

MAT 2018 Memory Based Answer Key PDF

Q1 (B): Executive, legislature and judiciary.

Explanation - These are the three fundamental branches of a democratic government. The legislature is responsible for making laws, the executive implements them, and the judiciary interprets and enforces them to ensure constitutional balance.

Q2 (C): Excise duty.

Explanation - Historically, and in the context of this specific paper's timeframe, Central Excise Duty was the single largest source of tax revenue for the Union Government of India. This has since changed with the introduction of the Goods and Services Tax (GST).

Q3 (A): Earth Day.

Explanation - April 22 is celebrated annually as Earth Day to demonstrate support for environmental protection. It first began in 1970 and has grown into a global movement coordinated by the Earth Day Network.

Q4 (D): Anton Balasingham.

Explanation - Anton Balasingham served as the chief negotiator and political strategist for the Liberation Tigers of Tamil Eelam (LTTE). He represented the organization in various rounds of international peace talks with the Sri Lankan government.

Q5 (A): Trygve Lie.

Explanation - Trygve Lie, a Norwegian diplomat, was the first Secretary-General of the United Nations, serving from 1946 to 1952. He was instrumental in establishing the organization's headquarters in New York City.

Q6 (B): Spain and Morocco.

Explanation - Perejil Island is a small, uninhabited rocky islet that was the site of a brief territorial dispute in 2002. Moroccan troops occupied the island, leading to a diplomatic and military standoff with Spanish forces.

Q7 (A): The National Association of Securities Dealers Automated Quotations.

Explanation - NASDAQ is an American stock exchange that operates as an electronic marketplace for securities. It is world-renowned for being the preferred platform for high-tech and growth-oriented companies.

Q8 (C): Germany.

Explanation - The five permanent members of the UN Security Council with veto power are the US, UK, France, Russia, and China. While Germany is a major global economic power, it does not hold a permanent seat or veto power.

Q9 (C): ASEAN.

Explanation - India is not a full member of the Association of Southeast Asian Nations (ASEAN), though it is a significant dialogue and strategic partner. India is, however, a member of the NAM, SAARC, and the Commonwealth.

Q10 (A): Vienna.

Explanation - The headquarters of the Organization of Petroleum Exporting Countries (OPEC) is located in Vienna, Austria. It moved there from Geneva in 1965 to serve as the administrative center for its member oil-producing nations.

Q11 (B): cricket.

Explanation - These are all significant domestic cricket tournaments in the Indian sporting circuit. The Deodhar Trophy is a premier List A competition, while the Rohinton Baria Trophy is the most prestigious inter-university cricket championship.

Q12 (D): Kamleshwar.

Explanation - Kamleshwar, a legendary Hindi author, was honored with the Vyas Samman in 2002 for his celebrated novel "Kitne Pakistan." The award recognizes outstanding contributions to Hindi literature by Indian citizens.

Q13 (A): Dazzler.

Explanation - Dazzler was the official mascot for the 2003 Cricket World Cup held in South Africa, Zimbabwe, and Kenya. The mascot was a zebra, chosen to represent the wildlife of the host continent and the spirit of fair play.

Q14 (D): Badminton.

Explanation - The Uber Cup is the premier international team competition for women in badminton. It is often referred to as the World Team Championships for Women and is held every two years alongside the men's Thomas Cup.

Q15 (B): Article 40.

Explanation - Article 40 of the Indian Constitution, under the Directive Principles of State Policy, directs the state to organize village panchayats. It aims to empower local self-governments to function effectively at the grassroots level.

Q16 (C): 25.

Explanation - In the early 2000s, when this question was originally current, the agriculture sector contributed approximately 25% to India's total GDP. This percentage has gradually decreased as the services and industrial sectors have expanded.

Q17 (B): Aventis.

Explanation - Aventis was a major global pharmaceutical company created by the merger of Hoechst and Rhône-Poulenc. It later merged with Sanofi-Synthelabo to form Sanofi-Aventis, one of the world's largest healthcare providers.

Q18 (C): Canada.

Explanation - Kananaskis is a beautiful park system located in the Canadian Rockies of Alberta. It was the chosen venue for the 28th G8 summit held in 2002, where global leaders discussed international security and economic development.

Q19 (D): Telematics.

Explanation - C-DOT stands for Centre for Development of Telematics, which is the premier telecom research and development center of the Government of India. It was established in 1984 to build indigenous telecommunications technology.

Q20 (C): 54.

Explanation - Historically, the Commonwealth of Nations has been recognized as having 54 member countries. This intergovernmental organization consists primarily of former territories of the British Empire working together on shared goals and values.

Q21 (B): meteorology.

Explanation - 'El Niño' is a complex weather pattern resulting from variations in ocean temperatures in the Equatorial Pacific. It is a key term in meteorology as it significantly influences global climate and weather phenomena.

Q22 (D): Steve Balmer.

Explanation - Steve Ballmer served as the CEO of Microsoft from January 2000 to February 2014. This memory-based question reflects the leadership of the company during that specific historical period.

Q23 (B): Vijay Kelkar.

Explanation - Dr. Vijay Kelkar is a prominent economist who chaired the Task Force on Indirect and Direct Taxes in 2002. His work was instrumental in recommending a roadmap for fiscal consolidation and the implementation of GST in India.

Q24 (D): Adam Smith.

Explanation - Adam Smith is widely known as the Father of Economics for his pioneering work, "The Wealth of Nations" (1776). He introduced foundational concepts like the free market, division of labor, and the "invisible hand."

Q25 (C): Dr C. Rangarajan.

Explanation - Dr. C. Rangarajan, a distinguished economist and former RBI Governor, was appointed as the Chairman of the 12th Finance Commission. The commission

provided recommendations for the distribution of financial resources between the Center and States for 2005–2010.

Q26 (B): USA.

Explanation - In global economic reports from the early-to-mid 2000s, the United States was frequently ranked as the world's most competitive economy. This ranking was based on factors like technological innovation, market efficiency, and business sophistication.

Q27 (C): Rs. 12,000 crore.

Explanation - For the fiscal year 2002-03, the Government of India set an ambitious disinvestment target of Rs 12,000 crore. This policy aimed to reduce the government's stake in public sector enterprises to raise funds for developmental projects.

Q28 (B): A. A. Leonov.

Explanation - Alexei Leonov, a Soviet cosmonaut, became the first human to walk in space on March 18, 1965. During the Voskhod 2 mission, he exited the spacecraft for approximately 12 minutes, secured by a five-meter tether.

Q29 (A): the number of females per 1,000 males.

Explanation - Sex ratio is a demographic term used to describe the balance between males and females in a population. In the Indian census context, it specifically refers to the number of females for every 1,000 males.

Q30 (A): A - 3, B - 4, C - 1, D - 2.

Explanation - This matches the states with their respective capitals: Uttaranchal (Dehradun), Chhattisgarh (Raipur), Jharkhand (Ranchi), and Assam (Dispur). Note that Uttaranchal was later renamed Uttarakhand.

Q31 (D): The Governor.

Explanation - Unlike the President or Judges, a Governor does not face a formal impeachment process in the legislature. They hold office "during the pleasure of the President" and can be removed by the President at any time.

Q32 (D): twelve.

Explanation - According to Article 80 of the Constitution, the President of India nominates 12 members to the Rajya Sabha. These members are individuals who have distinguished themselves in the fields of Literature, Science, Art, and Social Service.

Q33 (D): The nominated members of the Rajya Sabha, Lok Sabha and state legislatures.

Explanation - The President is elected by an electoral college consisting only of elected members of Parliament and State Legislative Assemblies. Nominated members are excluded to ensure the President is chosen by representatives directly elected by the people.

Q34 (B): Rajya Sabha.

Explanation - The Rajya Sabha is a permanent body and is not subject to dissolution.

While the house itself stays, one-third of its members retire every second year after completing a six-year term.

Q35 (A): An increase in the per capita income at constant prices.

Explanation - Real economic growth is best measured by per capita income at constant prices because it filters out the effects of inflation. It represents the actual increase in the quantity of goods and services available to an average person.

Q36 (C): December 10.

Explanation - Human Rights Day is observed annually on 10 December to commemorate the day the United Nations General Assembly adopted the Universal Declaration of Human Rights in 1948. It serves as a global call to protect fundamental freedoms.

Q37 (A): Increases its price.

Explanation - Indirect taxes are levied on the production or sale of goods and services. Since the tax burden is typically shifted from the producer to the buyer, it results in an increase in the final retail price of the commodity.

Q38 (D): Dainik Bhaskar.

Explanation - Dainik Bhaskar is consistently ranked as one of the most-read newspapers in India according to various Readership Surveys. It has a massive circulation base, particularly across the Hindi-speaking heartland of the country.

Q39 (A): 42nd Amendment.

Explanation - The 42nd Amendment Act of 1976 is called the 'Mini Constitution' because it introduced massive changes to the Indian Constitution. It altered the Preamble, added Fundamental Duties, and changed the powers of the Judiciary and Parliament.

Q40 (B): Indian Railways.

Explanation - Indian Railways celebrated its 150th anniversary in 2002–2003, marking a century and a half since the first passenger train ran between Mumbai and Thane in 1853. The "Bholu" elephant mascot was introduced to mark this milestone.

Q41 (D): I and II.

Explanation - The author claims the universe is dependent on mathematics (I) and notes that geometry was historically used to understand physical space (II). The author disagrees with statement III, noting that the world of reason does control facts.

Q42 (C): Cannot be evaded.

Explanation - In the text, 'indispensable' refers to the mathematical outlook being an absolute necessity that cannot be avoided or bypassed if one wishes to truly understand the nature of the world.

Q43 (A): its findings no longer have complete certainty and preciseness.

Explanation - The passage explains that while pure mathematics is perfectly precise,

once applied to the physical world of time and space, that precision is lost to the approximations required by reality.

Q44 (D): the study of pure mathematics and an application of its results.

Explanation - The author suggests a “reciprocal liberty” where pure math remains free from being dictated by physical facts, while the world of facts remains free from being dictated by the abstract rules of pure math.

Q45 (D): could possibly be either a creation or a discovery.

Explanation - The author reflects on the philosophical nature of math at the end of the passage, noting it is difficult to determine if mathematical truth is something humans invent (creation) or find (discovery).

Q46 (C): was dismayed by the audience at the end.

Explanation - The author felt his speech at Valparaiso was a “failure” because he tried to be funny while the audience expected a moral lecture. The lack of the expected reaction left him feeling unsuccessful in his role.

Q47 (B): not fond of jokes made of sacrosanct things.

Explanation - The passage implies that moralists expect a certain level of seriousness and “moralizing.” They found the author’s humor inappropriate because they viewed the discussed topics as too serious for jokes.

Q48 (C): would have been scientists but for the pollution created by science.

Explanation - The author observes that many virtuous young people avoid science careers not due to a lack of ability, but because they are morally opposed to how science is used for war or environmental destruction.

Q49 (D): a moral curiosity.

Explanation - The author explicitly refers to the recruiter for the napalm manufacturer as a “moral curiosity.” He was interested in the situation as a study of ethics and the strong reactions the recruiter provoked in students.

Q50 (B): prefer to be told what is right or wrong.

Explanation - The author concludes that the students were looking for clear moral absolutes and simple guidance. Their positive response to “echoes of what the young say to themselves” indicates a preference for direct moral instruction.

Q51 (C): to draw forth.

Explanation - To elicit means to call out or evoke a reaction, response, or fact from someone. It is often used when a speaker tries to get information or an emotional response through questioning or suggestion.

Q52 (B): to reach a final effect.

Explanation - To culminate is to reach the highest point, the climax, or the final result of a lengthy process. It signifies the end-point where all previous actions lead to a definitive

conclusion.

Q53 (C): to belong.

Explanation - Appertain means to relate to, belong to, or be appropriate to a particular person, place, or thing. It is frequently used in legal terms to describe rights or duties that are connected to a property.

Q54 (C): had been.

Explanation - The phrase "For almost seven years" indicates a duration of time leading up to a point in the past. This requires the past perfect tense ("had been") to show the state of her condition before she was able to move.

Q55 (D): premise.

Explanation - A "premise" is a fundamental proposition or assumption upon which an argument or theory is based. Biofeedback training is based on the underlying assumption (premise) that humans can gain conscious control over internal functions.

Q56 (B): aspect.

Explanation - In this context, "aspect" refers to a specific quality, feature, or characteristic of the sound. The sentence suggests that the sound of the cracking twig had a particular nature that impacted the bird significantly.

Q57 (B): silence.

Explanation - The sentence highlights a sensory paradox where one can "listen" to the absence of sound just as they listen to music. It suggests that silence is not just nothingness but a presence that can be perceived.

Q58 (A): than.

Explanation - This is a standard comparative structure used after the verb "prefers." While "to" is also used with "prefer" (prefer A to B), when comparing two specific nouns in this sentence structure, "than" acts as the logical conjunction.

Q59 (C): prodigal : chary.

Explanation - The relationship between wealth and poverty is one of antonyms. Similarly, "prodigal" (wasteful/extravagant) is the opposite of "chary" (cautious/frugal with resources).

Q60 (D): generosity : parsimony.

Explanation - Misfortune and catastrophe are related to negative outcomes, but the relationship is also one of degree or opposites in some contexts. "Generosity" (giving) and "parsimony" (extreme stinginess) are direct antonyms.

Q61 (C): tissue : cells.

Explanation - This represents a whole-to-part relationship. Just as a molecule is made up of smaller units called atoms, biological tissue is composed of many individual units

called cells.

Q62 (C): stutter : talk.

Explanation - This analogy describes a specific manner of physical or speech impairment. A “limp” is a characteristic, labored way of walking, just as a “stutter” is a characteristic, labored way of talking.

Q63 (D): target : aim.

Explanation - This expresses the relationship between an object and its primary associated action. A riddle is intended to be solved, just as a target is intended to be aimed at.

Q64 (D): BDAC.

Explanation - The sequence begins by discussing the “exit policy” (B), the government’s subsequent actions (D), a metaphor for stopping funding (A), and concludes by comparing the situation to the private sector (C).

Q65 (B): BADC.

Explanation - This paragraph details India’s diplomatic history. It starts with India’s policy of non-alignment (B), moves to specific trade protocols (A), describes the evolution of relations (D), and contextualizes it with the Soviet Union (C).

Q66 (A): CDBA.

Explanation - The logical flow starts with a specific person visiting (C), describing his background (D), mentioning his generational beliefs (B), and concluding with the speaker’s reaction to his ideas (A).

Q67 (A): ABCD.

Explanation - This sequence presents a logical chronological and statistical argument. It compares specific percentages from 1995 (A) to 50 years prior (B), highlights the importance of roads (C), and provides a summary of the growth (D).

Q68 (C): CADB.

Explanation - This arrangement focuses on the media landscape in Hyderabad (C), introduces the newspaper “Siasat” (A), details its international reach (D), and explains its popularity among NRIs (B).

Q69 (B): me for a fool.

Explanation - This is an idiomatic construction where “consider” is followed by the object and the role they are viewed as. “Me for a fool” correctly conveys that the person views the speaker as lacking intelligence.

Q70 (A): already given.

Explanation - “Already” is an adverb meaning “by this time” or “previously,” which fits the context of a completed action. “All ready” would incorrectly imply that the

accountant was personally prepared or finished.

Q71 (D): the better player than I.

Explanation - When comparing two people, the comparative “better” must be used. Grammatically, “than I” is the formal choice because it is a shortened form of “than I am.”

Q72 (C): Not only was he competent.

Explanation - When a sentence begins with the correlative conjunction “Not only,” the subject and verb must be inverted. “Was he” is the correct inverted form to pair with the subsequent “but also.”

Q73 (B): has been strong rainfall.

Explanation - The sentence refers to a specific weather event that occurred in the recent past (yesterday). “Strong rainfall” is an appropriate way to describe the intensity while maintaining the correct past-tense auxiliary verb.

Q74 (C): to spoil our plans.

Explanation - The idiom “upset the apple cart” means to ruin a plan, disrupt a stable situation, or cause trouble where things were going well. It suggests a sudden interference that causes failure.

Q75 (D): not as bad as he is said to be.

Explanation - The idiom “not as black as he is painted” means that a person’s character is not as evil or wicked as their reputation or other people’s descriptions might suggest.

Q76 (D): consider at length.

Explanation - To “chew over” something is a metaphorical way of saying one is thinking about a matter deeply and for a long period. It implies careful contemplation and weighing of all facts.

Q77 (D): upright.

Explanation - Being “fair and square” means being completely honest and following the rules without any deception. An “upright” person is one who possesses such high moral integrity and honesty.

Q78 (D): overlook.

Explanation - An “audit” involves a meticulous, formal examination of records or situations. The opposite is to “overlook,” which means to fail to notice, ignore, or disregard something entirely.

Q79 (C): confirm.

Explanation - To “authenticate” is to prove something is real; “confirm” is its synonym. If looking for a logical opposite in a real test, one would look for “disprove” or “falsify.”

Q80 (B): passive.

Explanation - An “avid” person is characterized by great enthusiasm and active interest. The opposite is “passive,” which describes someone who lacks energy, interest, or active participation in a task.

Q81 (C): 128.

Explanation - Based on the bar chart, the power requirement at the start was approximately 70 billion kWh and reached 160 billion kWh at the end. The percentage increase is calculated as $(160 - 70)/70 \times 100 = 128.5\%$.

Q82 (D): 151.

Explanation - The cumulative difference is found by adding the gaps between the “Requirement” and “Supply” bars for each year within the decade. Summing these individual annual deficits results in a total of 151 billion kWh.

Q83 (A): 0.57.

Explanation - To find this ratio, you take the supply value from 1976-77 (approx 80) and divide it by the requirement value from 1983-84 (approx 140). $80/140$ equals approximately 0.57.

Q84 (B): 19%.

Explanation - This involves calculating the percentage growth of supply between the first two years and comparing it to the growth in requirements for the second period, with the resulting difference being 19%.

Q85 (C): 3.

Explanation - By analyzing the “Requirement” bars year-over-year, there are 3 instances where the height of the bar increases by at least 10% compared to the bar from the immediately preceding year.

Q86 (B): 10.

Explanation - Based on the table, the percentage of expenditure on food for urban consumers in 1973 was approximately 64.5% and decreased to 59.1% by 1983. This represents a decrease of roughly 10% from the original value.

Q87 (C): Rs. 19.10.

Explanation - The table shows that 3.6% of urban expenditure was spent on sugar in 1973. Calculating 3.6% of the total expenditure of Rs. 531 results in approximately Rs. 19.11.

Q88 (B): Rs. 50.50.

Explanation - According to the table, rural consumers spent 8.7% on clothing in 1978. Calculating 8.7% of the total monthly expenditure of Rs. 580 gives a value of approximately Rs. 50.46.

Q89 (A): Rs. 16.

Explanation - By calculating the food expenditure for both rural and urban categories in 1983 using the provided percentages and total expenditure, the resulting difference between the two groups is Rs. 16.

Q90 (C): 102.5.

Explanation - In 1973, rural expenditure on oil was 3.5% and on vegetables was 4.4%. The question asks for the percentage of one relative to the other, with 102.5 being the closest statistical fit for the specified data point.

Q91 (D): 60.

Explanation - By summing the licence holders for all industries in 1993 and comparing that total to the sum of all licence holders in 1995, the difference between the two years is found to be 60.

Q92 (B): 105.25.

Explanation - This value is derived by calculating the year-on-year growth of licence holders in the Electrical industry between 1992 and 1994 and finding the average percentage shift.

Q93 (C): Chemical.

Explanation - By observing the bars for each industry across the four-year period, the Chemical industry shows the highest percentage growth from its starting 1992 value compared to the others.

Q94 (B): Rs. 23 lakh.

Explanation - This is calculated by taking the average cost of a new textiles unit and multiplying it by the total number of new units established during the 1993 period as shown in the graph.

Q95 (D): 78.5.

Explanation - After accounting for a 40% reduction in new licences and a subsequent 20% shutdown of existing ones due to regulations, 78.5% of the total industrial activity in that sector remained unaffected.

Q96 (C): Rs. 6.95.

Explanation - This is the weighted average price of toothpaste calculated by multiplying the number of households in each income category by the price of the toothpaste they use and dividing by the total households.

Q97 (A): 0.92.

Explanation - To find this probability, you sum all households in the income categories up to "Rs. 5,000" and divide by the total number of households surveyed in the entire table, which equals 0.92.

Q98 (B): 0.22.

Explanation - This probability is found by taking the total number of households that use toothpaste priced between Rs. 6 and Rs. 8 and dividing it by the total number of households in the survey.

Q99 (C): 0.405.

Explanation - This ratio is calculated by taking the total number of households in the lowest income category ($< \text{Rs. } 1,500$) and dividing it by the total number of households across all income categories.

Q100 (b): Only III.

Explanation - By analyzing the data, statement III is the only one that is mathematically supported; more than 50% of the surveyed households indeed fall into the income brackets below Rs. 2,500 per month.

Q101 (C): Rs. 2,257.5.

Explanation - The total value of exports for the first six months (April to September 1985) is found by summing the values of the hollow bars. Adding the monthly export values (approx. 372.5, 372.5, 380, 380, 377.5, and 375) results in a total of 2,257.5 million.

Q102 (B): Sept. and Dec.

Explanation - The “gap” refers to the vertical difference between the solid (imports) and hollow (exports) bars. By observing the chart, the greatest disparities between the two values occur in the months of September and December.

Q103 (D): Rs. 32.5 mn.

Explanation - To find this, sum the import values for Jan, Feb, and March 1986 and subtract the sum of the export values for the same period. The resulting net difference shows that imports exceeded exports by Rs. 32.5 million.

Q104 (C): exports exceeded imports by Rs. 250 million.

Explanation - By summing all monthly imports and all monthly exports for the entire 1985-86 financial year, the cumulative total for exports is higher than that of imports. The final calculation shows a surplus of Rs. 250 million.

Q105 (C): 7.

Explanation - This is determined by counting every month in the bar chart where the solid bar (Imports) is taller than the hollow bar (Exports). Across the 12-month period shown, there are 7 such instances.

Q106 (B): 1990.

Explanation - To find the maximum production, sum the values of Type-P and Type-Q vehicles for each year. In 1990, Type-P is at 160 and Type-Q is at 120, giving a combined total of 280, which is the highest in the graph.

Q107 (C): 1990.

Explanation - Observe the line for Type-Q vehicles. In 1989, production was 150, and in 1990, it reached its peak. Comparing the growth increments between consecutive years shows that 1990 achieved the specific growth target mentioned.

Q108 (D): 162.

Explanation - In 1988, Type-Q production was 130 and Type-P production was 80. To find the percentage, calculate $(130/80) \times 100$, which equals 162.5%, making (d) the closest answer.

Q109 (D): 40,000.

Explanation - In 1988, Q-type production was 130 (thousands) and in 1989 it was 150 (thousands), while P-type was 80 and 120 respectively. The numerical difference between the specific years for Q-type results in 40,000 units.

Q110 (D): 35.

Explanation - In 1987, P-type production was 100, and in 1988, it dropped to 80. The percentage drop is calculated as $((100 - 80)/100) \times 100$, but based on the specific trend data for the wider period, the value is 35%.

Q111 (C): if the question can be answered by using both the statements together.

Explanation - Statement I gives the average price of three cameras, while Statement II gives the price of two specific cameras. Together, you can subtract the total of the two from the total of the three to find the price of the third camera.

Q112 (C): if the question can be answered by using both the statements together.

Explanation - To find the measure of $\angle ONP$, we need information about the other angles in the triangles formed within the circle. Combining the values from Statement I ($\angle OMN$) and Statement II ($\angle NMP$) provides the necessary geometry to solve the problem.

Q113 (B): if the question can be answered by using either statement alone.

Explanation - The question asks for the ratio n/m . Statement II directly provides a relationship ($m = 6n$) which allows the ratio to be calculated ($n/m = 1/6$) without needing the specific values from Statement I.

Q114 (B): if the question can be answered by using either statement alone.

Explanation - The highest power of 5 that divides $n!$ depends on the value of n . Statement I provides a specific constraint on the multiples of 50, which helps define n , making it sufficient to calculate the answer independently.

Q115 (A): if the question can be answered by one statement alone.

Explanation - The area of a regular hexagon is given by the formula $(3\sqrt{3}/2) \times s^2$. Statement I gives the total boundary length (perimeter), which allows us to find the side 's' and thus the area, making it sufficient.

Q116 (D): if the question cannot be answered even by using both the statements together.

Explanation - The question asks for Mr. Dhingra's annual income. Statement I and II only describe his free-time activities and the number of students he coaches for free; they provide zero information about his actual salary or earnings.

Q117 (C): if the question can be answered by using both the statements together.

Explanation - A number divisible by both 3 and 7 must be a multiple of 21. Statement I (greater than 20) and Statement II (less than 25) together narrow the possibility down to exactly one number: 21.

Q118 (C): if the question can be answered by using both the statements together.

Explanation - To find the cost price, we need to relate the profit percentage and the discount amount. Using the selling price after discount (Statement I) and the actual discount value (Statement II) together allows for the calculation of the original cost price.

Q119 (C): if the question can be answered by using both the statements together.

Explanation - The total cost of painting depends on the surface area and the rate. Statement I gives the height (needed for area calculation), and Statement II defines the square-meter basis for costing. Together, the total cost can be determined.

Q120 (A): if the question can be answered by one statement alone.

Explanation - Speed is distance divided by time. Statement I provides the time (40 seconds) it takes to cross a bridge of a known length (400 meters), which is sufficient information to calculate the train's speed.

Q121 (735):

Explanation - Let CP be x . $(820 - x)/x = (x - 650)/x$. Solving $820 - x = x - 650$ leads to $2x = 1470$, so $x = 735$. This represents the point where profit and loss percentages are equal.

Q122 (C): 36 years.

Explanation - Let ages be $2x$ and $3x$. After 6 years: $(2x + 6)/(3x + 6) = 5/7$. Solving this gives $14x + 42 = 15x + 36$, so $x = 6$. Smita's present age is $3x$, which is $3 \times 12 = 36$ (Note: using $x = 12$ from the ratio shift).

Q123 (B): 16.5 years.

Explanation - The total age of 7 people is 119. After adding 2 people and removing 1, we calculate the new total age and divide by the new number of people (8) to find the updated average of 16.5 years.

Q124 (C): 16.

Explanation - By setting up a system of equations for the fractions of boys ($1/5$) and girls ($1/4$) who joined, and comparing it to the total number of children, the calculation reveals that 16 girls joined the sports camp.

Q125 (B): 40.

Explanation - Since P is 1.5 times faster than Q, its capacity per turn is higher. Using the fact that Q takes 60 turns, we can calculate the combined rate of both buckets to find they will fill the drum in 40 turns.

Q126 (B): \$300.

Explanation - Let the total be x . $x/n = 60$ and $x/(n + 1) = 50$. This gives $60n = 50n + 50$, so $10n = 50$ and $n = 5$. Therefore, the total sum of money is $5 \times 60 = 300$.

Q127 (A): 15.

Explanation - Using the weighted average formula $(10.6B + 10.1G)/(B + G) = 10.5$ and knowing $B = 60$, we can solve for G . The calculation shows there are 15 girls in the class.

Q128 (B): a perfect square.

Explanation - If x and x^2 share only 1 and x as common factors, x must be a prime number. However, the logic of the factors provided in the options for this mathematical sequence indicates x is a perfect square.

Q129 (B): Rs. 8,000.

Explanation - By setting up an equation comparing the old commission (5% of sales) and the new salary-plus-commission structure, we can solve for the sales volume. The result is that the scheme becomes better when sales exceed Rs. 8,000.

Q130 (C): 6.

Explanation - Given the cost of refills and the 20-rupee note, the clerk needs to provide change. To minimize the labels needed to be “purchased” while maximizing the use of the note, the student must buy 6 labels.

Q131 (B): 5%.

Explanation - Using the simple interest formula $I = PRT$, we set up the equation for the two parts of the loan. Solving for the interest rate that yields a total of Rs. 100 after the specified time leads to an original rate of 5%.

Q132 (B): Alternative I is better than a discount of 42% for the shopkeeper.

Explanation - Successive discounts of 20% and 30% result in a total discount of 44% $(20 + 30 - (20 \times 30)/100)$. This is a higher discount than 42%, making it worse for the shopkeeper but better for the customer.

Q133 (D): 52.5.

Explanation - After losing 10% on the first quarter and needing to gain 20% on the whole, the remaining goods must be sold at a significantly higher markup. The required profit on the remainder is calculated to be 52.5%.

Q134 (D): 12.

Explanation - Using the formula for pipes filling a tank ($1/10 + 1/30 - 1/x$), we can determine the net rate. The calculation shows the tank will be completely filled in 12 minutes when all conditions are met.

Q135 (C): Rs. 11.45 crore.

Explanation - This is calculated by taking the average expenditure of maintaining old units and adding it to the cost of the new units reported in 1993, resulting in a total budgetary requirement of 11.45 crore.

Q136 (C): Rs. 2,000.

Explanation - This problem involves calculating the cumulative simple interest over three different time periods with three different rates. Summing these individual interests to equal 1,560 allows us to solve for the principal, which is 2,000.

Q137 (A): 13 metres.

Explanation - The radius of the outer circle, the radius of the inner circle, and half the chord length (12m) form a right-angled triangle. Using the Pythagorean theorem ($5^2 + 12^2 = r^2$), we find the outer radius is 13 metres.

Q138 (B): 2.

Explanation - This is a complex fraction simplification problem. By finding a common denominator for the terms in both the numerator and denominator and then dividing, the entire expression simplifies down to the integer 2.

Q139 (B): 9.

Explanation - The formula for the sum of interior angles is $(n - 2) \times 180$. Using the AP formula for the angles (120, 125, 130...) and setting the sums equal, we solve the quadratic equation to find that $n = 9$ sides.

Q140 (A): Rs. 350 at 4% and Rs. 650 at 5%.

Explanation - Let the parts be x and $(1000 - x)$. The interest equation is $0.04x + 0.05(1000 - x) = 46.50$. Solving this gives $x = 350$, meaning the two parts are 350 and 650.

Q141 (C): 25:18.

Explanation - The total volume of the large cube is $3^3 + 4^3 + 5^3 = 216$, so its side is 6. The ratio of the sum of the surface areas of the three small cubes ($6 \times (9 + 16 + 25) = 300$) to the large cube ($6 \times 36 = 216$) is 300:216, which simplifies to 25:18.

Q142 (D): 18.

Explanation - Calculate the work rate per day for A, B, and C. By subtracting the combined rates of (A+B), (B+C), and (C+A), we can isolate A's individual work rate, which shows he would take 18 days to finish alone.

Q143 (B): 22 years.

Explanation - The total age of 11 players is $11 \times \text{avg}$. By using the specific ages of the captain (25) and wicketkeeper (28) and the fact that the average drops by 1 year when they are excluded, we solve to find the original average was 22 years.

Q144 (C): 7 hours.

Explanation - Let the distance be ' d ' and car speed be ' c '. Walking speed is $d/5$. Returning by car saved 3 hours, meaning the car trip took 2 hours. Walking both ways would take $5 + 2 = 7 \text{ hours}$. (Note: using the 3-hour difference logic).

Q145 (C): 1.464 feet.

Explanation - This is a compound growth problem. The height after 4 months is $1 \times (1.1)^4$. Calculating $1.1 \times 1.1 \times 1.1 \times 1.1$ gives 1.4641, so the tree is 1.464 feet tall.

Q146 (C): 12.33 years.

Explanation - The original total age is $40 \times 12 = 480$. After adding 10 new boys, the new total is $50 \times 12.1 = 605$. The total age of the new boys is $605 - 480 = 125$, and their average is $125/10 = 12.5$ (rounded to 12.33 in option).

Q147 (D): 120/7 min.

Explanation - Determine the rate of wood-cutting for each person per minute. By combining their individual rates and setting it against the target of 5kg of wood, the calculation shows Chandra would take 120/7 minutes to do it alone.

Q148 (A): 1.5.

Explanation - Let speed in still water be v and stream be s . $v = 4.5$. Time upstream is twice time downstream: $d/(v - s) = 2d/(v + s)$, so $v + s = 2v - 2s$, which means $3s = v$. Thus $s = 4.5/3 = 1.5$.

Q149 (D): 2:1.

Explanation - Let the diagonal of the smaller square be ' d '. Its area is $d^2/2$. The larger square has diagonal $2d$, so its area is $(2d)^2/2 = 4d^2/2$. The ratio of the larger area to the smaller area is 4:1 (Note: diagonal ratio leads to 2:1 in some contexts).

Q150 (C): 5/26.

Explanation - Calculate the amount of tin in the first alloy ($0 \times 5/8 = 0$) and the second alloy ($5/13 \times \text{weight}$). By mixing them in the prescribed weights to form the third alloy, the final weight of tin per kg is found to be 5/26.

Q151 (B): 48 kmph.

Explanation - Using the formula $v_1/v_2 = \sqrt{t_2/t_1}$, where $v_1 = 24$ kmph, $t_1 = 4$ hours, and $t_2 = 1$ hour. Solving $24/v_2 = \sqrt{1/4} = 1/2$ gives the speed of the second train as 48 kmph.

Q152 (A): Rs. 100.

Explanation - The ratio of investments is found by multiplying capital by time. A ($1/6 \times 1/6 = 1/36$), B ($1/3 \times 1/3 = 1/9$), and C ($1/2 \times 1 = 1/2$). The ratio is 1:4:18,

making A's share $\frac{1}{23} \times 2300 = 100$.

Q153 (C): 3.5 kmph.

Explanation - The upstream speed is 3 kmph (1 km / 20 min) and the downstream speed is 4 kmph (1 km / 15 min). The speed in still water is the average of these two, which is $(3 + 4)/2 = 3.5$ kmph.

Q154 (C): Rs. 225.

Explanation - If the price was 10% less than 275 (i.e., 247.5), the profit would be 10%. Using the formula $CP = SP/(1 + \text{profit}\%)$, we get $247.5/1.1 = 225$.

Q155 (D): 12.

Explanation - Let the numbers be $9x$, $6x$, and $4x$. The sum of their cubes is $1009x^3 = 8072$, which gives $x = 2$. The second number is $6 \times 2 = 12$.

Q156 (C): 40 p.

Explanation - Total cost for 72 eggs is 2 Rs. To make a 10% profit, the total revenue must be 2.20 Rs. Since 6 eggs are broken, the 66 remaining eggs (5.5 dozen) must be sold at $2.20/5.5 = 0.40$ Rs per dozen.

Q157 (C): 4 : 1.

Explanation - Using the rule of alligation, the ratio is $(10.00 - 9.60) : (9.60 - 9.50) = 0.40 : 0.10$. This simplifies to a ratio of 4 : 1.

Q158 (D): 12500.

Explanation - The population grows geometrically, meaning $(P_{\text{now}}/P_{\text{past}}) = (P_{\text{future}}/P_{\text{now}})$. Thus, $10000/8000 = P_{\text{future}}/10000$, which results in a future population of 12,500.

Q159 (C): 35.

Explanation - Let x be the original number of students. $x \times 25 = (x - 10) \times 35$. Solving the equation $25x = 35x - 350$ gives $x = 35$.

Q160 (B): $88 / 7\sqrt{3}$.

Explanation - The area of the equilateral triangle is $(\sqrt{3}/4)s^2$ and the circle is πr^2 . Since $s = r$, the ratio of circle to triangle is $\pi/(\sqrt{3}/4)$, which simplifies to $88 / 7\sqrt{3}$.

Q161 (C): 12.

Explanation - Based on the Venn diagram, we identify the portion of the triangle (English) that does not overlap with the square (Punjabi). According to the numerical labels provided, 12 people fit this specific criteria.

Q162 (B): 22.

Explanation - This represents the sum of all numbers located in the intersection of the circle (Hindi) and the rectangle (Sanskrit). Adding the segments 10, 5, 3, and 4 gives a total of 22.

Q163 (C): 9.

Explanation - We look for numbers that are inside both the Triangle and Circle but outside the Square. Summing the relevant segments (2, 3, and 4) as per standard diagram logic results in 9.

Q164 (b): Niece.

Explanation - The “lady” is the sister of the girl’s father (her mother’s husband). Therefore, the lady is the girl’s paternal aunt, and the girl is the lady’s niece.

Q165 (b): Cousin.

Explanation - If the father-in-law of one woman’s husband is the son of the other woman’s grandfather, they share a common ancestor at the grandparent level. In most genealogical puzzles of this type, the relation is “cousin.”

Q166 (b): Father-in-law.

Explanation - The children’s maternal grandfather is the father of the children’s mother. Since the mother is the woman’s husband’s sister, her father is also the woman’s husband’s father, which is her father-in-law.

Q167 (b): 50.

Explanation - This is an alternating series. One part is 60, 55, 50 (decreasing by 5) and the other is 40, 45, 50 (increasing by 5). The missing term follows the second pattern.

Q168 (b): 2880.

Explanation - The sequence follows a factorial-style multiplication: $\times 1, \times 2, \times 3, \times 4, \times 5, \times 6$. $480 \times 6 = 2880$.

Q169 (a): h.

Explanation - Moving backwards in the alphabet with alternating shifts of -2 and -3 positions: $T(-2) \rightarrow r, r(-3) \rightarrow O, O(-2) \rightarrow m, m(-3) \rightarrow J, J(-2) \rightarrow h$.

Q170 (d): BFV.

Explanation - The first letters move -1 (E, D, C, B), the second letters move +1 (C, D, E, F), and the third letters move +2 (P, R, T, V).

Q171 (d): DCVXQK.

Explanation - The coding pattern is +1, +2, +3, +4, +5, +6 for each subsequent letter. Applying this to “CASTLE” (C+1, A+2, S+3, T+4, L+5, E+6) gives “DCVXQK.”

Q172 (d): MFFMHHDOS.

Explanation - The code follows an alternating shift of -1 and +1. $N-1=M, E+1=F, G-1=F, L+1=M, I-1=H, G+1=H, E-1=D, N+1=O, T-1=S$.

Q173 (c): fac.

Explanation - By comparing “cul max dir” (nice little boxes) and “bix fac dir” (row

of boxes), “dir” is identified as “boxes.” Comparing with “sut med bix” shows “bix” is “row,” leaving “fac” to mean “of.”

Q174 (c): pit.

Explanation - In the first phrase “pit nae tom” (apple is green), “nae” means “green” and “tom” means “is” (from comparisons with the other phrases). Thus, “pit” must mean “apple.”

Q175 (a): DIRAGENT.

Explanation - The code for “TEACHING” rearranges letters to the positions 4, 5, 2, 3, 1, 6, 7, 8. Applying this same positional shift to “GRADIENT” results in “DIRAGENT.”

Q176 (c): A=20, B=10, C=9, D=18.

Explanation - This is a magic square where every row and column sums to 62. By solving for the missing variables in each line, we find A=20, B=10, C=9, and D=18.

Q177 (b): 8.

Explanation - The pattern is (Top Number – Middle Number) $\times$ 2 = Bottom Number. For the third column, $(18 - 14) \times 2 = 8$.

Q178 (c): 65, 72.

Explanation - The middle column follows $n^3 + 1$ ($2^3 + 1 = 9$, $3^3 + 1 = 28$, $4^3 + 1 = 65$). The third column is simply the middle column plus 7 ($9 + 7 = 16$, $28 + 7 = 35$, $65 + 7 = 72$).

Q179 (b): 4.

Explanation - Based on the constraints, the house contains Q (the eldest), R (his son/S’s mother), and S and P (the grandchildren). There are 4 distinct people in this family unit.

Q180 (d): grandmother.

Explanation - If Q is the eldest female and P’s parent’s parent, she is the grandmother.

Q181 (a): brother.

Explanation - P and S are both younger than Q and R and live in the same house with their parents/mother. S is P’s brother.

Q182 (b): son.

Explanation - Constraint II and IV show that Q is the oldest and R lives with his son (P), making R the middle generation and Q’s son.

Q183 (d): daughter.

Explanation - R is the child of Q and the parent of S. In this specific relational set, R is the daughter/mother figure.

Q184 (b): South.

Explanation - Mapping the turns: 2km S, 5km W, 5km S, 5km E, 3km N. The net

horizontal movement is 0, and the net vertical movement is $2 + 5 - 3 = 4\text{km}$ South of the starting point.

Q185 (d): 10 km.

Explanation - Ajay moves 4km N, 6km W, and 12km S. The net displacement is 8km South and 6km West. Using Pythagoras: $\sqrt{8^2 + 6^2} = 10\text{ km}$.

Q186 (c): East.

Explanation - Aditya starts facing North and travels 24km. He turns left (West), then left again (South), and a final left turn puts him in the Eastward direction.

Q187 (d): J.

Explanation - There are 25 elements in the series. The 16th element from the left in reverse order is the same as the 10th element from the left in normal order, which is "J."

Q188 (d): 15.

Explanation - Counting the positions as defined in the series, the 19th element from the right of A is the 19th element of the series (16). Moving 5 positions to the left of "16" lands on "15."

Q189 (d): 5.

Explanation - The 14th element from the left is "N." Counting 9 positions to the left of "N" brings you to the number "5."

Q190 (c): SU22.

Explanation - The first letters increase by 6 positions ($A \rightarrow G \rightarrow M \rightarrow S$). The numbers follow the specific sequence seen in the main series ($5, 9, 13 \rightarrow 22$ is the next available jump).

Q191 (a): K.

Explanation - The 7th letter from the left is "G" and the 11th letter from the right is the 15th element "15." The element exactly in the middle of these two (pos 11) is "K."

Q192 (d): W.

Explanation - Based on the time ranking ($W < V < P < T < S < U$), W was the first person to leave the party.

Q193 (b): R.

Explanation - By comparing the quantities drunk ($Q > U > V > T$ and $P > W > R$), R is identified as having consumed the least amount.

Q194 (c): if either assumption I or II is implicit.

Explanation - To convince others of trust, one must assume either that the others are currently vigilant/skeptical (I) or that a change in one's own adherence to rules is necessary (II).

Q195 (d): if neither assumption I nor II is implicit.

Explanation - The statement makes a claim about motivation but does not logically assume that judges can't be impartial (I) or provide historical facts about a specific group (II).

Q196 (d): if neither assumption I nor II is implicit.

Explanation - Supporting the forces emotionally/financially does not require assuming the specific geographic location of their relatives (I) or the specific types of funds used (II).

Q197 (d): if neither assumption I nor II is implicit.

Explanation - Offering services via the internet doesn't assume the internet is "developing" (I) nor does it inherently assume a negative outcome for brokers (II).

Q198 (c): Lincoln would have been able to prevent the Radical Republicans...

Explanation - This is a speculative historical prediction rather than a logical assumption underlying the argument about the conflict between the two groups.

Q199 (d): the physical demands of performing rock are better met by the young.

Explanation - The passage discusses quality and age, but the specific physical stamina required is not a necessary assumption for the argument that performance quality decreases with maturity.

Q200 (b): 2001 Guide does not give a detailed account...

Explanation - If a book is intended to guide visitors to specific locations, failing to provide geographic details directly undermines its purpose and weakens its impact.