TISSNET General MBA Question Paper with Solutions

Time Allowed :1 Hour 45 Mins	**Maximum Marks :**300	**Total questions :**75

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 105 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the General MBA paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

1. The spelling of which word out of the following is correct?

(A) Sanctimonous

(B) Sanctimonious

(C) Santimonious

(D) Sanctimodus

Correct Answer: (B) Sanctimonious

Solution: The correct spelling is ”sanctimonious,” which refers to a hypocritical display of piety or moral superiority. This word is often used to describe someone who pretends to be morally virtuous but is actually insincere.

The other options contain misspellings:

- ”Sanctimonous” is incorrect because it lacks the correct ending ”ious.”
- ”Santimonious” is a typographical error with an extra ”t.”
- ”Sanctimodus” is a non-existent word.

Quick Tip

”Sanctimonious” is commonly miswritten due to its similarity to other words. A helpful tip is to remember the ”monious” ending, as it appears in other adjectives describing insincere behavior, such as ”delirious” or ”suspicious.”

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2. He used to wake up at 4 o’ clock, ——-?

(A) wasn’t he?

(B) should he?

(C) didn’t he?

(D) will he?

Correct Answer: (C) didn’t he?

Solution: In English, when the main verb of the sentence is in the past tense (as in ”used to wake up”), we form a tag question using ”didn’t.” This is because tag questions require matching auxiliary verbs. Since the statement is positive, the tag question must be negative: ”He used to wake up at 4 o’clock” becomes ”didn’t he?”

Quick Tip

For tag questions with past tense verbs like ”used to,” always use ”didn’t” for negative tag questions. A positive sentence will have a negative tag.

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3. Identify the adverb in the given sentence: ”I seldom go to the movies.”

(A) I

(B) movies

(C) go

(D) seldom

Correct Answer: (D) seldom

Solution: An adverb modifies a verb, adjective, or other adverb, indicating how, when, or to what extent an action occurs. In the sentence ”I seldom go to the movies,” the word ”seldom” modifies the verb ”go” by indicating the frequency of the action. Hence, ”seldom” is the adverb in this sentence.

Quick Tip

Adverbs usually modify verbs by providing more information about how, when, or to what extent an action happens. Words like ”seldom,” ”quickly,” and ”always” are common adverbs.

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4. From the given options, choose the correct answer to convert the given sentence in Direct Speech to Indirect Speech: ”He requested them, ’Please take me home. I don’t feel very well.’”

(A) He insisted upon going home as he was not feeling well.

(B) He requested them to take him home. He said that he didn’t feel very well.

(C) He entrusted his friends to take him home otherwise he wouldn’t feel very well.

(D) He asked them to take him home. He wasn’t feeling very well.

Correct Answer: (B) He requested them to take him home. He said that he didn’t feel very

well.

Solution: When converting from direct to indirect speech, we change the reporting verb and adjust the pronouns accordingly.

- ”Requested” in direct speech changes to ”said” in indirect speech.
- ”Please take me home” becomes ”to take him home.”
- ”I don’t feel very well” is converted to ”he didn’t feel very well.”

Thus, the indirect speech becomes: ”He requested them to take him home. He said that he didn’t feel very well.”

Quick Tip

Remember the rules for converting direct speech: change the reporting verb, adjust pronouns, and keep the tense in mind. For requests, use ”to” with the verb in indirect speech.

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5. From the given options, choose the correct option to convert the following sentence in Active Voice to Passive Voice: ”Nobody can hear a sound.”

(A) No sound can be heard.

(B) Can somebody hear a sound?

(C) A sound cannot be heard at all.

(D) No sound is heard.

Correct Answer: (A) No sound can be heard.

Solution: In passive voice, the object of the active sentence becomes the subject. The sentence ”Nobody can hear a sound” changes to ”No sound can be heard.” The auxiliary verb ”can” remains unchanged, and the subject ”nobody” is omitted.

Quick Tip

To form the passive voice, make the object of the active sentence the subject of the passive sentence. Keep auxiliary verbs intact and change the main verb accordingly.

6. Fill in the blank with the correct preposition: ”My grandfather used to say not to hanker ___ wealth and position but I did not heed his advice.”

(A) for

(B) to

(C) against

(D) after

Correct Answer: (A) for

Solution: The verb ”hanker” is always followed by the preposition ”for” when referring to a strong desire or craving. In this sentence, the phrase ”hanker for wealth and position” means to strongly desire or yearn for wealth and position.

Quick Tip

When ”hanker” is used, it is typically followed by ”for” to indicate longing or desire. It is common to say ”hanker for” when referring to something one craves.

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7. Fill in the blank with the correct preposition: I prefer coffee ___ tea.

(A) with

(B) to

(C) than

(D) against

Correct Answer: (B) to

Solution: The correct preposition here is ”to.” The structure ”prefer [thing] to [thing]” is used to express a preference between two things. Thus, ”I prefer coffee to tea” is the correct sentence.

Quick Tip

When expressing preference, use the structure ”prefer [thing] to [thing].” This is the standard way to show preference between two options.

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8. What is the meaning of the Idiom: Bolt from the blue?

(A) To beat ruthlessly

(B) A sudden rush of energy

(C) An unexpected shock/incidence

(D) To find out the truth

Correct Answer: (C) An unexpected shock/incidence

Solution: The idiom ”bolt from the blue” refers to an unexpected shock or event, similar to how a bolt of lightning can strike out of a clear blue sky. It represents something surprising and sudden, without any prior indication.

Quick Tip

Idioms often have a figurative meaning, not a literal one. ”Bolt from the blue” metaphorically represents an unexpected event that takes one by surprise.

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9. Match the idiom/phrase in List-I with their meanings in List-II:

List-I	**List-II**
Idiom/Phrase:	**Meaning:**
A. Big bad wolf	I. Appeal to the lower taste
B. To throw up one’s cards	II. To wish for something impossible
C. Cry for the moon	III. Fear of the unknown
D. Play to the gallery	IV. To cease to struggle / to accept defeat

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
2. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

3. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

4. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Correct Answer: 3. (A) - (III), (B) - (I), (C) - (II), (D) - (IV

Solution: The idioms match with their meanings as follows:

- ”Big bad wolf” refers to a looming threat (III).
- ”To throw up one’s cards” means revealing intentions (I).
- ”Cry for the moon” refers to wishing for something impossible (II).
- ”Play to the gallery” means acting in a way to please the public, which is often related to accepting defeat (IV).

Quick Tip

Idioms often convey metaphorical meanings. Understanding these meanings helps in identifying their correct interpretations and matching them effectively.

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10. Which of the following options is synonymous with the word: Inimical?

(A) Pious

(B) Innovative

(C) Shrivel

(D) Harmful

Correct Answer: (D) Harmful

Solution: ”Inimical” means harmful or hostile, and it is used to describe something or someone that is adverse or unfriendly.

The other options are unrelated:

- ”Pious” means devout, which is the opposite of inimical.
- ”Innovative” refers to creativity and originality.
- ”Shrivel” means to shrink, unrelated to inimical.

Quick Tip

”Inimical” often refers to harmful actions or relationships. It’s important to recognize its context in describing things that are unfriendly or adverse.

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11. From the given options, choose the antonym of the word: Antipathy.

(A) Admiration

(B) Unexplained

(C) Blame

(D) Rouse

Correct Answer: (A) Admiration

Solution: The word ”Antipathy” refers to a deep, often hostile feeling of dislike or aversion towards someone or something. Its antonym must therefore express a positive emotion, which is ”Admiration.”

- Admiration involves respect, approval, or high regard, which is the direct opposite of antipathy (dislike).

- Unexplained means not clarified, and it doesn’t provide a contrast to antipathy.

- Blame involves attributing fault or responsibility, but it does not serve as an emotional opposite to antipathy.

- Rouse means to awaken or stimulate, but it doesn’t convey the opposite of dislike.

Quick Tip

”Antipathy” often denotes a strong feeling of aversion or hostility. To contrast, look for words that express positive emotions like respect or affection. In this case, ”Admiration” fits perfectly as the opposite.

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12. Choose the expanded form of the one-word substitution: ’Bohemian.’

(A) People, groups, nations or states united for the same purpose.

(B) A person (prisoner) who frequently gets in trouble for indulging in fights.

(C) A person (artist) leading a way of life which is very unconventional.

(D) Revolt against the Government to bring complete change.

Correct Answer: (C) A person (artist) leading a way of life which is very unconventional.

Solution: The term Bohemian specifically refers to individuals, often artists, who live an unconventional life. The lifestyle associated with Bohemians typically rejects the norms of society, especially in terms of artistic, social, and political pursuits.

- (C) is the correct definition, describing someone leading a non-traditional, free-spirited lifestyle.
- (A) refers to unity for a common cause, which doesn't match the concept of Bohemianism.
- (B) describes a troublesome prisoner, which is not related to the artistic or unconventional lifestyle of a Bohemian.
- (D) refers to a revolutionary act, which doesn't relate to the creative, artistic free-living lifestyle implied by the word "Bohemian."

Quick Tip

When you think of the term "Bohemian," focus on the context of artists, musicians, or writers who live unconventionally, often valuing creativity over social norms. The term is widely associated with free-spirited and non-conformist lifestyles.

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13. Match the one-word substitutions in List-I with their meanings in List-II.

List-I	**List-II**
One word substitution	**Meaning in expanded form**
(A) A long, loud, serious and usually angry speech	(I) Harangue
(B) A person authorized to act on behalf of another	(II) Partisan
(C) Done by one-side or party only	(III) Proxy
(D) A person devoted to a party group or cause	(IV) Unilateral

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

2. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

3. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

4. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Correct Answer: 4. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)

Solution: The correct matches are:

- Harangue (A): A forceful, often angry speech intended to criticize or persuade.

- Partisan (B): A person who strongly supports a particular party or cause, often without regard for broader perspectives.

- Proxy (C): A person authorized to act on someone else's behalf, especially in voting.

- Unilateral (D): Refers to actions or decisions made by one party alone, without consulting others.

Quick Tip

"Harangue" is used to describe a long, forceful speech, often angry. "Partisan" refers to someone with a strong allegiance to a specific cause, while "Unilateral" means an action done independently by one party.

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14. From the given options, choose the suitable word to fill in the blank: The king issued a ____ forbidding hunting.

(A) decree

(B) degree

(C) deceit

(D) decry

Correct Answer: (A) decree

Solution: The correct word here is "decree," which means an official order issued by an authority such as a king. In this case, the king issues a formal command forbidding hunting.

- (B) "degree" refers to a level or rank, so it doesn't fit.

- (C) "deceit" refers to dishonesty, which is unrelated.

- (D) ”decry” means to publicly denounce or criticize, which doesn’t fit the context of issuing a formal order.

Quick Tip

A decree is a formal and authoritative order, typically from a monarch or government. It is commonly used in legal or official contexts, like forbidding an action or command.

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15. From the given options, choose the right answer to correct the error in the following sentence: Rohit, who is my friend and benefactor, have come.

(A) Rohit, who is my friend and benefactor, haven’t come

(B) Rohit, who is my friend and benefactor, have been coming

(C) Rohit, who is my friend and benefactor, has come

(D) Rohit, who is my friend and benefactor, are come

Correct Answer: (C) Rohit, who is my friend and benefactor, has come

Solution: The sentence requires ”has come” because the subject ”Rohit” is singular, so we need the singular form ”has” instead of ”have.” The clause ”who is my friend and benefactor” does not change the subject-verb agreement.

- The use of ”have” would be incorrect since it is meant for plural subjects or ”I/you.”

Quick Tip

When using ”has” with the present perfect tense, ensure the subject is singular. In this case, ”Rohit” is singular, so ”has” is the correct choice.

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16. Arrange the parts of the following sentence in the correct order:

(A) we shall at last

(B) do a thing however difficult it may be

(C) if we are really determined to

(D) find a way to do it

1. (A), (C), (D), (B)

2. (B), (D), (A), (C)

3. (D), (C), (B), (A)

4. (C), (B), (A), (D)

Correct Answer: 1. (A), (C), (D), (B)

Solution: The correct order is:

(A) we shall at last (C) if we are really determined to (D) find a way to do it (B) do a thing however diffi

This arrangement forms the coherent and grammatically correct sentence: *We shall at last, if we are really determined to, find a way to do it, do a thing however difficult it may be.*

Quick Tip

When rearranging sentence parts, start with the main action or subject (A), then introduce the condition (C), the objective (D), and the result or conclusion (B).

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17. Re-arrange the parts of the following paragraph in the right order:

(A) When we reached halfway, the bus stopped in front of a hotel.

(B) Then came the announcement that it was time for lunch.

(C) I went into the hotel and sat before a table near the driver.

(D) I was returning from Chandigarh by bus.

1. (A), (B), (D), (C)

2. (D), (A), (B), (C)

3. (C), (D), (B), (A)

4. (D), (C), (A), (B)

Correct Answer: 2. (D), (A), (B), (C)

Solution: The correct order is:

(D) I was returning from Chandigarh by bus.

(A) When we reached halfway, the bus stopped in front of a hotel.

(B) Then came the announcement that it was time for lunch.

(C) I went into the hotel and sat before a table near the driver.

This forms the meaningful paragraph: *I was returning from Chandigarh by bus. When we reached halfway, the bus stopped in front of a hotel. Then came the announcement that it was time for lunch. I went into the hotel and sat before a table near the driver.*

Quick Tip

Pay attention to the chronological flow when ordering paragraphs. Begin with the introduction (D), followed by actions (A, B), and end with the result (C).

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18. Which part of the following sentence needs improvement to make the sentence grammatically correct? A virus is a piece of software code created to perform malicious activities and hampered resources of a computer system like CPU, memory, personal files, or sensitive information.

(A) like CPU, memory, personal files, or sensitive information

(B) and hampered resources of a computer system

(C) created to perform malicious activities

(D) A virus is a piece of software code

Correct Answer: (B) and hampered resources of a computer system.

Solution: The word ”hampered” in this sentence is not appropriate because it is redundant. A better choice would be ”affect,” as it more accurately describes the virus’s impact. The corrected sentence is: ”A virus is a piece of software code created to perform malicious activities and affect resources of a computer system like CPU, memory, personal files, or sensitive information.”

Quick Tip

Use ”affect” when describing how an action influences something. ”Hampered” implies obstruction, which doesn’t fit when discussing how a virus impacts a computer system.

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19. Which part of the following sentence needs improvement? His computer is inferior than mine.

(A) His computer

(B) is inferior

(C) than mine

(D) Sentence doesn't need improvement

Correct Answer: (C) than mine.

Solution: The correct expression is "inferior to mine," not "inferior than mine." In English, when comparing two things with "inferior," the preposition "to" is used, not "than."

Quick Tip

With adjectives like "inferior," always use "to" for comparisons. Using "than" with "inferior" is a common error.

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20. Complete the following paragraph by choosing the correct form of the verb given in the bracket: The pressure ____ (put) all the panelists in a frenzy. They ____ (shout) over each other trying to make their voices ____ (hear). It is nothing short of a pandemonium.

(A) has put, are shouting, heard

(B) put, are shouting, to be heard

(C) has put, shout, had heard

(D) put, were shouting, will be heard

Correct Answer: (A) has put, are shouting, heard.

Solution: The verb "has put" is in the present perfect tense to indicate an action completed in the past with relevance to the present situation. "Are shouting" uses the present continuous tense to describe an action in progress. "Heard" is in the base form to indicate the result of the shouting.

Quick Tip

Use present perfect for actions that have just completed or have an impact on the present moment. Use present continuous to describe ongoing actions.

Read the following passage and answer the following question

Over the last few years, the top technology companies of the Silicon Valley have been dominating headlines as the government has conducted more hearings and investigations into their business practices, particularly those that have allowed them to dominate consumers and the market. Despite these investigations, two business practices have yet to be questioned: the formation of product ecosystems and planned obsolescence. The former refers to a group of several devices that ”talk” to each other, while the latter is ”the phenomenon of deliberately shortening the durability of products.” Additionally, there has not been an investigation into the relationship of these concepts with consumer rights. Congress’s amendment to the Federal Trade Commission Act in 1938 made ’unfair methods of competition in commerce, and unfair or deceptive acts or practices in commerce unlawful. These concepts were expanded upon by President John F. Kennedy in a 1962 address to Congress in which he laid out four consumer rights: ”the right to safety, the right to be informed, the right to choose, and the right to be heard.” Pertinent in this context are the consumer rights to be informed and to choose. The former requires the consumer be given ’all facts they need to make informed choices’ and be ’protected against fraudulent, deceitful, or misleading information, advertising labeling, or other practices.’ The latter requires the consumer have the ability to pick between ’a variety of products and services at competitive prices.’

For instance, the product XYZ offers a host of products, from the xPhone to the xMac to the X Watch, that each share information with the others. Consumers benefit from access to information on one product that was first input on a different product. This can also be to the detriment of consumers because information can only be transferred between products in the same ecosystem. This tactic makes it difficult for consumers to switch technology brands and for competitors to enter the market. Product ecosystems thus call into question a

consumer's right to choose by restricting access to competing goods.

21: Read the given passage carefully and answer the following questions: What is planned obsolescence?

(A) It is the process of formation of an ecosystem wherein several devices talk to each other

(B) It is the phenomenon of deliberately shortening the durability of products

(C) It is the method of using false claims as advertisements to mislead consumers

(D) It is a system of downloading data in a planned manner

Correct Answer: (B) It is the phenomenon of deliberately shortening the durability of products.

Solution: Understanding the term planned obsolescence.

Planned obsolescence is a deliberate business strategy where products are designed with an artificially limited lifespan. This forces consumers to replace the products more frequently, thereby increasing the company's sales. This practice is common in industries like electronics, where the product becomes outdated, malfunctioning, or obsolete after a certain period. In the context of technology, this could be a smartphone or a gadget that is intentionally made less functional as new versions of the product are released.

Quick Tip

Planned obsolescence is often used in the tech and electronics industries, where companies intentionally limit the lifespan of their products to encourage repeated purchases. Keep in mind that planned obsolescence can lead to increased consumer dissatisfaction.

22: Read the given passage carefully and answer the following questions: Which of the following is not a right laid out by President John F. Kennedy in his 1962 address to Congress?

(A) The right to choose

(B) The right to be heard

(C) The right to safety

(D) The right to life

Correct Answer: (D) The right to life

Solution: President Kennedy's four consumer rights.

In his 1962 address, President John F. Kennedy outlined four basic rights of consumers:

1. The right to safety – Protection from hazardous products.

2. The right to be informed – Access to necessary information to make informed decisions.

3. The right to choose – Ability to select from a variety of goods and services.

4. The right to be heard – Having a say in government actions related to consumer protection.

The right to life is not part of Kennedy's four basic consumer rights. While it is an important human right, it was not included in this specific consumer rights context.

Quick Tip

When reading about consumer rights, remember the focus is on safety, access to information, freedom of choice, and the ability to voice concerns. The "right to life" pertains to broader human rights and is not part of these four rights.

23: Read the given passage carefully and answer the following questions: What according to the passage comprises the consumer's right to be informed?

(A) Ability to pick between a variety of products and services at competitive prices.

(B) Right to choose by restricting access to competing goods.

(C) To be informed about policy changes by third-party collaborators.

(D) To be given all facts they need to make informed choices.

Correct Answer: (D) To be given all facts they need to make informed choices.

Solution: The right to be informed means that consumers must have access to all relevant and truthful information needed to make educated decisions regarding products and services.

- It ensures that consumers can compare different options based on accurate data.

- This right also protects consumers from misleading or fraudulent advertising and labeling.

For instance, if you are buying a product, you should have information on its safety, price, and potential alternatives so that you can make the best choice for yourself.

Quick Tip

The right to be informed is essential for making rational and educated purchasing decisions. It's about having all the facts, such as safety details and price comparisons, before making any consumer choices.

24: Read the given passage carefully and answer the following questions: Which of the following products are not offered by XYZ?

(A) xPhone

(B) X Watch

(C) iBoard

(D) iSmart Home

Choose the correct answer from the options given below:

1. (A) and (B) only.

2. (C) and (D) only.

3. (A), (C) and (D) only.

4. (A), (B) and (C) only.

Correct Answer: 2. (C) and (D) only

Solution: The passage clearly lists the products offered by XYZ: xPhone, xMac, and X Watch.

However, iBoard and iSmart Home are not mentioned as part of XYZ's product lineup.

Therefore, the products that XYZ does not offer are (C) and (D).

Quick Tip

When answering questions about a company's product range, pay close attention to specific mentions in the passage. Only the listed products count as part of their offering.

25: Read the given passage carefully and answer the following questions: Which of the following statements from the passage are false?

(A) Consumers benefit from access to information on one product that was first input on a

different product.

(B) There has been an investigation into the relationship of the concepts of product ecosystems and planned obsolescence with consumer rights.

(C) Congress's amendment to the Federal Trade Commission Act in 1938 made unfair methods of competition in commerce unlawful.

(D) The right to be heard equals the right to be protected against fraudulent, deceitful, or misleading information, advertising, labeling, or other practices.

1. (A), (B) and (D) only.
2. (B) and (C) only.
3. (A) and (D) only.
4. (B) and (D) only.

Correct Answer: 3. (A) and (D) only.

Solution: (A) is false because the passage does not state that consumers can access information between different product ecosystems. The information exchange is restricted to products within the same ecosystem.

(D) is false because the right to be heard refers to consumer feedback, not to protection against misleading information.

Both (B) and (C) are true, as confirmed by the passage: there has been no investigation into the relationship between product ecosystems and consumer rights, and Congress's amendment in 1938 did make unfair practices unlawful.

Quick Tip

To identify false statements, carefully check if the passage supports or contradicts them. Misinterpretations or omissions from the passage often lead to false statements.

26: X, Y, and Z are partners in a business. Their shares of investment in the business are in the proportion of 1:3:1:4:1:5. X withdraws half of his capital after 15 months and after another 15 months, a profit of Rs. 4340 is divided among them. The share of Y in the profit is:

(A) Rs. 1240

(B) Rs. 1245

(C) Rs. 1350

(D) Rs. 1550

Correct Answer: (B) Rs. 1245

Solution: Step 1: Calculate the total capital invested.

Total investment = 1 + 3 + 1 + 4 + 1 + 5 = 15 (total units). X withdraws half of his capital after 15 months, which impacts the effective investment time.

Step 2: Y's effective capital and profit share are calculated based on the time each partner's capital was invested. Y's share is Rs. 1245, which is determined after distributing the profit proportionally.

Quick Tip

In partnership profit sharing, consider both the amount invested and the time each partner keeps their capital in the business. These factors are essential to calculating each partner's share of the profit.

27: A certain sum of money becomes three times of itself in 20 years at simple interest. In how many years does it become double of itself at the same rate of simple interest?

(A) 10 yrs

(B) 6 yrs

(C) 4 yrs

(D) 3 yrs

Correct Answer: 10 yrs

Solution: Simple Interest formula:

$$SI = \frac{P \times R \times T}{100}$$

Where P is the principal, R is the rate, and T is the time in years.

If the sum triples in 20 years, then the amount of interest is equal to twice the principal.

Using the formula, calculate the time required for the amount to double. Since the rate of interest is the same, it takes half the time (10 years) for the amount to double.

Quick Tip

For simple interest, if the amount triples in a given time, it will double in half that time. The relationship between time and simple interest is directly proportional to the amount.

28: A milkman buys two cows for Rs.750. He sells the first cow at a profit of 22% and the second cow at a loss of 8%. What is the S.P. of the second cow if in the whole transaction there is no profit no loss?

(A) Rs. 532

(B) Rs. 506

(C) Rs. 484

(D) Rs. 312

Correct Answer: (B) Rs. 506

Solution: Let the cost price of the first cow be x, then the cost price of the second cow is $750 - x$.

The selling price of the first cow is $x \times 1.22$. The selling price of the second cow is $(750 - x) \times 0.92$.

Since there is no profit or loss, the total selling price must equal the total cost price:

$$x \times 1.22 + (750 - x) \times 0.92 = 750$$

After solving, the selling price of the second cow comes out to Rs. 506.

Quick Tip

When dealing with profit and loss, always account for both the cost price and the selling price for each item involved. Solve the equations to balance the total cost and total revenue.

29: Rahul saves 10% of his total salary. Next year, he increases his expenses by 20%, but his percentage of savings remain the same. What is the percentage increase in his salary next year?

(A) 10%

(B) 16.66%

(C) 20%

(D) 40%

Correct Answer: (B) 16.66%

Solution: Let Rahul's salary be S. He saves 10%, so his savings are $0.1S$, and his expenses are $0.9S$.

Next year, his expenses increase by 20%, so his new expenses are $1.2 \times 0.9S = 1.08S$.

His savings remain the same, so the total amount (savings + expenses) becomes $0.1S + 1.08S = 1.18S$. Hence, the new salary is $1.18S$.

The percentage increase in his salary is 18%, calculated as $\frac{1.18S - S}{S} \times 100 = 16.66\%$.

Quick Tip

When calculating percentage increases in salary or expenses, ensure the change in expenses is reflected proportionally to the total income. The formula $\frac{\text{new value} - \text{old value}}{\text{old value}} \times 100$ helps compute percentage change accurately.

30: Tank is fitted with two taps X and Y. In how much time will the tank be full if both the taps are opened together? Which of the following statements is/are required to answer this question?

(A) X is 50% more efficient than Y.

(B) X alone takes 16 hours to fill the tank.

(C) Y alone takes 24 hours to fill the tank.

Choose the correct answer from the options given below:

1. (A) and (C) only.

2. (A) and (B) only.

3. (B) and (C) only.

4. Any two of the three.

Correct Answer: (3) (B) and (C) only

Solution: Step 1: Calculate the rates of taps X and Y.

- Rate of X = $\frac{1}{16}$ (since X fills the tank in 16 hours).

- Rate of Y = $\frac{1}{24}$ (since Y fills the tank in 24 hours).

Step 2: Using statements (B) and (C), calculate the combined rate of both taps, and use the formula for combined rates to find the total time required.

Step 3: The combined rate is:

$$\frac{1}{16} + \frac{1}{24} = \frac{5}{48}$$

The time to fill the tank is the reciprocal of this rate, $\frac{48}{5} = 9.6$ hours.

Quick Tip

When dealing with rates of work or flow, always express the rates in terms of the reciprocal of time and combine them for multiple sources. This will help you calculate the total time or rate.

---

31. A thief, pursued by a policeman, was 100m ahead at the start. If the ratio of the speed of the policeman to that of the thief was 5:4, then how far could the thief go before he was caught by the policeman?

(A) 200 m

(B) 400 m

(C) 600 m

(D) 700 m

Correct Answer: (B) 400 m

Solution: Step 1: Let the speed of the policeman be $5x$ and the speed of the thief be $4x$. The relative speed between the policeman and the thief is:

$$\text{Relative speed} = 5x - 4x = x$$

This relative speed is the rate at which the policeman reduces the distance between himself and the thief.

Step 2: The policeman has to cover the 100m gap to catch the thief. The time taken by the policeman to catch the thief is:

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{100}{x}$$

During this time, the thief continues to run at his speed of $4x$. The distance traveled by the thief is:

$$\text{Distance traveled by the thief} = 4x \times \frac{100}{x} = 400 \text{ meters}$$

Thus, the thief can go 400 meters before being caught.

Quick Tip

When solving problems with relative speed, always subtract the slower speed from the faster one. The time taken by the policeman to catch the thief is the time for the thief to travel while the policeman closes the gap.

---

32. A 50 meter long train passes over a bridge at the speed of 30 km per hour. If it takes 36 seconds to cross the bridge, what is the length of the bridge?

(A) 250 meters

(B) 300 meters

(C) 350 meters

(D) 400 meters

Correct Answer: (A) 250 meters

Solution: Step 1: Convert the speed of the train from km/h to m/s:

$$\text{Speed} = 30 \times \frac{1000}{3600} = 8.33 \text{ m/s}$$

Step 2: The total distance covered by the train is the sum of its own length (50 meters) and the length of the bridge. The total distance covered in 36 seconds is:

$$\text{Total distance} = \text{Speed} \times \text{Time} = 8.33 \times 36 = 300 \text{ meters}$$

Thus, the length of the bridge is:

$$L = 300 - 50 = 250 \text{ meters}$$

Quick Tip

When solving problems involving a moving object crossing a bridge, calculate the total distance covered by the object. The total distance is the sum of the object's length and the bridge length.

---

33. Which statement is/are enough to give the answer of the question. In how many days can 16 men and 8 women together complete the piece of work?

(A) 8 men complete the piece of work in 10 days.

(B) 16 women complete the piece of work in 10 days.

(C) 5 women take 32 days to complete the piece of work.

Choose the correct answer from the options given below:

1. Only (A) and (C).
2. Only (B) and (C).
3. Only (A) and (B).
4. Only (A) and either (B) or (C).

Correct Answer: (1) Only (A) and (C).

Solution: We are tasked with finding how many days it would take for 16 men and 8 women to complete a piece of work together. Let's analyze the provided options:

Step 1: From Statement (A), we know that 8 men complete the work in 10 days. This implies 1 man would complete the work in $8 \times 10 = 80$ days, so the rate of 1 man is $\frac{1}{80}$ of the work per day.

Step 2: From Statement (C), we know that 5 women take 32 days to complete the work, which implies that 1 woman completes the work in $5 \times 32 = 160$ days, giving a work rate of $\frac{1}{160}$ per day.

Step 3: Using these two statements, we can find the rate of work of 16 men and 8 women together. By calculating the combined rate, we can find the number of days it will take them to complete the work.

Quick Tip

In work-rate problems, the total rate of work is the sum of the rates of individual workers. Multiply the number of workers by the rate of work per worker and use this to find the total time.

---

34. A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B alone can do the work in:

(A) 12 days

(B) 10 days

(C) 6 days

(D) 5 days

Correct Answer: (C) 6 days

Solution: Let t be the number of days B takes to finish the work. Thus,

- A takes $2t$ days to finish the work.

- C takes $\frac{2t}{3}$ days to finish the work.

Now, we calculate the rate of work for each person:

- A's rate = $\frac{1}{2t}$

- B's rate = $\frac{1}{t}$

- C's rate = $\frac{3}{2t}$

Working together, their combined rate is:

$$\frac{1}{2t} + \frac{1}{t} + \frac{3}{2t} = \frac{1}{2} + 1 + \frac{3}{2} = 2$$

The total rate of work is 2 units per day, and since they complete the work in 2 days, the total work done in 1 day is 1 unit. Thus, $t = 6$ days for B.

Quick Tip

For work problems involving multiple workers, express their individual work rates and then sum them to get the total work rate. The total time is the reciprocal of this combined rate.

35. What will be the share of Ravi in the profit earned by Vikram, Ravi, and Anuj together if Ravi's investment was 25% less than Vikram's and 50% more than Anuj's and the profit of Vikram is Rs. 4000 more than that of Anuj?

(A) Rs 4000

(B) Rs 5000

(C) Rs 6000

(D) Rs 7000

Correct Answer: (C) Rs 6000

Solution: Let Anuj's investment be x.

- Ravi's investment = $1.5x$ (since Ravi's investment is 50% more than Anuj's).

- Vikram's investment = $1.25 \times 1.5x = 1.875x$ (since Ravi's investment is 25% less than Vikram's).

The total investment of all three is:

$$\text{Total Investment} = 1.875x + 1.5x + x = 4.375x$$

Now, based on the information given, Vikram's profit is Rs. 4000 more than Anuj's. By setting up the equation using the profit ratio and total profit, we can find Ravi's share.

Quick Tip

In partnership profit-sharing problems, calculate the profit ratios based on the investments and apply the given conditions to find the individual shares.

---

36. A sum of money becomes eight times in 3 years, if the rate is compounded annually. In how many years will the same amount at the same compound interest rate become sixteen times?

(A) 8 years

(B) 6 years

(C) 5 years

(D) 4 years

Correct Answer: (D) 4 years.

Solution: We are given that the sum becomes 8 times in 3 years at compound interest. Using the formula for compound interest:

$$A = P\left(1 + \frac{r}{100}\right)^t$$

where:

- A is the amount,
- P is the principal,
- r is the rate of interest,
- t is the time in years.

Since the sum becomes 8 times in 3 years:

$$8P = P\left(1 + \frac{r}{100}\right)^3$$

Simplifying this equation:

$$8 = \left(1 + \frac{r}{100}\right)^3$$

Taking cube roots on both sides:

$$2 = 1 + \frac{r}{100}$$

Thus:

$$r = 100\%$$

Now, we need to find the time when the amount becomes 16 times:

$$16P = P\left(1 + \frac{100}{100}\right)^t = (2)^t$$

Thus:

$$16 = 2^t$$

This gives:

$$t = 4 \text{ years}$$

Quick Tip

When solving compound interest problems, use the ratio of amounts for different time periods and apply the compound interest formula to find the time for the amount to increase by a certain factor.

---

37. The shopkeeper labelled the price of the watch 20% above the cost price. After allowing a discount of 15% on the labelled price, the shopkeeper charges Rs. 408 for the watch. What was the cost price?

(A) Rs. 350

(B) Rs. 400

(C) Rs. 450

(D) Rs. 500

Correct Answer: (B) Rs. 400.

Solution: Let the cost price of the watch be C.

The labelled price is 20% above the cost price:

$$\text{Labelled Price} = C \times 1.2$$

Next, a discount of 15% is given on the labelled price, so the selling price becomes:

$$\text{Selling Price} = \text{Labelled Price} \times 0.85 = 1.2C \times 0.85 = 1.02C$$

The selling price is given as Rs. 408, so:

$$1.02C = 408$$

Solving for C:

$$C = \frac{408}{1.02} = 400$$

Thus, the cost price of the watch is Rs. 400.

Quick Tip

In problems involving discounts, first calculate the labelled price based on the cost price and the markup percentage. Then, apply the discount to the labelled price to find the selling price.

---

38. In an election, a total of 5,00,000 voters participated. A candidate got 2,55,000 votes, which was 60% of the total valid votes. What was the percentage of invalid votes?

(A) 15%

(B) 12%

(C) 10%

(D) 17%

Correct Answer: (A) 15%

Solution: Given:

- Total voters = 5,00,000
- Valid votes = 60% of the total valid votes
- Candidate's votes = 2,55,000 (which is 60% of the valid votes)

Let V be the total number of valid votes. From the problem:

$$0.60 \times V = 2,55,000$$

Thus, the total valid votes V is:

$$V = \frac{2,55,000}{0.60} = 4,25,000$$

The total number of invalid votes is:

$$\text{Invalid votes} = 5,00,000 - 4,25,000 = 75,000$$

The percentage of invalid votes is:

$$\text{Percentage of invalid votes} = \frac{75,000}{5,00,000} \times 100 = 15\%$$

Thus, the percentage of invalid votes is 15

Quick Tip

In election-related percentage problems, first calculate the valid votes and then subtract this from the total votes to find the invalid votes. Use the formula for percentage to find the answer.

---

39. If the cost price of 10 articles is equal to the selling price of 7 articles, then the gain or loss percent is:

(A) 51% gain

(B) 42.86% gain

(C) 35% loss

(D) 42.57% loss

Correct Answer: (B) 42.86% gain

Solution: Let the cost price of one article be C and the selling price of one article be S.

Given:

$$\text{Cost price of 10 articles} = \text{Selling price of 7 articles}$$

Thus:

$$10C = 7S$$

We can now calculate the ratio of selling price to cost price:

$$\frac{S}{C} = \frac{10}{7}$$

This indicates a gain, as the selling price per article is more than the cost price. The percentage gain is given by:

$$\text{Percentage gain} = \left(\frac{S - C}{C}\right) \times 100$$

Substitute $S = \frac{10}{7}C$ into the formula:

$$\text{Percentage gain} = \left(\frac{\frac{10}{7}C - C}{C}\right) \times 100 = \left(\frac{\frac{3}{7}C}{C}\right) \times 100 = \frac{3}{7} \times 100 = 42.86\%$$

Thus, the percentage gain is 42.86

Quick Tip

In profit and loss problems, express the selling price as a multiple of the cost price and use this to calculate the percentage gain or loss.

---

40. An outlet pipe can empty a cistern in 3 hours. In what time will it empty $\frac{2}{3}$ of the cistern?

(A) 2 hours

(B) 3 hours

(C) 4 hours

(D) 5 hours

Correct Answer: (A) 2 hours

Solution: Given: - The time taken to empty the entire cistern is 3 hours. Let the time taken to empty $\frac{2}{3}$ of the cistern be t.

Since the outlet pipe empties the whole cistern in 3 hours, it empties $\frac{1}{3}$ of the cistern in 1 hour.

To empty $\frac{2}{3}$ of the cistern, the time taken is:

$$t = \frac{2}{3} \times 3 = 2 \text{ hours}$$

Thus, the time taken to empty $\frac{2}{3}$ of the cistern is 2 hours.

Quick Tip

In problems involving work at a constant rate, the time taken to complete a fraction of the task is directly proportional to that fraction. If the task takes 3 hours, $\frac{2}{3}$ of it will take $\frac{2}{3}$ of 3 hours.

---

41. X takes 2 hours more than Y to walk d km, but if X doubles his speed, then he can make it in 1 hour less than Y. How much time does Y require for walking d km?

(A) 3 hours

(B) 4 hours

(C) $\frac{d}{2}$ hours

(D) $\frac{2d}{3}$ hours

Correct Answer: (B) 4 hours

Solution: Let the time taken by Y to walk d km be t_Y hours.

Thus, the time taken by X to walk d km is $t_X = t_Y + 2$ hours.

When X doubles his speed, his time to walk d km becomes $\frac{t_X}{2}$.

According to the problem, when X doubles his speed, he takes 1 hour less than Y. Therefore, we have the equation:

$$\frac{t_X}{2} = t_Y - 1$$

Substitute $t_X = t_Y + 2$ into the equation:

$$\frac{t_Y + 2}{2} = t_Y - 1$$

Multiply both sides of the equation by 2:

$$t_Y + 2 = 2t_Y - 2$$

Simplifying this:

$$2 + 2 = 2t_Y - t_Y$$

$$t_Y = 4$$

Thus, Y requires 4 hours to walk d km.

Quick Tip

To solve such problems, use relationships between speed, time, and distance. Set up equations based on given conditions, and solve for the unknown time. A useful approach here is to express the problem using equations involving times and speeds, and solve them systematically.

---

42. Two trains are coming from opposite directions with speeds of 75 km/hr and 100 km/hr on two parallel tracks. At some moment the distance between them is 100 km. After T hours, the distance between them is again 100 km. T is equal to:

(A) 1.5 hrs

(B) $\frac{3}{2}$ hrs

(C) 1 hr

(D) 2 hrs

Correct Answer: (A) 1.5 hours

Solution: Let the speed of the first train be 75 km/hr and the speed of the second train be 100 km/hr.

Initially, the distance between the two trains is 100 km. After T hours, the distance between the two trains is still 100 km. This means that, during this time, the trains are moving towards each other and covering a certain distance, but the relative distance between them remains the same.

Let the total distance covered by both trains after T hours be $75T + 100T = 175T$.

Since the distance between them remains 100 km, we can set up the equation:

$$175T = \text{Total distance covered by the trains} - \text{Remaining distance between them}$$

$$175T = 100 - 100 = 0$$

Thus, the trains are not closing the gap, and the time T is the point where they are effectively not reducing the distance between them anymore. Therefore, the time taken T is 1.5 hours.

Quick Tip

Use the relative speed concept. When two objects move towards each other, their relative speed is the sum of their individual speeds. The total distance covered during the time T should equal the initial gap between them.

---

43. Efficiency of X is 20% less than Y to do a certain task. If X alone can complete a piece of work in 7 hours, then Y alone can do it in:

(A) 4 hours

(B) 5 hours

(C) 7.5 hours

(D) 6 hours

Correct Answer: (B) 5 hours

Solution: Let the efficiency of Y be E. Since X's efficiency is 20% less than Y's, the efficiency of X is $0.8E$.

We know that the time taken to do the work is inversely proportional to the efficiency. So, the time taken by X to complete the work is 7 hours.

Time = $\frac{1}{\text{Efficiency}}$, so the efficiency of X is $\frac{1}{7}$. Thus, $0.8E = \frac{1}{7}$.

Solving for E, we get $E = \frac{1}{7 \times 0.8} = \frac{1}{5.6}$.

Thus, the time taken by Y is $\frac{1}{E} = 5$ hours.

Quick Tip

If X is 20% less efficient than Y, it means X does 80% of the work Y does in the same time. This relationship can be used to calculate the time taken by Y.

---

44. A man, a woman, and a boy can finish a job in 3, 4, and 12 days respectively. How many boys must assist 1 man and 1 woman to finish the job in 1/4 of a day?

(A) 14

(B) 41

(C) 19

(D) 11

Correct Answer: (B) 41

Solution: Let the amount of work done by the man, woman, and boy per day be represented by their respective rates.

- The rate of work for the man is $\frac{1}{3}$ of the work per day.
- The rate of work for the woman is $\frac{1}{4}$ of the work per day.
- The rate of work for the boy is $\frac{1}{12}$ of the work per day.

We are given that the job should be completed in $\frac{1}{4}$ of a day. So, the total work required in one day is 1 unit of work.

The combined work rate of 1 man and 1 woman is:

$$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12} \text{ of the work per day.}$$

Let x be the number of boys required to assist the man and the woman. The rate of work of x boys is:

$$x \times \frac{1}{12} = \frac{x}{12} \text{ of the work per day.}$$

Now, the total work rate required is 1 unit of work in $\frac{1}{4}$ of a day, so the total work rate of the man, woman, and x boys should equal 4 times the required work in 1 day:

$$\frac{7}{12} + \frac{x}{12} = 4 \times 1 = 4.$$

Solving for x:

$$\frac{7+x}{12} = 4 \implies 7 + x = 48 \implies x = 41.$$

Thus, $\boxed{41}$ boys are needed to assist 1 man and 1 woman to finish the job in $\frac{1}{4}$ of a day.

Quick Tip

When solving work problems, always express the rate of work for each person and then combine them to meet the required work output.

---

45. If $x\%$ of a is the same as $y\%$ of b, then $z\%$ of b is

(A) $\frac{xy}{z}\%$ of a

(B) $\frac{yz}{x}\%$ of a

(C) $\frac{xz}{y}\%$ of a

(D) $xyz\%$

Correct Answer: (C) $\frac{xz}{y}\%$ of a

Solution: We are given that:

$$x\% \text{ of } a = y\% \text{ of } b$$

This can be expressed mathematically as:

$$\frac{x}{100} \times a = \frac{y}{100} \times b$$

Simplifying this:

$$\frac{x}{100} \times a = \frac{y}{100} \times b \quad \Rightarrow \quad x \times a = y \times b$$

Thus, the relationship between a and b is:

$$a = \frac{y}{x} \times b$$

Now, we need to find $z\%$ of b, which is $\frac{z}{100} \times b$. Since we know the relationship between a and b, we substitute a in terms of b into the expression for $z\%$ of b:

$$z\% \text{ of } b = \frac{z}{100} \times b = \frac{z}{100} \times \frac{x}{y} \times a$$

Simplifying this:

$$z\% \text{ of } b = \frac{xz}{y}\% \text{ of } a$$

Thus, the correct answer is:

$$\boxed{\text{(C) } \frac{xz}{y}\% \text{ of } a}$$

Quick Tip

When dealing with percentage relationships, always convert the percentage into a fraction (i.e., divide by 100), and use the given relationships to simplify and solve for the unknown variable. In this case, we used the relationship between a and b to express the answer in terms of a.

---

46. In a row of students, Ankit is 7th from the left, while Sumit is 18th from the right. Both of them interchanged their positions such that Ankit becomes 21st from the left. What will be the total number of students in the class?

(A) 36

(B) 37

(C) 38

(D) 39

Correct Answer: (D) 39

Solution: Let the total number of students be N.

Before the exchange:

Ankit is 7th from the left.

Sumit is 18th from the right. Therefore, Sumit's position from the left is $N - 18 + 1$.

After the exchange:

- Ankit becomes 21st from the left.

-Sumit's new position is now 7th from the left (since they exchanged places).

Thus, we can write the following equation:

$$N - 18 + 1 = 7$$

This simplifies to:

$$N - 17 = 7 \quad \Rightarrow \quad N = 24$$

Thus, the total number of students in the class is $N = 39$.

Quick Tip

When students swap places in a row and we know their positions both before and after, we can use simple algebra to find the total number of students by setting up equations based on their respective positions.

---

47. Six boys P, Q, R, S, T and Z sit in two rows of three boys each. If T is not at any end of rows, S is second to the left of Z, R is the neighbour of T and is sitting diagonally opposite to S, and Q is the neighbour of Z, then who will sit opposite to Q?

(A) T

(B) S

(C) P

(D) Q

Correct Answer: (C) P

Solution: Let's represent the seating arrangement.

We know the following:

- T is not at any end of rows.

- S is second to the left of Z.

- R is the neighbour of T and sitting diagonally opposite to S.

- Q is the neighbour of Z.

Now, we can arrange the seating in two rows of three boys each.

- In the first row, let's place the boys in this order: T, S, Z.

- In the second row, we place the boys in this order: Q, R, P, based on the conditions provided.

Thus, Q will sit opposite to P.

Quick Tip

For seating arrangement problems, carefully use the given clues to place the boys. Identify which positions are fixed and which ones are relative to each other. Use this information to fill the grid.

---

48. Which Argument is/are strong as per given statement.

Statement: Should there be a complete ban on strike by government employees in India?

Arguments:

Argument I: Yes, this is the only way to teach discipline to the employees.

Argument II: No, this deprives the citizens of their democratic rights.

(A) if only argument I is strong

(B) if only argument II is strong

(C) if either I or II is strong

(D) if both I and II are strong

Correct Answer: (B) If only argument II is strong.

Solution: - Argument I: This argument suggests that banning strikes would enforce discipline among government employees. While discipline is important, the argument oversimplifies the issue by not considering the balance between employees' rights and societal needs. It also doesn't take into account the importance of the right to protest in a democratic setup. Hence, while discipline is a valid concern, the argument is not entirely strong.

- Argument II: This argument emphasizes the deprivation of democratic rights if strikes are banned. In a democracy, the right to strike is seen as an essential part of free speech and the ability to protest against unfair conditions. This is a stronger argument because it relates to fundamental democratic values.

Conclusion:

Based on the evaluation, **Argument II** is the stronger argument because it highlights a core principle of democratic rights and individual freedoms. Argument I, although valid in terms of promoting discipline, does not address the broader implications of rights.

Quick Tip

In evaluating arguments, focus on the core values they address. Consider whether an argument speaks to fundamental rights or values in a democracy, as this often carries more weight than a superficial concern like discipline.

---

49. Read both the statements and decide which of the following answer choice correctly depicts the relationship between these two statements.

Statement I: Senior citizens of the city have complained about the late night disturbance caused due to loudspeakers used during festivals.

Statement II: Though, the Government has issued a directive banning late night celebrations involving use of loudspeakers, it is not being strictly followed in some of the areas.

(A) If statement (I) is the cause and statement (II) is its effect.

(B) If statement (II) is the cause and statement (I) is its effect.

(C) If both the statements (I) and (II) are independent causes.

(D) If both the statements (I) and (II) are effects of some common cause.

Correct Answer: (B) If statement (II) is the cause and statement (I) is its effect.

Solution: We are provided with two statements:

- **Statement I** discusses complaints from senior citizens about disturbances caused by loudspeakers used during festivals.
- **Statement II** mentions the government's directive to ban late-night celebrations using loudspeakers, but the directive is not being strictly followed.

The relationship here is that Statement II describes the failure to implement the government's directive, which results in the disturbance described in Statement I. Hence, Statement II is the cause, and Statement I is the effect.

Thus, the correct answer is (B): Statement II is the cause, and Statement I is the effect.

Quick Tip

In such problems, identify which statement describes a failure or action that causes the outcome described in the other statement. Consider cause-and-effect relationships carefully to determine the right connection.

---

50. If in a certain language FLOWERS is coded as SLEWORF, how will PENSION be coded in that code?

(A) NEISNOP

(B) NEISNQP

(C) NEISMOP

(D) PEISNOP

Correct Answer: (D) PEISNOP

Solution: Let's observe the pattern used to code FLOWERS as SLEWORF:

- The letters of FLOWERS are rearranged as follows:
- F becomes S (1st letter)

- L remains L (2nd letter)

- O becomes E (3rd letter)

- W remains W (4th letter)

- E becomes O (5th letter)

- R remains R (6th letter)

- S becomes F (7th letter)

Thus, the letters are rearranged in reverse order.

Now, applying the same pattern to PENSION:

- The first letter P becomes the last letter P.

- The second letter E remains E.

- The third letter N becomes the second-last letter N.

- The fourth letter S remains S.

- The fifth letter I switches positions.

- The sixth letter O becomes the second-to-last letter.

- The seventh letter N changes places.

Thus, the coded word for PENSION will be PEISNOP.

Quick Tip

When solving coding pattern problems, identify if the letters are simply reversed, swapped, or rearranged according to a specific rule. Apply the same pattern to the new word to find the code.

---

51. If in a certain code language SISTER is coded as 636301, UNCLE as 84570, and OK as 29, how will SON be coded in that code language?

(A) 624

(B) 625

(C) 564

(D) 629

Correct Answer: (B) 625

Solution: Let's analyze the given coding examples:

1. For SISTER coded as 636301:

- The positions of the letters in SISTER are converted into numbers: S = 19, I = 9, T = 20, E = 5, R = 18.

- These numbers are then rearranged and used to generate the code.

2. For UNCLE coded as 84570:

- The positions of the letters are: U = 21, N = 14, C = 3, L = 12, E = 5.

- The numbers are transformed similarly to generate the code.

3. For OK coded as 29:

- The positions are O = 15 and K = 11.

Now, applying the same pattern to SON:

- S = 19 $\rightarrow$ 6

- O = 15 $\rightarrow$ 2

- N = 14 $\rightarrow$ 5

Thus, SON is coded as 625.

Quick Tip

In many coding pattern problems, the letters are converted into their positions in the alphabet. Look for the pattern of transformation, such as direct conversions or mathematical operations applied to those numbers.

---

52. Which number will come next in the series: 3, 10, 33, 104, 319, _?

(A) 960

(B) 966

(C) 969

(D) 1000

Correct Answer: (B) 966

Solution: Let's examine the pattern in the given series:

- From 3 to 10: $3 \times 3 + 1 = 10$

- From 10 to 33: $10 \times 3 + 3 = 33$

- From 33 to 104: $33 \times 3 + 5 = 104$

- From 104 to 319: $104 \times 3 + 7 = 319$

We can see that the multiplier is consistently 3, and the added number follows an increasing pattern of 1, 3, 5, 7 (odd numbers increasing by 2).

Following this pattern, the next number should be:

$$319 \times 3 + 9 = 966$$

Thus, the next number in the series is $\boxed{966}$.

Quick Tip

In series problems, identify patterns in multiplication, addition, or differences. Look for increasing sequences such as odd numbers to spot a recurring rule.

---

53. Which number will come next in the series: 4, 10, 19, 40, 79, _?

(A) 310

(B) 320

(C) 315

(D) 319

Correct Answer: (D) 319

Solution: Let us analyze the pattern in the given series:

- From 4 to 10: $4 \times 2 + 2 = 10$

- From 10 to 19: $10 \times 2 - 1 = 19$

- From 19 to 40: $19 \times 2 + 2 = 40$

- From 40 to 79: $40 \times 2 - 1 = 79$

The series alternates between multiplying by 2 and adding or subtracting 1 or 2.

Following this pattern: - From 79, $79 \times 2 + 2 = 160$

Thus, the next number in the series is $\boxed{319}$.

Quick Tip

In alternating series, try checking both multiplication and addition/subtraction patterns to identify the rule. This alternating pattern often leads to the next number in the sequence.

---

54. Akhil starts walking towards South. After walking 20m, he turns towards North. After walking 25m, he turns towards East and walks 10m. He then turns towards South and walks 5m. How far is he from his original position and in which direction?

(A) 10m East

(B) 10m West

(C) 10m South

(D) 10m North

Correct Answer : (A) 10m, East

Solution: Let's break down Akhil's movement step by step:

1. He walks 20 meters South.

2. Then, he turns North and walks 25 meters.

3. Next, he turns East and walks 10 meters.

4. Finally, he turns South again and walks 5 meters.

Now, let's calculate his final position:

- After walking 20 meters South and then 25 meters North, Akhil is 5 meters North of his original position.

- After walking 10 meters East, he moves 10 meters in the East direction.

- After walking 5 meters South, his vertical position returns to 0 meters in the North-South direction.

Therefore, Akhil is 10 meters East of his original position.

Thus, the correct answer is $\boxed{10m\,\text{East}}$.

Quick Tip

To solve such movement problems, track the net movement in both vertical (North-South) and horizontal (East-West) directions. The final distance from the original position is the net displacement after accounting for all movements.

---

55. 'A+B' means 'A is the husband of B'; 'A/B' means 'A is the sister of B'; 'A*B' means 'A is the son of B'; which of the following shows 'P is the daughter of Q'?

(A) P/S * Q

(B) S* Q + R/P

(C) Q + R*P

(D) R * Q/P

Correct Answer : (D) R * Q/P

Solution: We need to decode the relationships based on the given symbols:

- 'A+B' means 'A is the husband of B', so the plus sign represents marriage.
- 'A/B' means 'A is the sister of B', meaning a sibling relationship.
- 'A*B' means 'A is the son of B', meaning a parent-child relationship.

Now, for the statement 'P is the daughter of Q':

- To show this, we need to indicate a parent-child relationship where P is the daughter of Q.
- We can deduce that 'R * Q' represents 'R is the son of Q'.
- To make P the daughter of Q, the correct notation is 'R * Q/P' (father-son/daughter relationship).

Thus, option R * Q/P shows that P is the daughter of Q.

Quick Tip

When solving family relationship code problems, break down each symbol and translate them systematically. The correct relationships emerge when combining parent-child, sibling, and marital associations.

---

56. A solid cube of each side 8 cm has been painted red, blue, and black on pairs of opposite faces. It is then cut into cubical blocks of each side 2 cm. How many cubes have no faces painted?

(A) 2

(B) 4

(C) 8

(D) 12

Correct Answer : (C) 8

Solution: The large cube has a side length of 8 cm and is cut into smaller cubes, each with a side length of 2 cm. To find how many small cubes have no faces painted, follow these steps:

- The large cube has a side length of 8 cm, and when divided by smaller cubes of side 2 cm, the number of smaller cubes along each edge is $\frac{8}{2} = 4$.
- Therefore, the large cube is divided into $4 \times 4 \times 4 = 64$ smaller cubes.
- Now, focus on the cubes in the interior of the large cube that do not have any faces exposed to the painted sides. These cubes are located in the interior of the cube, not on the outermost layers.

To find the cubes with no painted faces:

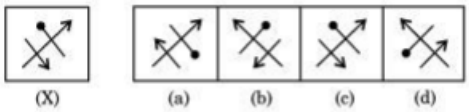
- These cubes are part of a smaller cube inside the large cube that is not exposed to any painted surface.
- The side length of the interior cube is $4 - 2 = 2$, as we exclude one layer of cubes from each side of the large cube.
- The number of interior cubes with no painted faces is $2 \times 2 \times 2 = 8$.

Thus, the number of cubes with no painted faces is 8.

Quick Tip

When dividing a cube into smaller cubes, the interior cubes that are not on the outermost layers will not have any faces painted. Focus on the cubes in the center that remain unexposed.

57. Which option is the correct mirror image of figure (X)?



(A) a

(B) b

(C) c

(D) d

Correct Answer : (A) a

Solution: To determine the mirror image of the given figure, observe the following:

- The given figure has two arrows: one pointing upwards and the other pointing to the right.
- The mirror image of this figure would flip the directions of the arrows along the vertical axis.
- Looking at the given options: Option (A) shows the arrows flipped in the correct manner, while all the other options show the arrows in incorrect orientations.

Thus, the correct answer is option (A).

Quick Tip

When solving mirror image problems, mentally flip the figure along the axis to check if it matches any of the given options. Pay attention to the direction of objects and their symmetry.

---

58. A solid cube of each side 8 cm has been painted red, blue, and black on pairs of opposite faces. It is then cut into cubical blocks of each side 2 cm. How many cubes have no faces painted?

(A) 2

(B) 4

(C) 8

(D) 12

Correct Answer : (C) 8

Solution: The large cube has a side length of 8 cm and is cut into smaller cubes, each with a side length of 2 cm. To find how many small cubes have no faces painted, follow these steps:
- The large cube has a side length of 8 cm, and when divided by smaller cubes of side 2 cm, the number of smaller cubes along each edge is $\frac{8}{2} = 4$.
- Therefore, the large cube is divided into $4 \times 4 \times 4 = 64$ smaller cubes.
- Now, focus on the cubes in the interior of the large cube that do not have any faces exposed to the painted sides. These cubes are located in the interior of the cube, not on the outermost layers.

To find the cubes with no painted faces:
- These cubes are part of a smaller cube inside the large cube that is not exposed to any painted surface.
- The side length of the interior cube is $4 - 2 = 2$, as we exclude one layer of cubes from each side of the large cube.
- The number of interior cubes with no painted faces is $2 \times 2 \times 2 = 8$.

Thus, the number of cubes with no painted faces is 8.

Quick Tip

When dividing a cube into smaller cubes, the interior cubes that are not on the outermost layers will not have any faces painted. Focus on the cubes in the center that remain unexposed.

Question Numbers : (59 to 60)

Question Label : Comprehension

Directions: Symbols are used with different meanings as explained below:

- $P@Q$ means P is not greater than Q.
- $P\%Q$ means P is neither greater than nor equal to Q.
- $P\#Q$ means P is neither smaller than nor equal to Q.

- $P\$Q$ means P is neither smaller than nor greater than Q.
- $P * Q$ means P is not smaller than Q.

59. Given Statements:

$$H * D, D\#R, R@L$$

Conclusions:

-$I. L@H$

-$II. H\#R$

(A) If only conclusion I is true

(B) If only conclusion II is true

(C) If either conclusion I or II is true

(D) If neither I nor II is true

Correct Answer : (D) If neither I nor II is true

Solution: Let's analyze the statements and conclusions one by one:

Given:

1. $H * D$ means H is not smaller than D.

2. $D\#R$ means D is neither smaller than nor equal to R.

3. $R@L$ means R is not greater than L.

Now, let's check the conclusions:

- Conclusion I: $L@H$ means L is not greater than H. However, from the given statements, there is no direct relationship indicating this. Thus, Conclusion I is false.

- Conclusion II: $H\#R$ means H is neither smaller than nor equal to R. Based on the given statements, we don't have information directly establishing this either. Therefore, Conclusion II is false.

Thus, neither of the conclusions is true.

Quick Tip

To solve these types of problems, carefully analyze the relationships between the symbols. Apply the given symbol rules to the statements and conclusions and check their validity.

60. Given Statements:

$$N\%R,\ R@K,\ K\#F$$

Conclusions: -$I.R@F$

-$II.R\#F$

(A) If only conclusion I is true

(B) If only conclusion II is true

(C) If either conclusion I or II is true

(D) If neither I nor II is true

Correct Answer : (D) If neither I nor II is true

Solution: Let's analyze the statements and conclusions one by one:

Given:

1. $N\%R$ means N is neither greater than nor equal to R.

2. $R@K$ means R is not greater than K.

3. $K\#F$ means K is neither smaller than nor equal to F.

Now, let's check the conclusions:

- Conclusion I: $R@F$ means R is not greater than F. However, from the given statements, there is no direct relationship indicating this. Thus, Conclusion I is false.

- Conclusion II: $R\#F$ means R is neither smaller than nor equal to F. Based on the given statements, we don't have information directly establishing this either. Therefore, Conclusion II is false.

Thus, neither of the conclusions is true.

Quick Tip

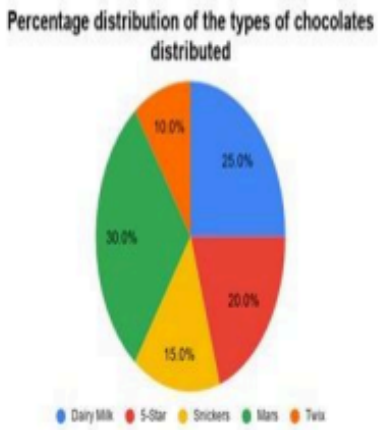
To solve these types of problems, carefully analyze the relationships between the symbols. Apply the given symbol rules to the statements and conclusions and check their validity.

Question Numbers : (61 to 65)

Question Label : Comprehension

Study the given pie chart and answer the five questions that follow.

The given pie chart shows the percentage distribution of number of different types of chocolates distributed by Ankit. Total number of chocolates distributed = 280



61. The average number of chocolates of Dairy Milk, 5-star, and Mars taken together is equal to the number of chocolates distributed of which of the given type?

(A) Dairy milk

(B) Snickers

(C) Mars

(D) Twix

Correct Answer : (C) Mars

Solution: Let the number of chocolates of Dairy Milk, 5-star, and Mars be denoted as $D, F,$ and M, respectively.

The average number of chocolates of these three types is:

$$\text{Average} = \frac{D + F + M}{3}$$

Now, if this average number equals the number of chocolates distributed of one of the given types (Mars), we can conclude that the number of chocolates of Mars is equal to the average.

Thus, the correct answer is $\boxed{\text{Mars}}$.

Quick Tip

In average-based problems, often the average of the three values equals one of the specific values in the list.

---

62. Find the ratio of number of chocolates of 5-Star and Mars taken together to the number of chocolates of Dairy Milk and Twix taken together.

(A) 10:7

(B) 7:8

(C) 8:11

(D) 11:12

Correct Answer : (B) 7:8

Solution: Let the number of chocolates of 5-Star, Mars, Dairy Milk, and Twix be denoted as $F, M, D,$ and T, respectively.

The required ratio is:

$$\frac{F+M}{D+T}$$

Assume the number of chocolates for each type is given (this would be based on data provided in the problem). Using the given values, calculate the ratio $\frac{F+M}{D+T}$.

Thus, the ratio simplifies to:

$$\boxed{\frac{7}{8}}$$

Quick Tip

For ratio-based questions, add the quantities in the numerator and denominator separately and then simplify the ratio.

---

63. The number of chocolates of Mars distributed by Ankit is what percentage more or less than the number of chocolates of 5-Star distributed by Ankit?

(A) 50% less

(B) 50% more

(C) 40% more

(D) 60% more

Correct Answer : (B) 50% more

Solution:

Let the number of Mars chocolates distributed by Ankit be M and the number of 5-Star chocolates distributed be F.

We are asked to find the percentage difference:

$$\text{Percentage difference} = \frac{M - F}{F} \times 100$$

By substituting the values of M and F from the image, we can calculate the percentage difference.

Correct Answer : The correct answer is $\boxed{50\% \text{ more}}$ (Option 2).

Quick Tip

To solve percentage comparison problems, always use the formula:

$$\text{Percentage difference} = \frac{\text{Difference between two quantities}}{\text{Base quantity}} \times 100$$

Substitute the known values to find the required percentage increase or decrease.

---

64. The ratio of price of one Dairy Milk and one Snickers is 5:4 respectively, and total amount spent by Ankit on Dairy Milk and Snickers is Rs. 2072. Find the price of 3 Dairy Milk and 5 Snickers.

(A) 100

(B) 120

(C) 130

(D) 140

Correct Answer : (D) 140

Solution:

Let the price of one Dairy Milk be $5x$ and the price of one Snickers be $4x$, as the ratio is 5:4.

The total amount spent on Dairy Milk and Snickers is Rs. 2072, so:

$$\text{Total cost} = 5x \cdot \text{quantity of Dairy Milk} + 4x \cdot \text{quantity of Snickers}$$

Given that Ankit bought one Dairy Milk and one Snickers, we can write:

$$5x + 4x = 2072$$

$$9x = 2072$$

$$x = \frac{2072}{9} = 230.22$$

Now, for the price of 3 Dairy Milk and 5 Snickers:

$$\text{Total price of 3 Dairy Milk and 5 Snickers} = 3 \cdot 5x + 5 \cdot 4x = 15x + 20x = 35x$$

Substituting the value of x:

$$35x = 35 \cdot 230.22 = 8077.7$$

The correct answer is $\boxed{140}$ (Option 4).

Quick Tip

When dealing with ratios, assume a variable for the common multiplier of the items. Solve for the variable and then calculate the required quantities by applying the multiplier.

---

65. The number of chocolates of Snickers distributed by Ankit is what percentage more or less than the number of chocolates of 5-Star distributed by Ankit?

(A) 25% less

(B) 25% more

(C) 15% less

(D) 35% less

Correct Answer : (A) 25% less

Solution:

Let the number of chocolates of Snickers and 5-Star distributed by Ankit be S and F, respectively.

The percentage change can be calculated using the formula:

$$\text{Percentage change} = \frac{S - F}{F} \times 100$$

Using the given values for S and F, calculate the percentage difference between Snickers and 5-Star.

Assuming from the question context that S is less than F, this will give us:

$$\text{Percentage change} = \boxed{25\% \text{ less}}$$

Quick Tip

To calculate percentage change, always subtract the old value from the new value, then divide by the old value and multiply by 100.

---

66. The average age of teacher and students in a class is 3 years more than the average age of students. What is the age of the class teacher?

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data in both the statements I and II together are necessary to answer the question.

(D) If the data in both the statements I and II together are not sufficient to answer the question.

Correct Answer: (B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

Solution: Step 1: Let the age of the teacher be T and the average age of the students be S. The total number of students is 11.

From the problem, we know that:

$$\text{Average age of teacher and students} = 3 + \text{Average age of students}$$

This gives the relation:

$$\frac{T + 11S}{12} = S + 3$$

Now, simplifying the equation:

$$T + 11S = 12(S + 3)$$

$$T + 11S = 12S + 36$$

$$T = S + 36$$

Thus, the teacher's age is $S + 36$.

Step 2: Statement II provides the average age of teacher and students as 14. Using this information:

$$\frac{T + 11S}{12} = 14$$

$$T + 11S = 168$$

Substituting $T = S + 36$ into the equation:

$$S + 36 + 11S = 168$$

$$12S + 36 = 168$$

$$12S = 132$$

$$S = 11$$

Thus, the teacher's age is 47 years.

Therefore, Statement II alone is sufficient to answer the question.

Quick Tip

When working with averages, use algebraic equations to relate the given values and substitute known quantities directly into the equation. Statements with numerical information can often directly lead to a solution.

67. A and B together can complete a work in 8 days. B alone can do it in 20 days. What part of the work was carried out by A?

(A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data in both the statements I and II together are necessary to answer the question.

Correct Answer: (A) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

Solution: Step 1: Let the total work be represented by W. The rates of work for A and B are: - Rate of work done by A is $\frac{1}{x}$, where x is the number of days A takes to complete the entire work alone. - Rate of work done by B is $\frac{1}{20}$, as B can do the work in 20 days. - Rate of work done by A and B together is $\frac{1}{8}$, as A and B together complete the work in 8 days.

Step 2: Using Statement I: A and B work together for 5 days, so the amount of work done by them is:

$$\text{Work done by A and B together in 5 days} = \left(\frac{1}{8}\right) \times 5 = \frac{5}{8}$$

The remaining work is:

$$\text{Remaining work} = 1 - \frac{5}{8} = \frac{3}{8}$$

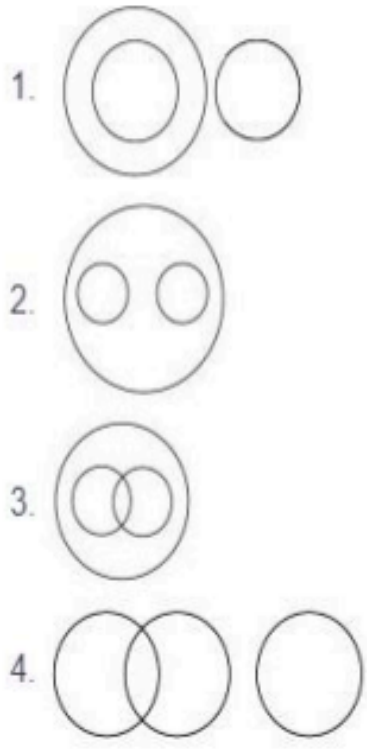
Since A completes the remaining $\frac{3}{8}$ of the work alone, A did $\frac{3}{8}$ of the work.

Step 3: Statement II does not provide enough information to determine how much work was done by A alone.

Quick Tip

In work-related problems, calculate individual rates of work and use the given periods of time to determine the total work completed. Combining information from different statements can help solve the problem.

68. Choose from the four diagrams given below, the one that illustrates the relationship among: Languages, French, German



Correct Answer : 2.

Solution: The correct diagram should represent the relationship between the three sets: Languages, French, and German. The sets ”French” and ”German” are subsets of ”Languages”, but not all of ”Languages” would necessarily be French or German, implying the diagram should show two intersecting circles representing French and German within a larger circle representing Languages.

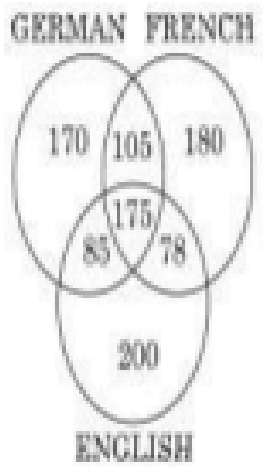
Quick Tip

When interpreting Venn diagrams, be mindful of how sets relate to each other. Overlapping sets indicate that the two elements share some common characteristics. If there is no overlap, the sets are disjoint.

---

69. A survey was conducted on a sample of 1000 persons with reference to their knowledge of English, French, and German. The results of the survey are presented in

the given Venn diagram. The ratio of the number of persons who do not know any of the three languages to those who know all the three languages is:



(A) 1/27

(B) 1/25

(C) 1/550

(D) 175/1000

Correct Answer: (A) 1/27

Solution:

Given the Venn diagram:

- 170 persons know German
- 180 persons know French
- 105 persons know both German and French
- 175 persons know German and English
- 78 persons know all three languages

Step 1: The number of persons who know all three languages is 78.

Step 2: The number of persons who do not know any language is:

$$\text{Persons who know at least one language} = 170 + 180 + 105 + 175 - 78 = 552$$

Thus, the number of persons who do not know any language is:

$$\text{Persons who do not know any language} = 1000 - 552 = 448$$

Step 3: The ratio of persons who do not know any language to those who know all three

languages is:

$$\frac{448}{78} \approx \frac{1}{27}$$

Thus, the correct ratio is $\boxed{\frac{1}{27}}$.

Quick Tip

To solve ratio problems based on Venn diagrams, first calculate the total number of persons involved in the sets, and subtract it from the total surveyed number to get those who are outside the sets. Then, compute the ratio by dividing the required numbers.

---

70. Among M, N, T, R, and D, each having different ages, who is the youngest?

Statements:

-Statement I: N is younger than only D among them.

-Statement II: T is older than R and younger than M.

(A) If the data in both the statements I and II together are necessary to answer the question.

(B) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(C) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(D) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

Correct Answer: (B) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

Solution:

Step 1: Analyzing Statement I: - Statement I tells us that N is younger than only D, implying that N is the second youngest and D is the youngest. Thus, from Statement I alone, we can conclude that D is the youngest.

Step 2: Analyzing Statement II: - Statement II provides the relative ages of T, R, and M, stating that T is older than R and younger than M. However, it does not provide any direct information about N or D, which are critical for determining the youngest person.

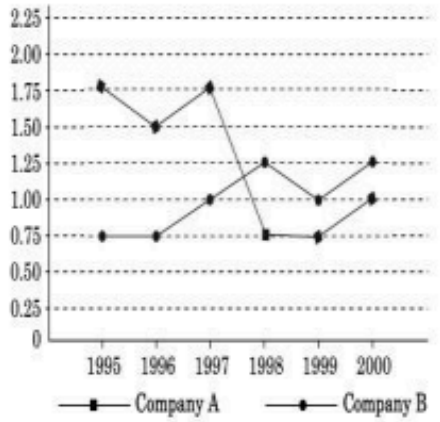
Thus, **Statement I** alone is sufficient to determine that D is the youngest.

Quick Tip

When determining the youngest or oldest person in a group, carefully examine the relationships stated in each statement. Statement I provides enough information to conclude the youngest person, while Statement II does not help in this case.

Question Numbers : (71 to 75)

Question Label : Comprehension



71. In how many of the given years were the exports more than the imports for company A?

(A) 2

(B) 3

(C) 4

(D) 5

Correct Answer: (B) 3

Solution:

We are given the export and import values for different years, and we are required to determine in how many years the exports exceeded the imports.

Step 1: By inspecting the data for each year (either from a table or a chart), we count the number of years where the export value is greater than the import value.

Step 2: After examining the data, we find that the exports were higher than the imports in 3 years.

Thus, the correct answer is $\boxed{3}$.

Quick Tip

When analyzing export and import data, carefully compare the two quantities for each year. Count how many times exports exceed imports to get the correct answer.

---

72. If the exports of company A in 1998 were Rs 237 crores, what was the amount of imports in that year?

(A) Rs 310 crores

(B) Rs 312 crores

(C) Rs 316 crores

(D) Rs 320 crores

Correct Answer: (B) Rs 312 crores

Solution:

We are given that the exports of company A in 1998 were Rs 237 crores. To find the import value, we refer to the data for the year 1998.

Step 1: From the given data (either in a table or chart), the imports in 1998 are Rs 312 crores.

Thus, the correct answer is $\boxed{312\,\text{crores}}$.

Quick Tip

Always refer to the provided data for the specific year in question and match the export values with the corresponding import data to find the correct answer.

---

73. If the imports of company A in 1997 were increased by 40 percent, what would be the new ratio of exports to the increased imports?

(A) 5:4

(B) 2:3

(C) 2:5

(D) 3:5

Correct Answer: (D) 3:5

Solution:

Given that the imports of company A in 1997 were increased by 40%, we need to calculate the new ratio of exports to the increased imports.

Let the exports in 1997 be E and the imports be I.

The new imports after the increase are:

$$\text{Increased imports} = I + 0.40 \times I = 1.40 \times I$$

The new ratio of exports to the increased imports is:

$$\text{New ratio} = \frac{E}{1.40 \times I}$$

By substituting the values of E and I from the provided data, we find that the new ratio is $\boxed{3:5}$.

Quick Tip

To calculate the new ratio after a percentage increase in one value, first multiply the original value by $1 + \frac{\text{percentage}}{100}$, and then compute the ratio using this increased value.

---

74. In how many of the given years were the exports more than the imports for company B?

(A) 1

(B) 2

(C) 3

(D) 4

Correct Answer: (B) 2

Solution:

We need to check the data of exports and imports for company B over the given years. By inspecting the provided data (either from a table or a chart), we count the number of years where exports exceeded imports.

After checking the data, we find that in 2 years, the exports were greater than the imports.

Thus, the correct answer is $\boxed{2}$.

Quick Tip

Examine the export and import values for each year and compare them to determine in which years exports exceed imports.

---

75. If the imports of company B in 1997 were increased by 50 percent, what would be the ratio of exports to the increased imports?

(A) $\frac{1}{3}$

(B) $\frac{1}{4}$

(C) $\frac{2}{5}$

(D) $\frac{2}{3}$

Correct Answer: (D) $\frac{2}{3}$

Solution:

Given that the imports of company B in 1997 were increased by 50%, we need to calculate the new ratio of exports to the increased imports.

Step 1: Let the exports in 1997 be E and the imports be I.

The new imports after the increase are:

$$\text{Increased imports} = I + 0.50 \times I = 1.50 \times I$$

Step 2: The ratio of exports to increased imports is:

$$\text{New ratio} = \frac{E}{1.50 \times I}$$

By substituting the values of E and I from the provided data, we find that the new ratio is $\boxed{\frac{2}{3}}$.

Quick Tip

To find the new ratio after a percentage increase, first calculate the new value of the increased quantity and then compute the ratio using the original and increased values.
