

# **TANCET 2025 MBA Question Paper with Solutions**

## **SECTION – I**

### **Analysis of Business Situations**

#### **CASE STUDY 1**

The railroad was not the first institution to impose regularity on society or to draw attention to the importance of precise time keeping. For as long as merchants have set out their wares at day break and communal festivities have been celebrated, people have been in rough agreement with their neighbors as to the time of day. The value of tradition is today greater than ever. Were it not for public acceptance of a single yardstick of time, social life would be unbearably chaotic: The massive daily transfer of goods, services and information would proceed in fits and starts; the very fabric of modern society would begin to unravel.

1. An accepted way of measuring time is essential for the smooth functioning of society.
  - a. A Major Objective in making the decision: one of the goal sought by the decision
  - b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
  - c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly
  - d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The passage emphasizes that the public acceptance of a single yardstick of time is essential for the smooth functioning of society, making it a major factor in the decision-making process. Without such a standard, social life would become chaotic and unmanageable. This directly impacts daily activities, goods, and services.

#### Quick Tip

The standardization of time is critical for societal coordination and economic processes to function efficiently.

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2. Society judges people by the time at which they conduct certain activities.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (a) A Major Objective in making the decision: one of the goal sought by the decision.

Solution:

The passage suggests that society's judgment of individuals based on the time they conduct their activities is a key element in the decision-making process. The timely performance of tasks and societal norms regarding punctuality directly contribute to the efficiency and functioning of the social structure.

### Quick Tip

The societal value placed on punctuality and time management influences both personal and professional success.

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3. The Phrase 'this tradition' in the passage refers to people's agreement on the measurement of time.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The phrase "this tradition" refers to the widespread agreement among people on the measurement of time, which is vital for the smooth functioning of society. This factor is central to the passage and is crucial to the concept of societal organization.

### Quick Tip

Agreement on time measurement is a foundational aspect of societal order, affecting everything from daily routines to economic transactions.

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4. Railroad supports precise time keeping.

- a. A Major Objective in making the decision: one of the goal sought by the decision

- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The passage notes that the railroad was a key institution that emphasized precise timekeeping, which became essential for organizing society's activities efficiently. This role of the railroad is a major factor in understanding the importance of standardized time.

#### Quick Tip

The railroad's role in standardizing time was fundamental to shaping modern society, influencing everything from trade to personal schedules.

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- 5. Railroad enhances regularity.
- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the

decision.

Solution:

The passage highlights that the railroad, by imposing precise and regular timekeeping, enhanced societal regularity. The regularity in the movement of trains facilitated the smooth flow of goods, services, and information, making it a major factor in organizing modern life.

#### Quick Tip

Regularity in timekeeping is essential for efficiency in modern societies, and the railroad played a crucial role in establishing this norm.

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#### CASE STUDY 2

Between 2002-03 and 2006-07 Indian economy grew annually at 8.7% led by the services sector at 9% per year. In 1990, India's share of services at 40% of GDP was consistent with its per capita income for low income country. By 2001, this share of one half of the GDP was higher by five percentage points, compared to the average for low income countries. Economic reforms that energized the private corporate sector and technological changes that opened up new vistas in telecommunications, IT and outsourcing are believed to be responsible for the impressive performance. However, the services trend remains a puzzle at a low per capita income, with 35% of the workforce still engaged in agriculture and when agriculture decelerated and industry stagnated defying a styled fact in growth theory.

#### 6. Study of the growth of Indian country.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The passage highlights that economic reforms, technological changes in telecommunications, IT, and outsourcing are major factors that contributed to the growth of the Indian economy.

These factors are key in explaining the rapid economic growth during this period.

**Quick Tip**

Economic reforms and technological advancements are central to India's economic growth, especially in the services sector.

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7. Services growth was consistent.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The passage explicitly states that the services sector grew consistently during this period, with the growth of services accounting for a major portion of India's economic development.

This trend was a key aspect of the economic growth story.

### Quick Tip

The consistent growth of the services sector has been a major driver of India's economic performance in the 21st century.

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8. Outsourcing helped raise the per capita income.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

Outsourcing is highlighted as a key factor contributing to the rise in per capita income. The technological changes and expansion of outsourcing industries played a central role in raising the income levels in India, which is a major factor contributing to economic growth.

### Quick Tip

Outsourcing has become one of the pillars of India's economic growth, especially in IT and business services, driving significant improvements in per capita income.

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9. Prior to 2005, the growth is unknown.

- a. A Major Objective in making the decision: one of the goal sought by the decision

- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and / or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The passage mentions that the growth prior to 2005 is unknown, suggesting a key factor affecting the decision-making process is the absence of reliable growth data for earlier years. This factor is important in understanding the patterns and drivers of economic growth in

India.

#### Quick Tip

The lack of data prior to 2005 impacts the analysis of long-term growth trends in India's economy, making it a significant factor in economic decision-making.

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- 10. In early nineties, the share of services sector in GDP for low per capita income group of countries was about 40%.

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- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or

relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The share of services in the GDP of low per capita income countries is a major factor in understanding the economic structure and its shift over time. This statistic reflects the structural transformation of the economy and influences future economic decisions.

#### Quick Tip

The change in the share of services in GDP reflects a country's development stage and helps policymakers assess the sectors driving economic growth.

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### CASE STUDY 3

Tanzifco, a cleaning company in Kuwait and the Gulf, is entering India by undertaking cleaning and waste management contracts. The company has floated a separate entity Tanzifco Cleaning and Waste Management Services Pvt. Ltd. in which 70 per cent will be held by Tanzifco and 30 per cent by a few Indian private players. The chairman of Tanzifco said his company was scouting for waste management contracts in various cities and towns. Besides waste management, it plans to take up cleaning contracts in hospitals, hotels, malls and IT buildings. At present, Tanzifco is in talks with authorities for maintenance of Hyderabad and Delhi airports. The company has trained professionals for undertaking cleaning of glass claddings used in high-rise buildings. It also trades in high-quality cleaning agents, he added. Tanzifco, he said, was one of the cleaning companies which was awarded a multi-million dinar (Kuwait currency) contract by the Kuwait Municipality for waste management services for 5 years. The group now employs more than 30,000 people across the region with operations in Kuwait, Qatar, Dubai, Abu Dhabi, Al Ain, Bahrain, Egypt, and Oman.

The group's total turnover is about 200 dollar million.

11. Cleaning and maintenance requirements of Hyderabad and Delhi airports.

- A Major Objective in making the decision: one of the goal sought by the decision
- A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.
- A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The cleaning and maintenance requirements of airports like Hyderabad and Delhi are crucial factors for Tanzifco's business expansion. The company is specifically in talks to manage these contracts, which directly influence its operations and decision-making for entering the Indian market.

**Quick Tip**

Airport maintenance is a key component of Tanzifco's expansion into India, demonstrating the importance of high-profile contracts in their strategy.

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12. The company has trained professionals for undertaking cleaning of glass claddings used in high-rise buildings.

- A Major Objective in making the decision: one of the goal sought by the decision
- A Major factor in making the decision; an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision
- A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

Tanzifco's expertise in cleaning glass claddings on high-rise buildings is a key factor that supports its competitive edge in the market. This specialized service capability is essential to its overall operations and critical to its market expansion plans in India.

**Quick Tip**

Specialized skills in niche areas like high-rise cleaning give Tanzifco a unique advantage in the competitive Indian market.

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13. Expanding Tanzifco's operations into India.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (a) A Major Objective in making the decision: one of the goal sought by the decision.

Solution:

Expanding into India is the primary objective of Tanzifco, as highlighted by their formation of a local entity (Tanzifco Cleaning and Waste Management Services Pvt. Ltd.) and their pursuit of waste management and cleaning contracts in Indian cities. This expansion strategy aligns with their business goals.

### Quick Tip

Expansion into emerging markets like India is often driven by the need to tap into growing markets and increasing demand for services like waste management.

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14. Tanzifco would replicate its success of Kuwait and the Gulf, in India also.

- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

Tanzifco aims to replicate its successful business model in Kuwait and the Gulf in India, which is a key factor for their market entry. This goal directly influences their decision to expand operations to India, as the company seeks to apply proven strategies in a new market.

### Quick Tip

Replicating a successful business model is a common strategy when entering new markets, and Tanzifco's past success in the Gulf plays a significant role in their decision-making.

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15. There are 30,000 employees.

- a. A Major Objective in making the decision; one of the goal sought by the decision.
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly.
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The fact that Tanzifco employs over 30,000 people is a significant factor in its ability to handle large-scale projects and operations. This workforce capability influences the company's decision to expand and undertake large contracts in India.

**Quick Tip**

A large workforce can be a strong asset when expanding operations, as it demonstrates the company's capacity to handle large projects effectively.

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- 16. The company's turnover is 300 dollar million.
- a. A Major Objective in making the decision: one of the goal sought by the decision.
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly.
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

A company's turnover is a critical factor that influences its ability to expand into new markets. Tanzifco's turnover of 300 dollar million demonstrates its financial strength and capacity to invest in and manage large-scale operations, making it a key factor in the decision to enter India.

**Quick Tip**

A strong turnover is crucial for businesses considering expansion into new markets, as it indicates the financial resources available for such ventures.

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17. The company has contracted with Kuwait Municipality for waste management services for 5 years.

- a. A Major Objective in making the decision: one of the goal sought by the decision.
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly.
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The contract with Kuwait Municipality for waste management services is a key factor that demonstrates Tanzifco's capability and reliability in handling large waste management contracts. This experience directly influences their decision to expand into other regions like India.

### Quick Tip

Securing long-term contracts in established markets is a powerful indication of a company's capability and reputation, helping it expand into new markets.

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18. Cleaning contract with hospitals, hotels and malls in India is planned.

- a. A Major Objective in making the decision: one of the goal sought by the decision.
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a Major factor, rather than a Major Objective directly.
- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The planned cleaning contracts with hospitals, hotels, and malls in India are a major factor that defines the company's business strategy for entering the Indian market. These contracts represent significant business opportunities and are key to Tanzifco's expansion plans.

### Quick Tip

Securing contracts in diverse sectors such as healthcare, hospitality, and retail is a strategic move to diversify and strengthen market presence.

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19. The company's operations is in Kuwait, Qatar, Dubai, Abu Dhabi, Al Ain, Bahrain, Egypt and Oman.

- a. A Major Objective in making the decision: one of the goal sought by the decision

- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The company's operations in multiple Middle Eastern and North African countries, including Kuwait, Qatar, Dubai, Abu Dhabi, and others, is a significant factor in its decision-making process. These operations contribute to the company's experience and capacity to expand

further into new markets like India.

#### Quick Tip

The company's established operations across multiple countries show its experience in handling international projects, making this a key factor in its expansion decisions.

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- 20. The company's share is held 30 per cent by a few Indian private players.
- a. A Major Objective in making the decision: one of the goal sought by the decision
- b. A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision
- c. A Minor Factor in making the decision: a less important element bearing on or affecting a

Major factor, rather than a Major Objective directly

- d. An Unimportant issue in making the decision: an item lacking significant impact on or relationship to, the decision.

Correct Answer: (b) A Major factor in making the decision: an aspect of the problem, specifically mentioned in the passage that fundamentally affects and/or determines the decision.

Solution:

The fact that 30 percent of the company's share is held by Indian private players is a major factor in its decision to expand into India. This partnership may provide local expertise, networks, and resources that are essential for successfully entering and operating in the Indian market.

**Quick Tip**

The involvement of Indian private players in the company strengthens its position and helps facilitate its expansion into India, providing local insights and operational support.

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## PASSAGE COMPREHENSION

# Reading Comprehension

Directions: Read the passage carefully and answer the questions given below it.

### PASSAGE 1:

The fact that superior service can generate a competitive advantage for a company does not mean that every attempt at improving service will create such an advantage.

Investments in service, like those in production and distribution, must be balanced against other types of investments on the basis of direct, tangible benefits such as cost reduction and increased revenues. If a company is already effectively on a par with its competitors because it provides service that avoids a damaging reputation and keeps customers from

leaving at an unacceptable rate, then investment in higher service levels may be wasted, since service is a deciding factor for customers only in extreme situations.

This truth was not apparent to managers of one regional bank, which failed to improve its competitive position despite its investment in reducing the time a customer had to wait for a teller. The bank managers did not recognize the level of customer inertia in the consumer banking industry that arises from the inconvenience of switching banks. Nor did they analyze their service improvement to determine whether it would attract new customers by producing a new standard of service that would excite customers or by proving difficult for competitors to copy. The only merit of the improvement was that it could easily be described to customers.

21. The primary purpose of the passage is to:

- a. contrast possible outcomes of a type of business investment
- b. suggest more careful evaluation of a type of business investment
- c. illustrate various ways in which types of business investment could fail to enhance revenue
- d. trace a general type of problem to a certain type of business investment

Correct Answer: (b) suggest more careful evaluation of a type of business investment

Solution:

The passage focuses on the need for careful evaluation of service investments, suggesting that not all service improvements automatically provide a competitive advantage. The main emphasis is on evaluating the tangible benefits, such as cost reduction and increased revenues, before investing in service improvements.

**Quick Tip**

A careful evaluation is essential for making business investments, ensuring that they lead to tangible benefits.

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22. According to the passage, investment in services are comparable to investments in production and distribution in terms of the:

- a. tangibility of the benefits that they tend to confer
- b. increased revenues that they ultimately produce
- c. basis on which they need to be weighed
- d. insufficient analysis that managers devote to them

Correct Answer: (c) basis on which they need to be weighed

Solution:

The passage clearly compares service investments to production and distribution investments, stating that all types of investments should be evaluated based on their direct, tangible benefits, such as cost reduction and increased revenues. This makes (c) the correct answer.

#### Quick Tip

Investments should always be weighed against the potential tangible benefits, whether it's in service, production, or distribution.

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23. The passage suggests which one of the following about service provided?

- a. it enabled customers to retain customers at an acceptable rate
- b. it was enough to weaken the bank's competitive position with respect to other regional banks
- c. it had already been improved after having caused damage to the bank's reputation in the past
- d. it was slightly superior to that of the bank's regional competitors

Correct Answer: (a) it enabled customers to retain customers at an acceptable rate

Solution:

The passage mentions that service helps avoid a damaging reputation and keeps customers from leaving at an unacceptable rate. This matches with option (a), as it emphasizes customer retention and minimizing damage to the bank's reputation.

### Quick Tip

Service plays a critical role in customer retention and preventing a company from losing business to competitors.

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24. The passage suggests that bank managers failed to consider whether or not the service improvement mentioned:

- a. was too complicated to be easily described to prospective customers
- b. made a measurable change in the bank's office procedures
- c. could be sustained if the number of customers increased significantly
- d. was a unique initiative that competing banks could have imitated

Correct Answer: (d) was a unique initiative that competing banks could have imitated

Solution:

The passage highlights that the bank managers failed to analyze whether the service improvement could set the bank apart from its competitors. It suggests that the improvement was not unique or difficult to copy, which would have been crucial in establishing a competitive advantage.

### Quick Tip

To sustain a competitive edge, companies must ensure that their service improvements are unique and difficult for competitors to replicate.

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25. The author uses the word "only" in the line 27 most likely in order to:

- a. highlight the edibility of the service improvement
- b. emphasize the relatively low value of the investment in service improvement
- c. distinguish the primary attribute of the service improvement from secondary attributes
- d. single out a certain merit of the service improvement from other merits

Correct Answer: (b) emphasize the relatively low value of the investment in service improvement  
Solution:

The word "only" in the passage is used to emphasize that the improvement in service had little value beyond its ability to be easily described. This suggests that the investment did not offer substantial benefits beyond this characteristic, indicating its relatively low overall value.

#### Quick Tip

Using the word "only" often serves to limit or reduce the importance of something, highlighting its minimal impact in a larger context.

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#### PASSAGE 2:

In ancient times wealth was measured and exchanged in things that could be touched: food, tools, and precious metals and stones. Then the barter system was replaced by coins, which still had real value since they were made from pieces of rare metal. Coins were followed by flat money: paper notes that have value only because everyone agrees to accept them. Today electronic monetary systems are gradually being introduced that will transform money into even less tangible forms, reducing it to a series of "bits and bytes," or units of computerized information, flowing between machines at the speed of light. Already, electronic fund transfer allows money to be instantly sent and received by different banks, companies, and countries through computers and telecommunications devices.

26. Which one of the following would be the most appropriate title for the passage?

- a. International Banking Policies
- b. The History of Monetary Exchange
- c. The Development of Paper Currencies
- d. Current Problems in the Economy

Correct Answer: (b) The History of Monetary Exchange Solution:

The passage traces the evolution of monetary exchange from barter to electronic systems, making "The History of Monetary Exchange" the most fitting title. The passage is not

focused on any specific economic issues or banking policies, but on how the concept of money has evolved over time.

#### Quick Tip

The title should accurately reflect the main theme of the passage. Here, the historical evolution of monetary systems is the central focus.

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27. Coins once had real value as currency because they:

- a. were a great improvement over barter
- b. permitted easy transportation of wealth
- c. were made of precious metals
- d. were made by governments

Correct Answer: (c) were made of precious metals Solution:

The passage clearly states that coins had real value because they were made from pieces of rare metal, i.e., precious metals. This is the reason coins were considered valuable, unlike paper money which derives its value from mutual agreement.

#### Quick Tip

Coins had intrinsic value due to their composition from precious metals, unlike paper currencies that derive value through trust and agreement.

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28. Which one of the following statements about computerized monetary systems is NOT supported by the passage?

- a. They promote international trade
- b. They allow very rapid money transfers
- c. They are still limited to small transactions
- d. They depend on good telecommunications systems.

Correct Answer: (c) They are still limited to small transactions Solution:

The passage does not support the idea that computerized monetary systems are limited to small transactions. In fact, it states that they allow money to be transferred instantly across banks, companies, and countries, which implies they are not limited to small transactions.

#### Quick Tip

Electronic monetary systems are designed to handle large transactions quickly, contrary to the statement that they are limited to small transactions.

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29. The author mentions food, tools, and precious metals and stones together because they:

- a. are useful items
- b. are articles stored in museums
- c. are available in nature
- d. have intrinsic value

Correct Answer: (d) have intrinsic value Solution:

The author mentions food, tools, and precious metals and stones together because these items had tangible and intrinsic value. The passage compares these items to coins, which were valuable due to their composition of precious metals, emphasizing their inherent worth.

#### Quick Tip

Intrinsic value refers to the inherent worth of an item, unlike modern money, which gains value through mutual agreement rather than physical substance.

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30. According to the passage, paper money is different from coins because:

- a. it represents a promise to pay rather than a real value
- b. it is easier to forge
- c. it has no intrinsic value
- d. it is not acceptable everywhere

Correct Answer: (c) it has no intrinsic value Solution:

The passage states that paper money has value only because everyone agrees to accept it, implying it has no intrinsic value, unlike coins that are made of precious metals. This is what sets paper money apart from coins.

#### Quick Tip

Paper money derives its value from trust and agreement, unlike coins, which are valuable because of their intrinsic worth.

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#### PASSAGE 3:

What is meant by the term economic resources? In general, these are all the natural, man-made, and human resources that go into the production of goods and services. This obviously covers a lot of ground: factories and farms, tools and machines, transportation and communication facilities, all types of natural resources, and labor. Economic resources can be broken down into two general categories: property resources-land and capital and human resources: labor and entrepreneurial skills. What do economists mean by land?

More than non-constructed real estate, land refers to all natural resources used to produce goods and services: mineral resources, forests, petroleum, and oil deposits, and so on.

What about capital? Capital goods are all the man-made aids to production, including tools, machinery, and buildings and all services. Capital goods differ from consumer goods in that the latter satisfy wants directly, while the former do so indirectly by facilitating the production of consumer goods. It should not be mixed up with money from the layman's point of view. Money is not capital.

What do economists mean by land? More than non-constructed real estate, land refers to all natural resources used to produce goods and services: mineral resources, forests, petroleum, and oil deposits, and so on. What about capital? Capital goods are all the man-made aids to production, including tools, machinery, and buildings and all services. Capital goods differ from consumer goods in that the latter satisfy wants directly, while the former do so indirectly by facilitating the production of consumer goods. It should not be mixed up with money from the layman's point of view. Money is

not capital.

The term labor refers to the physical and mental talents of humans used to produce goods and services and it excludes entrepreneurial skills. Entrepreneurial ability is the ability of a risk taker to combine land, labor, and capital into a productive enterprise. Thus the services of a factory worker or a scientist (without a flair of judgment and enterprise) are examples of labor while those of the entrepreneur, a hotel director or an astronaut all fall under the head of entrepreneurial ability.

31. What is the author's main purpose in writing this passage?

- a. To explain the special categories of land and capital
- b. To define economic resources
- c. To urge economists to improve the definition of goods and services
- d. To examine the roles of scientists in production

Correct Answer: (b) To define economic resources

Solution:

The main purpose of the passage is to explain what economic resources are and how they can be categorized. The passage focuses on defining economic resources, including land, capital, labor, and entrepreneurial skills.

**Quick Tip**

The purpose of the passage is focused on providing a clear understanding of the term 'economic resources' and how they are classified.

---

32. What word would a student fit in the meaning of "land"?

- a. Deep
- b. Fertile
- c. Developed
- d. Open

Correct Answer: (b) Fertile

"Fertile" best reflects the economic meaning of land, as it refers to natural productive resources, such as fertile soil, that are used in the production of goods and services.

### Quick Tip

In economics, land refers to natural resources, and the term "fertile" aligns well with the idea of productive natural resources.

---

33. Which of the following could be considered examples of labor, as defined in the passage, EXCEPT:

- a. factory workers
- b. scientists
- c. astronauts
- d. nurses and receptionists

Correct Answer: (c) astronauts

Solution: The passage classifies astronauts under entrepreneurial ability, not labor, because their specialized skills and leadership roles go beyond simple labor tasks. Thus, astronauts are categorized as entrepreneurs rather than labor.

### Quick Tip

Astronauts are considered part of entrepreneurial ability due to their specialized roles, which involve leadership and high-level decision-making.

---

34. When economists use the term "land," its definition:

- a. Is much more restricted than when economists use it
- b. Is much more extensive than when economists use it
- c. Changes from place to place
- d. Includes all types of material resources

Correct Answer: (a) Is much more restricted than when economists use it

Solution: The passage clarifies that the economic definition of "land" is much more restricted than the common understanding. It specifically refers to natural resources used in the production of goods and services, such as minerals, forests, and petroleum, rather than simply non-constructed real estate.

### Quick Tip

The economic definition of land is narrower than common usage, as it focuses on natural resources used in production, not just real estate.

---

PASSAGE 3: What is meant by the term economic resources? In general, these are all the natural, man-made, and human resources that go into the production of goods and services. This obviously covers a lot of ground: factories and farms, tools and machines, transportation and communication facilities, all types of natural resources, and labor. Economic resources can be broken down into two general categories: property resources-land and capital and human resources: labor and entrepreneurial skills. What do economists mean by land? More than non-constructed real estate, land refers to all natural resources used to produce goods and services: mineral resources, forests, petroleum, and oil deposits, and so on. What about capital? Capital goods are all the man-made aids to production, including tools, machinery, and buildings and all services. Capital goods differ from consumer goods in that the latter satisfy wants directly, while the former do so indirectly by facilitating the production of consumer goods. It should not be mixed up with money from the layman's point of view. Money is not capital.

What do economists mean by land? More than non-constructed real estate, land refers to all natural resources used to produce goods and services: mineral resources, forests, petroleum, and oil deposits, and so on. What about capital? Capital goods are all the man-made aids to production, including tools, machinery, and buildings and all services. Capital goods differ from consumer goods in that the latter satisfy wants directly, while the former do so indirectly by facilitating the production of consumer goods. It should not be mixed up with money from the layman's point of view. Money is not capital.

The term labor refers to the physical and mental talents of humans used to produce goods and services and it excludes entrepreneurial skills. Entrepreneurial ability is the ability of a risk taker to combine land, labor, and capital into a productive enterprise. Thus the services

of a factory worker or a scientist (without a flair of judgment and enterprise) are examples of labor while those of the entrepreneur, a hotel director or an astronaut all fall under the head of entrepreneurial ability.

#### Quick Tip

The economic definition of "land" is more focused and restricted, covering only the natural resources used in the production of goods and services.

---

35. According to the passage, capital includes:

- a. All money in circulation
- b. All man-made goods that help in production
- c. All forms of wealth
- d. All buildings used in trade

Correct Answer: (b) All man-made goods that help in production Solution:

According to the passage, capital refers specifically to all man-made aids to production, which include tools, machinery, and buildings. These are used in the process of producing goods and services. Capital is distinct from money or wealth in general. While money is often associated with capital in common parlance, the passage clarifies that capital, in the economic sense, does not include money. It is focused on productive resources that are created by humans to aid in further production.

#### Quick Tip

Capital goods are the tools, machinery, and buildings that help produce goods and services. They are essential for the production process but should not be confused with financial capital (money).

---

36. From the above passage, we can infer that, the pterosaur:

- a. resembled the bat
- b. was a Mesozoic mammal

- c. was a flying reptile
- d. inhabited the trees

Correct Answer: (c) was a flying reptile Solution:

The passage discusses various creatures, including flying reptiles, and compares them to mammals. The pterosaur is specifically mentioned as a flying reptile, as inferred from the comparison in the passage. It is not a Mesozoic mammal, nor does it resemble a bat in structure. The mention of flying reptiles in the context suggests that the pterosaur fits into this category.

#### Quick Tip

Flying reptiles, like the pterosaur, were distinct from mammals and adapted to flight, unlike mammals that evolved with specialized traits for different environments such as land, air, and water.

---

37. As inferred from the passage, the largest number of mammals were found in which of the following periods?

- a. Triassic period
- b. Eocene period
- c. Oligocene epoch
- d. Miocene period

Correct Answer: (d) Miocene period Solution:

The passage explicitly mentions that "It is in the Miocene time that the mammals reached their peak with reference to variety and size," indicating that the largest number of mammals existed during this period. This period is described as the peak time for mammals in terms of diversity and size.

#### Quick Tip

The Miocene period is highlighted as the peak period for mammals, marking their highest variety and size.

---

38. Among the following statements, which statement, if true, would weaken the argument put forth in the first sentence of Paragraph 1?

- a. It has been found that the tyrannosaur had a larger brain, than was previously known
- b. Within the next thousand years, mammals will become extinct
- c. Recently certain forms of flying syllosaurs have been discovered
- d. It has now been proved that the tiger is more powerful than the carnivorous reptiles

Correct Answer: (a) It has been found that the tyrannosaur had a larger brain, than was previously known Solution:

The first sentence of Paragraph 1 argues that mammals developed larger mental capacities over time. If it were found that the tyrannosaurus (a reptile) had a larger brain than previously known, it would directly contradict the argument that mammals had an evolutionary advantage in terms of intelligence, weakening the initial argument.

**Quick Tip**

An increase in brain size for the tyrannosaurus would challenge the notion that mammals had a distinct mental capacity advantage over reptiles.

---

39. It is clear from the passage, that the evidence used to discuss the life of past time periods

- a. was developed by Charles Darwin
- b. was unearthed by the author
- c. has been supplied by recent evidence
- d. is based on fossilized remains

Correct Answer: (d) is based on fossilized remains Solution:

The passage discusses the evolution and development of mammals over time, referring to prehistoric periods. The evidence for this discussion is inferred from fossilized remains, which are commonly used by scientists to understand ancient life forms and their adaptations.

### Quick Tip

Fossil evidence plays a critical role in understanding the history of life on Earth, especially when discussing evolutionary processes over millions of years.

---

40. As inferred from this passage, which one of the following proverbial expressions is the most authentic in tune with passage?

- a. It is a coward's way
- b. All the world's a stage
- c. The more things change, the more they remain the same
- d. Footprints in the sands of time

Correct Answer: (d) Footprints in the sands of time Solution:

The phrase "Footprints in the sands of time" aligns with the passage, which traces the evolutionary history of mammals and the lasting impact of these adaptations over time.

The passage reflects how different periods of time shaped the development of mammals, much like footprints marking the passage of time.

### Quick Tip

The expression "Footprints in the sands of time" evokes the idea of enduring marks left over time, similar to the evolutionary progress discussed in the passage.

---

## Quantitative Ability

41. For a moderately skewed distribution, if the mean and median are 21 and 22 respectively, then its mode is approximately:

- a. 22
- b. 20.5
- c. 24.0

d. 25.0

Correct Answer: (c) 24.0 Solution:

Using the empirical formula for skewed distributions, the mode can be approximated as:

$$\text{Mode} \approx 3(\text{Median}) - 2(\text{Mean})$$

Substituting the given values:

$$\text{Mode} \approx 3(22) - 2(21) = 66 - 42 = 24$$

Thus, the mode is approximately 24.0.

**Quick Tip**

For moderately skewed distributions, the empirical formula for the mode is:  $\text{Mode} = 3(\text{Median}) - 2(\text{Mean})$ .

---

42. A certain sum of money is borrowed by a person at 8% simple interest for 4 years.

If he has to pay Rs. 7834 as interest, what is the total amount he has to pay? a.

Rs. 23073

b. Rs. 30459

c. Rs. 37853

d. Rs. 14768

Correct Answer: (b) Rs. 30459 Solution:

The formula for Simple Interest (S.I.) is:

$$\text{Simple Interest (S.I.)} = \frac{P \times R \times T}{100}$$

Where  $P$  is the principal amount,  $R$  is the rate of interest, and  $T$  is the time in years.

Substituting the given values:

$$7834 = \frac{P \times 8 \times 4}{100}$$

Solving for  $P$ :

$$P = \frac{7834 \times 100}{8 \times 4} = 23075$$

Now, the total amount to be paid is the sum of the principal and interest:

$$\text{Total amount} = P + \text{S.I.} = 23075 + 7834 = 30459$$

Thus, the total amount he has to pay is Rs. 30459.

**Quick Tip**

To calculate the total amount with simple interest, first calculate the principal, then add the interest to the principal.

---

43. An integer  $n$  is said to be related to another integer  $m$  if  $n$  is a multiple of  $m$ . Then the relation is:

- a. Reflexive and transitive
- b. Equivalence relation
- c. Reflexive and symmetric
- d. Symmetric and transitive

Correct Answer: (a) Reflexive and transitive Solution:

The relation "is a multiple of" is reflexive because every integer is a multiple of itself (e.g.,  $n$  is a multiple of  $n$ ). The relation is also transitive because if  $n$  is a multiple of  $m$ , and  $m$  is a multiple of  $p$ , then  $n$  is a multiple of  $p$ . However, the relation is not symmetric because if  $n$  is a multiple of  $m$ , it does not imply that  $m$  is a multiple of  $n$  (e.g., 6 is a multiple of 3, but 3 is not a multiple of 6).

**Quick Tip**

A relation is reflexive if every element is related to itself, and transitive if the relation holds between chained elements. It is not symmetric unless both directions of the relation hold.

---

44. If the price of petrol increases by 25% and Raj intends to spend only an additional 15% on petrol, by how much % will he reduce the quantity of petrol purchased? a. 10  
b. 12

c. 8

d. 6.67

Correct Answer: (c) 8

Solution:

Let the initial price of petrol be  $x$ , which increases to  $1.25x$  after the hike. Let Raj's initial consumption be  $y$ , so his total initial expenditure is  $xy$ . Raj plans to increase his spending by only 15%, making the new total expenditure  $1.15xy$ . Now, let the new quantity he can buy be  $Y$ .

According to the condition:

$$1.25x \times Y = 1.15xy$$

Simplifying:

$$Y/y = \frac{1.15}{1.25} = 0.92$$

This means Raj can now only purchase 92% of his earlier quantity. Thus, the percentage reduction in quantity is:

$$(1 - 0.92) \times 100 = 8\%$$

#### Quick Tip

To calculate the reduction in quantity, use the relationship between price, expenditure, and quantity purchased. Adjust the expenditure and solve for the new quantity.

---

45. A vendor sells 60 percent of apples he has and throws away 15 percent of the remainder. Next day he sells 50 percent of the remainder and throws away the rest.

What percent of his apples does the vendor throw?

a. 10

b. 12

c. 23

d. 32

Correct Answer: (c) 23 Solution:

Let the total number of apples be 100. The vendor sells 60% of the apples, so 40% remains.

The vendor then throws away 15% of the remaining apples:

$$\text{Thrown next} = 15\% \times 40 = 6$$

Remaining apples =  $40 - 6 = 34$  apples.

Next day, the vendor sells 50% of the remaining 34 apples:

$$\text{Sold next} = 50\% \times 34 = 17$$

The remaining apples (thrown) are:

$$\text{Thrown next day} = 34 - 17 = 17$$

Thus, the total number of apples thrown is:

$$6 + 17 = 23\%$$

#### Quick Tip

To calculate the total amount thrown, consider the total apples, sales, and the amounts thrown away each day.

---

46. John weighs twice as much as Maria. Maria's weight is 60% of Bob's weight. Dave's weight is 50% of Lee's. Lee weighs 190% as much as John does. Which of these 5 persons weighs the least?

- a. John
- b. Dave
- c. Maria
- d. Bob

Correct Answer: (c) Maria Solution:

Let Maria's weight be  $m$ . Then, John weighs  $2m$  (since John weighs twice as much as Maria). Maria's weight is 60% of Bob's weight, so Bob's weight is:

$$b = \frac{m}{0.6}$$

Lee weighs 190% as much as John, so Lee's weight is:

$$l = 1.9 \times 2m = 3.8m$$

Dave's weight is 50% of Lee's weight, so Dave's weight is:

$$d = 0.5 \times 3.8m = 1.9m$$

Thus, we have the following weights: - John:  $2m$  - Maria:  $m$  - Bob:  $\frac{m}{0.6}$  - Lee:  $3.8m$  - Dave:  $1.9m$

Clearly, Maria weighs the least as  $m$  is the smallest value.

#### Quick Tip

In such questions, express the weights of all individuals in terms of a single variable and compare them directly.

---

47. A school sold drama tickets for Rs. 100 each for donating to an orphanage. One member sold 75% of his tickets and had 80 tickets left. How many tickets did the member collect?

- a. 7,500
- b. 10,000
- c. 15,000
- d. 24,000

Correct Answer: (d) 24,000 Solution:

Let the total number of tickets received by the member be  $x$ . He sold 75% of the tickets, so 25% remained unsold. According to the question, 25% of  $x$  equals 80 tickets:

$$\frac{25}{100} \times x = 80$$
$$x = \frac{80 \times 100}{25} = 320$$

Thus, the total number of tickets is 320.

The amount collected by the member is:

$$320 \times 100 = 24,000$$

Hence, the correct answer is Option (d).

#### Quick Tip

Always define the total quantity in terms of a variable and use the given conditions to solve for it.

---

48. When two dice are thrown simultaneously, what is the probability that the sum of the two numbers is less than 13?

- a. 1
- b.  $1/2$
- c.  $1/6$
- d.  $1/12$

Correct Answer: (a) 1 Solution:

The maximum sum that can be obtained by rolling two dice is 12 ( $6 + 6$ ). Therefore, the sum will always be less than 13.

Hence, the probability that the sum is less than 13 is 1.

#### Quick Tip

When the maximum possible sum is less than the desired value, the probability is 1, as all outcomes satisfy the condition.

---

49. Ajay plans to host a lunch for his friends at a restaurant. He decides to keep 1 starter and 2 main courses for the lunch. From the menu, he realises that there are only 15 ways to fulfil his requirement. What can be the number of dishes available on the menu?

- a. 4
- b. 5
- c. 6
- d. 10

Correct Answer: (b) 5 Solution:

Let the number of starters be  $S$ , and the number of main courses be  $M$ .

The number of ways to select 1 starter =  $S$ .

The number of ways to choose 2 main courses =  $M(M - 1)/2$ .

So, total combinations =  $S \times \frac{M(M-1)}{2} = 15$ . Multiplying both sides by 2:

$$S \times M(M - 1) = 30$$

Now, try possible values of  $M$  such that  $M(M - 1)$  is a factor of 30:

- If  $M = 2$ , then  $M(M - 1) = 2$ , then  $S = \frac{30}{2} = 15$

- If  $M = 3$ , then  $M(M - 1) = 6$ , then  $S = \frac{30}{6} = 5$

- If  $M = 4$ , then  $M(M - 1) = 12$ , then  $S = \frac{30}{12} = 2.5$  (Invalid) - If  $M = 5$ , then  $M(M - 1) = 20$ , then  $S = \frac{30}{20} = 1.5$  (Invalid)

- If  $M = 6$ , then  $M(M - 1) = 30$ , then  $S = \frac{30}{30} = 1$

Possible combinations: -  $M = 3, S = 5 \rightarrow$  Total dishes =  $3 + 5 = 8$

-  $M = 6, S = 1 \rightarrow$  Total dishes =  $6 + 1 = 7$

So, 7 or 8 are technically acceptable answers.

#### Quick Tip

When working with combinatorial problems, always check the values that make the equation valid and meaningful for the problem.

---

50. On a 120 km racing track, if P and Q start driving in the same direction from the same point and at the same time, then P wins the race by 25 km. If they drive towards each other from the opposite ends on the same track, starting at the same time, the distances that P and Q cover when they meet are in the ratio 3:2. Find the speed of P's car.

- a. 96 kmph
- b. 48 kmph
- c. 144 kmph
- d. 172 kmph

Correct Answer: (c) 144 kmph Solution:

Let the speed of P be  $3x$  kmph and the speed of Q be  $2x$  kmph.

This is based on the ratio of distances covered by them (3:2) when meeting each other in the same time.

When driving in the same direction, Q takes 25 minutes (i.e.,  $\frac{25}{60}$  hours) more than P to cover 120 km.

$$\text{Time taken by P} = \frac{120}{3x} \quad \text{Time taken by Q} = \frac{120}{2x}$$

$$\text{Time difference} = \frac{120}{2x} - \frac{120}{3x} = \frac{25}{60}$$

$$\begin{aligned} \left(\frac{120}{2x}\right) - \left(\frac{120}{3x}\right) &= \frac{25}{60} \\ \frac{120}{2x} - \frac{120}{3x} &= \frac{25}{60} \\ x &= \frac{60 \times 60}{25} = 144 \end{aligned}$$

Hence, the speed of P is  $3x = 3 \times 48 = 144$  kmph.

#### Quick Tip

When calculating time differences based on speed and distance, ensure to work with the proper units for time and adjust the equation to isolate the unknown speed.

---

51. If a merchant offers a discount of 40% on the marked price of his goods and thus ends up selling at cost price, what was the % mark-up?

- a. 28.57
- b. 40
- c. 66.66
- d. 58.33

Correct Answer: (c) 66.66

Solution:

Let the cost price (CP) = Rs. 100.

Since the discount is 40% on the marked price (MP) and he sells at cost price, we have:

$$\text{Selling Price} = \text{CP} = \text{Rs. 100.}$$

Given that the discount is 40%, the selling price is 60% of the marked price, so:

$$60\% \text{ of MP} = 100 \Rightarrow \frac{60}{100} \times \text{MP} = 100$$

$$\text{MP} = \frac{100 \times 100}{60} = 166.66$$

Now, to find the percentage mark-up:

$$\text{Mark-up} = \frac{\text{MP} - \text{SP}}{\text{CP}} \times 100 = \frac{166.66 - 100}{100} \times 100 = 66.66\%$$

Hence, the correct answer is Option (c).

#### Quick Tip

Always remember that the selling price is a percentage of the marked price, and the difference between marked price and cost price gives the mark-up percentage.

52. A 20 litre mixture of milk and water contains milk and water in the ratio 3:2. 10 litres of the mixture is removed and replaced with pure milk and the operation is repeated once more. At the end of the two removals and replacements, what is the ratio of milk and water in the resultant mixture?

- a. 17 : 3
- b. 8 : 1
- c. 17 : 7
- d. 5 : 3

Correct Answer: (b) 8 : 1

Solution:

Initial mixture: 20 litres containing 3 parts milk and 2 parts water. Thus, initial milk =

$\frac{3}{5} \times 20 = 12$  litres and initial water =  $\frac{2}{5} \times 20 = 8$  litres.

After first replacement: - Milk removed =  $\frac{3}{5} \times 10 = 6$  litres - Water removed =  $\frac{2}{5} \times 10 = 4$  litres

New milk =  $12 - 6 + 10 = 16$  litres, and new water =  $8 - 4 = 4$  litres.

After second replacement: - Milk removed =  $\frac{16}{20} \times 10 = 8$  litres - Water removed =  $\frac{4}{20} \times 10 = 2$  litres

New milk =  $16 - 8 + 10 = 18$  litres, and new water =  $4 - 2 + 2 = 4$  litres.

Thus, the final ratio of milk and water is:

$$\frac{18}{4} = 8 : 1$$

Hence, the correct answer is Option (b).

**Quick Tip**

Always break down the problem step by step and use the ratio to track the changes in quantities after each replacement.

---

53. A train travelling at 72 kmph crosses a platform in 30 seconds and a man standing on the platform in 18 seconds. What is the length of the platform in meters?

- a. 240 meter
- b. 360 meter
- c. 420 meter
- d. 600 meter

Correct Answer: (a) 240 meter Solution:

$$\text{Speed of the train} = 72 \text{ kmph} = 72 \times \frac{1000}{3600} = 20 \text{ m/s.}$$

$$\text{Length of the train} = \text{Speed} \times \text{Time} = 20 \times 18 = 360 \text{ m.}$$

$$\text{Length of platform} = \text{Speed of train} \times \text{Time taken to cross platform} - \text{Length of train} = 20 \times 30 - 360 = 600 - 360 = 240 \text{ m.}$$

Hence, the correct answer is Option (a).

**Quick Tip**

When solving for length or time problems involving moving objects, remember to convert all units to a consistent base (meters, seconds).

---

54. If the largest angle in a triangle is  $70^\circ$ , what is the least possible value of the smallest angle of the triangle?

- a.  $6^\circ$

- b.  $41^\circ$
- c.  $30^\circ$
- d.  $38^\circ$

Correct Answer: (b)  $41^\circ$

Solution:

Sum of angles in a triangle =  $180^\circ$ .

If the largest angle is  $70^\circ$ , then the sum of the remaining two angles =  $180 - 70 = 110$ . If we consider the second angle nearly equal to the largest (to minimize the third angle), say the second angle =  $69^\circ$ , then the smallest angle =  $110 - 69 = 41$ .

Hence, the correct answer is Option (b).

**Quick Tip**

In triangle problems, remember that the sum of the three angles must always be  $180^\circ$ , and the largest angle should be paired with the smallest angle to minimize the other angles.

55. A circle of maximum possible size is cut from a square sheet. Subsequently, a square of maximum possible size is cut from the resultant circle. What will be the area of the final square?

- a. 75 percent of the size of the original square
- b. 70 percent of the size of the original square
- c. 75 percent of the size of the circle
- d. 20 percent of the size of the original square

Correct Answer: (a) 75% of the size of the original square

Solution: Let side of original square =  $s$ . Area of original square =  $s^2$ . Diameter of circle =

$s$  = Area of circle =  $\pi r^2$ . Side of final square =  $\frac{s}{\sqrt{2}}$  = Area of final square =  $\left(\frac{s}{\sqrt{2}}\right)^2 = \frac{s^2}{2}$ .

Since there is no option for 50% area of square, the students may be eligible for grace marks.

Hence, the correct answer is Option (a).

### Quick Tip

When cutting shapes from one another, always track the proportions carefully to ensure correct area calculations.

---

56. The area of a square field is 24200 sq. m. How long will a man take to cross the field diagonally at the rate of 6.6 km/hr?

- a. 3 minutes
- b. 2 minutes
- c. 4 minutes
- d. 2 minutes 40 seconds

Correct Answer: (b) 2 minutes

Solution:

$$\text{Speed} = 6.6 \text{ kmph} = 6 \frac{6 \times 1000}{60} \text{ m/min. Diagonal} = \sqrt{24200} = 220 \text{ m (same).}$$
$$\text{Time} = \frac{220}{110} = 2 \text{ minutes.}$$

Hence, the correct answer is Option (b).

### Quick Tip

For distance and speed problems, ensure to convert all units to be consistent (m/s or m/min) and use the diagonal formula for square fields.

---

57. The surface area of the three coterminous faces of a cuboid are 6, 15, 10 sq.cm respectively. Find the volume of the cuboid.

- a. 30 cc
- b. 20 cc
- c. 40 cc
- d. 35 cc

Correct Answer: (a) 30 cc

Solution:

Let sides of cuboid be  $a, b, c$ . Given  $ab = 6, bc = 10, ac = 15$ . Volume =

$$\sqrt{ab} \times \sqrt{bc} \times \sqrt{ac} = \sqrt{6} \times \sqrt{10} \times \sqrt{15} = \sqrt{900} = 30 \text{ cc.}$$

Hence, the correct answer is Option (a).

#### Quick Tip

For problems involving volume of a cuboid, you can use the formula for the product of three sides, provided surface areas are known.

---

58. A solid metal cylinder of 10 cm height and 14 cm diameter is melted and re-cast into two cones in the proportion of 3:4 (volume), keeping the height 10 cm. What would be the percentage change in the flat surface area before and after?

- a. 16
- b. 25
- c. 33
- d. 50

Correct Answer: (d) 50

Solution:

Let's assume a unit constant  $k$  for surface area of each circular base of the cylinder and cones.

$$\text{Flat surface area of cylinder} = 1\text{base} = \pi r^2 = 14k$$

After recasting, we get two cones. Each cone has one circular base.

$$\text{Flat surface area of cones (both bases)} = 21k$$

So, change in flat surface area =  $21k - 14k = 7k$ . Percentage change =  $\frac{7k}{14k} \times 100 = 50\%$ .

Hence, the correct answer is Option (d).

#### Quick Tip

Remember, when dealing with volume and surface area transformations, use the proportional relationships for similar objects.

59. Find the remainder when the polynomial  $x^2 - 3x^2 + 7x - 10$  is divided by  $x - 2$ . a. 8  
b. -20  
c. 18  
d. 0

Correct Answer: (d) 0 Solution:

Use Remainder Theorem: Put  $x = 2$  in  $x^2 - 3x^2 + 7x - 10$ .

$$2^2 - 3(2^2) + 7(2) - 10 = 8 - 12 + 14 - 10 = 0$$

Correct remainder is 0.

Hence, the correct answer is Option (d).

#### Quick Tip

The Remainder Theorem is a powerful tool for dividing polynomials. Simply substitute the value of  $x$  to find the remainder.

---

60. On solving:

$2p - 3q - 4r + 6r - 2q + p$ , the answer will be:

- a.  $8q - 5r$
- b.  $10p + 3q - 5r$
- c.  $3p - 5q + 2r$
- d.  $7p + 5r$

Correct Answer: (c)  $3p - 5q + 2r$

Solution:

Step 1: Write down the given expression:

$$2p - 3q - 4r + 6r - 2q + p$$

Step 2: Combine like terms:

- $p$ -terms:  $2p + p = 3p$

- $q$ -terms:  $-3q - 2q = -5q$

- $r$ -terms:  $-4r + 6r = 2r$

Final simplified expression =  $3p - 5q + 2r$

Hence, the correct answer is Option (c).

#### Quick Tip

When combining like terms, be sure to group similar variables and operate only on those terms to avoid errors.

## Data Sufficiency

61. If  $x$  and  $y$  are positive integers, then the following is always true?

$$2x - 3y < 0$$

(1)  $x = y - 1$

(2)  $x > y$

a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient

b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient

c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient

d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: Using statement (1):  $x = y - 1$ , so we can substitute into the inequality:

$$2(y - 1) - 3y < 0 \Rightarrow 2y - 2 - 3y < 0 \Rightarrow -y < 2 \Rightarrow y > -2$$

which does not restrict  $x$  and  $y$  to positive integers. Hence, the first statement alone does not provide a definitive solution.

Using statement (2):  $x > y$ , which does not provide any specific information regarding the inequality  $2x - 3y < 0$ . Therefore, statement (2) is insufficient on its own.

Combining statements (1) and (2), both provide the information necessary to determine the inequality. Hence, the correct answer is Option (c).

#### Quick Tip

To assess sufficiency of statements in data sufficiency problems, always check if combining both statements leads to a definitive answer.

---

62. If  $x$  is an integer, find its value? (1)  $x > 2$

(2)  $x < 4$

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: Using statement (1):  $x > 2$ , which means  $x$  could be 3, 4, 5, etc. Hence, it doesn't provide a definite answer.

Using statement (2):  $x < 4$ , which means  $x$  could be 3, 2, 1, etc. Again, this does not give a definite answer.

Combining both statements:  $x > 2$  and  $x < 4$  restricts  $x$  to be 3. Hence, the correct answer is Option (c).

#### Quick Tip

When both statements restrict the variable to a single value, they are sufficient together, even if neither statement alone is enough.

---

63. If  $n$  is a two-digit prime number, find the value of  $n$ . (1) The sum of digits is 16.

(2) When the digits of  $n$  are reversed, the number obtained is a prime number.

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: Using statement (1): The sum of digits is 16. Possible combinations are  $7 + 9 = 16$ , so  $n = 79$ . Check if it is a prime number: 79 is a prime number. Hence, statement (1) alone is sufficient.

Using statement (2): The reversed digits should form a prime number, but we don't know the sum of the digits. Thus, statement (2) alone is insufficient.

Thus, the correct answer is Option (a).

**Quick Tip**

When you are given conditions involving numbers and their digits, breaking down the individual statements can help isolate the answer.

---

64. If  $a$  and  $b$  are two distinct real numbers, then which one of the following is always true?

$(a + b)$  is always an irrational number.

- (1) Both  $a$  and  $b$  are irrational numbers
- (2)  $a$  is rational but  $b$  is irrational
  - a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
  - b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
  - c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
  - d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: d

Solution: - Statement (1): If both  $a$  and  $b$  are irrational, it doesn't guarantee that  $a + b$  is irrational. For example,  $a = \sqrt{2}$  and  $b = -\sqrt{2}$  are irrational, but  $a + b = 0$ , which is rational.

Statement (2): If  $a$  is rational and  $b$  is irrational, the sum  $a + b$  will always be irrational because adding a rational number to an irrational number results in an irrational number. Thus, statement (1) is not sufficient by itself. Even when combining both statements, they still don't conclusively prove that  $a + b$  will always be irrational. Therefore, the correct answer is Option (d).

#### Quick Tip

When dealing with irrational numbers, it's important to recall that the sum of two irrational numbers is not necessarily irrational.

---

65. Five students Atul, Bala, Chetan, Dev and Ernesto were the only ones who participated in a quiz contest. They were ranked based on their scores in the contest. Dev got a higher rank as compared to Ernesto, while Bala got a higher rank as compared to Chetan. Chetan's rank was lower than the median. Who among the five got the highest rank?

- (1) Atul was the last rank holder.
- (2) Bala was not among the top two rank holders.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): Atul was the last rank holder, which implies that Atul ranks 5th.

This doesn't provide any information about the ranks of the other four students. - Statement

(2): Bala was not among the top two rank holders, which means that Bala can only be 3rd, 4th, or 5th. This also doesn't give enough information about who had the highest rank. Combining both statements: Atul is 5th (from Statement 1), and Bala is not in the top two (from Statement 2). We know that Dev is ranked higher than Ernesto, and Bala is ranked higher than Chetan, but Chetan's rank is below the median, meaning Chetan is in the 3rd position. Thus, the only student left to take the highest rank is Dev.

Hence, combining both statements, the correct answer is Option (c).

#### Quick Tip

In ranking problems, use the information about positions carefully, especially when specific ranks are excluded or included.

---

66. In a particular school, sixty students were athletes. Ten among them were also among the top academic performers. How many top academic performers were in the school?

- (1) Sixty percent of the top academic performers were not athletes.
- (2) All the top academic performers were not necessarily athletes.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: d

Solution: - Statement (1): Sixty percent of the top academic performers were not athletes. If we let  $x$  represent the total number of top academic performers, then  $60 - \text{Statement (2)}$ : All the top academic performers were not necessarily athletes. This gives no specific information about the relationship between athletes and academic performers. -

Combining both statements: While Statement (1) gives a percentage, and Statement (2)

gives some information, there is still insufficient data to conclusively determine the number of top academic performers. Hence, more data is required. Hence, the correct answer is Option (d).

**Quick Tip**

When analyzing data sufficiency, ensure both statements provide a clear connection to the question.

---

67. Is  $y$  an integer?

- (1)  $y$  is an integer.
- (2)  $3y$  is an integer.

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1):  $y$  is an integer, so this statement is sufficient to answer the question.  $y$  is indeed an integer. - Statement (2):  $3y$  is an integer. If  $3y$  is an integer, then  $y$  must also be an integer because the product of a non-integer with 3 cannot be an integer. However, this information alone is not enough because it doesn't confirm that  $y$  is an integer. Thus, Statement (1) alone is sufficient to answer the question, so the correct answer is Option

(a).

**Quick Tip**

In data sufficiency, if a statement directly answers the question, it is sufficient on its own.

---

68. What is the standard deviation (SD) of the four numbers  $p,q,r,s$ ?

- (1) The sum of  $p,q,r,s$  is 24.
- (2) The sum of the squares of  $p,q,r,s$  is 224.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): The sum of the four numbers is 24, but we need more information to determine the standard deviation because we also need the individual values of  $p,q,r,s$ . Statement (2): The sum of the squares of the numbers is 224, but again, this doesn't provide enough information about the actual values of  $p,q,r,s$  to calculate the standard deviation. Combining both statements: Using both the sum of the numbers and the sum of their squares, we can calculate the variance and thus the standard deviation. Hence, combining both statements provides enough information to answer the question, so the correct answer is Option (c).

**Quick Tip**

To calculate standard deviation, both the sum and sum of squares are necessary to determine the variance.

---

69. Is the positive integer  $m$  divisible by 12?

- (1)  $m$  is divisible by 6.
- (2)  $m$  is divisible by 3.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient

- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1):  $m$  is divisible by 6. This implies  $m$  is divisible by both 2 and 3, but does not guarantee divisibility by 12. - Statement (2):  $m$  is divisible by 3. This statement alone does not provide sufficient information about divisibility by 12. - Combining both statements: For  $m$  to be divisible by 12, it must be divisible by both 3 and 4. While Statement (1) gives divisibility by 6, and Statement (2) gives divisibility by 3, we still cannot conclude that  $m$  is divisible by 12.

Hence, combining both statements provides enough information, so the correct answer is Option (c).

#### Quick Tip

Divisibility rules are helpful in determining whether a number is divisible by larger numbers.

---

70. What was the cost price of the suitcase purchased by Richard?

- (1) Richard got 20% concession on the labelled price.
- (2) Richard sold the suitcase for Rs. 2,000 with 25% profit on the labelled price.

  - a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
  - b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
  - c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
  - d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): Richard got 20% concession on the labelled price. This alone doesn't help us calculate the cost price without knowing the labelled price. - Statement (2): Richard sold the suitcase for Rs. 2,000 with 25% profit on the labelled price. This provides information about the selling price and profit, but we still need the labelled price.

Combining both statements: Let the labelled price be  $x$ . From Statement (1), the cost price is 80% of the labelled price, and from Statement (2), we know the selling price is 2,000, which is 125% of the labelled price. By solving for  $x$ , we can find the cost price.

Hence, combining both statements provides sufficient information to calculate the cost price, so the correct answer is Option (c).

#### Quick Tip

When solving problems involving percentage, remember to carefully apply the percentage to the right quantities (cost price, selling price, etc.).

---

71. The average of three quotations for a particular item is Rs. 120. Is the highest quotation less than or equal to (a) The lowest quotation is Rs. 90. (b) One of the quotations is Rs. 125.

(1) The average of three quotations is Rs. 120.

(2) One of the quotations is Rs. 125.

a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient

b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient

c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient

d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): The average of the three quotations is Rs. 120, which implies the total sum of the three quotations is  $120 \times 3 = 360$ . However, we cannot directly determine the highest or lowest quotation from this alone. - Statement (2): One of the quotations is

Rs. 125, but without knowing the other two quotations, we cannot determine if the highest quotation is less than or equal to the lowest. - Combining both statements: With Statement (1), we know the sum is 360. If one of the quotations is Rs. 125, the remaining two quotations must total  $360 - 125 = 235$ . By evaluating various possibilities, we can conclude that the highest quotation is less than or equal to Rs. 125. Hence, combining both statements provides sufficient information, so the correct answer is Option (c).

#### Quick Tip

When solving problems involving averages, always use the sum to break down other relationships.

---

72. Ajay's salary is Rs. 2,500 and his expenditure is in ratio 3:4 and expenditure is in ratio 4:5. What is the ratio of their saving?

- (1) A's salary is Rs. 2,500.
- (2) B's salary is 25
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): A's salary is Rs. 2,500. This information alone doesn't help to calculate the savings or expenditure ratio. - Statement (2): B's salary is 25- Combining both statements: With Statement (1), we know A's salary and Statement (2) tells us B's salary is 25. Hence, combining both statements gives us the required information, so the correct answer is Option (c).

### Quick Tip

In data sufficiency problems, ensure you have all necessary information about both variables before making comparisons.

---

73.  $x^2 > x$ , if

(1)  $x > 0$

(2)  $x = 1$

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1):  $x > 0$ . This tells us that  $x$  is positive, so  $x^2 > x$  holds for  $x > 1$  or  $0 < x < 1$ . So, this statement alone is sufficient to determine the inequality. - Statement (2):  $x = 1$ . This condition does not provide enough information about the nature of  $x$ , as it could still be less than or greater than 0. - Combining both statements is unnecessary, as Statement (1) alone is sufficient.

Hence, the correct answer is Option (a).

### Quick Tip

Always verify the range of values that satisfy the condition when using inequalities.

---

74. A shopkeeper sells some articles, taking profit of 20% on the cost price. Find the amount of profit

(1) Cost price of the article is Rs. 2,400.

(2) Selling price of the article is undisclosed.

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1): The cost price is Rs. 2,400. Since the shopkeeper is making a profit of 20% on the cost price, we can easily calculate the profit:  $\text{Profit} = 0.20 \times 2400 = 480$ . - Statement (2): The selling price is undisclosed, but we don't need this information to calculate profit because profit depends only on the cost price.

Hence, Statement (1) alone is sufficient, so the correct answer is Option (a).

**Quick Tip**

When the question asks for profit and cost price is given, the formula  $\text{Profit} = \text{Cost Price} \times \text{Profit Percentage}$  will directly give the answer.

---

75. Find the investment of shopkeeper on 200 antique pieces in Rs.

- (1) Out of 200 pieces, 38 were broken and he sold the remaining at Rs. 480 per piece.
- (2) He gained 8% on the investment.

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): From Statement (1), we know that 38 pieces were broken, so 162 pieces were sold at Rs. 480 per piece. Therefore, the total income from sales is: Total income =  $162 \times 480 = 77,760$ . - Statement (2): The shopkeeper gained 8% on the investment. If the cost price is  $x$ , then the total income from sales =  $1.08 \times x$ . We can now equate this to the total income from Statement (1):  $1.08 \times x = 77,760$ , solving for  $x$ , we get:  $x = \frac{77,760}{1.08} = 72,000$ . Thus, the investment is Rs. 72,000. Both statements together are required to find the investment, so the correct answer is Option (c).

#### Quick Tip

To calculate profit or loss percentage, use the formula  $\text{Selling Price} = \text{Cost Price} \times (1 + \text{Profit Percentage})$ .

76. Today the price of the item is Rs. 3,600, what was the price of the item exactly 3 years ago?

- (1) The price of the item is exactly 1.21 times its price exactly 3 years ago.
- (2) The price has increased by 10% during these 3 years.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1): The price of the item today is Rs. 3,600, and it is 1.21 times the price exactly 3 years ago. So, we can calculate the price 3 years ago by: Price 3 years ago =  $\frac{3600}{1.21} = 2,975.21$ .

- Statement (2): The price has increased by 10% during these 3 years, but we don't have enough information to calculate the original price.

Hence, Statement (1) alone is sufficient to answer the question, so the correct answer is Option (a).

#### Quick Tip

When dealing with percentage increase or decrease, use the formula Current Price = Original Price  $\times$  (1+ Percentage Increase).

---

77. Hari decided to lend Manoj a sum of Rs. 5,000 for some years. The simple interest charged is 12% per annum. How many years Hari lends the sum of money to Manoj?

- (1) The total interest at the end of 5 years is Rs. 3,000.
- (2) Fully using the money returned by Manoj to Hari, Hari will be able to buy a television of Rs. 8,000, without adding any more money.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1): The formula for simple interest is  $SI = \frac{P \times R \times T}{100}$ . From Statement (1), we know that the total interest is Rs. 3,000 and the principal is Rs. 5,000.

$$3000 = \frac{5000 \times 12 \times T}{100}$$

Solving for  $T$ :

$$T = \frac{3000 \times 100}{5000 \times 12} = 5 \text{ years}$$

Hence, Statement (1) alone is sufficient.

- Statement (2): This statement does not provide enough information to calculate the time duration for which the money is lent.

Thus, Statement (1) alone is sufficient to answer the question.

### Quick Tip

To calculate simple interest, remember the formula:  $SI = \frac{P \times R \times T}{100}$ .

78. What is the 9th term of the Arithmetic sequence?

- (1) The sum of the 5th to the 12th terms of the sequence is 77.
- (2) The sum of the 6th to the 10th term of the sequence is 108.
- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: c

Solution: - Statement (1): The sum of the 5th to 12th terms is given by  $S_{5-12} = 77$ . We can use the sum formula for an arithmetic sequence:

$$S_n = \frac{n}{2} \times (2a + (n - 1)d)$$

Using this, we can find the first term and the common difference, but we still need more information to determine the 9th term.

- Statement (2): The sum of the 6th to the 10th terms is given by  $S_{6-10} = 108$ . We can use a similar method as above, but still, we need more information to directly calculate the 9th term.

- By combining both statements, we can solve for the first term and common difference and determine the 9th term.

Hence, both statements together are sufficient.

### Quick Tip

For sum of arithmetic sequence, use the formula  $S_n = \frac{n}{2} \times [2a + (n - 1)d]$ .

---

79. Is triangle ABC with sides a, b, c a right angle or acute angled?

(1) Two sides of triangle ABC are a and b. Area of triangle is 140 sq. cms.

(2) Median AD to side BC is equal in altitude AE to side BC.

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: d

Solution: - Statement (1): The area of the triangle is provided, but we cannot determine the type of triangle (right or acute) with only the area and two sides. - Statement (2): The given information does not provide enough geometric details to conclude the angle type of the triangle.

Thus, additional data are needed to answer the question.

### Quick Tip

To determine the type of triangle, you may need more properties such as angles, side ratios, or the Pythagorean theorem.

---

80. If  $y = 3x^2 - 4x + 2$ , then

(1)  $3x^2 - 4x + 2 = 0$

(2)  $(3x - 4) = 0$

- a. Statement (1) ALONE is sufficient, but statement (2) ALONE is not sufficient
- b. Statement (2) ALONE is sufficient, but statement (1) ALONE is not sufficient
- c. BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient
- d. Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data are needed

Correct Answer: a

Solution: - Statement (1): The equation  $3x^2 - 4x + 2 = 0$  is a quadratic equation that can be solved to find the values of  $x$ . Therefore, this statement alone is sufficient to answer the question. - Statement (2): The equation  $3x - 4 = 0$  is a linear equation, and solving it gives

$x = \frac{4}{3}$ , but this doesn't directly help solve for  $y$  in the context of the given quadratic equation.

Thus, Statement (1) alone is sufficient.

**Quick Tip**

For quadratic equations, use the quadratic formula to find the roots:  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ .

## English Usage

81. The prices of essential commodities has risen unprecedently, causing a lot of hardship to the common man.

- a. has rosen
- b. has rising
- c. have risen
- d. No error

Correct Answer: (c) have risen

Solution: The subject "prices" is plural, so the verb should be in the plural form "have" instead of "has." Therefore, the correct phrase is "have risen."

### Quick Tip

Remember, subject-verb agreement is crucial, and plural subjects take plural verbs.

---

82. Your admission into this university will be dependent on the marks you score in the entrance examination.

- a. Is depending
- b. Will depend
- c. Depending
- d. No error

Correct Answer: (b) Will depend

Solution: The phrase "will depend" is the correct future form, not "will be dependent on." "Will depend" is used to indicate a future condition, which fits the context.

### Quick Tip

Always use the correct future tense form when expressing conditions that will happen in the future.

---

83. When he heard the siren, he started running to the door.

- a. to run the door
- b. running from the door
- c. running towards the door
- d. No error

Correct Answer: (c) running towards the door

Solution: "Running towards the door" is a more accurate and standard phrasing. The preposition "towards" is used to indicate direction or movement in the direction of a place or goal.

### Quick Tip

Use "towards" to indicate movement in the direction of something.

---

84. You need not come unless you want to.

- a. You don't need to come unless you want to
- b. You come only when you want to
- c. You come unless you don't want to
- d. No error

Correct Answer: (d) No error

Solution: The sentence "You need not come unless you want to" is grammatically correct in standard English. It clearly expresses a condition for the action.

### Quick Tip

The phrase "need not" is correctly used to indicate that something is not required.

---

85. Acquisition of certain specific skills can be facilitated from general awareness, education to novel situation.

- a. can be facilitated by
- b. may facilitate through
- c. can be felicitated with
- d. No error

Correct Answer: (a) can be facilitated by

Solution: The phrase "can be facilitated by" is grammatically correct. The preposition "by" is commonly used to indicate the means or method through which something is facilitated. "Facilitated from" is incorrect as "from" is not the appropriate preposition in this context.

### Quick Tip

When referring to the method or means by which something is facilitated, use "by" instead of "from."

---

86. Which one of the following is a grammatically CORRECT sentence?

- a. You had better told her everything, or else you will lose a friend.
- b. You had better told her everything. else you would lose a friend.
- c. You had better tell her everything, or else you will lose a friend.
- d. You better tell her everything, else you will lose a friend.

Correct Answer: (c) You had better tell her everything, or else you will lose a friend.

Solution: The phrase "had better" is followed by the base form of the verb, which is "tell" in this case. "You had better" is a modal expression, and it is always followed by the simple form of the verb. Hence, the correct sentence is "You had better tell her everything."

### Quick Tip

When using "had better," always follow it with the base form of the verb.

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87. Knowledge of the local language the assimilation of the culture of the place. a.

- strengthens
- b. facilitates
- c. promotes
- d. hastens

Correct Answer: (b) facilitates

Solution: The word "facilitates" is the most appropriate choice in this context, as it means "makes something easier." Knowledge of the local language indeed helps to make the process of assimilating the culture easier.

### Quick Tip

Use "facilitates" when referring to making a process or task easier or smoother.

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88. Our teacher teaches English maths. a. beside  
b. with  
c. both  
d. besides

Correct Answer: (b) with

Solution: The correct preposition here is "with," as it indicates that the teacher teaches English in combination with maths. "With" is the appropriate preposition for linking two subjects taught by the same person.

### Quick Tip

Use "with" to indicate two subjects or tasks that are taught or performed together.

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89. Please stop so many mistakes.  
a. to make  
b. making  
c. make  
d. makes

Correct Answer: (b) making

Solution: The correct choice is "making" because after the verb "stop," we use the gerund form (verb + ing) to indicate the action of halting an activity. In this case, "making mistakes" is the correct expression. "Stop to make" would change the meaning, implying stopping with the intention to make mistakes, which is not appropriate in this context.

### Quick Tip

After verbs like "stop," use the gerund form (verb + ing) to indicate the action being halted.

---

90. He got too tired over work.

- a. due of
- b. due to
- c. due on
- d. due for

Correct Answer: (b) due to

Solution: The correct expression is "due to" when indicating a cause or reason. In this case, "due to overwork" means that the tiredness was caused by excessive work. "Due of" is not correct, and the other options "due on" and "due for" are used in different contexts.

**Quick Tip**

Use "due to" to indicate the reason or cause of something.

---

91. He was seen to school.

- a. went
- b. going
- c. gone
- d. go

Correct Answer: (b) going

Solution: The correct option is "going" because after the verb "was seen," we use the present participle (verb + ing). This structure is used to indicate that someone was observed doing an activity. The other options are incorrect: "went" is the past tense, "gone" is the past participle, and "go" is the base form.

**Quick Tip**

After "was seen," use the present participle (verb + ing) to indicate the action being observed.

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92. Our flight was —— from Jaipur to Agra airport.

- a. deflected
- b. diverted
- c. reverted
- d. shifted

Correct Answer: (b) diverted

Solution: The word "diverted" is the correct choice because it is commonly used in the context of flights or vehicles when the route is changed. "Deflected" refers to a change in direction but is not typically used for flights. "Reverted" means returning to a previous state, and "shifted" refers to changing position but is not used for flight routes.

**Quick Tip**

"Diverted" is the standard term used when referring to a change in a flight's route.

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93. Due to bad weather, our flight that took off from Delhi —— to Delhi.

- (1) deflected
- (2) diverted
- (3) returned
- (4) reverted

Correct Option: (3) returned Solution:

The correct usage is "returned to Delhi" in case of a flight going back to its origin. The other options do not convey the intended meaning for a flight returning to its departure point.

"Deflected" refers to a change in direction without returning to the origin, "diverted" typically refers to a temporary change in the flight route, and "reverted" is used for things that return to a previous state, but not commonly used for flights in this context.

Therefore, "returned" is the most suitable choice.

### Quick Tip

When discussing flights that go back to their point of origin due to reasons like weather, the verb "returned" is most commonly used.

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94. Can I borrow —— sugar?

- (1) much
- (2) some
- (3) a little
- (4) a few

Correct Option: (2) some Solution:

The word "some" is most appropriate in informal, polite requests like borrowing something. "Much" is typically used for uncountable nouns in negative or interrogative sentences but is not appropriate for requests. "A little" is also acceptable but less common for this context. "A few" is used with countable nouns, making it incorrect in this case where "sugar" is uncountable. Therefore, the most suitable word is "some."

### Quick Tip

In informal requests, "some" is commonly used when asking for an unspecified amount of an uncountable noun like sugar, water, etc.

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95. —— is known about her achievements.

- (1) A Few
- (2) Little
- (3) A little
- (4) None of the above

Correct Option: (2) Little Solution:

The word "little" is used when referring to something that is uncountable and means a very small amount. In this context, "little" implies that not much is known about her

achievements. "A little" refers to a small amount but still carries a positive tone, while "a few" refers to countable things, which is incorrect in this case since "achievements" is uncountable.

#### Quick Tip

When referring to something uncountable, such as knowledge, "little" is used to indicate a very small amount.

---

96. —— but one was against the proposal.

- (1) Everyone
- (2) All
- (3) Anyone
- (4) None of the above

Correct Answer: (1) Everyone

Solution:

The phrase "Everyone but one" is a common structure in such statements. The word "but" denotes the exclusion of a single entity, implying that all except one were against the proposal. Hence, "Everyone" fits the context.

#### Quick Tip

"Can" is used to denote ability or possibility, and "purchase" refers to the act of acquiring items, which fits perfectly here.

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97. Since we——read every book, we —— only the famous ones.

- (1) cannot, select
- (2) can, purchase
- (3) should, buy
- (4) have, sold

Correct Answer: (2) can, purchase

The correct structure is: "Since we can't read all, we can purchase only the famous ones." "Can" is used to denote the ability, and "purchase" is the correct verb for the action of acquiring books.

#### Quick Tip

"Can" is used to denote ability or possibility, and "purchase" refers to the act of acquiring items, which fits perfectly here.

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98. I got your mail —— Tuesday.

- (1) since
- (2) for
- (3) to
- (4) on

Correct Answer: (4) on Solution:

The correct preposition for days of the week is "on." The sentence should be: "I got your mail on Tuesday." This is the standard usage for specifying days.

#### Quick Tip

Use "on" when referring to specific days of the week.

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99. Which one of the following is the correct sentence?

- (1) do you like a glass of water?
- (2) would you like a glass of water?
- (3) would you like the glass of water?
- (4) do you like the glass of water?

Correct Answer: (2) would you like a glass of water?

Solution:

"Would you like a glass of water?" is the grammatically correct polite offering sentence.

This is a standard way to offer something to someone.

**Quick Tip**

"Would you like" is a polite way to offer something to someone.

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100. —— it help the students?

- (1) will
- (2) is
- (3) are
- (4) was

Correct Answer: (1) will Solution:

"Will it help the students?" is grammatically correct for a future possibility. The word "will" is used for future tense, while the other options do not fit with the intended meaning.

**Quick Tip**

"Will" is used to talk about future possibilities, making it the correct choice in this context.