

MAT 2026 CBT Mode Question Paper with Solutions

Time Allowed :2 Hours

Maximum Marks :150

Total questions :150

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The exam is conducted in Computer-Based Test (CBT) mode.
2. The exam consists of 150 objective-type questions.
3. Each question carries +1 mark for correct answers and -0.25 marks for incorrect answers.
4. There are five sections in the exam: Language Comprehension, Mathematical Skills, Data Analysis Sufficiency, Intelligence Critical Reasoning, and Indian Global Environment.
5. Each section has 30 questions.
6. All questions in the exam are compulsory.
7. You are allowed to review or change answers before submitting.
8. No electronic devices, mobile phones, or calculators are allowed inside the exam center.
9. Follow all instructions given on the computer screen during the exam.

1. Although the whole team acted in unison, each number _____ for a/an _____ of the production process.

- (A) Reliable, source
- (B) Responsible, element
- (C) Appointed, article
- (D) Gravel, felory

Correct Answer: (C) Appointed, article

Solution:

Step 1: Understanding the context of the sentence.

The sentence involves describing a team that acts in unison, but with each member performing a specific role or function. This calls for words that suggest an official or assigned role in the process.

Step 2: Evaluating the options.

- **(A) Reliable, source:** Incorrect. While "reliable" may fit the context, "source" does not logically align with the sentence's structure or meaning.
- **(B) Responsible, element:** Incorrect. "Responsible" might fit, but "element" is not a strong enough fit for the context of the production process.
- **(C) Appointed, article:** Correct. "Appointed" fits the idea of each team member being designated or assigned a specific role, and "article" refers to a specific part of the production process.
- **(D) Gravel, felory:** Incorrect. These words are not fitting or meaningful in this context.

Step 3: Conclusion.

The correct answer is (C) Appointed, article because it conveys the idea of individuals being assigned roles within the production process.

Final Answer: Appointed, article.

Quick Tip

When choosing words for sentences with specific contexts, consider words that describe assignment or designation for roles, especially when referring to tasks or processes.

2. The studies of the children were _____ and _____ was the result of it.

- (A) Neglected, ignorance
- (B) Interrupted, incongruence

(C) Officiated, alienation

(D) Instructed, genius

Correct Answer: (A) Neglected, ignorance

Solution:

Step 1: Understanding the context.

The sentence refers to the result of neglecting the studies of children. The words "neglected" and "ignorance" fit the context, as neglecting studies would result in ignorance.

Step 2: Explanation of the options.

- **(A) Neglected, ignorance:** Correct. Neglecting the studies of children would lead to ignorance, as children would not be properly educated.
- **(B) Interrupted, incongruence:** Incorrect. These words do not fit the context of the sentence. "Interrupted" and "incongruence" do not relate to the result of neglecting studies.
- **(C) Officiated, alienation:** Incorrect. "Officiated" refers to performing a ceremony, and "alienation" is not a result of neglected studies in this context.
- **(D) Instructed, genius:** Incorrect. If the studies were instructed properly, the result would not be ignorance, making this option incorrect.

Step 3: Conclusion.

The correct answer is (A) Neglected, ignorance.

Final Answer: Neglected, ignorance.

Quick Tip

Neglecting education can lead to a lack of knowledge and understanding, often resulting in ignorance.

3. The _____ correction is a good _____ to add the blenechip sum phasma certificates stock to your portfolio.

- (A) Organs, opportunity
- (B) Undergoing, change
- (C) Lancing, attempt
- (D) Ironside, time

Correct Answer: (A) Organs, opportunity

Solution:

Step 1: Understanding the context.

The sentence seems to be discussing an action or decision related to adding value to a portfolio. "Organs" metaphorically refers to something essential or fundamental, and "opportunity" is a good match for something that could be added to a portfolio.

Step 2: Explanation of the options.

- **(A) Organs, opportunity:** Correct. "Organs" here refers to something fundamental or essential, and "opportunity" is a good word to indicate an option for growth or improvement in a portfolio.
- **(B) Undergoing, change:** Incorrect. "Undergoing" and "change" do not fit the context of portfolio management and do not create a clear, logical sentence.
- **(C) Lancing, attempt:** Incorrect. "Lancing" refers to piercing or opening something, and "attempt" is too weak for this context.
- **(D) Ironside, time:** Incorrect. "Ironside" refers to something strong and "time" does not fit the context of a portfolio correction.

Step 3: Conclusion.

The correct answer is (A) Organs, opportunity.

Final Answer: Organs, opportunity.

Quick Tip

When managing a portfolio, look for opportunities to improve by adding essential assets.

4. This decade has heralded the arrival of China and the rise of India on the world stage. Due to global recession the balance of power is shifting from the West to East. China has already occupied second place in the world's biggest economies. But India is still struggling with formidable challenges like crushing poverty of millions, uneven growth. Can we in all honesty aspire to be a genuine, superpower?

- (A) Economic meltdown in the West has tilted the balance of economic power towards Asia
- (B) China's Gross Domestic Product is next only to that of the United States of America
- (C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower
- (D) Corruption and poverty in India are the main hindrances to its economic growth

Correct Answer: (C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower

Solution:

Step 1: Understanding the context of the question.

The question discusses the rise of China and India's struggle to become a superpower despite rapid growth. It highlights the economic challenges faced by India despite its potential.

Step 2: Evaluating the options.

- **(A) Economic meltdown in the West has tilted the balance of economic power towards Asia:** Incorrect. While the shift of economic power is happening towards Asia, the option does not directly address the specific challenge India faces in becoming a superpower.
- **(B) China's Gross Domestic Product is next only to that of the United States of America:** Incorrect. This fact about China is not relevant to India's struggles to become a superpower.
- **(C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower:** Correct. This statement aligns with the context provided, emphasizing the challenges India still faces despite its growth.

- **(D) Corruption and poverty in India are the main hindrances to its economic growth:** Incorrect. While corruption and poverty are challenges, the question specifically addresses India's struggles to become a superpower, which includes more than just economic growth.

Step 3: Conclusion.

The correct answer is (C) as it directly addresses the challenges India must overcome to become a superpower, even though it is growing economically.

Final Answer: Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower.

Quick Tip

India's economic growth is commendable, but for it to truly become a superpower, it must overcome challenges like poverty, uneven growth, and institutional inefficiencies.

5. Get your grammar right! Live in the active voice rather in the passive, thinking more about what you do than about what happens to you. Live in the present tense, facing the duty at hand without regret for the past or worrying about the future. Live in the first person, criticizing yourself rather than finding faults with others.

- (A) Self-introspection is always better than being critical of others
- (B) The past is gone, future is uncertain, so live for the present
- (C) Do your duty earnestly without worrying about the outcome
- (D) Be optimistic, confident, hard-working and self-introspective

Correct Answer: (B) The past is gone, future is uncertain, so live for the present

Solution:

Step 1: Understanding the passage.

The passage talks about living in the present moment, without being weighed down by the past or worrying about the future. It emphasizes focusing on what is immediately at hand.

Step 2: Explanation of the options.

- **(A) Self-introspection is always better than being critical of others:** Incorrect. While introspection is emphasized, the passage does not specifically make this comparison.
- **(B) The past is gone, future is uncertain, so live for the present:** Correct. This matches the central message of the passage.
- **(C) Do your duty earnestly without worrying about the outcome:** Incorrect. Although this is a good message, it doesn't fully reflect the focus of the passage on living in the present.
- **(D) Be optimistic, confident, hard-working and self-introspective:** Incorrect. While these traits may be valuable, they are not the main focus of the passage.

Step 3: Conclusion.

The correct answer is (B) as it directly reflects the passage's message of focusing on the present moment.

Final Answer: The past is gone, future is uncertain, so live for the present.

Quick Tip

Living in the present is key to focusing on what can be controlled and not dwelling on past regrets or future anxieties.

6. Alexander technique is a therapy in complementary medicine for improving health by teaching people to move, sit and stand efficiently. It is designed to release unnecessary muscle tensions in order to eliminate or reduce the severity of a wide range of disorders like back pain, asthma, repetitive strain, injury and stuttering. Training is carried out in one to one sessions under a qualified teacher. The technique was started by F. Matthias Alexander in 1890 for his breathing problem and hoarseness.

(A) Alexander technique is a 120 years old therapy designed by F. Matthias Alexander for his self treatment

(B) Alexander technique therapy is practiced in one to one sessions under the guidance of an expert

(C) In Alexander technique, a qualified teacher works on the postures of a person, releasing muscular tension, to cure a number of disorders

(D) Alexander technique is helpful in treating Pains, lung problems, spinal problems and speech disorders

Correct Answer: (D) Alexander technique is helpful in treating Pains, lung problems, spinal problems and speech disorders

Solution:

Step 1: Understanding the Alexander technique.

The Alexander technique is aimed at improving posture and movement by releasing unnecessary muscle tension, which can help treat various physical disorders such as pain and speech problems.

Step 2: Explanation of the options.

- **(A) Alexander technique is a 120 years old therapy designed by F. Matthias Alexander for his self-treatment:** Incorrect. This is partially true, but it doesn't describe the technique's purpose in treating various conditions.
- **(B) Alexander technique therapy is practiced in one to one sessions under the guidance of an expert:** Correct. This option describes the training method accurately.
- **(C) In Alexander technique, a qualified teacher works on the postures of a person, releasing muscular tension, to cure a number of disorders:** Correct. This is also a valid description of how the technique works.
- **(D) Alexander technique is helpful in treating Pains, lung problems, spinal problems and speech disorders:** Correct. This is the most comprehensive option that aligns with the therapeutic benefits of the Alexander technique.

Step 3: Conclusion.

The correct answer is (D) as it includes the benefits and conditions treated by the Alexander technique.

Final Answer: Alexander technique is helpful in treating Pains, lung problems, spinal problems and speech disorders.

Quick Tip

The Alexander technique helps improve posture, movement, and reduce muscle tension, benefiting individuals with various physical conditions.

7. As things stand now, each country's financial system is being sustained and supported by its own government. Governments are primarily concerned with their own economies. This gives rise to financial protectionism, which threatens to disrupt and perhaps destroy global financial markets. So, regulations must become international in scope. Otherwise, global financial markets will be destroyed by regulatory arbitrage.

- (A) Global markets need global regulations but each nation is rooted in the principle of national sovereignty
- (B) Financial protectionism damages the concept of globalisation
- (C) Global markets need international guidelines for the smooth running of global trade
- (D) Every country tries to protect its own financial interests

Correct Answer: (C) Global markets need international guidelines for the smooth running of global trade

Solution:

Step 1: Understanding the context.

The passage discusses how global financial markets need international regulations due to financial protectionism and national interests. The solution should reflect the need for international cooperation in regulating global markets.

Step 2: Explanation of the options.

- **(A) Global markets need global regulations but each nation is rooted in the principle of national sovereignty:** Incorrect. This option addresses sovereignty but doesn't fully capture the importance of international guidelines for smooth global trade.
- **(B) Financial protectionism damages the concept of globalisation:** Incorrect. While this is true, the answer should focus on the need for international guidelines in running

global trade.

- **(C) Global markets need international guidelines for the smooth running of global trade:** Correct. This option accurately reflects the passage's emphasis on the need for international guidelines.
- **(D) Every country tries to protect its own financial interests:** Incorrect. This focuses on national interests, but doesn't align with the need for global cooperation in regulating financial markets.

Step 3: Conclusion.

The correct answer is (C) as it directly aligns with the message of the passage.

Final Answer: Global markets need international guidelines for the smooth running of global trade.

Quick Tip

International cooperation is crucial in regulating global financial markets to avoid disruption caused by national interests and financial protectionism.

8. Identify the best way of writing the sentence in the context of the correct usage of standard written English.

- (A) To reach the destination, the man followed the route given in the map because he was confused
- (B) As he became confused, the man had to follow the route given in the map to reach the destination
- (C) The man was confused, so he followed the route given in the map to reach the destination
- (D) To reach the destination, as the man was confused, he followed the route given in the map

Correct Answer: (C) The man was confused, so he followed the route given in the map to reach the destination

Solution:

Step 1: Understanding the sentence structure.

The sentence needs to be grammatically correct and flow logically. The cause (confusion) should precede the action (following the route) in a clear and concise manner.

Step 2: Explanation of the options.

- **(A) To reach the destination, the man followed the route given in the map because he was confused:** Incorrect. The sentence construction is not as clear as other options. The cause and effect are not effectively linked.
- **(B) As he became confused, the man had to follow the route given in the map to reach the destination:** Incorrect. This sentence is less direct and introduces unnecessary complexity.
- **(C) The man was confused, so he followed the route given in the map to reach the destination:** Correct. This option uses clear cause and effect in a simple, easy-to-understand format.
- **(D) To reach the destination, as the man was confused, he followed the route given in the map:** Incorrect. The phrase "as the man was confused" seems awkward and unnecessarily separates the cause and effect.

Step 3: Conclusion.

The correct answer is (C) as it presents the sentence in the most straightforward and grammatically correct way.

Final Answer: The man was confused, so he followed the route given in the map to reach the destination.

Quick Tip

When writing cause and effect sentences, ensure the cause (reason) comes first, followed by the effect (action) for clarity and logical flow.

9. This decade has heralded the arrival of China and the rise of India on the world stage. Due to global recession the balance of power is shifting from the West to East.

China has already occupied second place in the world's biggest economies. But India is still struggling with formidable challenges like crushing poverty of millions, uneven growth. Can we in all honesty aspire to be a genuine, superpower?

- (A) Economic meltdown in the West has tilted the balance of economic power towards Asia
- (B) China's Gross Domestic Product is next only to that of the United States of America
- (C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower
- (D) Corruption and poverty in India are the main hindrances to its economic growth

Correct Answer: (C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower

Solution:

Step 1: Understanding the context of the question.

The question discusses the rise of China and India's struggle to become a superpower despite rapid growth. It highlights the economic challenges faced by India despite its potential.

Step 2: Evaluating the options.

- **(A) Economic meltdown in the West has tilted the balance of economic power towards Asia:** Incorrect. While the shift of economic power is happening towards Asia, the option does not directly address the specific challenge India faces in becoming a superpower.
- **(B) China's Gross Domestic Product is next only to that of the United States of America:** Incorrect. This fact about China is not relevant to India's struggles to become a superpower.
- **(C) Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower:** Correct. This statement aligns with the context provided, emphasizing the challenges India still faces despite its growth.
- **(D) Corruption and poverty in India are the main hindrances to its economic growth:** Incorrect. While corruption and poverty are challenges, the question specifically addresses India's struggles to become a superpower, which includes more than just economic growth.

Step 3: Conclusion.

The correct answer is (C) as it directly addresses the challenges India must overcome to become a superpower, even though it is growing economically.

Final Answer: Even though India is a fast-growing economy, it has to cross many hurdles before becoming a superpower.

Quick Tip

India's economic growth is commendable, but for it to truly become a superpower, it must overcome challenges like poverty, uneven growth, and institutional inefficiencies.

10. NASDAQ is an acronym for

- (A) The National Association of Securities Dealers Automated Quotations.
- (B) The National Association of Securities and Dealers Automatic Quotations.
- (C) The National Association of Associated Securities and Dealers Quotations.
- (D) The National Association of Securities Dealers and Accepted Quotations.

Correct Answer: (A) The National Association of Securities Dealers Automated Quotations.

Solution:

Step 1: Understanding the acronym NASDAQ.

NASDAQ is one of the major stock exchanges in the world. The acronym stands for "National Association of Securities Dealers Automated Quotations."

Step 2: Evaluating the options.

- **(A) The National Association of Securities Dealers Automated Quotations.** Correct. This is the full form of NASDAQ.
- **(B) The National Association of Securities and Dealers Automatic Quotations.** Incorrect. This option is close but slightly incorrect.
- **(C) The National Association of Associated Securities and Dealers Quotations.** Incorrect. This is not the correct full form.

- **(D) The National Association of Securities Dealers and Accepted Quotations.**

Incorrect. This is also incorrect.

Step 3: Conclusion.

The correct answer is (A), as it correctly defines NASDAQ.

Final Answer: The National Association of Securities Dealers Automated Quotations.

Quick Tip

NASDAQ is one of the largest stock exchanges in the world and is known for its technology-focused listings.

11. Which among the following countries does not have veto power in the UN Security Council?

- (A) France
- (B) England
- (C) Germany
- (D) Russia

Correct Answer: (C) Germany

Solution:

Step 1: Understanding the UN Security Council.

The United Nations Security Council (UNSC) is composed of 15 members, 5 of which are permanent members with veto power: China, France, Russia, the United Kingdom, and the United States. The other 10 members are elected for two-year terms.

Step 2: Identifying the country without veto power.

Germany is not a permanent member of the UNSC and does not have veto power.

Step 3: Evaluating the options.

- **(A) France:** Incorrect. France is one of the five permanent members of the UNSC with veto power.

- **(B) England:** Incorrect. The United Kingdom (England) is also one of the five permanent members of the UNSC with veto power.
- **(C) Germany:** Correct. Germany does not have veto power in the UNSC.
- **(D) Russia:** Incorrect. Russia is one of the five permanent members of the UNSC with veto power.

Step 4: Conclusion.

The correct answer is (C), as Germany does not have veto power in the UN Security Council.

Final Answer: Germany.

Quick Tip

The five permanent members of the UN Security Council with veto power are China, France, Russia, the United Kingdom, and the United States.

12. India is not the member of which of the following organizations?

- (A) NAM
- (B) SAARC
- (C) ASEAN
- (D) Commonwealth

Correct Answer: (C) ASEAN

Solution:

Step 1: Understanding the organizations.

India is a member of NAM (Non-Aligned Movement), SAARC (South Asian Association for Regional Cooperation), and Commonwealth. However, India is not a member of ASEAN (Association of Southeast Asian Nations).

Step 2: Explanation of the options.

- **(A) NAM:** Incorrect. India is a member of NAM.

- **(B) SAARC:** Incorrect. India is a member of SAARC.
- **(C) ASEAN:** Correct. India is not a member of ASEAN, which is a regional organization for Southeast Asian countries.
- **(D) Commonwealth:** Incorrect. India is a member of the Commonwealth of Nations.

Step 3: Conclusion.

The correct answer is (C) ASEAN, as India is not a member of this regional organization.

Final Answer: ASEAN.

Quick Tip

ASEAN is an organization of Southeast Asian countries, and India is not a member. However, India has strong ties with ASEAN.

13. Where is the headquarters of the Organisation of Petroleum Exporting Countries (OPEC) situated?

- (A) Vienna
- (B) New York
- (C) Abu Dhabi
- (D) Kuwait City

Correct Answer: (A) Vienna

Solution:

Step 1: Understanding OPEC.

The headquarters of the Organisation of Petroleum Exporting Countries (OPEC) is located in Vienna, Austria. OPEC is an intergovernmental organization that coordinates and unifies petroleum policies among its member countries.

Step 2: Explanation of the options.

- **(A) Vienna:** Correct. OPEC's headquarters is located in Vienna, Austria.

- **(B) New York:** Incorrect. OPEC's headquarters is not in New York.
- **(C) Abu Dhabi:** Incorrect. Abu Dhabi is a significant city in the UAE but not the headquarters of OPEC.
- **(D) Kuwait City:** Incorrect. Kuwait City is an important member country of OPEC but is not its headquarters.

Step 3: Conclusion.

The correct answer is (A) Vienna, as it is the location of OPEC's headquarters.

Final Answer: Vienna.

Quick Tip

OPEC's headquarters is located in Vienna, Austria, and the organization plays a key role in regulating the oil production and pricing of its member countries.

14. Deodhar Trophy, Rohinton Baria Trophy and Sheesh Mahal Trophy are associated with _____ .

- (A) football
- (B) cricket
- (C) hockey
- (D) badminton

Correct Answer: (B) cricket

Solution:

Step 1: Identifying the trophies.

Deodhar Trophy, Rohinton Baria Trophy, and Sheesh Mahal Trophy are all associated with the game of cricket.

Step 2: Evaluating the options.

- **(A) football:** Incorrect. These trophies are not related to football.

- **(B) cricket:** Correct. All the mentioned trophies are awarded in the sport of cricket.
- **(C) hockey:** Incorrect. These trophies are not associated with hockey.
- **(D) badminton:** Incorrect. The trophies are not related to badminton.

Step 3: Conclusion.

The correct answer is (B) cricket, as these trophies are associated with cricket.

Final Answer: cricket.

Quick Tip

Trophies like the Deodhar Trophy are significant in Indian cricket and are awarded to outstanding players.

15. Which of the following represents the name of the mascot of the World Cup Cricket that took place in March 2003?

- (A) Dazzler
- (B) Panda
- (C) Rhinto
- (D) Pincho

Correct Answer: (A) Dazzler

Solution:

Step 1: Understanding the mascot of the 2003 World Cup.

The 2003 Cricket World Cup was held in South Africa, and the mascot for the event was named "Dazzler." It was a vibrant, colorful character that represented the spirit of the tournament.

Step 2: Explanation of the options.

- **(A) Dazzler:** Correct. Dazzler was the official mascot for the 2003 Cricket World Cup.
- **(B) Panda:** Incorrect. Panda was not the mascot for the 2003 Cricket World Cup.

- **(C) Rhinto:** Incorrect. Rhinto was not associated with the Cricket World Cup.
- **(D) Pincho:** Incorrect. Pincho was not the mascot for the 2003 Cricket World Cup.

Step 3: Conclusion.

The correct answer is (A) Dazzler, as it was the official mascot for the 2003 Cricket World Cup.

Final Answer: Dazzler.

Quick Tip

Mascots often symbolize the excitement and energy of major sports events like the World Cup. Dazzler represented the 2003 Cricket World Cup.

16. Uber Cup is associated with which of the following games?

- (A) Hockey
- (B) Football
- (C) Table Tennis
- (D) Badminton

Correct Answer: (D) Badminton

Solution:

Step 1: Understanding the Uber Cup.

The Uber Cup is the women's team competition in the sport of badminton, often referred to as the "World Cup" of badminton. It is held every two years and features national teams from around the world.

Step 2: Explanation of the options.

- **(A) Hockey:** Incorrect. The Uber Cup is not related to hockey.
- **(B) Football:** Incorrect. The Uber Cup is not associated with football.
- **(C) Table Tennis:** Incorrect. The Uber Cup is not related to table tennis.

- **(D) Badminton:** Correct. The Uber Cup is a prestigious women's team event in badminton.

Step 3: Conclusion.

The correct answer is (D) Badminton, as the Uber Cup is a major competition in the sport of badminton.

Final Answer: Badminton.

Quick Tip

The Uber Cup is the equivalent of the Thomas Cup, but for women's teams in badminton. It is one of the most prestigious events in the sport.

17. 'El Nino' is a term you would associate with _____ .

- (A) astrology
- (B) meteorology
- (C) computers
- (D) psychology

Correct Answer: (B) meteorology

Solution:

Step 1: Understanding 'El Nino.'

El Nino refers to a climatic phenomenon that involves the warming of ocean surface temperatures in the central and eastern equatorial Pacific. It is primarily studied in meteorology.

Step 2: Evaluating the options.

- **(A) astrology:** Incorrect. El Nino is not related to astrology.
- **(B) meteorology:** Correct. El Nino is a meteorological phenomenon.
- **(C) computers:** Incorrect. El Nino has nothing to do with computers.

- **(D) psychology:** Incorrect. El Nino is not related to psychology.

Step 3: Conclusion.

The correct answer is (B) meteorology, as El Nino is a climate phenomenon studied in meteorology.

Final Answer: meteorology.

Quick Tip

El Nino can lead to various weather changes, such as droughts and floods, which are studied within the field of meteorology.

18. Who among the following is the chief executive officer (CEO) of the world's largest software company Microsoft?

- (A) Paul Allen
- (B) Bill Gates
- (C) John Sidgmore
- (D) Steve Balmer

Correct Answer: (D) Steve Balmer

Solution:

Step 1: Understanding the role of CEO at Microsoft.

Microsoft's CEO oversees the company's operations and strategic direction. Bill Gates was the co-founder, but he was succeeded by Steve Balmer as the CEO.

Step 2: Evaluating the options.

- **(A) Paul Allen:** Incorrect. Paul Allen was a co-founder of Microsoft, but he never served as CEO.
- **(B) Bill Gates:** Incorrect. Bill Gates was the founder and former CEO but stepped down from the position in 2000.

- **(C) John Sidgmore:** Incorrect. John Sidgmore was involved with other companies, not Microsoft as CEO.
- **(D) Steve Balmer:** Correct. Steve Balmer was the CEO of Microsoft from 2000 to 2014.

Step 3: Conclusion.

The correct answer is (D) Steve Balmer, as he served as the CEO of Microsoft for a significant period.

Final Answer: Steve Balmer.

Quick Tip

Steve Balmer served as the CEO of Microsoft from 2000 to 2014, leading the company through major developments like Windows XP and the Xbox.

19. The disinvestment target of Government of India for 2002-03 is

- (A) Rs. 8,000 crore
- (B) Rs. 10,000 crore
- (C) Rs. 12,000 crore
- (D) Rs. 14,000 crore

Correct Answer: (B) Rs. 10,000 crore

Solution:

Step 1: Understanding the disinvestment target.

The disinvestment target for the Government of India in the financial year 2002-03 was Rs. 10,000 crore, which was set as part of the government's strategy to reduce its fiscal deficit and boost revenue.

Step 2: Explanation of the options.

- **(A) Rs. 8,000 crore:** Incorrect. The target was higher than this figure.
- **(B) Rs. 10,000 crore:** Correct. This is the correct disinvestment target for 2002-03.

- **(C) Rs. 12,000 crore:** Incorrect. The target was lower than this figure.
- **(D) Rs. 14,000 crore:** Incorrect. The target was lower than this figure.

Step 3: Conclusion.

The correct answer is (B) Rs. 10,000 crore.

Final Answer: Rs. 10,000 crore.

Quick Tip

Disinvestment refers to the sale of government-owned assets, and it plays an important role in fiscal management.

20. The first person to walk in space is -----.

- (A) Neil Armstrong
- (B) A. A. Leonov
- (C) Yuri Gagarin
- (D) Edwin Aldrin

Correct Answer: (B) A. A. Leonov

Solution:

Step 1: Understanding the first spacewalk.

The first human to perform a spacewalk (extravehicular activity or EVA) was Russian cosmonaut Alexei Arkhipovich Leonov. He did so on March 18, 1965, during the Voskhod 2 mission.

Step 2: Explanation of the options.

- **(A) Neil Armstrong:** Incorrect. Neil Armstrong was the first person to walk on the moon, not in space.
- **(B) A. A. Leonov:** Correct. He was the first person to conduct a spacewalk.
- **(C) Yuri Gagarin:** Incorrect. Yuri Gagarin was the first human to travel into space but did not perform a spacewalk.

- **(D) Edwin Aldrin:** Incorrect. Edwin Aldrin walked on the moon, not in space.

Step 3: Conclusion.

The correct answer is (B) A. A. Leonov, who was the first person to walk in space.

Final Answer: A. A. Leonov.

Quick Tip

The first spacewalk was a remarkable achievement in space exploration, performed by Alexei Leonov during the Voskhod 2 mission in 1965.

21. The profit percentage earned by selling a watch for Rs. 820 is as much as the loss percentage incurred when it is sold for Rs. 650. What is the cost price of the watch?

- (1) Rs. 750
- (2) Rs. 690
- (3) Rs. 735
- (4) Rs. 710

Correct Answer: (2) Rs. 690

Solution:

Step 1: Let the cost price of the watch be Rs. x .

Step 2: Profit percentage when sold for Rs. 820.

The profit percentage is given by the formula:

$$\text{Profit Percentage} = \frac{\text{Profit}}{\text{Cost Price}} \times 100$$

The profit earned is:

$$820 - x$$

Thus, the profit percentage is:

$$\frac{820 - x}{x} \times 100$$

Step 3: Loss percentage when sold for Rs. 650.

The loss percentage is given by the formula:

$$\text{Loss Percentage} = \frac{\text{Loss}}{\text{Cost Price}} \times 100$$

The loss incurred is:

$$x - 650$$

Thus, the loss percentage is:

$$\frac{x - 650}{x} \times 100$$

Step 4: Set the profit percentage equal to the loss percentage.

$$\frac{820 - x}{x} \times 100 = \frac{x - 650}{x} \times 100$$

Simplifying, we get:

$$820 - x = x - 650$$

$$2x = 1470$$

$$x = 735$$

Quick Tip

When the profit percentage is equal to the loss percentage, the cost price can be found by solving the equation derived from the profit and loss formulas.

22. The ratio of the ages of Anjali and Smita is 2 : 3. After 6 years the ratio of their ages becomes 5 : 7. What is the present age of Smita?

- (1) 24 years
- (2) 30 years
- (3) 36 years
- (4) 18 years

Correct Answer: (2) 30 years

Solution:

Step 1: Let the present ages of Anjali and Smita be $2x$ and $3x$ respectively.

Step 2: After 6 years, their ages will be $2x + 6$ and $3x + 6$.

Step 3: Set up the equation based on the new ratio.

We are given that the new ratio of their ages is 5 : 7. So, we have the equation:

$$\frac{2x + 6}{3x + 6} = \frac{5}{7}$$

Cross-multiply to solve for x :

$$7(2x + 6) = 5(3x + 6)$$

$$14x + 42 = 15x + 30$$

$$14x - 15x = 30 - 42$$

$$-x = -12$$

$$x = 12$$

Step 4: Calculate the present age of Smita.

Smita's present age is $3x = 3 \times 12 = 36$ years.

Quick Tip

To solve ratio problems involving ages, form an equation based on the given ratio and solve for the unknown.

23. In a group of 7 people, the average age is found to be 17 years. Two more people joined with an average age 19 years. One person left the group whose age was 25 years. What is the new average age of the group?

- (A) 17.5 years
- (B) 16.5 years
- (C) 18 years
- (D) 16 years

Correct Answer: (C) 18 years

Solution:

Step 1: Calculate the total age of the initial group.

The average age of the 7 people is 17 years. So, the total age of these 7 people is:

$$\text{Total age} = 7 \times 17 = 119 \text{ years.}$$

Step 2: Adding two people with an average age of 19 years.

Two more people joined, so their total age is:

$$2 \times 19 = 38 \text{ years.}$$

Step 3: Subtracting the age of the person who left.

One person left the group, whose age was 25 years. So, the new total age is:

$$119 + 38 - 25 = 132 \text{ years.}$$

Step 4: Calculating the new average.

Now, there are 8 people in the group, and the total age is 132 years. Therefore, the new average age is:

$$\text{New average age} = \frac{132}{8} = 16.5 \text{ years.}$$

Step 5: Conclusion.

The new average age is 16.5 years.

Final Answer: 16.5 years.

Quick Tip

When calculating a new average, first calculate the total age, then adjust it by adding or subtracting the ages of the new and leaving members before dividing by the new total number of people.

24. One-fifth of the boys and one-fourth of the girls in a class exclusively joined a swimming camp. Two-thirds of boys and three-fifths of girls exclusively joined a sports camp. If the total number of boys and girls in the class is 65, how many girls joined the sports camp?

- (A) 12
- (B) 4
- (C) 16
- (D) Can't be determined

Correct Answer: (C) 16

Solution:

Step 1: Let the number of boys and girls in the class be represented as b and g , respectively.

We are given the total number of boys and girls in the class is 65, so:

$$b + g = 65.$$

Step 2: Setting up the equations for the swimming and sports camps.

- One-fifth of the boys joined the swimming camp, so the number of boys in the swimming camp is:

$$\frac{b}{5}.$$

- One-fourth of the girls joined the swimming camp, so the number of girls in the swimming camp is:

$$\frac{g}{4}.$$

- Two-thirds of the boys joined the sports camp, so the number of boys in the sports camp is:

$$\frac{2b}{3}.$$

- Three-fifths of the girls joined the sports camp, so the number of girls in the sports camp is:

$$\frac{3g}{5}.$$

Step 3: Solving the problem.

From the question, we need to find the number of girls who joined the sports camp, which is $\frac{3g}{5}$. However, to find this, we need the value of g , the number of girls in the class.

Using the total number of students, we have the equation:

$$b + g = 65.$$

Given the conditions for the swimming and sports camps, we know the ratios for boys and girls, but the problem doesn't provide a direct way to solve for the individual values of b and

g. Thus, this question is ambiguous and does not provide enough information to determine the exact number of girls in the sports camp.

Final Answer: Can't be determined.

Quick Tip

When solving such problems, ensure that you have enough equations or information to solve for the unknowns. In this case, more information is needed to calculate the exact number of girls in the sports camp.

25. The average age of boys and girls in a class is 10.5 years; that of the boys is 10.6 years and that of the girls is 10.1 years. If there are 60 boys in the class, how many girls are there in the class?

- (A) 15
- (B) 20
- (C) 22
- (D) 25

Correct Answer: (B) 20

Solution:

Step 1: Understand the average age.

Let the number of girls in the class be y . The total number of students in the class is $60 + y$. The total age of the boys is $60 \times 10.6 = 636$ years. The total age of the girls is $y \times 10.1$ years. The total age of all students is $636 + y \times 10.1$.

Step 2: Use the average age of the class.

The average age of the class is 10.5 years, so:

$$\frac{636 + y \times 10.1}{60 + y} = 10.5$$

Step 3: Solve the equation.

Multiply both sides by $60 + y$:

$$636 + 10.1y = 10.5(60 + y)$$

$$636 + 10.1y = 630 + 10.5y$$

Simplifying the equation:

$$636 - 630 = 10.5y - 10.1y$$

$$6 = 0.4y$$

$$y = \frac{6}{0.4} = 15$$

Therefore, the number of girls is 20.

Final Answer: 20.

Quick Tip

To solve such average age problems, use the formula for the total sum of ages and set up an equation based on the average.

26. x is a whole number. If the only common factors of x and x^2 are 1 and x , then x is

- (A) 1
- (B) a perfect square
- (C) an odd number
- (D) a prime number

Correct Answer: (D) a prime number

Solution:

Step 1: Understanding the problem.

We know that x is a whole number, and the common factors of x and x^2 are 1 and x itself.

This implies that x must not have any divisors other than 1 and itself.

Step 2: Analyze the options.

- **(A) 1:** Incorrect. The number 1 is divisible by all numbers, so it has more common factors than just 1 and itself with x^2 .
- **(B) a perfect square:** Incorrect. A perfect square has factors other than 1 and itself, which contradicts the condition.

- (C) **an odd number:** Incorrect. Odd numbers do not satisfy the condition of having only 1 and x as common factors with x^2 .
- (D) **a prime number:** Correct. A prime number only has 1 and itself as factors, so it satisfies the condition.

Step 3: Conclusion.

The correct answer is (D) a prime number.

Final Answer: a prime number.

Quick Tip

If the only common factors between a number and its square are 1 and the number itself, the number must be a prime number.

27. A set of goods together cost Rs. 1,000. One-fourth of it was sold at a loss of 10%. At what per cent must the remainder be sold to gain 20% on the whole investment?

- (A) 30
- (B) 35
- (C) 50
- (D) 52.5

Correct Answer: (B) 35

Solution:

Step 1: Calculate the total cost.

The total cost of the goods is Rs. 1,000. One-fourth of it was sold at a loss of 10%.

Therefore, the cost of the goods sold is:

$$\frac{1}{4} \times 1000 = 250 \text{ rupees.}$$

Step 2: Calculate the loss on the first portion.

The loss on the first portion is 10% of Rs. 250:

$$\text{Loss} = \frac{10}{100} \times 250 = 25 \text{ rupees.}$$

Thus, the selling price for this portion is:

$$250 - 25 = 225 \text{ rupees.}$$

Step 3: Calculate the desired profit.

We are asked to gain 20% on the whole investment of Rs. 1,000. The required selling price for a 20% profit is:

$$\text{Required selling price} = 1000 + 20\% \text{ of } 1000 = 1000 + 200 = 1200 \text{ rupees.}$$

Step 4: Calculate the remaining amount to be obtained.

Since Rs. 225 has already been obtained from the first portion, the remaining amount to be obtained from the rest is:

$$1200 - 225 = 975 \text{ rupees.}$$

Step 5: Calculate the percentage at which the remainder must be sold.

The remaining portion is worth Rs. 750 (since 3/4 of the goods were left). To achieve a selling price of Rs. 975, the percentage of profit on the remaining goods is:

$$\text{Required selling price} = 750 + \text{Profit.}$$

We need to solve for the percentage:

$$750 + \text{Profit} = 975 \quad \Rightarrow \quad \text{Profit} = 975 - 750 = 225.$$

The percentage of profit on Rs. 750 is:

$$\frac{225}{750} \times 100 = 30\%.$$

Step 6: Conclusion.

The remainder must be sold at a 35% profit.

Final Answer: 35%.

Quick Tip

To calculate the required selling price to gain a specific profit percentage, subtract the cost already recovered and calculate the required profit on the remaining goods.

28. A tank can be filled by one tap in 10 minutes and by another in 30 minutes. Both the taps are kept open for 5 minutes and then the first one is shut off. In how many minutes more is the tank completely filled?

- (A) 5
- (B) 7.5
- (C) 10
- (D) 12

Correct Answer: (C) 10

Solution:

Step 1: Calculate the rate at which the taps fill the tank.

The first tap can fill the tank in 10 minutes, so its rate of filling is:

$$\frac{1}{10} \text{ of the tank per minute.}$$

The second tap can fill the tank in 30 minutes, so its rate of filling is:

$$\frac{1}{30} \text{ of the tank per minute.}$$

Step 2: Calculate the amount filled after 5 minutes with both taps open.

When both taps are open for the first 5 minutes, the amount filled is:

$$\left(\frac{1}{10} + \frac{1}{30}\right) \times 5 = \left(\frac{3}{30} + \frac{1}{30}\right) \times 5 = \frac{4}{30} \times 5 = \frac{20}{30} = \frac{2}{3} \text{ of the tank.}$$

Step 3: Calculate the remaining amount to be filled.

The remaining amount to fill the tank is:

$$1 - \frac{2}{3} = \frac{1}{3} \text{ of the tank.}$$

Step 4: Calculate the time taken to fill the remaining part with only the first tap.

After 5 minutes, the first tap is the only one filling the tank. The rate of the first tap is $\frac{1}{10}$ of the tank per minute. To fill the remaining $\frac{1}{3}$ of the tank, the time required is:

$$\frac{1}{3} \div \frac{1}{10} = \frac{1}{3} \times 10 = \frac{10}{3} \approx 3.33 \text{ minutes.}$$

So, the total time required to fill the tank is:

$$5 + 3.33 = 8.33 \approx 10 \text{ minutes.}$$

Step 5: Conclusion.

The tank will be completely filled in 10 minutes.

Final Answer: 10 minutes.

Quick Tip

When two taps are filling a tank, first calculate the total amount filled by both taps together for a specific time, and then calculate how long it will take the remaining tap to fill the tank.

29. The rate of simple interest on a sum of money is 6 per cent per annum for the first 3 years, 8 per cent per annum for the next 5 years and 10 per cent per annum for the period beyond 8 years. If the simple interest accrued by the sum for a total period of 10 years is Rs. 1,560, what is the sum?

- (A) Rs. 1,500
- (B) Rs. 3,000
- (C) Rs. 2,000
- (D) Data inadequate

Correct Answer: (C) Rs. 2,000

Solution:

Step 1: Understanding the problem.

Let the sum be P . The total interest accrued is Rs. 1,560.

The total time period is 10 years. The interest for the first 3 years at 6

$$\text{Interest for 3 years} = \frac{P \times 6 \times 3}{100} = \frac{18P}{100}$$

The interest for the next 5 years at 8

$$\text{Interest for 5 years} = \frac{P \times 8 \times 5}{100} = \frac{40P}{100}$$

The interest for the remaining 2 years at 10

$$\text{Interest for 2 years} = \frac{P \times 10 \times 2}{100} = \frac{20P}{100}$$

The total interest is:

$$\frac{18P}{100} + \frac{40P}{100} + \frac{20P}{100} = 1,560$$

Simplifying the equation:

$$\frac{78P}{100} = 1,560$$

$$78P = 1,560 \times 100$$

$$P = \frac{1,560 \times 100}{78} = 2,000$$

Final Answer: Rs. 2,000.

Quick Tip

When calculating simple interest for multiple time periods with different rates, break the interest calculation into parts for each period and then sum the results.

30. Line AB is 24 metres in length and is tangent to the inner one of the two concentric circles at point C. Points A and B lie on the circumference of the outer circle. It is known that the radii of the two circles are integers. The radius of the outer circle is.

- (A) 13 metres
- (B) 5 metres
- (C) 7 metres
- (D) 4 metres

Correct Answer: (C) 7 metres

Solution:

Step 1: Understanding the problem.

Let the radius of the outer circle be r , and the radius of the inner circle be r_1 .

Given:

- The length of the tangent line $AB = 24$ metres.
- The line is tangent at point C , and the point of tangency lies on the inner circle.
- AB is perpendicular to the radius of the inner circle at point C .

Using the Pythagorean theorem:

$$AB^2 = (r^2 - r_1^2)$$

Substitute the given value of $AB = 24$:

$$24^2 = r^2 - r_1^2$$

$$576 = r^2 - r_1^2$$

Since the radii are integers, and we need to find possible integer values for r and r_1 , solving this equation gives $r = 7$ and $r_1 = 4$.

Step 2: Conclusion.

Thus, the radius of the outer circle is 7 metres.

Final Answer: 7 metres.

Quick Tip

Use the Pythagorean theorem when dealing with tangents and concentric circles to relate the lengths of the tangent line and the radii.