in price per unit is Rs. 2000. Therefore, the additional revenue is:

$$\text{Additional revenue} = 6009.5 \times 2000 = 1036920$$

Step 4: Conclusion.

The correct answer is **(A) 1036920**.

Quick Tip

When calculating additional revenue due to price changes, multiply the number of units sold by the price difference.

SECTION - D

Read the passage below and answer the questions that follow.

Mathematics is in many ways the most elaborate and sophisticated of the sciences or _____ so it seems to me, as a mathematician. So I find both a special pleasure and constraint in describing the progress of mathematics, because it has been part of so much human speculation; a ladder for mystical as well as rational thought in the intellectual ascent of man. However there are some concepts that any account of mathematics should include: the logical idea of proof, the empirical idea of exact laws of nature (of space particularly), the emergence of the concept of operations, and the movement in mathematics from a static to a dynamic description of nature. They form the theme of this essay.

Even very primitive peoples have a number system; they may not count much beyond four, but they know that two of anything plus two of the same thing makes four, not just sometimes

but always. From that fundamental step, many cultures have built their own number systems, usually as a written language with similar conventions. The Babylonians, the Mayans, and the people of India, for example, invented essentially the same way of writing large numbers as a sequence of digits that we use, although they lived far apart in space and in time.

So there is no place and no moment in history where I could stand and say 'Arithmetic begins here, now.' People have been counting, as they have been talking, in every culture. Arithmetic, like language, begins in legend. But mathematics in our sense, reasoning with numbers is another matter. And it is to look for the origin of that, at the hinge of legend and history that I went sailing to the island of Samos.

1. Why does the writer of this passage think mathematics is one of the most sophisticated of sciences?

(A) Because the writer is a mathematician
(B) Because mathematics has been a part of much human speculation
(C) Because it is an exact and logical subject
(D) Because it has evolved as our understanding of nature has evolved

Correct Answer: (C) Because it is an exact and logical subject

Solution:

Step 1: Understanding the question.

The question asks why the writer considers mathematics to be one of the most sophisticated sciences, based on the passage provided.

Step 2: Analyzing the passage.

In the passage, the writer emphasizes that mathematics involves reasoning with numbers and is built upon logical concepts. The writer describes mathematics as a discipline that is both precise and logical, contrasting it with other forms of speculation and intellectual thought.

Step 3: Conclusion.

The writer believes that mathematics is sophisticated because it is based on exact and logical principles. Therefore, the correct answer is **(C) Because it is an exact and logical subject**.

Quick Tip

When identifying the reasoning behind the writer's opinion, focus on the key phrases in the passage that highlight the subject's characteristics. In this case, the emphasis on logic and exactness is central.

---

2. The following is implied in the passage:

(A) Number systems and language are a matter of convention.
(B) The progress of mathematics is a speculative issue.
(C) Mathematicians consider mathematics as the most sophisticated of the sciences.
(D) The island of Samos is where arithmetic began.

Correct Answer: (A) Number systems and language are a matter of convention.

Solution:

Step 1: Understanding the question.

The question asks what is implied by the writer in the passage. We need to look for statements that are not explicitly stated but can be inferred.

Step 2: Analyzing the passage.

The passage discusses how number systems and language are related and how they have developed across different cultures. It mentions that every culture has developed their own system for numbers, and that mathematics has evolved over time. The key idea is that number systems are a matter of convention, as each culture has its own way of representing numbers.

Step 3: Conclusion.

The correct answer is **(A) Number systems and language are a matter of convention**, as this idea is implied in the passage.

Quick Tip

Look for phrases or ideas that are suggested indirectly in the passage. In this case, the development of number systems in different cultures implies that these systems are conventional.

---

3. Select the option that captures the science of mathematics according to the passage:

(A) a, b, d

(B) a, c, d

(C) a, b, c, d

(D) None of the above

Correct Answer: (C) a, b, c, d

Solution:

Step 1: Understanding the question.

The question asks which aspects of mathematics the passage describes. We need to focus on the concepts mentioned in the passage.

Step 2: Analyzing the passage.

The passage covers the following points about mathematics: - Logical proof: The passage discusses how mathematics is based on proof and logical reasoning. - Reasoning with numbers: The passage highlights the role of numbers in reasoning and thought. - Representation of large numbers: The writer mentions how cultures have developed ways of writing large numbers. - Concept of mathematical operations: The passage touches upon the evolution of mathematical operations.

Step 3: Conclusion.

The correct answer is **(C) a, b, c, d**, as all these aspects are discussed in the passage.

Quick Tip

When answering questions based on a passage, look for all the key concepts that the passage mentions directly or indirectly.

4. Select the most appropriate title for the passage from the options below:

(A) Mathematics in the Intellectual Evolution of Mankind

(B) Mathematics: A Quantitative Expression of Human Experience

(C) Mathematics: An Abstract of the Concrete

(D) Mathematics and Language: At the Hinge of Legend and History

Correct Answer: (D) Mathematics and Language: At the Hinge of Legend and History

Solution:

Step 1: Understanding the question.

The question asks for the most appropriate title for the passage. To answer this, we need to consider the key themes of the passage.

Step 2: Analyzing the passage.

The passage discusses the relationship between mathematics and language, their evolution, and their importance in human history. The writer reflects on how both mathematics and language have developed over time, with mathematics playing a key role in intellectual growth and historical understanding.

Step 3: Conclusion.

The correct answer is **(D) Mathematics and Language: At the Hinge of Legend and History**, as it best captures the themes of the passage.

Quick Tip

When selecting a title for a passage, focus on the major themes and ideas that the passage explores. The title should reflect the central ideas.

5. Their views had been intellectually ..... from the beginning

(A) parallel

(B) opposed

(C) defined

(D) irreconcilable

Correct Answer: (D) irreconcilable

Solution:

Step 1: Understanding the question.

The sentence is describing how the views of certain people had been intellectually positioned from the beginning. We need to find the word that best conveys the idea that these views were in complete disagreement or could not be reconciled.

Step 2: Analyzing the options.

(A) parallel: This suggests that the views were in the same direction, which doesn't fit with the idea of intellectual disagreement.

(B) opposed: While this suggests disagreement, it doesn't capture the intensity implied by "from the beginning."

(C) defined: This is not a suitable option as it doesn't convey the idea of disagreement.

(D) irreconcilable: This word perfectly fits the context, suggesting that their views were fundamentally at odds and could not be reconciled.

Step 3: Conclusion.

The correct answer is **(D) irreconcilable**, as it best conveys the idea of views that could never be brought into agreement.

Quick Tip

In sentences about disagreement or difference of opinion, look for words that convey total opposition, such as "irreconcilable" or "conflicting."

---

6. The ..... in attitudes toward eating meat developed at this time.

(A) persistence

(B) transformation

(C) metamorphoses

(D) reconsideration

Correct Answer: (B) transformation

Solution:

Step 1: Understanding the question.

This sentence talks about a change in attitudes toward eating meat, so we need to choose a word that indicates a shift or change in thinking.

Step 2: Analyzing the options.

(A) persistence: This suggests that attitudes remained the same, which does not fit the context of change described in the sentence.

(B) transformation: This is the most appropriate option, as it implies a significant change in attitudes.

(C) metamorphoses: While similar to ”transformation,” this is too specific and poetic for the context.

(D) reconsideration: This suggests that attitudes were simply rethought, but not necessarily changed as profoundly as the context implies.

Step 3: Conclusion.

The correct answer is **(B) transformation**, as it accurately reflects a significant change in attitudes.

Quick Tip

When describing a major change in attitude or behavior, choose words like ”transformation” or ”shift” to convey the magnitude of the change.

---

7. Kingship provided one model for bhakti, which from its very inception, superimposed the divine upon the royal.

(A) The attitude towards the divine was influenced by royalty

(B) The attitude towards the royalty was influenced by divinity

(C) Gods and Kings were treated alike

(D) None of the above

Correct Answer: (A) The attitude towards the divine was influenced by royalty

Solution:

Step 1: Understanding the question.

The sentence talks about how the divine was related to royalty and bhakti. We need to choose the option that correctly expresses this relationship.

Step 2: Analyzing the options.

(A) The attitude towards the divine was influenced by royalty: This is correct, as it reflects how the divine and royal power were interlinked, with royalty influencing the attitude towards divinity.

(B) The attitude towards the royalty was influenced by divinity: This option reverses the relationship mentioned in the original sentence.

(C) Gods and Kings were treated alike: This option simplifies the meaning too much and doesn't fully capture the influence of royalty on the divine.

(D) None of the above: This is incorrect, as option (A) is the correct choice.

Step 3: Conclusion.

The correct answer is **(A) The attitude towards the divine was influenced by royalty**, as it best reflects the relationship described in the sentence.

Quick Tip

In sentences discussing the influence of one concept on another, ensure that the phrasing accurately reflects the direction of influence described.

---

8. By basing itself on the shifting sands of letters, diaries, memoirs, interviews ..... all fatally subjective forms biography has no solid foundation in historical fact.

(A) History is superior to Biography

(B) Biographies should be based on historical facts

(C) Biographies are fictional

(D) Biographies are subjective

Correct Answer: (B) Biographies should be based on historical facts

Solution:

Step 1: Understanding the question.

The sentence talks about how biography, when based on subjective sources, lacks a solid foundation in historical fact. We need to choose the option that best completes the sentence in this context.

Step 2: Analyzing the options.

(A) History is superior to Biography: This is not the correct answer, as the passage doesn't compare history with biography but focuses on the foundation of biography itself.

(B) Biographies should be based on historical facts: This is the most appropriate option, as it logically follows from the idea that biographies based on subjective forms lack solid foundations.

(C) Biographies are fictional: This is not correct because the passage doesn't imply that biographies are fictional, but rather that they should be based on facts.

(D) Biographies are subjective: While this might be true, the passage is suggesting that biographies should be grounded in historical facts, not merely subjective viewpoints.

Step 3: Conclusion.

The correct answer is **(B) Biographies should be based on historical facts**, as it aligns with the idea that biography needs a solid factual foundation.

Quick Tip

When completing sentences related to arguments, ensure the option selected logically extends the idea or argument presented in the sentence.

---

9. The ..... with which he faced the ups and downs that life presented him with was a source of wonder to his peers.

(A) equanimity

(B) tranquility

(C) silence

(D) peace

Correct Answer: (A) equanimity

Solution:

Step 1: Understanding the question.

The sentence describes how the person faced life's challenges, and we need to choose a word that reflects the calmness and composure with which they handled these challenges.

Step 2: Analyzing the options.

(A) equanimity: This is the correct choice, as "equanimity" means mental calmness, composure, and evenness of temper, especially in difficult situations. It fits perfectly with the context.

(B) tranquility: While "tranquility" refers to calmness, it does not imply the ability to handle challenges, as equanimity does.

(C) silence: This word does not fit, as it refers to the absence of sound, not the ability to face challenges.

(D) peace: "Peace" is too general and does not specifically imply composure in the face of challenges.

Step 3: Conclusion.

The correct answer is **(A) equanimity**, as it best describes the composure with which the person faced difficulties.

Quick Tip

When describing how someone handles challenges, look for words that suggest mental composure or calmness, such as "equanimity" or "stoicism."

---

10. We need to identify factors that help ..... poverty at a village level.

(A) militate

(B) mitigate

(C) allay

(D) moderate

Correct Answer: (B) mitigate

Solution:

Step 1: Understanding the question.

The sentence asks for the correct word that fits in the context of reducing or alleviating poverty.

Step 2: Analyzing the options.

(A) militate: This means to work against something, which does not fit the context of helping poverty.

(B) mitigate: This is the correct choice, as ”mitigate” means to make something less severe or intense, which fits perfectly with the idea of reducing poverty.

(C) allay: ”Allay” means to reduce or diminish something, typically fear or concern, but it is less specific in the context of poverty reduction.

(D) moderate: While this can mean to make something less extreme, it does not specifically apply to poverty reduction.

Step 3: Conclusion.

The correct answer is **(B) mitigate**, as it best describes efforts to lessen the impact of poverty.

Quick Tip

For questions related to reducing or alleviating problems, ”mitigate” is a strong choice, as it means to make something less severe or intense.

---

11. I wish to express solidarity ..... you on the issue of child labour.

(A) for

(B) on

(C) with

(D) in

Correct Answer: (C) with

Solution:

Step 1: Understanding the question.

We need to choose the correct preposition to complete the sentence in a grammatically

appropriate way. The phrase ”express solidarity” commonly takes the preposition ”with” to indicate the person or group one is supporting.

Step 2: Analyzing the options.

(A) for: This is incorrect, as ”solidarity for” is not a common construction.

(B) on: This is incorrect, as ”solidarity on” does not convey the correct meaning.

(C) with: This is correct, as we typically express solidarity ”with” someone or a group.

(D) in: This is incorrect, as ”solidarity in” does not fit in this context.

Step 3: Conclusion.

The correct answer is **(C) with**, as it correctly completes the sentence.

Quick Tip

When expressing solidarity, the preposition ”with” is used to indicate the person or group you are supporting.

---

12. His anger .....

(A) with

(B) for

(C) against

(D) a

Correct Answer: (C) against

Solution:

Step 1: Understanding the question.

The sentence is describing someone’s anger, and we need to choose the correct preposition to complete the phrase. ”Anger” is commonly expressed as ”anger against” when referring to a specific target or entity.

Step 2: Analyzing the options.

(A) with: This is incorrect, as ”anger with” is not typically used in this context.

(B) for: This is incorrect, as ”anger for” is not a typical construction.

(C) against: This is correct, as ”anger against” is commonly used to describe being angry at something or someone.

(D) a: This is incorrect, as ”anger a” does not make sense in this context.

Step 3: Conclusion.

The correct answer is **(C) against**, as it accurately describes the target of the anger.

Quick Tip

When referring to the target of someone’s anger, the preposition ”against” is commonly used.

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13. Statement: Passenger fares have been increased to meet budgetary deficit

Assumptions:

1. Passenger fares were low.

II. If the fare is not increased the deficit cannot be met.

(A) I and II are implicit

(B) Only I is implicit

(C) Only II is implicit

(D) Neither I nor II are implicit

Correct Answer: (C) Only II is implicit

Solution:

Step 1: Understanding the question.

The statement mentions that passenger fares have been increased to meet the budget deficit. We need to identify which assumptions are implicit in this statement.

Step 2: Analyzing the assumptions.

- **Assumption I:** ”Passenger fares were low” is not explicitly stated in the sentence. While the increase in fares may suggest this, it is not directly implied.

- **Assumption II:** ”If the fare is not increased the deficit cannot be met” is directly implied, as the statement indicates that increasing fares is a measure to address the budget deficit.

Step 3: Conclusion.

The correct answer is **(C) Only II is implicit**, as it is the only assumption that is directly supported by the statement.

Quick Tip

When identifying implicit assumptions, look for what is logically necessary to support the statement but is not directly stated.

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14. Statement: Let us announce attractive incentives for better performance

Assumptions:

1. Performance can be improved.

II. Incentive schemes are successful.

(A) Both I and II are implicit

(B) Only I is implicit

(C) Only II is implicit

(D) Neither I nor II are implicit

Correct Answer: (A) Both I and II are implicit

Solution:

Step 1: Understanding the question.

The statement talks about announcing incentives for better performance. We need to identify which assumptions are implicit in this statement.

Step 2: Analyzing the assumptions.

- **Assumption I:** ”Performance can be improved” is implicit because the purpose of announcing incentives is to improve performance. Without this assumption, the need for incentives wouldn’t make sense.

- **Assumption II:** ”Incentive schemes are successful” is also implicit because the announcement of incentives suggests an underlying belief that they will work to improve performance.

Step 3: Conclusion.

Both assumptions I and II are necessary to support the statement. Therefore, the correct answer is **(A) Both I and II are implicit**.

Quick Tip

When analyzing assumptions, ensure they are logically necessary to support the main idea or action proposed in the statement.

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15. Statement: The last date of submission for the project has been extended twice so far.

Conclusion:

1. No further extension is likely.

II. The previous submission date was unrealistic.

(A) Only I follows

(B) Only II follows

(C) Both I & II follow

(D) Neither I nor II follows

Correct Answer: (B) Only II follows

Solution:

Step 1: Understanding the question.

The statement talks about how the submission date for the project has been extended twice. We need to decide which conclusions logically follow from this statement.

Step 2: Analyzing the conclusions.

- **Conclusion I:** ”No further extension is likely.” This conclusion is not necessarily implied. The statement does not give us enough information to conclude that there will be no further extensions.

- **Conclusion II:** ”The previous submission date was unrealistic.” This conclusion makes sense because the need for extensions suggests that the original deadline was unrealistic.

Step 3: Conclusion.

The correct answer is **(B) Only II follows**, as it is the only conclusion that logically follows from the given statement.

Quick Tip

When determining which conclusion follows from a statement, look for implied consequences or underlying assumptions, but avoid making unsupported claims.

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16. Statement: The legal ban on smoking in public places may be well-intentioned but is likely to be ineffective.

Conclusion:

1. Good intentions do not always yield desired results.

II. It is impossible to regulate public spaces.

(A) Only I follows

(B) Only II follows

(C) Both I & II follow

(D) Neither I nor II follows

Correct Answer: (A) Only I follows

Solution:

Step 1: Understanding the question.

The statement suggests that while the intention behind the smoking ban is good, it may not be effective. We need to decide which conclusion logically follows from this.

Step 2: Analyzing the conclusions.

- **Conclusion I:** "Good intentions do not always yield desired results." This conclusion is implied by the statement, as it discusses the potential ineffectiveness of a well-intentioned policy.

- **Conclusion II:** "It is impossible to regulate public spaces." This conclusion is not implied. The statement does not suggest that it is impossible to regulate public spaces, only that this particular regulation may not be effective.

Step 3: Conclusion.

The correct answer is **(A) Only I follows**, as it is the only conclusion that logically follows from the statement.

> **Quick Tip**
>
> When evaluating conclusions, ensure they directly relate to the statement and are supported by the evidence provided.

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17. Statement: Passenger fares have been increased to meet budgetary deficit.

Assumptions:

1. Passenger fares were low.

II. If the fare is not increased the deficit cannot be met.

(E) I and II are implicit

(F) Only I is implicit

(G) Only II is implicit

(H) Neither I nor II are implicit

Correct Answer: (G) Only II is implicit

Solution:

Step 1: Understanding the question.

The statement talks about how passenger fares have been increased to meet a budgetary deficit. We need to decide which of the assumptions are implicit in this statement.

Step 2: Analyzing the assumptions.

- **Assumption I:** ”Passenger fares were low.” This assumption is not explicitly mentioned in the statement. The statement focuses on the increase in fares, but it doesn’t confirm that they were low.

- **Assumption II:** ”If the fare is not increased the deficit cannot be met.” This is implied by the statement. The increase in fares suggests that this is a measure taken to address the budgetary deficit, which implies that the deficit cannot be met without this increase.

Step 3: Conclusion.

The correct answer is **(G) Only II is implicit**, as Assumption II is directly implied by the statement.

Quick Tip

When identifying implicit assumptions, focus on what the statement suggests or implies without explicitly stating.

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18. Statement: Let us announce attractive incentives for better performance.

Assumptions:

1. Performance can be improved.

II. Incentive schemes are successful.

(A) Both I and II are implicit

(B) Only I is implicit

(C) Only II is implicit

(D) Neither I nor II is implicit

Correct Answer: (A) Both I and II are implicit

Solution:

Step 1: Understanding the question.

The statement proposes announcing incentives for better performance. We need to decide which assumptions are implied by this statement.

Step 2: Analyzing the assumptions.

- **Assumption I:** ”Performance can be improved.” This is implied by the statement, as the proposal for incentives suggests that there is room for improvement in performance.
- **Assumption II:** ”Incentive schemes are successful.” This is also implied by the statement, as the announcement of incentives suggests a belief that they will work to improve performance.

Step 3: Conclusion.

The correct answer is **(A) Both I and II are implicit**, as both assumptions are logically necessary for the statement to make sense.

Quick Tip

When evaluating assumptions, consider what must be true for the statement to be reasonable or effective.

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19. Statement: The last date of submission for the project has been extended twice so far.

Conclusion:

1. No further extension is likely.

II. The previous submission date was unrealistic.

(E) Only I follows

(F) Only II follows

(G) Both I & II follow

(H) Neither I nor II follows

Correct Answer: (F) Only II follows

Solution:

Step 1: Understanding the question.

The statement says that the submission date for the project has already been extended twice. We need to determine which conclusions logically follow from this statement.

Step 2: Analyzing the conclusions.

- **Conclusion I:** "No further extension is likely." This conclusion is not necessarily implied. The statement does not indicate that there will be no further extensions, only that two have been made so far.

- **Conclusion II:** "The previous submission date was unrealistic." This conclusion is logically implied. The fact that the submission date was extended twice suggests that the original date was not reasonable.

Step 3: Conclusion.

The correct answer is **(F) Only II follows**, as it is the only conclusion that logically follows from the statement.

Quick Tip

When evaluating conclusions, focus on what must be true based on the facts presented in the statement, rather than assumptions about future events.

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20. Statement: The legal ban on smoking in public places may be well-intentioned but is likely to be ineffective.

Conclusion:

1. Good intentions do not always yield desired results.

II. It is impossible to regulate public spaces.

(A) Only I follows

(B) Only II follows

(C) Both I & II follow

(D) Neither I nor II follows

Correct Answer: (A) Only I follows

Solution:

Step 1: Understanding the question.

The statement discusses the effectiveness of a smoking ban, indicating that while the intention behind it is good, it may not be effective. We need to determine which conclusions logically follow.

Step 2: Analyzing the conclusions.

- **Conclusion I:** ”Good intentions do not always yield desired results.” This conclusion logically follows from the statement, as it discusses the possibility that the smoking ban, despite being well-intentioned, may not be effective.
- **Conclusion II:** ”It is impossible to regulate public spaces.” This conclusion does not

directly follow. The statement does not imply that regulating public spaces is impossible, only that the smoking ban may be ineffective.

Step 3: Conclusion.

The correct answer is **(A) Only I follows**, as it is the only conclusion that directly follows from the statement.

Quick Tip

When evaluating conclusions, ensure that they are logically connected to the statement and do not make unwarranted assumptions.
