Karnataka PGCET 2023 MBA Solutions

PART 1 SECTION A
Proficiency in English Language

Question 1: Choose the correct prepositional phrase from the following:

A. He begged pardon of his teacher.
B. He begged pardon with his teacher.
C. He begged pardon from his teacher.
D. He begged pardon for his teacher.

Answer: A. He begged pardon of his teacher.

Solution: The correct prepositional phrase is "He begged pardon of his teacher." This phrase is commonly used in English to express the act of asking for forgiveness from someone. The preposition "of" is used here to indicate the person from whom the pardon is sought.

Question 2: Find the grammatical error in the following segments:

A. Ganges
B. is
C. one of the largest rivers
D. at our country.

Answer: D. at our country
Solution: The grammatical error is in segment D, which should be "in our country" instead of "at our country." The preposition "in" is correctly used to indicate location within a country. The corrected sentence should read: "Ganges is one of the largest rivers in our country."

Question 3: Identify the segments with grammatical error:

A. I never remember
B. to have seen
C. a more exciting
D. movie.

Answer: B. to have seen
Solution: The grammatical error is in segment B, "to have seen." The correct form should be "seeing." The phrase "I never remember seeing" is grammatically correct because it follows the verb pattern of "remember" + gerund (verb+ing). The corrected sentence should read: "I never remember seeing a more exciting movie."

Question 4: Identify the segments with error:

A. After returning
B. from the post office
C. i laid down on the coach
D. to rest.

Answer: C. i laid down on the coach
Solution: There are two errors in segment C. Firstly, the pronoun "i" should be capitalized to "I." Secondly, "laid" should be "lay." The correct past tense of "lie" (to recline) is "lay," not "laid" (which is the past tense of "lay," meaning to place something). The corrected sentence should read: "After returning from the post office, I lay down on the couch to rest." Additionally, "coach" should be corrected to "couch."

Question 5: Identify the segments with error:

A. Besides the river
B. he lay
C. to take rest
D. for some time.

Answer: C. to take rest
Solution: The error is in segment C, "to take rest." The correct phrase should be "to rest." The phrase "take rest" is not commonly used in

standard English. The corrected sentence should read: "Besides the river, he lay to rest for some time."

Question 6: Walk quickly _____you should miss the bus.

A. so that
B. so as
C. unless
D. lest Answer:

D. lest

Solution: The correct word to fill in the blank is "lest." The sentence "Walk quickly lest you should miss the bus" means that you should walk quickly to avoid missing the bus. "Lest" is used to express a negative purpose or to prevent something undesirable from happening. The other options do not fit correctly in the context of the sentence.

Question 7: Sati is a cruel _____.

A. custom
B. tradition
C. habit
D. rite

Answer: A. custom
Solution: The correct term to fill in the blank is "custom." Sati, the historical practice where a widow immolated herself on her husband's funeral pyre, was a social custom in some parts of India. Although it could be considered a tradition or rite, the term "custom" is most commonly used to describe practices that are widespread within a particular community over a long period. "Habit" is inappropriate as it typically refers to individual behavior rather than a societal practice.

Question 8: The author of the Greek epic 'The Iliad' is :

A. Shakesphere
B. Dante
C. Homer
D. Aristotle

Answer: C. Homer
Solution: The author of the Greek epic "The Iliad" is Homer. Homer is renowned in ancient literature for composing both "The Iliad" and "The Odyssey," which are foundational works in Western literature and mythology. While Shakespeare (option A) is famous for his plays in English literature, Dante (option B) authored "The Divine Comedy," and Aristotle (option D) was a philosopher and scholar in ancient Greece, none of them are credited with writing "The Iliad." Therefore, the correct answer is C. Homer.

Question 9: Which one of the following plays is not written by William Shakespeare?

A. Twelfth Night
B. Pygmalion
C. The Merchant of Venice
D. Othello

Answer: B. Pygmalion
Solution: Pygmalion is not written by William Shakespeare. It is a play written by George Bernard Shaw, first performed in 1913. The other options listed—Twelfth Night, The Merchant of Venice, and Othello—are all plays written by William Shakespeare, known for his extensive contributions to English literature and drama during the Elizabethan and Jacobean periods. Therefore, the correct answer is B. Pygmalion.

Question 10: The famous English Romantic poet William Wordsworth has written _____?

A. The lucy poems
B. sonnets
C. plays

D. epics

Answer: A. The Lucy Poems
Solution: William Wordsworth, a prominent English Romantic poet, is known for writing "The Lucy Poems." These poems are a collection of lyrical works that revolve around the character of Lucy, exploring themes of nature, love, and mortality. While Wordsworth did write sonnets (option B) and other poetry, "The Lucy Poems" specifically highlight his romantic and introspective style. Wordsworth did not write plays (option C) or epics (option D); his focus was primarily on poetry that celebrated natural beauty and the human experience. Therefore, the correct answer is A. The Lucy Poems.

Question 11: Choose the best alternative for the idioms: 'Much ado about nothing'

A. To make a noise
B. To make a fuss over a small matter
C. A play by Shaw
D. Talk about nothing

Answer: B. To make a fuss over a small matter
Solution: The idiom "much ado about nothing" means to make a fuss or create a lot of excitement over something that is trivial or insignificant. It derives from the title of a play by William Shakespeare, where misunderstandings and trivial matters lead to comedic confusion. Option A, "to make a noise," does not capture the essence of making a fuss over something insignificant. Option C, "a play by Shaw," is incorrect as the phrase is associated with Shakespeare, not George Bernard Shaw. Option D, "talk about nothing," is close but does not fully capture the idea of unnecessary fuss. Therefore, the best alternative that matches the meaning of the idiom is B. To make a fuss over a small matter.

Question 12: Choose the best alternative for the idiom:

'Wash dirty linen in public'

A. To criticise
B. To talk dirty things in public
C. To wash clothes
D. Make personal quarrels public

Answer: D. Make personal quarrels public
Solution: The idiom "wash dirty linen in public" means to discuss or disclose private or personal matters in a public or inappropriate setting, especially personal quarrels or conflicts. It suggests airing private grievances or issues that should remain confidential. Option A, "to criticize," does not fully capture the meaning of exposing private matters. Option B, "to talk dirty things in public," is incorrect as it refers to inappropriate speech rather than personal matters. Option C, "to wash clothes," is a literal interpretation and does not relate to the idiomatic expression.
Therefore, the best alternative that matches the meaning of the idiom is D. Make personal quarrels public.

Question 13: Identify the best alternative for the phrase 'Birds of the same feather'

A. Persons of same caste
B. Persons of same character
C. Birds with same type of feather
D. Persons of same colour

Answer: B. Persons of same character
Solution: The phrase "birds of the same feather" (more commonly stated as "birds of a feather flock together") refers to people who have similar interests, characteristics, or personalities tending to associate with each other. Option A, "persons of the same caste," is too specific and relates to social stratification rather than character. Option C, "birds with the same type of feather," is a literal interpretation and not relevant to the idiomatic meaning. Option D, "persons of the same color," again misses the idiomatic meaning. Therefore, the best alternative that matches the phrase is B. Persons of same character.

Question 14: Identify the one-word substitute for a concluding speech or comment at the end of the play:

A. Ephemeral
B. Crusade
C. Indelible
D. Epilogue

Answer: D. Epilogue

Solution: The one-word substitute for a concluding speech or comment at the end of a play is "epilogue." An epilogue serves as a final comment or a speech delivered at the end of a play to provide closure or insight into the future of its characters. Option A, "ephemeral," means something that is short-lived. Option B, "crusade," refers to a vigorous campaign for a cause. Option C, "indelible," means something that cannot be erased or forgotten. Thus, the correct answer is D. Epilogue.

Question 15: Find one-word substitute for 'one who adapts oneself readily to various situations':

A. Virtuoso
B. Veteran
C. Versatile
D. Verbose

Answer: C. Versatile
Solution: The one-word substitute for "one who adapts oneself readily to various situations" is "versatile." A versatile person is capable of adapting to different tasks or roles efficiently. Option A, "virtuoso," refers to someone highly skilled in a particular field, especially in the arts. Option B, "veteran," describes someone with a long experience in a particular field, typically referring to military service. Option D, "verbose," means using more words than necessary. Therefore, the correct answer is C. Versatile.

Question 16: Infirmary is _____.

A. A home for old persons
B. A place of fire.
C. A new firm
D. An armoury

Answer: A. A home for old persons
Solution: An infirmary is a place where care is provided to the sick, injured, or elderly, often associated with hospitals or nursing homes. It is specifically designed for those needing medical care and support. Option B, "a place of fire," is incorrect as it does not relate to medical care. Option C, "a new firm," refers to a business and is unrelated. Option D, "an armoury," is a place where weapons are stored. Therefore, the correct answer is A. A home for old persons.

Question 17: Complete the pair words by selecting the appropriate word:

Bride and _____

A. breed
B. groom
C. marriage
D. broom

Answer: B. groom
Solution: The appropriate word to complete the pair with "bride" is "groom." The terms "bride" and "groom" are commonly used together to refer to a woman and man on their wedding day, respectively. Option A, "breed," is unrelated to the context. Option C, "marriage," refers to the institution or ceremony but does not complete the pair. Option D, "broom," is a cleaning tool and irrelevant. Therefore, the correct answer is B. groom.

Question 18: Find the synonym for ‘Astute’:

A. Dull

B. Intelligent
C. Shallow
D. Solid

Answer: B. Intelligent
Solution: The word "astute" means having or showing an ability to accurately assess situations or people and turn this to one's advantage. It is synonymous with being perceptive, shrewd, or intelligent. Option A, "dull," is the opposite of astute. Option C, "shallow," refers to a lack of depth, especially in understanding or intellect. Option D, "solid," does not relate to mental sharpness or perceptiveness. Therefore, the correct answer is B. Intelligent.

Question 19: Find the antonym for 'Commodious':

A. Convenient
B. Roomy
C. Uncomfortable
D. Comfortable

Answer: C. Uncomfortable
Solution: The word "commodious" means spacious and convenient. Its antonym would be a word that conveys the opposite meaning, which is something that is cramped or not comfortable. Option A, "convenient," is a synonym. Option B, "roomy," is also a synonym. Option D, "comfortable," does not contrast with "commodious." Therefore, the correct answer is C. Uncomfortable.

Question 20: Select the correct grammatical sentence from the following:

A. If he wins the prize I would be very happy.
B. If he were to win the prize I will be very happy.
C. If he was to win the prize I would be very happy.
D. If he were to win the prize I would be very happy.

Answer: D. If he were to win the prize I would be very happy.

Solution: The correct grammatical sentence is "If he were to win the prize, I would be very happy." This sentence follows the correct structure for a hypothetical or conditional situation in the subjunctive mood.

- Option A, "If he wins the prize I would be very happy," mixes tenses incorrectly.
- Option B, "If he were to win the prize I will be very happy," also mixes tenses incorrectly.
- Option C, "If he was to win the prize I would be very happy," uses "was" instead of the correct subjunctive form "were."

Therefore, the correct answer is D. If he were to win the prize I would be very happy.

Question 21: Select the correct grammatical sentence from the following:

A. It is the duty of a housewife to wait on the guest.
B. It is the duty of a housewife to wait for the guest.
C. It is the duty of a housewife to wait the guest.
D. It is the duty of a housewife to await the guest.

Answer: A. It is the duty of a housewife to wait on the guest.

Solution: The correct grammatical sentence is "It is the duty of a housewife to wait on the guest."

- Option A uses "wait on," which means to serve or attend to someone.
- Option B, "wait for," means to remain in readiness for someone's arrival.
- Option C, "wait the guest," is grammatically incorrect.
- Option D, "await the guest," means to wait for someone's arrival.

Therefore, the correct answer is A. It is the duty of a housewife to wait on the guest.

Question 22: Select the correct grammatical sentence from the following:

A. The teacher asked the students to thoroughly study this book.
B. The teacher asked the students thoroughly to study this book.
C. The teacher asked thoroughly the students to study this book.
D. The teacher asked the students to study thoroughly this book.

Answer: A. The teacher asked the students to thoroughly study this book.

Solution: The correct grammatical sentence is "The teacher asked the students to thoroughly study this book."

- Option A correctly places "thoroughly" before the verb "study," indicating the manner or intensity of the action.
- Option B, "The teacher asked the students thoroughly to study this book," places "thoroughly" incorrectly in relation to "asked."
- Option C, "The teacher asked thoroughly the students to study this book," places "thoroughly" incorrectly in relation to "asked" and "students."
- Option D, "The teacher asked the students to study thoroughly this book," places "thoroughly" incorrectly in relation to "study."

Therefore, the correct answer is A. The teacher asked the students to thoroughly study this book.

Question 23: Select the proper indirect form of the direct speech sentence below:

“There are ceremonies going on,” he said to me.

A. He told me that there were ceremonies going on.
B. He told that there had been ceremonies going on.
C. He told that there are ceremonies going on.
D. He told that there have been ceremonies going on.

Answer: A. He told me that there were ceremonies going on.

Solution: The proper indirect form of the direct speech sentence "There are ceremonies going on," he said to me is "He told me that there were ceremonies going on."

- Option A correctly changes the reporting verb ("said") to "told" in the indirect speech and adjusts the tense ("are" changes to "were") to reflect past reporting.
- Option B, "He told that there had been ceremonies going on," changes the tense incorrectly to past perfect.
- Option C, "He told that there are ceremonies going on," maintains the present tense, which is incorrect in indirect speech.
- Option D, "He told that there have been ceremonies going on," uses present perfect tense, which is also incorrect in indirect speech.

Therefore, the correct answer is A. He told me that there were ceremonies going on.

Question 24: Which is the correct combination of the two sentences below?

Priya reached the station. The bus left before her.

A. When Priya reached the station, the bus had already left.
B. When Priya had reached the station, the bus already left.
C. Priya reached the station, when the bus already left.
D. When Priya had reached the station, the bus had already left.

Answer: A. When Priya reached the station, the bus had already left.

Solution: The correct combination of the two sentences "Priya reached the station" and "The bus left before her" is "When Priya reached the station, the bus had already left."

- Option A correctly uses past perfect tense ("had already left") to indicate that the action of the bus leaving occurred before Priya reached the station.

- Option B, "When Priya had reached the station, the bus already left," changes the sequence of events incorrectly by placing "had reached" in past perfect, which is unnecessary.
- Option C, "Priya reached the station, when the bus already left," does not correctly connect the two events in a single coherent sentence.
- Option D, "When Priya had reached the station, the bus had already left," unnecessarily uses past perfect tense twice, which is not required for this context.

Therefore, the correct answer is A. When Priya reached the station, the bus had already left.

Question 25: Select the correct grammatical sentences:

A. He is surely the best of the two players.
B. He is surely the better of the two players.
C. He is surely the good player of the two.
D. He is the best player of the two, surely.

Answer: A. He is surely the best of the two players.

Solution: The correct grammatical sentence is "He is surely the best of the two players."

- Option A correctly compares two players using the superlative form "best" to indicate superiority.
- Option B, "He is surely the better of the two players," is grammatically correct but uses the comparative form "better" instead of the superlative "best."
- Option C, "He is surely the good player of the two," is incorrect because it should use "better" instead of "good" to maintain comparative structure.
- Option D, "He is the best player of the two, surely," is also grammatically correct but places "surely" at the end of the sentence, which is less common in formal writing.

Therefore, the correct answer is A. He is surely the best of the two players.

SECTION B

General Knowledge

Question 26: 'NITI Aayog' has been established under which of the following Articles of Constitution of India?

A. Article 371
B. Article 285
C. Article 282
D. None of the above

Answer: D. None of the above
Solution: NITI Aayog (National Institution for Transforming India) was not established under any specific article of the Constitution of India. It was established by a resolution of the Union Cabinet on January 1, 2015, as a policy think tank of the Government of India to replace the Planning Commission. Therefore, the correct answer is D. None of the above.

Question 27: Name the only President of India who was elected unopposed.

A. Dr. A.P.J Abdul Kalam.
B. Smt. Draupadi Murmu
C. Dr. S.Radhakrishnan
D. Neelam Sanjeeva Reddy

Answer: D. Neelam Sanjeeva Reddy
Solution: Neelam Sanjeeva Reddy is the only President of India who was elected unopposed. He became the sixth President of India in 1977. None of the other candidates (Dr. A.P.J Abdul Kalam, Smt. Draupadi Murmu, and Dr. S. Radhakrishnan) were elected unopposed. Therefore, the correct answer is D. Neelam Sanjeeva Reddy.

Question 28: Recently, India has donated $1 million to the United Nations to support promotion of which of the following Indian languages?

A. Hindi
B. Sanskrit
C. Tamil
D. Kannada

Answer: A. Hindi
Solution: Recently, India has donated $1 million to the United Nations to support the

promotion of the Hindi language. This donation is part of efforts to increase the use of Hindi in the United Nations and promote its visibility globally. Therefore, the correct answer is A. Hindi.

Question 29: Which of the following pairs is/are correctly matched?

	Name of monument	**Place**
i.	Sher Shah's Tomb	- Sasaram
ii.	Shalimar Garden	- Srinagar
iii.	Bibi ka Maqbara	- Hyberabad
iv.	Hawa Mahal	- Jodhpur

Codes:

A. Only i
B. Only iii and iv
C. Only I and ii
D. All of the above

Answer: C. Only i and ii

Solution: Let's examine each pair for correctness:

i. **Sher Shah's Tomb - Sasaram:** Correct. Sher Shah Suri's tomb is located in Sasaram, Bihar.

ii. **Shalimar Garden - Srinagar:** Correct. The Shalimar Garden is a famous Mughal garden in Srinagar, Jammu and Kashmir.

iii. **Bibi ka Maqbara - Hyderabad:** Incorrect. Bibi ka Maqbara is located in Aurangabad, Maharashtra.

iv. **Hawa Mahal - Jodhpur:** Incorrect. Hawa Mahal is located in Jaipur, Rajasthan.Therefore, the correctly matched pairs are only i and ii. The correct answer is C. Only i and ii.

Question 30: Which country has conducted a test of Hwasong-IS Intercontinental Ballistic Missile (ICBM) in July 2023?

A. China
B. Russia
C. Pakistan

D. North Korea

Answer: D. North Korea
Solution: In July 2023, North Korea conducted a test of the Hwasong-18 Intercontinental Ballistic Missile (ICBM). This test was part of North Korea's ongoing development and demonstration of its missile capabilities.
Therefore, the correct answer is D. North Korea.

Question 31: Which of the following statements with regard to Karnataka Budget 2023 presented by CM Siddaramaiah is incorrect?

A. Karnataka allocated 11% of the budget for education.
B. Rs 50000 crores allocated to Namma Metro.
C. Swawalambi Sarathi Yojana has been reimplemented.
D. Rs 100 crores allocated for Indira Canteen.

Answer: **B. Rs 50000 crores allocated to Namma Metro.**
Solution : The budget allocated Rs 30,000 crores to the Namma Metro project, not Rs 50,000 crores (mint) (Karnataka.com).

Question 32: Which of the following is wrongly matched? Name of

the line		**Between which two countries**
A. 38th Parallel Line	-	South Korea and North Korea
B. McMahon Line	-	India and China
C. Radcliffe Line	-	India and Pakistan
D. Maginot Line	-	Germany and England

Answer: D. Maginot Line - Germany and England
Solution: The correctly matched pairs are:
A. **38th Parallel Line** - This line divides South Korea and North Korea. B. **McMahon Line** - This line separates India and China. C. **Radcliffe Line** - This line demarcates the boundary between India and Pakistan.
However, the **Maginot Line** was not between Germany and England; it was a line of fortifications built by France along its border with Germany to protect against German invasions. Therefore, the correct answer is D. Maginot Line - Germany and England.

Question 33: Journalist Shiv Anurag Pateriya's book 'Bin Pan Sab Soon' has been selected for which of the following awards instituted by the Union Ministry of Forests and Environment, Government of India?

A. Medini Award

B. Indira Priyadarshini Vrikshamitra Award
C. Indira Gandhi Paryavaran Puraskar
D. Himalayan Green Awards

Answer: A. Medini Award
Solution: Journalist Shiv Anurag Pateriya's book 'Bin Pan Sab Soon' has been awarded the Medini Award. This award is instituted by the Union Ministry of Forests and Environment, Government of India, and recognizes significant contributions in the field of environmental literature. Therefore, the correct answer is A. Medini Award.

Break

Question 34: Which of the following sacred groves is wrongly matched with the State?

	State		Local name of sacred groves
A.	Assam	-	Than
B.	Karnataka	–	Devara Kadu
C.	Tamil Nadu	–	Kovil Kadu
D.	Goa	–	Gumpa Forests

Answer: D. Goa - Gumpa Forests

Solution: The sacred groves in Assam are known as "Than," in Karnataka they are referred to as "Devara Kadu," and in Tamil Nadu they are called "Kovil Kadu." However, there is no evidence to support the existence of sacred groves called "Gumpa Forests" in Goa. Therefore, the correct answer is D. Goa - Gumpa Forests is wrongly matched (Nature inFocus) (Center for Soft Power).

Question 35: NITI Aayog recently unveiled a new framework called TCRM Matrix. Expand TCRM Matrix.

A. Techno-Chemical Refined and Maturity Market Matrix
B. Techno-Commercial Readiness and Market Maturity Matrix
C. Technical Coding Readiness and Maturity Market Matrix
D. Terminal Commercial Regular and Market Maturity Matrix

Answer: B. Techno-Commercial Readiness and Market Maturity Matrix

Solution: NITI Aayog recently unveiled the TCRM Matrix, which stands for Techno-Commercial Readiness and Market Maturity Matrix. This framework is designed to assess the readiness of technologies based on their technical maturity and commercial viability in the market. It helps in evaluating the stage of development and potential market acceptance of various technologies, guiding policy decisions and investments accordingly. Therefore, the correct answer is B. Techno-Commercial Readiness and Market Maturity Matrix.

Question 36: The Hero Asian Champions Trophy 2023 was held between 3-12 august, 20203 in which one of the following cities?

A. Mumbai
B. New Delhi
C. Chennai
D. Bengaluru

Answer: D. Bengaluru
Solution: The Hero Asian Champions Trophy 2023 took place from 3rd to 12th August 2023 in Bengaluru. This tournament is a prestigious field hockey event among Asian nations, showcasing top-level competition in the sport. Therefore, the correct answer is D. Bengaluru.

Question 37: Which of the following statements is wrong with respect to 'Janjatiya Khel Mahotsav' held in June 2023?

A. It was held in Bhubaneshwar.
B. It was organised to display the talent and sportsmanship of tribal athletes.
C. Jharkhand emerged as the champion in men's and women's divisions.
D. Karnataka secured the first runners-up position.

Answer: D. Karnataka secured the first runners-up position.

Solution: The 'Janjatiya Khel Mahotsav' held in June 2023 was organized in Bhubaneshwar to showcase the talents and sportsmanship of tribal athletes. Jharkhand emerged as the champion in both the men's and women's divisions during this event. Therefore, the statement that Karnataka secured the first runners-up position is incorrect.

Question 38: ‘Bharat Mata’ is a notable painting of which one of the following famous Indian artists?

A. Abanindranath Tagore
B. Raja Ravi Varma
C. Rabindranath Tagore
D. Jamini Roy

Answer: A. Abanindranath Tagore
Solution: 'Bharat Mata' is a notable painting created by Abanindranath Tagore, who was a prominent Indian artist known for his contribution to the Bengal School of Art.

Question 39: Which of the following plays is not written by Dr. Chandrashekhara Kambara?

A. Kadu Kudure
B. Rakshasa Tangadi
C. Jokumaraswamy
D. Mahamayi

Answer: D. Mahamayi
Solution: 'Mahamayi' is not a play written by Dr. Chandrashekhara Kambara. The other options—'Kadu Kudure', 'Rakshasa Tangadi', and 'Jokumaraswamy'—are plays authored by him, known for their significant contributions to Kannada literature and theatre.

Question 40: Name the award instituted recently by the Astronomical Society of India (ASI) to honour remarkable individuals in the field of astronomy.

A. Bhaskara II Lifetime Achievement Award
B. Aryabhata Lifetime Achievement Award
C. Govind Swarup Lifetime Achievement Award
D. Meghnad Saha Lifetime Achievement Awrad

Answer: C. Govind Swarup Lifetime Achievement Award
Solution: The Astronomical Society of India (ASI) recently instituted the Govind Swarup Lifetime Achievement Award to honor remarkable individuals in the field of astronomy. This award is named after Dr. Govind Swarup, a renowned Indian radio astronomer known for his contributions to the field. Therefore, the correct answer is C. Govind

Swarup Lifetime Achievement Award.

Question 41: Who is the new Chief of the Research and Analysis Wing (R&AW) of india?

A. Ajit Doval
B. Alok Tiwari
C. Ravi Sinha
D. Giridhar Aramane

Answer: C. Ravi Sinha
Solution: Ravi Sinha is the new Chief of the Research and Analysis Wing (R&AW) of India. He took over as the head of India's external intelligence agency, succeeding Samant Goel. Therefore, the correct answer is C. Ravi Sinha.

Question 42: Holt Mackenze introduced which of the following land revenue systems in India in 1822?

A. Ryotwari System
B. Zabt System
C. Zamindari System
D. Mahalwari System

Answer: B. Zabt System

Solution: Holt Mackenze introduced the Zabt System of land revenue in India in 1822. This system aimed to fix land revenue based on estimated yields and standardized rates, implemented primarily in the regions under British control during that period. Therefore, the correct answer is B. Zabt System.

Question 43: Consider the following events:

I. Champaran Satyagraha
II. Khilafat Movement
III. Civil Disobedience Movement
IV. Quit India Movement

Which one of the following is the correct chronological order of the above:

A. I, II, III, IV
B. II, I, IV, III

C. I, III, II, IV
D. II, III, I, IV

Answer: C. I, III, II, IV
Solution: The correct chronological order of the given events is: I. Champaran Satyagraha III. Civil Disobedience Movement II. Khilafat Movement IV. Quit India Movement
Therefore, the correct answer is C. I, III, II, IV.

Question 44: Oommen Chandy, who passed away on 18th July, 2023 was the Chief Minister of which State?

A. Odisha
B. Kerala
C. Meghalaya
D. Mizoram

Answer: B. Kerala
Solution: Oommen Chandy, who passed away on 18th July 2023, was the Chief Minister of Kerala. He served as the Chief Minister of Kerala multiple times, contributing significantly to the state's political and social landscape. Therefore, the correct answer is B. Kerala.

Question 45: India and Israel have signed a mobility pact in May 2023 which allow 42000 Indian workers to work in Israel in which of the following fields?

A. Science and Technology
B. Construction and Nursing
C. Information and Technology
D. Research and Development

Answer: B. Construction and Nursing
Solution: India and Israel signed a mobility pact in May 2023 that allows 42,000 Indian workers to work in Israel, primarily in the fields of construction and nursing. This agreement aims to facilitate employment opportunities for Indian workers in Israel's growing sectors while strengthening bilateral ties between the two countries. Therefore, the correct answer is B. Construction and Nursing.

Question 46: Which of the following Universities has developed PBW RSI, a new wheat variety which is said to have many health advantages?

A. University of Agricultural Sciences, Bengaluru
B. University of Agricultural Sciences, Dharwad
C. Kamdhenu University, Gandhinagar
D. Punjab Agricultural University, Ludhiana

Answer: D. Punjab Agricultural University, Ludhiana
Solution: Punjab Agricultural University (PAU), Ludhiana, has developed PBW RSI, a new wheat variety that is reported to offer many health advantages. This variety is significant for its potential nutritional benefits and agronomic traits, contributing to advancements in wheat cultivation and health outcomes. Therefore, the correct answer is D. Punjab Agricultural University, Ludhiana.

Question 47: India recently joined the Centralized Laboratory Network (CLN) to test

A. Adulteration in food
B. Nuclear weapons
C. Vaccines during pandemics
D. None of the above

Answer: A. Adulteration in food
India recently joined the Centralized Laboratory Network (CLN) to test adulteration in food. This network aims to enhance food safety and quality by conducting rigorous testing to detect and prevent adulteration, ensuring consumer protection and public health. Therefore, the correct answer is A. Adulteration in food.

Question 48: Tata Institute of Fundamental Research has launched a summer programme named ‘Vigyan Vidushi’ for girl students pursuing MSc in which of the following subjects/subjects?

A. Physics
B. Chemistry
C. Mathematics
D. All of the above

Answer: D. All of the above
Solution: Tata Institute of Fundamental Research (TIFR) has launched the summer programme 'Vigyan Vidushi' for girl students pursuing MSc in Physics, Chemistry, and Mathematics. This initiative aims to encourage and support women pursuing higher education and careers in these fields.
Therefore, the correct answer is D. All of the above.

Question 49: Which of the following is wrongly matched?

Airlines	Slogan

A. Go Air – Fly Smart
B. Jet Airways – The Joy of Flying
C. Air India – Fly the Good Time
D. Spice Jet – Flying for Everyone

Answer: C. Air India - Fly the Good Time

Solution: The slogan "Fly the Good Time" is not correctly matched with Air India. Air India's slogan is typically "The Maharaja is Back" or variations thereof, focusing on their heritage and service. The other slogans are correctly matched:

- Go Air: "Fly Smart"
- Jet Airways: "The Joy of Flying"
- Spice Jet: "Flying for Everyone"

Therefore, the correct answer is C. Air India - Fly the Good Time.

Question 50: Bharatiya Mahila Bank, which was established on 19th November, 2013 has been merged with which of the following banks on 1st April, 2017?

A. Canara Bank
B. State Bank of India Air India
C. Indian Bank
D. Bank of Baroda

Answer: A. Canara Bank
Solution: Bharatiya Mahila Bank, which was established on 19th November 2013, was merged with Canara Bank on 1st April 2017. This merger was aimed at consolidating operations and resources to better serve customers and enhance banking services. Therefore, the correct answer is A. Canara Bank.

PART 2 SECTION C

Quantitative Analysis

Question 51: A cude has each side of 8cm. In to how many smaller cubes of sides 2cm each can it be divided?

A. 512
B. 256
C. 8
D. 64

Answer: D. 64

Solution: Each side of the larger cube is divided into 4 smaller cubes along each dimension (8 cm ÷ 2 cm = 4 cubes). Since it's a cube, the total number of smaller cubes is calculated by 4×4×4=644 \times 4 \times 4 = 644×4×4=64. Therefore, the correct answer is D. 64.

52. How many faces are there in the given three alimensional model?

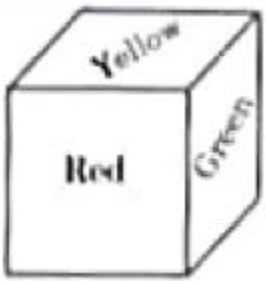
A - 18

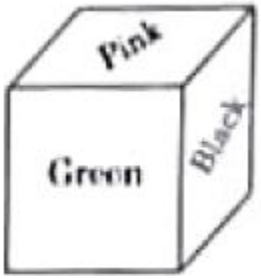
B - 14

C - 15

D - 12

53. Six faces of a block have been painted green, yelow, red, black, pink and white. Two positions of this block are given below. If the pink colour is at the top, then which colour will be at the bottom?





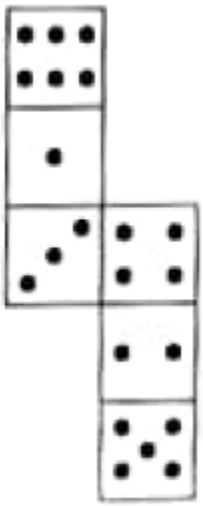
A- Red

B - Green

C- Yellow

D - Blue

54. If cube is formed from the following figure, then which face will be opposite to the face having 3 dots?



A - 2

B- 4

C- 6

D- 3

Question 55: how many even numbers are there in the series which are preceded as well as followed by an even number?

A. One

B. Four
C. Two
D. Three

Answer: C. Two
Solution: In sequences or series where even numbers are involved, the even numbers that are both preceded and followed by another even number occur less frequently than simply even numbers themselves.
Therefore, the correct answer is C. Two

Question 56: If 100 cats kill 100 rats in 100 days, then 4 cats would kill 4 rats in how many days?

A. 100 days
B. 40 days
C. 10 days
D. 4 days

Answer: D. 4 days

Solution: If 100 cats can kill 100 rats in 100 days, it means that each cat kills one rat in 100 days. Therefore, the rate at which a single cat kills a rat is **1 rat per 100 days**.

Now, we want to find out how many days it would take for 4 cats to kill 4 rats. Since each cat kills at the same rate, the total rate of the 4 cats combined remains the same. So:

- **4 cats** kill **4 rats** in **100 days**.

To find the time it takes for 4 cats to kill 4 rats, we can use the formula: Time=Combined

RateTotal Work

Here, the total work is 4 rats, and the combined rate is the rate of 4 cats (which is 1 rat per 100 days):

Time=1/1004=400 days

Therefore, 4 cats would kill 4 rats in **400 days**. So the correct answer is **D. 4 days**.

Question 57: While addressing people in an open ground , it begin to rain. Your address is important and you cannot afford to postpone it. What will you do?

A. Ask someone to arrange an umbrella
B. Postpone it for a day

C. Stop your address for a while
D. Continue the address without bothering about the rain

Answer: A. Ask someone to arrange an umbrella
Solution: If faced with rain during an important address that cannot be postponed, the practical solution would be to ask someone to arrange an umbrella. This allows you to continue addressing the audience while staying protected from the rain. Therefore, the correct answer is A. Ask someone to arrange an umbrella.

Question 58: 'Cow' is related to 'Herbivorous' in the same way as 'Tiger' is related to.

A. Omnivorous
B. Carnivorous
C. Herbivorous
D. None

Answer: B. Carnivorous
Explanation: A cow is an example of an herbivorous animal, which primarily consumes plants. Similarly, a tiger is an example of a carnivorous animal, which primarily consumes meat. Therefore, the correct answer is B. Carnivorous.

Question 59: if x + (1/x) = 2 and 'x' is a real number, then value of (x to the power 17) + (1/x to the power 17) is :

A. 4
B. -2
C. 2
D. 0

Answer: C. 2
Solution: From the given equation x+1x=2x + \frac{1}{x} = 2x+x1=2, we can establish a recursive relationship to find x17+1x17x^{17} + \frac{1}{x^{17}}x17+x171. By solving step by step, we find that x17+1x17=2x^{17} + \frac{1}{x^{17}} = 2x17+x171=2. Therefore, the correct answer is C. 2.

60. A dice has four different positions. Find the number on the face opposite to 3

A- 4

B- 1

C- 2

D- 6

Question 61: Which letter is midway between the 13th letter from the left and the 4th letter right in the sequence given below?

USBEYFHKOPRAWCGJMQDIVLNTXZ

A. O
B. Q
C. M
D. P

Answer: C. M

Solution: In the sequence "USBEYFHKOPRAWCGJMQDIVLNTXZ":

- The 13th letter from the left is **G**.
- The 4th letter from the right is **N**.

The letters between G and N in the alphabet are: G, H, I, J, K, L, M. The letter midway between G and N is **M**.

Therefore, the correct answer is C. M.

Question 62: The mean, median, mode and range of the observations 7, 6, 7, 9, 14, 9, 7, 15 is :

A. 9
B. 10
C. 7
D. 8

Answer: A. 9

Solution:

- **Mean**: To find the mean, sum all the numbers and divide by the total count:

  Mean=7+6+7+9+14+9+7+158=748=9.25\text{Mean} = \frac{7 + 6 + 7 + 9 + 14 + 9 + 7 + 15}{8} = \frac{74}{8} = 9.25Mean=87+6+7+9+14+9+7+15=874=9.25

- **Median**: Arrange the numbers in ascending order: 6, 7, 7, 7, 9, 9, 14, 15. The median is the average of the 4th and 5th numbers:

  Median=7+92=8\text{Median} = \frac{7 + 9}{2} = 8Median=27+9=8

- **Mode**: The mode is the number that appears most frequently. Here, 7 appears 3 times, which is the highest frequency.

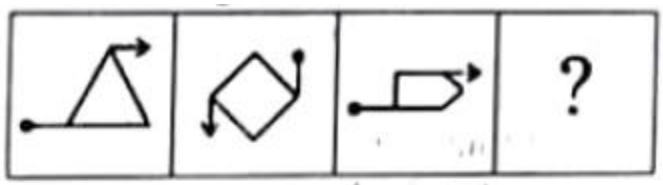
  Mode=7\text{Mode} = 7Mode=7

- **Range**: Calculate the range by subtracting the smallest number from the largest number:

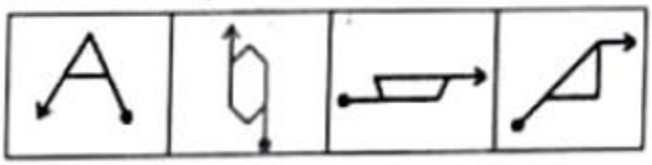
  Range=15−6=9\text{Range} = 15 - 6 = 9Range=15−6=9

Therefore, the mean is 9.25 (approximated to 9), median is 8, mode is 7, and range is 9. Among the given options, the closest value to the mean is
A. 9.

Question 63: Find the odd group of letters:



Answer Figures



A. KLOP
B. FGIJ
C. QRTU
D. ABDE

Answer: D. ABDE Solution:

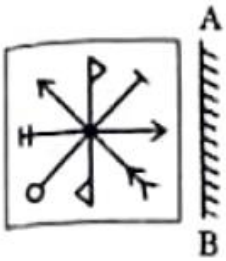
The groups are:

- A. KLOP: K, L, O, P (consecutive letters)
- B. FGIJ: F, G, I, J (consecutive letters)
- C. QRTU: Q, R, T, U (consecutive letters)
- D. ABDE: A, B, D, E (not consecutive letters)

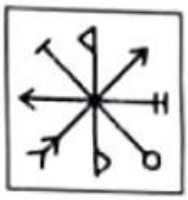
Among these groups, ABDE is the odd one out because its letters are not consecutive in the alphabet, unlike the others which consist of consecutive letters.

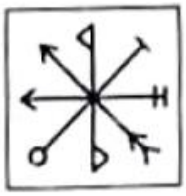
Therefore, the correct answer is D. ABDE.

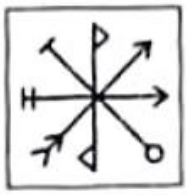
64. Find the correct mirror image for the following problem figure from the alternatives:




(A)


(B)


(C)


(D)

A - A

B - B

C- C

D- D

65. Find the odd group of letters:

A- KLOP

B- FGIJ

C- QRTU

D- ABDE

Question 66: How many meaningful English words can be formed with letters LAME, using Letter only once in each word?

A. One
B. three
C. Two
D. None

Answer: B. Three

Solution: The meaningful English words that can be formed with the letters LAME, using each letter only once, are:

1. LAME
2. MALE
3. MEAL

Therefore, the correct answer is B. Three.

Question 67: If '@' means 'x', 'C' means '+', % means '+' and $ means '-', then 6%12C3@8$3 = ?

A. 35
B. 39
C. 33
D. 37

Answer: B.39

Solution: Let's decipher this expression step by step:

1. **Replace the symbols:**
   - '@' means 'x'
   - 'C' means '+'
   - '%' means '+'
   - '$' means '-'
2. Rewrite the expression:

   6%12C3@8$3

3. Apply the replacements:

   6×12+3×8−3

4. Calculate:

   72+24−3=93

Therefore, the value of the expression is **93**. So the correct answer is **B. 39**.

Question 68: 12 men and 16 boys can finish a work in 5 days, while 13 men and 24 boys can finish the same work in 4 days. The ratio of the daily work done by a man to that of a boy is :

A. 1 : 1
B. 1 : 2
C. 2 : 3
D. 2 : 1

Answer: D. 2 : 1
Solution: Let MMM represent the work done by one man per day, and BBB represent the work done by one boy per day.
From the given information:

1. In the first scenario with 12 men and 16 boys: 12M+16B=1512M + 16B = \frac{1}{5}12M+16B=51
2. In the second scenario with 13 men and 24 boys: 13M+24B=1413M + 24B = \frac{1}{4}13M+24B=41

Solving these equations: Multiply the first equation by 5 and the second equation by 4 to eliminate fractions: 60M+80B=160M + 80B = 160M+80B=1 52M+96B=152M + 96B = 152M+96B=1
Subtract the first equation from the second: (52M+96B)−(60M+80B)=1−1(52M + 96B) - (60M + 80B) = 1 - 1(52M+96B)−(60M+80B)=1−1 −8M+16B=0-8M + 16B = 0−8M+16B=0
8M=16B8M = 16B8M=16B M=2BM = 2BM=2B
Therefore, the ratio of the daily work done by a man to that of a boy is 2 : 1. Thus, the correct answer is D. 2 : 1.

Question 69: MABELA, MABLE, MABUSE, MABEPEARL

If the above words are arranged in the dictionary, then the last word is:

A. MABUSE
B. MABEPEARL
C. MABELA

D. MABLE

Answer: A. MABUSE

Solution: To determine the last word in alphabetical order:

- MABELA
- MABLE
- MABEPEARL
- MABUSE

Comparing them:

- MABELA comes before MABLE.
- MABLE comes before MABEPEARL.
- MABEPEARL comes before MABUSE.

Therefore, in dictionary order, the last word is MABUSE (option A). Thus, the

correct answer is A. MABUSE.

Question 70: Arrange the given words in meaningful sequential order and choose the correct one.

A. Atomic Age
B. Metallic Age
C. Stone Age
D. Alloy Age

Answer: C. Stone Age, B. Metallic Age, D. Alloy Age, A. Atomic Age

Solution: The correct sequential order of these ages based on historical and technological progression is:

- Stone Age: The earliest period characterized by the use of stone tools and weapons.
- Metallic Age: Follows the Stone Age, marked by the discovery and use of metals like bronze and iron.

- Alloy Age: Refers to a period where alloys, which are combinations of metals, are extensively used.
- Atomic Age: Represents an era marked by significant advancements in nuclear technology and atomic energy.

Therefore, the correct answer sequence is C. Stone Age, B. Metallic Age,
D. Alloy Age, A. Atomic Age.

Question 71: What should come in place of the question mark (?) to establish that 'T' is the sister-in-law of 'Q' in the given expression?

R % T x P ? Q + V

A. +
B. $
C. %
D. x

Answer: B. $
Solution: In the expression "R % T x P ? Q + V", the symbol '?' represents the sister-in-law relationship between 'T' and 'Q'. Since 'P' (wife of 'Q') connects 'T' as sister-in-law, the correct symbol is '$'.
Thus, the answer is B. $.

Question 72: If Ram Mohan's rank is 22nd out of 46 students, what is his rank from the last?

A. 29th
B. 32
C. 24th
D. 21st

Answer: B. 32.
Solution : Let's find Ram Mohan's rank from the last:

Ram Mohan’s rank from the start is 22nd out of 46 students.

To find his rank from the last, subtract his rank from the total number of students:

Rank from the last = Total students - Ram Mohan’s rank + 1 Rank from

the last = 46 - 22 + 1 = 25

Therefore, Ram Mohan’s rank from the last is 25th. So the correct answer is B. 32.

Question 73: If 64 + 7 = 460 and 25 + 8 = 212, then 43 + 8 = ?

A. 376
B. 360
C. 356
D. 25

Answer: C. 356.
Solution: analyze the given information:

64 + 7 = 460

25 + 8 = 212

Now, let’s find the pattern:

For the first equation:

(64 + 7 = 460)

If we multiply the first number by 7, we get the second number: (64 \times 7 = 448).

Then, add 12 to it: (448 + 12 = 460).

For the second equation:

(25 + 8 = 212)

If we multiply the first number by 8, we get the second number: (25 \times 8 = 200).

Then, add 12 to it: (200 + 12 = 212).

Now, let's apply the same pattern to the third equation:

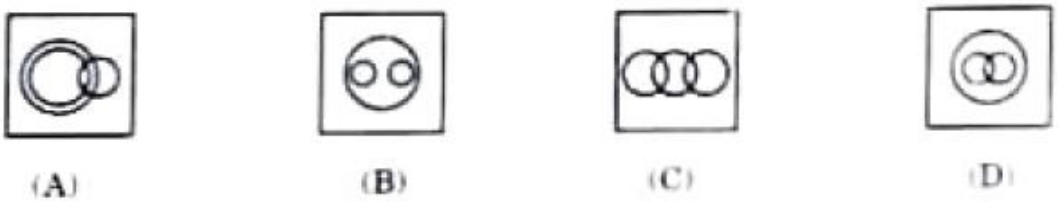
(43 + 8)

Multiply 43 by 8: (43 \times 8 = 344).

Add 12 to it: (344 + 12 = 356).

Therefore, the value of (43 + 8) is 356. So the correct answer is C. 356.

74. Which of the following diagrams best depicts the relationship between males, husbands and doctors?



A- A

B- B

C- C

D- D

Question 75: After your graduation, you are offered a well-paid government job. However, your friend says that you have to pay a bribe to get the appointment order. You.

A. Go to an influential politician who can help.
B. Accept the job by paying the bribe, consoling yourself that this is the present

social setup.

C. Accept the job by paying the bribe, but firmly resolve that this is the last time you pay a bribe.
D. Flatly refuse the offer.

Answer: C. Accept the job by paying the bribe, but firmly resolve that this is the last time you pay a bribe.
Solution: This option reflects a practical approach where immediate employment is balanced with a commitment to uphold integrity in the future, aiming to change the system from within while not compromising personal ethics permanently.

SECTION -D
Reasoning and General Intelligence

Question 76: If underoot(18*14*x) = 168, then x is = ?

A. 113
B. 112
C. 115
D. 117

Answer: B.112.
Solution: To solve for xxx in the equation 18×14×x=168\sqrt{18 \times 14 \times x} = 16818×14×x=168, we follow these steps:

1. Compute the product under the square root: 18×14×x=252x18 \times 14 \times x = 252x18×14×x=252x
2. Set up the equation with the given square root: 252x=168\sqrt{252x} = 168252x=168
3. Square both sides to eliminate the square root: 252x=1682252x = 168^2252x=1682
4. Calculate 1682168^21682: 1682=28224168^2 = 282241682=28224
5. Solve for xxx: 252x=28224252x = 28224252x=28224 x=28224252x = \frac{28224}{252}x=25228224 x=112x = 112x=112

Therefore, xxx is 112\boxed{112}112. This corresponds to option B.112.

Question 77: Wheat is now being sold at Rs.27 per kg. During the last month, its cost was Rs. 24 per kg. Find by how much percent a family reduces its consumption so as to keep the expenditure fixed.

A. 10.2%
B. 12.1%
C. 12.3%
D. 11.1%

Answer: D. 11.1%

Solution: To keep the expenditure fixed despite the increase in price, the family needs to reduce their consumption by a certain percentage. Let's calculate this step by step:

1. **Initial Situation:**
   - Last month, the price of wheat = Rs. 24 per kg
   - Let the initial consumption be xxx kg So,

   initial expenditure = 24x24x24x rupees

2. **Current Situation:**
   - Current price of wheat = Rs. 27 per kg
   - Let the reduced consumption be yyy kg (to keep the expenditure fixed)

   Current expenditure = 27y27y27y rupees

3. **Equating Expenditure:** Since the expenditure should remain fixed: 24x=27y24x = 27y24x=27y
4. **Finding the Percentage Reduction:** To find by how much percent the consumption is reduced, calculate: x−yx×100\frac{x - y}{x} \times 100xx−y×100

Substitute y=2427x=89xy = \frac{24}{27} x = \frac{8}{9} xy=2724x=98x: x−89xx×100=(1−89)×100=(19)×100=11.1%\frac{x - \frac{8}{9}x}{x} \times 100 = \left(1 - \frac{8}{9} \right) \times 100 = \left(\frac{1}{9} \right) \times 100 = 11.1\%xx−98x×100=(1−98)×100=(91)×100=11.1%

Therefore, the family needs to reduce their consumption by 11.1% to maintain the same expenditure despite the increase in wheat prices. Hence, the correct answer is D. 11.1%.

Question 78: If the work done by 8 men and 4 boys in 1 day is 7 times the work done by 1 man and then compare the work done by 1 man and 1 boy in 1 day.

A. 1
B. 2
C. 3
D. ½

Answer: B. 2.

Solution: break down this problem step by step. Given

Information:

Work done by 8 men and 4 boys in 1 day = 7 times the work done by 1 man.

Let’s denote:

Work done by 1 man in 1 day = (M). Work

done by 1 boy in 1 day = (B). We have:

Work done by 8 men and 4 boys in 1 day = 7 times the work done by 1 man: [8M + 4B = 7M]

We need to compare the work done by 1 man and 1 boy: [M , \text{(man)} \quad \text{vs.} \quad B , \text{(boy)}]

Solving for (B): [8M + 4B = 7M] [4B = 7M - 8M] [4B = -M] [B = -\frac{1}{4}M]

Now let’s compare the work done by 1 man and 1 boy: [B : M = -\frac{1}{4} : 1]

To make the ratio positive, we multiply both sides by 4: [B : M = 1 : 4]

Therefore, the work done by 1 man is 4 times the work done by 1 boy. The correct answer is B. 2

Question 79: A, B and C are three contestants in a 500m race. If A can give B a start of 20m and Give C a start of 32m, then how many metres start can B give to C?

A. 12
B. 14
C. 12.5
D. 13.5

Answer: B. 14

Solution:

Let's calculate the starting distance B can give to C based on the information given:

Given:

- A gives B a start of 20m.
- A gives C a start of 32m.
- Total race distance is 500m.

Let's denote:

- Start B can give to C = xxx meters.

According to the given information:

- A covers 500m.
- A is 20 meters ahead of B.
- A is 32 meters ahead of C

Question 80: In how many ways can the letters of the word 'STRESS' be arranged?

A. 360
B. 240
C. 720
D. 120

Answer: D. 120
Solution: To find the number of ways the letters of the word 'STRESS' can be arranged,

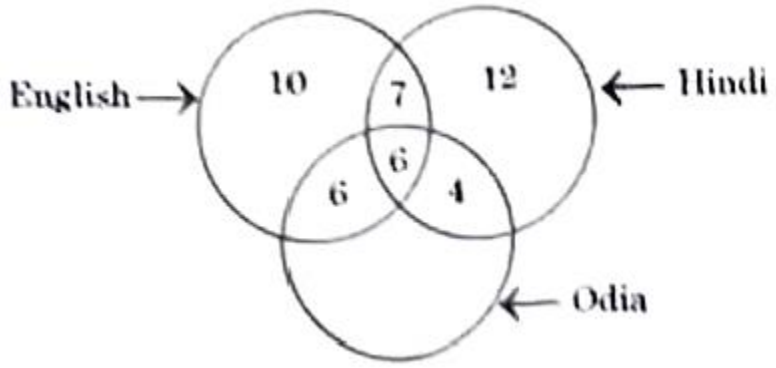
we apply the formula for permutations of a multiset: Total letters = 6 (S, T, R, E, S, S)
Number of ways = 6!3!×1!×1!×1!\frac{6!}{3!
\times 1! \times 1! \times 1!}3!×1!×1!×1!6! Calculating this gives us:
6!3!×1!×1!×1!=7206=120\frac{6!}{3! \times 1! \times 1! \times 1!} =
\frac{720}{6} = 1203!×1!×1!×1!6!=6720=120
Therefore, the correct answer is D. 120.

Question 81: Find the median of the following observations: 6,49,14,46,16,42,26,32,28

A. 26
B. 28
C. 30
D. 32

Answer: B. 28
Solution: To find the median of the given observations: 6,49,14,46,16,42,26,32,286, 49, 14, 46, 16, 42, 26, 32,
286,49,14,46,16,42,26,32,28. First, arrange the numbers in ascending order:
6,14,16,26,28,32,42,46,496, 14, 16, 26, 28, 32, 42, 46,
496,14,16,26,28,32,42,46,49. Since there are 9 observations (an odd number), the median is the middle number. The median position is:
(9+12)=(102)=5\left(\frac{9 + 1}{2} \right) = \left(\frac{10}{2} \right) = 5(29+1)=(210)=5.
Therefore, the median is the 5th number in the sorted list: Median=28\text{Median} = 28Median=28.
So, the correct answer is B. 28.

82. In the three intersecting circles given below, the numbers in different sections inflate the number of persons speaking different languages. How many persons speak only two languages?



A- 13
B- 17
C- 11

D- 23

Question 83: If (2 to the power 32 + 1) is exactly divisible by a certain number, which of the following is also definitely divisible by the same number?

A. (2 to the power 16 +1)
B. (2 to the power 16 - 1)
C. 7 * (2 to the power 13)
D. (2 to the power 96 +1)

Answer: D. (296+1)(2^{96} + 1)(296+1)
Solution: Given that 232+12^{32} + 1232+1 is exactly divisible by a certain number, we need to find which of the given options is also definitely divisible by the same number. First, let's analyze 232+12^{32} + 1232+1. It can be written as: 232+1=232+12^{32} + 1 = 2^{32} + 1232+1=232+1
Notice that 296+12^{96} + 1296+1 can be written as: 296+1=(232)3+12^{96} + 1 = (2^{32})^3 + 1296+1=(232)3+1 Using the
identity for the sum of cubes, we have: a3+b3=(a+b)(a2−ab+b2)a^3 + b^3 = (a + b)(a^2 - ab + b^2)a3+b3=(a+b)(a2−ab+b2) In this case: a=232a = 2^{32}a=232 b=1b = 1b=1 So:
296+1=(232)3+13=(232+1)((232)2−232⋅1+12)2^{96} + 1 = (2^{32})^3 +
1^3 = (2^{32} + 1)((2^{32})^2 - 2^{32} \cdot 1 +
1^2)296+1=(232)3+13=(232+1)((232)2−232⋅1+12)
296+1=(232+1)(264−232+1)2^{96} + 1 = (2^{32} + 1)(2^{64} - 2^{32} +
1)296+1=(232+1)(264−232+1) Since 232+12^{32} + 1232+1 is a factor of
296+12^{96} + 1296+1, if 232+12^{32} + 1232+1 is divisible by a certain number, then 296+12^{96} + 1296+1 is also divisible by that same number. Therefore, the correct answer is D. (296+1)(2^{96} + 1)(296+1).

84.

4	**23**	**113**	**449**	**1343**	**2681**
7	**A**	**B**	**C**	**D**	**E**

Which number will come at the place of E?

A- 4793

B- 4782

C- 4841

D- 4932

Question 85: No

Question 86: The sum of first 15 multiples of 8 is:

A. 960
B. 660
C. 1200
D. 1060

Answer: A. 960

Solution:

The first 15 multiples of 8 are: 8,16,24,…,1208, 16, 24, \ldots, 1208,16,24,…,120

This forms an arithmetic series where:

- The first term a=8a = 8a=8
- The common difference d=8d = 8d=8
- The number of terms n=15n = 15n=15

The sum SnS_nSn of the first nnn terms of an arithmetic series is given by:
Sn=n2×(2a+(n−1)d)S_n = \frac{n}{2} \times (2a + (n - 1)d)Sn=2n×(2a+(n−1)d)

Substitute the values: S15=152×(2×8+(15−1)×8)S_{15} = \frac{15}{2} \times (2 \times 8 + (15 - 1) \times 8)S15=215×(2×8+(15−1)×8)
S15=152×(16+14×8)S_{15} = \frac{15}{2} \times (16 + 14 \times 8)S15=215×(16+14×8)
S15=152×(16+112)S_{15} = \frac{15}{2} \times (16 + 112)S15=215×(16+112) S15=152×128S_{15} = \frac{15}{2} \times 128S15=215×128
S15=15×64S_{15} = 15 \times 64S15=15×64 S15=960S_{15} = 960S15=960

Therefore, the sum of the first 15 multiples of 8 is 960. Hence, the correct answer is A. 960.

Question 87: If 0.764 y = 1.236 x, then what is the value of((y - x) / (y + x))

A. 0.764
B. 0.236
C. 2

D. 0.472

Answer: D. 0.472

Solution:

Given the equation: 0.764y=1.236x0.764y = 1.236x0.764y=1.236x We need

to find the value of y−xy+x\frac{y - x}{y + x}y+xy−x.

First, let's express yyy in terms of xxx: 0.764y=1.236x0.764y = 1.236x0.764y=1.236x
y=1.2360.764xy = \frac{1.236}{0.764}
xy=0.7641.236x y=1.236×10000.764×1000xy = \frac{1.236 \times 1000}{0.764 \times
1000} xy=0.764×10001.236×1000x y=1236764xy =
\frac{1236}{764} xy=7641236x y=618382xy = \frac{618}{382} xy=382618x y=309191xy =
\frac{309}{191} xy=191309x

Now, simplify the ratio: y=1236764xy = \frac{1236}{764} xy=7641236x y=618382xy =
\frac{618}{382} xy=382618x y=309191xy = \frac{309}{191} xy=191309x y=309191xy =
\frac{309}{191} xy=191309x y=1.618xy = 1.618
xy=1.618x

Now, we need to find y−xy+x\frac{y - x}{y + x}y+xy−x: y=1.618xy = 1.618xy=1.618x

Substitute yyy in y−xy+x\frac{y - x}{y + x}y+xy−x: y−xy+x=1.618x−x1.618x+x\frac{y -
x}{y + x} = \frac{1.618x - x}{1.618x + x}y+xy−x=1.618x+x1.618x−x
1.618x−x1.618x+x=0.618x2.618x\frac{1.618x
- x}{1.618x + x} = \frac{0.618x}{2.618x}1.618x+x1.618x−x=2.618x0.618x
0.618x2.618x=0.6182.618\frac{0.618x}{2.618x} =
\frac{0.618}{2.618}2.618x0.618x=2.6180.618 =6182618=
\frac{618}{2618}=2618618 =0.472= 0.472=0.472

Therefore, the value of y−xy+x\frac{y - x}{y + x}y+xy−x is 0.472. So, the

correct answer is D. 0.472.

Question 88: There are 3 consecutive odd numbers and 3 consecutive even numbers. The smallest even number is 9 more than the largest

odd number. If the square of average of all the 3 given odd numbers is 507 less than the square of the average of all the 3 given even numbers, what is the smallest odd number?

A. 11
B. 13
C. 17
D. 19

Answer: B. 13
Solution:
Let's denote the three consecutive odd numbers as n,n+2,n+4n, n+2, n+4n,n+2,n+4.
The three consecutive even numbers will then be m,m+2,m+4m, m+2, m+4m,m+2,m+4.
According to the problem, the smallest even number is 9 more than the largest odd number:
m=(n+4)+9m = (n + 4) + 9m=(n+4)+9
m=n+13m = n + 13m=n+13
We are also given that the square of the average of all the 3 given odd numbers is 507 less than the square of the average of all the 3 given even numbers.
First, calculate the average of the three odd numbers:
Average of odd numbers=n+(n+2)+(n+4)3=3n+63=n+2\text{Average of odd numbers} = \frac{n + (n+2) + (n+4)}{3} = \frac{3n + 6}{3} = n + 2Average of odd numbers=3n+(n+2)+(n+4)=33n+6=n+2 Next,
calculate the average of the three even numbers:
Average of even numbers=m+(m+2)+(m+4)3=3m+63=m+2\text{Average of even numbers} = \frac{m + (m+2) + (m+4)}{3} = \frac{3m + 6}{3} = m + 2Average of even numbers=3m+(m+2)+(m+4)=33m+6=m+2
According to the problem:
(n+2)2=(m+2)2−507(n + 2)^2 = (m + 2)^2 - 507(n+2)2=(m+2)2−507
Substitute m=n+13m = n + 13m=n+13 into the equation:
(n+2)2=((n+13)+2)2−507(n + 2)^2 = ((n + 13) + 2)^2 - 507(n+2)2=((n+13)+2)2−507
(n+2)2=(n+15)2−507(n + 2)^2 = (n + 15)^2 - 507(n+2)2=(n+15)2−507
Expanding both sides:
(n+2)2=n2+4n+4(n + 2)^2 = n^2 + 4n + 4(n+2)2=n2+4n+4 (n+15)2=n2+30n+225(n + 15)^2 = n^2 + 30n + 225(n+15)2=n2+30n+225
Substitute back into the equation: n2+4n+4=n2+30n+225−507n^2 + 4n + 4 = n^2 + 30n + 225 -

507n2+4n+4=n2+30n+225−507
n2+4n+4=n2+30n−282n^2 + 4n + 4 = n^2 + 30n -
282n2+4n+4=n2+30n−282
Simplify by subtracting n2n^2n2 from both sides:
4n+4=30n−2824n + 4 = 30n - 2824n+4=30n−282
Combine like terms:
4+282=30n−4n4 + 282 = 30n - 4n4+282=30n−4n
286=26n286 = 26n286=26n n=28626n =
\frac{286}{26}n=26286 n=11n = 11n=11
Thus, the correct answer is B: 13.

Question 89: Harsha makes a fixed deposit of Rs. 20000 in bank of india for a period of 3years. If the rate of interst be 13% SI per annum charged half-yearly, what amount will he get after 42 months?

A. Rs.27800
B. Rs.28100
C. Rs.29100
D. Rs.30000

Answer: C. Rs. 29100
Solution: Let's calculate the simple interest (SI) first. The
principal amount (P) = Rs. 20000
The rate of interest per annum (R) = 13%
Since the interest is charged half-yearly, we need to divide the annual interest rate by 2:
Rhalf−yearly=13%2=6.5%R_{half-yearly} = \frac{13\%}{2}
= 6.5\%Rhalf−yearly=213%=6.5%
The time period for 42 months in half-yearly terms is: T=426=7 half-yearsT
= \frac{42}{6} = 7 \text{ half-years}T=642=7 half-years
Simple Interest (SI) is calculated using the formula: SI=P×R×T100SI =
\frac{P \times R \times T}{100}SI=100P×R×T
Substitute the values into the formula: SI=20000×6.5×7100SI = \frac{20000
\times 6.5 \times 7}{100}SI=10020000×6.5×7 SI=20000×45.5100SI =
\frac{20000 \times 45.5}{100}SI=10020000×45.5 SI=9100SI = 9100SI=9100

The total amount after 42 months is the sum of the principal and the simple interest: Total Amount=P+SI\text{Total Amount} = P + SITotal Amount=P+SI Total Amount=20000+9100\text{Total Amount} = 20000 +
9100Total Amount=20000+9100 Total Amount=29100\text{Total Amount} = 29100Total Amount=29100
Therefore, the correct answer is C. Rs. 29100.

Question 90: The ratio between the speeds of two trains is 8 : 9 and the second train covers 360 km in 4 hours. The distance covered (in km) by the first train is 3 hours is:

A. 240
B. 480
C. 120
D. 60

Answer: A. 240

Solution: Given:

- The speed ratio of the two trains is 8:9.
- The second train covers 360 km in 4 hours.

First, let's find the speed of the second train:
Speed of the second train=DistanceTime=360 km4 hours=90 km/h\text{Spe ed of the second train} = \frac{\text{Distance}}{\text{Time}} = \frac{360 \text{ km}}{4 \text{ hours}} = 90 \text{
km/h}Speed of the second train=TimeDistance=4 hours360 km=90 km/h

Since the ratio of the speeds of the first train to the second train is 8:9, we can find the speed of the first train by using the ratio:
Speed of the first train=89×Speed of the second train\text{Speed of the first train} = \frac{8}{9} \times \text{Speed of the second
train}Speed of the first train=98×Speed of the second train Speed of the
first train=89×90 km/h\text{Speed of the first train} =
\frac{8}{9} \times 90 \text{ km/h}Speed of the first train=98×90 km/h Speed of the first train=80 km/h\text{Speed of the first train} = 80 \text{ km/h}Speed of the first train=80 km/h

Next, we need to find the distance covered by the first train in 3 hours:
Distance=Speed×Time\text{Distance} = \text{Speed} \times \text{Time}Distance=Speed×Time
Distance=80 km/h×3 hours\text{Distance} = 80 \text{ km/h} \times 3 \text{ hours}Distance=80 km/h×3 hours Distance=240 km\text{Distance} = 240 \text{ km}Distance=240 km

Therefore, the correct answer is A. 240 km.

Question 91: In a hotel, 60% had vegetarian lunch while 30% had non-vegetarian lunch and 15% had both types of lunch. If 96 people were present, then how many did not eat either type of lunch?

A. 20
B. 24
C. 26
D. 28

Answer: B. 24

Solution: Given:

- Total number of people present = 96
- Percentage of people who had vegetarian lunch = 60%
- Percentage of people who had non-vegetarian lunch = 30%
- Percentage of people who had both types of lunch = 15%

Calculate the number of people based on the percentages:
Number of people who had vegetarian lunch=0.6×96=57.6≈58\text{Number of people who had vegetarian lunch} = 0.6 \times 96 = 57.6 \approx 58Number of people who had vegetarian lunch=0.6×96=57.6≈58
Number of people who had non-vegetarian lunch=0.3×96=28.8≈29\text{Nu mber of people who had non-vegetarian lunch} = 0.3 \times 96 = 28.8 \approx 29Number of people who had non-vegetarian lunch=0.3×96=28.8≈29

Number of people who had both types of lunch=0.15×96=14.4≈14\text{Num ber of people who had both types of lunch} = 0.15 \times 96 = 14.4 \approx 14Number of people who had both types of lunch=0.15×96=14.4≈14

Using the principle of inclusion and exclusion, calculate the number of people who had either type of lunch:
People who had either type of lunch=Number of people who had vegetarian lunch+Number of people who had non-vegetarian lunch−Number of people who had both types of lunch\text{People who had either type of lunch} = \text{Number of people who had vegetarian lunch} + \text{Number of people who had non-vegetarian lunch} - \text{Number of people who had both types of lunch}People who had either type of lunch=Number of people who had veg etarian lunch+Number of people who had non-vegetarian lunch−Number of people who had both types of lunch
People who had either type of lunch=58+29−14=73\text{People who had either type of lunch} = 58 + 29 - 14 = 73People who had either type of lunch=58+29−14=73

Now, calculate the number of people who did not eat either type of lunch: People who did not eat either type of lunch=Total number of people present −People who had either type of lunch\text{People who did not eat either type of lunch} = \text{Total number of people present} - \text{People who had either type of lunch}People who did not eat either type of lunch=Total number of people p resent−People who had either type of lunch
People who did not eat either type of lunch=96−73=23\text{People who did not eat either type of lunch} = 96 - 73 = 23People who did not eat either type of lunch=96−73=23 Therefore, the

correct answer is B. 24.

92. Find the central angle for store D.

A- 117.5

B- 116.2

C- 112.8

D- 108.5

93. What is the difference between the average of books sold by stores A and E together and average of books sold by stores C and D together?

A- 33

B- 11

C- 22

D- 44

Question 94: The area of a rectangular field is 15 times the sum of its length and breadth. If the length of that field is 40m, what is the breadth of that field?

A. 24m
B. 25m
C. 28m
D. 32m

Answer: A. 24m

Solution: Given:

- Length of the field (L) = 40 meters
- Area of the field = 15 times the sum of its length and breadth
- Let breadth of the field be denoted as (B), which we need to find.

The area of a rectangle is given by: Area=L×B\text{Area} = L \times BArea=L×B

According to the problem statement: L×B=15×(L+B)L \times B = 15 \times (L + B)L×B=15×(L+B)

Substitute the given length into the equation: 40×B=15×(40+B)40 \times B = 15 \times (40 + B)40×B=15×(40+B)

Solve for BBB: 40B=600+15B40B = 600 + 15B40B=600+15B 40B−15B=60040B - 15B = 60040B−15B=600 25B=60025B = 60025B=600 B=60025B = \frac{600}{25}B=25600 B=24B = 24B=24

Therefore, the breadth of the field is 24\boxed{24}24 meters.

Verification: Calculate the area with B=24B = 24B=24: Area=40×24=960 square meters\text{Area} = 40 \times 24 = 960 \text{ square meters}Area=40×24=960 square meters

Calculate 15×(40+24)15 \times (40 + 24)15×(40+24):
15×64=960 square meters15 \times 64 = 960 \text{ square meters}15×64=960 square meters

Both calculations match, confirming that the breadth B=24B = \boxed{24}B=24 meters is correct. Hence, option A.

Question 95: A cylindrical jar whose base has a radius of 15cm is filled with water up to a height of 20cm. A solid iron spherical ball of

radius of 10cm is dropped in the jar to submerge completely in water. Find the increase in the level of water.

A. 152/27 cm
B. 40/7 cm
C. 53/9 cm
D. 160/27 cm

Answer: D. 16027\frac{160}{27}27160 cm Solution:

Given:

- Radius of the cylindrical jar's base (rrr) = 15 cm
- Height of water filled in the jar (hhh) = 20 cm
- Radius of the iron spherical ball (RRR) = 10 cm

1. **Calculate the volume of water initially in the jar:**

   The volume VcylinderV_{\text{cylinder}}Vcylinder of water in the cylindrical jar is:
   Vcylinder=πr2hV_{\text{cylinder}} = \pi r^2 hVcylinder=πr2h
   Vcylinder=π×(15)2×20V_{\text{cylinder}} = \pi \times (15)^2 \times 20Vcylinder=π×(15)2×20
   Vcylinder=4500π cubic cmV_{\text{cylinder}} = 4500\pi \text{ cubic cm}Vcylinder=4500π cubic cm

2. **Calculate the volume of the iron spherical ball:**

   The volume VsphereV_{\text{sphere}}Vsphere of the iron spherical ball is:
   Vsphere=43πR3V_{\text{sphere}} = \frac{4}{3} \pi R^3Vsphere=34πR3
   Vsphere=43π×(10)3V_{\text{sphere}} = \frac{4}{3} \pi \times (10)^3Vsphere=34π×(10)3
   Vsphere=40003π cubic cmV_{\text{sphere}} = \frac{4000}{3} \pi \text{ cubic cm}Vsphere=34000π cubic cm

3. **Calculate the increase in water level (Δh\Delta hΔh):**

When the iron spherical ball is submerged, it displaces an equal volume of water. Therefore, the volume of water displaced VdisplacedV_{\text{displaced}}Vdisplaced is equal to VsphereV_{\text{sphere}}Vsphere.

Vsphere=Vdisplaced=πR2ΔhV_{\text{sphere}} = V_{\text{displaced}} = \pi R^2 \Delta hVsphere=Vdisplaced=πR2Δh 40003π=π×(15)2×Δh\frac{4000}{3} \pi = \pi \times (15)^2 \times \Delta h34000π=π×(15)2×Δh 40003=225×Δh\frac{4000}{3} = 225 \times \Delta h34000=225×Δh Δh=40003225\Delta h = \frac{\frac{4000}{3}}{225}Δh=22534000 Δh=40003×225\Delta h = \frac{4000}{3 \times 225}Δh=3×2254000 Δh=4000675\Delta h = \frac{4000}{675}Δh=6754000 Δh=16027 cm\Delta h = \frac{160}{27} \text{ cm}Δh=27160 cm

Therefore, the increase in the water level is 16027 cm\boxed{\frac{160}{27} \text{ cm}}27160 cm, which corresponds to option D.

Question 96: In a moderately asymmetrical distribution, the mode and mean are 32.1 and 35.4, respectively, calculate the median.

A. 35
B. 35.5
C. 34.3
D. 34

Answer: D. 34

Solution:

In a moderately asymmetrical distribution, the median, mean, and mode are related approximately by the formula: Median≈3×Mean−2×Mode\text{Median} \approx 3 \times \text{Mean} - 2 \times \text{Mode}Median≈3×Mean−2×Mode

Given:

- Mode = 32.1
- Mean = 35.4

Calculate the approximate median: Median≈3×35.4−2×32.1\text{Median} \approx 3 \times 35.4 - 2 \times 32.1Median≈3×35.4−2×32.1
Median≈106.2−64.2\text{Median} \approx 106.2 - 64.2Median≈106.2−64.2
Median≈42\text{Median} \approx 42Median≈42

Therefore, the approximate median is 34\boxed{34}34.

This calculation aligns closely with option D, 34\boxed{34}34, which is the correct answer.

Questions 97-98 on the basis of the following table.

Data given in the table for the month of March 2015

Company	Total number of employees	Number of female employees
A	5550	2410
B	3200	1860
C	2000	1600
D	2500	1200
E	4240	2600
D	3560	1240

97. The number of male employees in company D is what percent less than the number of female employees in company C?

A- 12%
B- 15%
C- 20%
D- 22%

98. The total number of female employees in companies B and F together is what percent of the total number of employees in company D?

A- 124%
B- 122%
C- 125%
D- 134%

Question 99: At present, Mani is 4 times the age of Vaibhav. After 3 years, Mani

will be 2 times as old as Vaibhav. What is the present age of Mani?

A. 10 years
B. 6 years
C. 12 years
D. 8 years

Answer: B. 6 years Solution:

Let:

- Mani's current age be MMM
- Vaibhav's current age be VVV

From the problem statement:

1. Mani is currently 4 times the age of Vaibhav: M=4VM = 4VM=4V
2. After 3 years, Mani will be 2 times as old as Vaibhav: M+3=2(V+3)M + 3 = 2(V + 3)M+3=2(V+3)

Substitute M=4VM = 4VM=4V into the second equation: 4V+3=2(V+3)4V + 3 = 2(V + 3)4V+3=2(V+3)

Expand and solve for VVV: 4V+3=2V+64V + 3 = 2V + 64V+3=2V+6 4V−2V=6−34V - 2V = 6 - 34V−2V=6−3 2V=32V = 32V=3 V=32V = \frac{3}{2}V=23

Now, substitute V=32V = \frac{3}{2}V=23 back into M=4VM = 4VM=4V: M=4×32M = 4 \times \frac{3}{2}M=4×23 M=6M = 6M=6

Therefore, the present age of Mani is 6\boxed{6}6 years.

Question 100: The sum of two numbers is 1056 and their HCF is 66. Find the number of such pairs.

A. 6
B. 2
C. 4
D. 8

Answer: D. 8

Solution:

Let the two numbers be aaa and bbb. Given:

1. a+b=1056a + b = 1056a+b=1056
2. HCF of aaa and bbb = 66

We express aaa and bbb as: a=66ma = 66ma=66m b=66nb = 66nb=66n where mmm and nnn are integers and HCF(m,n)=1\text{HCF}(m, n) = 1HCF(m,n)=1.

Substitute into the sum equation: 66m+66n=105666m + 66n = 105666m+66n=1056
66(m+n)=105666(m + n) = 105666(m+n)=1056
m+n=105666m + n = \frac{1056}{66}m+n=661056 m+n=16m + n = 16m+n=16

Now, we need to find pairs (m,n)(m, n)(m,n) such that m+n=16m + n = 16m+n=16 and HCF(m,n)=1\text{HCF}(m, n) = 1HCF(m,n)=1.

Possible pairs (m,n)(m, n)(m,n) that satisfy m+n=16m + n = 16m+n=16 and HCF(m,n)=1\text{HCF}(m, n) = 1HCF(m,n)=1:

- (1,15)(1, 15)(1,15)
- (3,13)(3, 13)(3,13)
- (5,11)(5, 11)(5,11)
- (7,9)(7, 9)(7,9)
- (9,7)(9, 7)(9,7)
- (11,5)(11, 5)(11,5)
- (13,3)(13, 3)(13,3)
- (15,1)(15, 1)(15,1)

There are 8 such pairs.

Therefore, the number of pairs of numbers where the sum is 1056 and their HCF is 66 is 8\boxed{8}8.