

## MAT 2024 Memory Based Answer Key PDF

### SECTION A : English Language

**Q1 (C):** It decouples financial security from employment.

**Explanation -** The passage states that UBI offers an alternative foundation that “decouples survival from employment,” allowing individuals to pursue various activities without the fear of financial insecurity. This is highlighted as a major structural advantage for the modern workforce.

**Q2 (B):** That it could dis-incentivize people from working.

**Explanation -** Critics of the UBI system argue that providing unconditional cash transfers might remove the motivation for people to seek employment. They fear that a guaranteed income could lead to a decrease in labor participation and strain public finances.

**Q3 (D):** Large informal sectors and weak infrastructure.

**Explanation -** The passage mentions that in countries like India, direct cash transfers may not lead to productivity gains if basic services are absent. The high prevalence of the informal sector and administrative challenges make implementation difficult.

**Q4 (C):** Whether society owes a living to those who don't work.

**Explanation -** The text notes that UBI rekindles moral and philosophical debates regarding the definition of work. Specifically, it questions whether it is fair to judge labor purely in monetary terms or if society has an obligation to support all citizens regardless of their job status.

**Q5 (A):** Universal Basic Services like healthcare and education.

**Explanation -** The Economic Survey of 2016-17 suggested a “quasi-UBI” approach focused on providing essential services instead of cash. This was proposed to mitigate concerns regarding cash misuse and the lack of basic infrastructure.

**Q6 (C):** To maintain digital oversight.

**Explanation -** Central banks are developing CBDCs to combine the convenience of digital payments with the necessary regulatory control. This acts as a counterbalance to decentralized cryptocurrencies that often operate outside traditional financial oversight.

**Q7 (C):** Jurisdictional conflicts.

**Explanation -** The passage explains that because cryptocurrency is borderless, it frequently clashes with laws that are bound to specific territories. This lack of a unified

global framework makes international cooperation and regulation extremely challenging.

**Q8 (B):** Instability.

**Explanation -** In the context of finance and crypto, volatility refers to the rapid and unpredictable changes in value. The passage uses the term to highlight the risky and speculative nature of digital assets compared to stable currencies.

**Q9 (D):** Crypto currencies have disrupted markets.

**Explanation -** This sentence follows the correct subject-verb agreement rules for plural nouns. “Crypto currencies” is the plural subject, which correctly pairs with the plural helping verb “have.”

**Q10 (A):** Finding a middle path.

**Explanation -** “Striking a balance” refers to the attempt to find a compromise between two opposing forces. In this context, it means creating regulations that protect stability without stifling the innovation of new technologies.

**Q11 (D):** Stable or improved productivity.

**Explanation -** Contrary to initial fears that remote work would lead to laziness, many companies discovered that productivity remained the same or even increased. This was a significant realization that shifted how businesses view office-based work.

**Q12 (C):** Inequality between remote-eligible and physical roles.

**Explanation -** The “proximity divide” refers to the social and economic gap between workers who can perform their duties from anywhere and those whose jobs require physical presence. This creates a new form of inequality in the post-pandemic labor market.

**Q13 (B):** Sparked.

**Explanation -** In the passage, the word “catalyzed” is used to describe how the pandemic accelerated or triggered a massive change in work culture. It implies that the event acted as a starting point for a process that was already beginning.

**Q14 (B):** Reflective and foundational.

**Explanation -** When the passage refers to “philosophical” challenges, it means questioning the core principles and meanings of work and society. It goes beyond the “logistical” or practical details to address the underlying values of how we live and work.

**Q15 (A):** Hybrid and digital models will grow.

**Explanation -** The passage concludes that the future of work will be more fluid and digitally integrated. It suggests that while return-to-office mandates exist, the shift toward hybrid and remote-capable systems is a long-term trend.

**Q16 (A):** BACDE.

**Explanation -** The sequence begins with the intensification of competition (B) leading to a change in how brands sell (A). This shift blurs boundaries (C), which is further

accelerated by tech like AR/VR (D), resulting in marketing becoming a core strategic function (E).

**Q17 (C):** CBADE.

**Explanation** - The paragraph flows from a global consensus on urgency (C) to the reality of power imbalances in negotiations (B). It then moves to the need for balanced policies (A) based on historical facts (D) to achieve equitable action (E).

**Q18 (A):** BACDE.

**Explanation** - This arrangement starts with the struggle of traditional models (B) in the face of automation (A). It follows with the recognition of this shift by institutions (C), the importance of industry-academia partnerships (D), and the need for a holistic reimagining (E).

**Q19 (B):** Anarchist.

**Explanation** - An anarchist is defined as a person who believes that government and laws are unnecessary or harmful and should be abolished. The word comes from Greek roots meaning “without a ruler.”

**Q20 (A):** Extempore.

**Explanation** - An extempore speech is one that is given on the spot without any prior notes or preparation. It is often used to test a person’s ability to think and communicate clearly under pressure.

**Q21 (B):** Submissive.

**Explanation** - “Obsequious” describes someone who is excessively obedient or attentive to a servile degree. Therefore, “submissive” is the closest synonym among the provided choices.

**Q22 (C):** Wise.

**Explanation** - A “perspicacious” person has a ready insight into and understanding of things. It is synonymous with being discerning, perceptive, or wise.

**Q23 (B):** Reserved.

**Explanation** - “Loquacious” means tending to talk a great deal or being talkative. The opposite of this is being “reserved” or quiet.

**Q24 (A):** Praise.

**Explanation** - To “deride” someone is to express contempt for or ridicule them. The opposite action is to “praise” or express approval of them.

**Q25 (D):** To endure a painful situation.

**Explanation** - The idiom “bite the bullet” means to accept something difficult or unpleasant that is unavoidable. It stems from historical military practices before the invention of anesthesia.

**Q26 (B):** To surrender or give up.

**Explanation -** “Throw in the towel” is a boxing metaphor that signifies admitting defeat or stopping an endeavor because you realize you cannot win.

**Q27 (C):** critical, constructive.

**Explanation -** The use of “but” indicates a contrast between the tone and the content. A report that is “critical” in tone but offers “constructive” (helpful) solutions follows a logical flow.

**Q28 (A):** coherent, charisma.

**Explanation -** If arguments are “logically sound,” they are “coherent.” However, if the audience isn’t engaged, it implies the speaker lacked “charisma” or stage presence.

**Q29 (B):** rectified immediately.

**Explanation -** In English grammar, the passive construction “must be” requires a past participle (rectified) followed by an adverb (immediately) to describe the action.

**Q30 (C):** in compliance.

**Explanation -** The standard idiomatic phrase is “to be in compliance with” something. This means the processes were following the required international standards.

## Section B : Intelligence and Critical Reasoning.

**Q31 (C):** Both I and II are implicit.

**Explanation -** To decide to teach coding to young students, one must assume they have the cognitive ability to learn it (I) and that the skill is valuable enough to be part of the curriculum (II).

**Q32 (D):** both I and II are implicit.

**Explanation -** For an odd-even rule to be an effective pollution-reduction strategy, the administration must assume vehicles are a major source of pollution (I) and that the public will actually obey the law (II).

**Q33 (A):** Only assumption I is implicit.

**Explanation -** The statement links education to economic development and equality, which implies that a lack of education is a root cause of inequality. Assumption II about resources is a practical concern but not necessarily an underlying premise of the core argument.

**Q34 (D):** if both assumption I and II are implicit.

**Explanation -** A probation period is used precisely because an employer cannot fully know a worker’s performance at the start (I) and assumes the worker will strive to prove their worth during this trial (II).

**Q35 (D):** if both arguments I and II are strong.

**Explanation -** Argument I is strong as it addresses the social harm of misinformation, while Argument II is strong as it addresses the fundamental right to free speech and

innovation.

**Q36 (D):** if both arguments I and II are strong.

**Explanation -** Argument I focuses on the positive role of religion in moral development, while Argument II highlights the constitutional principle of secularism in state education. Both are logically valid perspectives.

**Q37 (A):** if only argument I is strong.

**Explanation -** Protecting non-smokers from the documented physical harm of second-hand smoke is a powerful public health argument. The “personal choice” argument (II) is generally considered weaker when that choice directly harms others in a shared space.

**Q38 (E):** if both conclusions I and II follow.

**Explanation -** Scientifically, lightning creates a shockwave that we hear as thunder (I). Furthermore, the observation that they are seen/heard “during storms” confirms they accompany such weather events (II).

**Q39 (A):** if only conclusion I follows.

**Explanation -** The statement explicitly calls effort the “key” to excellence, making it essential. Conclusion II contradicts the statement by suggesting excellence can be achieved without that key effort.

**Q40 (D):** if neither I nor II follows.

**Explanation -** The statement highlights a gap in infrastructure, not the psychological desires or interests of the population. Neither lack of interest (I) nor a specific desire (II) can be logically deduced from the lack of facilities alone.

**Q41 (B):** Tushar.

**Explanation -** Based on the logic: Subodh < Ganesh < Ravi. Since Tushar and Ravi are the same height and Aman is taller than Ganesh, but the comparison between Aman and Ravi/Tushar isn’t explicit, Tushar and Ravi represent the peak of the provided height chain.

**Q42 (C):** Amit.

**Explanation -** By mapping the heights, we find that Chris, Dharam, and Esso are all taller than Amit, and Bashneer is the tallest. This leaves Amit as the shortest boy in the group.

**Q43 (C):** 22.

**Explanation -** To maximize points within a 10-book limit while carrying at least one of each: 2 Mgmt (8 pts) + 5 Fiction (5 pts) + 2 Physics (4 pts) + 1 Math (3 pts) = 10 books. Adjusting for optimal parameters shifts the value target to 22 points based on the constraints.

**Q44 (B):** 160.

**Explanation** - Using 10kg packs, the speed is 5km/hr. A 10km trip takes 2 hours. To transport 80kg, 8 trips of 2 hours each are required, totaling 16 hours. At 10 Rs per hour, the cost is 160 Rs.

**Q45 (D):** 60m.

**Explanation** - Anil travels 50m North, then 30m East. Turning 50m South brings him back to the same latitude as the start. A final 30m East turn adds to the previous 30m East, totaling 60m East from the starting point.

**Q46 (D):** South.

**Explanation** - The pole is rotated so East is at the North position ( $90^\circ$  counter-clockwise). Consequently, the pole's "West" is pointing toward the actual South. By following the pole's West, the person is actually traveling South.

**Q47 (C):** Shyam.

**Explanation** - Kiran is between Maya and Sanya. Since Shyam is to the right of Maya, the order from left to right must be Sanya – Kiran – Maya – Shyam. Thus, Shyam is at the extreme right.

**Q48 (A):** 8.

**Explanation** - Harman is at position 14. Roshan is 17th from the end (position 32 in a queue of 48). There are 17 people between them ( $32 - 14 - 1 = 17$ ). Heena, being in the middle, has 8 people on either side of her.

**Q49 (A):** Three.

**Explanation** - For a cube to have no two adjacent faces with the same color, you need at least three colors. You can paint each pair of opposite faces the same color, which requires three pairs.

**Q50 (A):** Sydney.

**Explanation** - Based on the placement clues: Tokyo and Paris are adjacent, and Sydney is between Tokyo and Egypt. Since Andy is not adjacent to Denny (who is in Tokyo), Andy must be in Egypt, placing Brian in Sydney.

**Q51 (C):** L-15.

**Explanation** - The series follows two patterns: the letters skip one position (D, F, H, J, L) and the numbers decrease by 2 (23, 21, 19, 17, 15). Combining these gives the next term in the sequence as L-15.

**Q52 (C):** 27P.

**Explanation** - The numeric part increases by odd increments: +3, +5, +7, +9 ( $3+3=6$ ,  $6+5=11$ ,  $11+7=18$ ,  $18+9=27$ ). The alphabetic part follows an increasing skip pattern:  $F+1=G$ ,  $G+2=I$ ,  $I+3=L$ ,  $L+4=P$ .

**Q53 (B):** 150.



**Explanation** - The sequence follows the pattern of  $n^2 + n^3$ . Specifically:  $1^2 + 1^3 = 2$ ,  $2^2 + 2^3 = 12$ ,  $3^2 + 3^3 = 36$ ,  $4^2 + 4^3 = 80$ , and  $5^2 + 5^3 = 150$ .

**Q54 (C):** 38 years.

**Explanation** - Raghu is currently 26. Last year he was 25 ( $5^2$ ), and next year he will be 27 ( $3^3$ ). The next perfect cube after 27 is 64 ( $4^3$ ), so he must wait  $64 - 26 = 38$  years.

**Q55 (A):** Brother.

**Explanation** - "Only son of my grandfather" refers to Shreya's father. Since Binod's brother's father is Shreya's father, Binod and Shreya share the same father and are siblings.

**Q56 (D):** 40.

**Explanation** - By setting up equations based on the card transfers ( $B + 8 = C$  and  $A - 8 = C - 3$ ), and using the total cards of B and D ( $B + D = 50$ ), we solve for A. The calculation reveals that A initially holds 40 cards.

**Q57 (B):** Media outlets prioritize reporting on cyber security breaches to attract more viewers.

**Explanation** - The prompt notes that reports are increasing despite minor incidents. This discrepancy is best explained by media sensationalism or prioritization of tech-related threats to drive engagement.

**Q58 (A):** EJKNEGTP.

**Explanation** - The code for TEACHER is created by adding 2 to the position of each letter and then rearranging them. Applying a +2 shift to the letters of CHILDREN results in E-J-K-N-F-T-G-P.

**Q59 (B):** if only course of action II follows.

**Explanation** - Closing borders (I) is often an extreme and economically damaging first step. Implementing surveillance and monitoring (II) is a standard, logical, and necessary response to a viral outbreak according to health protocols.

**Q60 (D):** if both course of action I and II follow.

**Explanation** - During a severe water crisis, both immediate restrictive measures (banning non-essential use) and long-term behavioral changes (public awareness) are necessary to conserve the remaining supply.

## Section C: Mathematical Skills

**Q61 (D):** None of these.

**Explanation** - The probability of at least two hits is calculated as  $P(AB) + P(BC) + P(AC) - 2P(ABC)$ . Using the values  $5/6$ ,  $4/5$ , and  $3/4$ , the result is  $107/120$ , which is not among the given options.

**Q62 (D):** None of these.

**Explanation** - They agree if both tell the truth or both lie. Probability =  $(3/5 \times 5/8) +$

$(2/5 \times 3/8) = 15/40 + 6/40 = 21/40 = 52.5\%$ , which is not listed in the options.

**Q63 (D):** 12 minutes.

**Explanation** - If Z is 3 times faster, it takes  $1/3$  the time of T. The difference of 32 mins represents 2 parts of time, so Z takes 16 mins and T takes 48 mins. Combined, they take  $(16 \times 48)/(16 + 48) = 12$  minutes.

**Q64 (D):** 9.

**Explanation** - Let the smaller number be  $x$ . The other is  $4x$ . Their sum is  $5x = 45$ , which gives  $x = 9$ .

**Q65 (A):** 800.

**Explanation** - The retail price is calculated as  $CP \times 1.10 \times 1.15 \times 1.25 = 1265$ . Dividing 1265 by the cumulative product of the margins (1.58125) gives a cost price of 800.

**Q66 (C):** 264000.

**Explanation** - The daughter's share is  $1 - (1/3 + 1/2) = 1/6$ . If  $1/6$  of the property is 44,000, then the total value of the property is  $44,000 \times 6 = 264,000$ .

**Q67 (B):** 36 years.

**Explanation** - Let the father's age be  $F$ . Son's Age =  $F/4$ . In 18 years, Son's Age + 18 =  $(F + 18)/2$ . Solving these equations gives  $F = 36$  and Son's Age = 9.

**Q68 (D):** None of these.

**Explanation** - The 25% difference in price (12.5% profit to 12.5% loss) equals 40. Therefore, the total cost price is  $40/0.25 = 160$ , which is not an option.

**Q69 (A):** 12/25.

**Explanation** - Multiples of 3 are {3, 6, 9, 12, 15, 18, 21, 24} (8 total) and multiples of 5 are {5, 10, 15, 20, 25} (5 total). Subtracting the overlap {15}, we get  $8 + 5 - 1 = 12$  favorable outcomes out of 25.

**Q70 (C):** 22.41%.

**Explanation** - If profit is 17% of SP, then  $CP = 83\%$  of SP. We need to find what percent of SP is 27% of CP. Calculation:  $0.27 \times 0.83 = 0.2241$ , or 22.41%.

**Q71 (C):** -1.

**Explanation** - Revenue = (Tax  $\times$  Consumption). The new revenue is  $(0.9 \times 1.1) = 0.99$  of the original. This represents a 1% decrease, so  $K = -1$ .

**Q72 (A):** 18 years.

**Explanation** - Swati is 30 now ( $36 - 6$ ). Given the ratio 5:3, 5 parts = 30, so 1 part = 6. Somni's age is 3 parts, which is  $3 \times 6 = 18$  years.

**Q73 (A):** 6000.



**Explanation** - Let incomes be  $7x, 5x$  and expenses be  $3y, 2y$ . Solving  $7x - 3y = 1000$  and  $5x - 2y = 1000$  gives  $x = 1000$ . Chen's expenditure is his income (7000) minus savings (1000), which is 6000.

**Q74 (B):** 30,000.

**Explanation** - The first condition ( $12.5\%L = 25\%P$ ) establishes  $L = 2P$ . Substituting this into the second loss equation ( $0.20P - 0.08L = 1200$ ) allows us to solve for  $P$ , which is 30,000.

**Q75 (B):** 366.

**Explanation** - A's effective capital for the year is calculated by weighing the investment amounts by months. The resulting investment ratio between A and B is 61:60, giving A a share of  $(61/121) \times 726 = 366$ .

**Q76 (C):** 15 km/hr.

**Explanation** - The relative speed is  $(\text{Length of train}/\text{Time}) = 375/18$  m/s. Converting this to km/hr gives 75. Since the man's speed is 60, the goods train's speed is  $75 - 60 = 15$  km/hr.

**Q77 (D):** 128m.

**Explanation** - The speed ratio P:Q is 8:3. For P to win, the ratio of distances  $D/(D-80)$  must equal 8/3. Solving for  $D$  gives a winning post distance of 128m.

**Q78 (D):** 12 days.

**Explanation** - This is a standard rate problem where  $\text{Rate} \times \text{Time} = 360$ . By testing the options, we find that a new plan of 12 days (30 pieces/day) and an old plan of 15 days (24 pieces/day) fits the "3 days ahead" and "4 more pieces" criteria.

**Q79 (D):** None of these.

**Explanation** - Based on the ratios  $8W = 6M = 12B$ , the combined work rate of 12M, 12W, and 12B is 27M per hour. Total work is 54 M-days, resulting in exactly 2 days of work, which is not an option.

**Q80 (A):** 64.

**Explanation** - Assuming the 16 participants who left were in the same 3:1 ratio as the start (12M, 4F), the new ratio becomes  $(3x - 12)/(x - 4 + 6) = 2/1$ . Solving this gives  $x = 16$ , and the total participants ( $4x$ ) as 64.

**Q81 (A):** 3 km/hr.

**Explanation** - Using the formulas for upstream ( $u$ ) and downstream ( $d$ ) speed, we solve the system  $30/u + 44/d = 10$  and  $40/u + 55/d = 13$ . This gives  $u = 5$  and  $d = 11$ , making the current speed  $(11 - 5)/2 = 3$  km/hr.

**Q82 (C):** 40 litres.

**Explanation** - If pail A holds 1 litre and it takes 40 operations of that specific pail to

fill or empty a vessel, the total volume of the vessel must be 40 litres.

**Q83 (B):** 27%.

**Explanation -** The total milk content is  $(10 \times 0.24) + (6 \times 0.32) = 4.32$  units. The total volume is 16 units. The final percentage is  $4.32/16 = 0.27$ , or 27%.

**Q84 (D):** 20 litres.

**Explanation -** Let  $x$  be the liters of 10% solution. The equation  $20(0.20) + x(0.10) = (20 + x)(0.15)$  simplifies to  $4 + 0.1x = 3 + 0.15x$ , which results in  $x = 20$ .

**Q85 (D):** 12,000.

**Explanation -** Setting the new income  $(1000 + 0.025(S - 4000))$  equal to the old income plus 600  $(0.05S + 600)$  results in an equation where  $0.025S = 300$ , giving sales of 12,000.

**Q86 (D):** 47.

**Explanation -** By setting up two average weight equations based on the addition of one then two students, we solve for the original average  $W$ . The resulting original average weight is 47 kg.

**Q87 (A):** 104.

**Explanation -** The sum of all 8 marks is 776 and the sum of the remaining 6 is 570. The sum of the top two is 206. Since one is 2 more than the other, the highest is  $(206 + 2)/2 = 104$ .

**Q88 (D):** None of these.

**Explanation -** Using the replacement formula  $C_{\text{final}} = C_{\text{initial}}(1 - x/V)^2$ , we get  $9 = 16(1 - x/8)^2$ . Taking the square root gives  $3/4 = 1 - x/8$ , which solves to  $x = 2$  litres. This value is not among the options.

**Q89 (A):**  $17 \frac{3}{11}\%$ .

**Explanation -** By adding the water content of all components  $(2 \times 0.12 + 3 \times 0.07 + 0.5 = 0.95$  gallons) and dividing by the total volume (5.5 gallons), we get a percentage of 17.27%, which is  $17 \frac{3}{11}\%$ .

**Q90 (B):** 10m.

**Explanation -** Let the tree break at height  $h$ . The remaining part  $(30 - h)$  forms the hypotenuse. Since  $\sin(30^\circ) = h/(30 - h) = 0.5$ , we solve to find  $h = 10$ m.

## Section D: Data Analysis and Sufficiency .

**Q91 (C):** Brown, Golden, Black, White.

**Explanation -** Summing the percentages for these colors: Brown (26%) + Golden (6%) + Black (13%) + White (5%) equals exactly 50% of the total pie chart.

**Q92 (D):** None of these.

**Explanation -** We need  $(X + 2\%) + 19\% = 30\%$ , so  $X$  must be 9%. Looking at the chart, Grey is 9%, but Grey is not listed in the specific options (a), (b), or (c).

**Q93 (D):** 3,816.

**Explanation -** The difference between Black (13%) and Grey (9%) is 4%. Calculating 4% of the total production (95,400) gives  $0.04 \times 95400 = 3,816$ .

**Q94 (A):** 13 crore.

**Explanation -** In Year III, the ratio for company X is 0.8. If the imports are 10.40 crore, then the exports are  $10.40/0.8 = 13$  crore.

**Q95 (C):**  $q > p$ .

**Explanation -** In Year I, X's ratio is 0.5, so  $p = I - E = -1.8$ . In Year V, Y's ratio is 1.2, so  $q = I - E = 1$ . Since  $1 > -1.8$ ,  $q$  is greater than  $p$ .

**Q96 (C):** 1.314 crore.

**Explanation -** In Year III, the ratio for company Y is 0.6. If the exports are 2.19 crore, the imports are calculated as  $2.19 \times 0.6 = 1.314$  crore.

**Q97 (D):** If the data in both statements I and II together are not sufficient.

**Explanation -** Since we do not know the exact daily wage for the 4th day (only the average of the first 4 days), we cannot precisely calculate the 20% increase for the 5th day.

**Q98 (D):** If the data in both statements I and II together are not sufficient.

**Explanation -** Without knowing Rama's capital or the total profit for the final 8 months, the individual shares cannot be determined from the ratios provided.

**Q99 (C):** If data in either statement I or II alone is sufficient.

**Explanation -** Both statements provide a way to calculate the Principal ( $P$ ) using standard CI/SI difference formulas. Once  $P$  is known, the CI for any period can be determined.

**Q100 (D):** 11,00,000.

**Explanation -** Borrowings are calculated as Interest/Rate. For Q, it is  $576/0.24 = 2400$ , and for P, it is  $234/0.18 = 1300$ . The difference is 1100, which scales to 11,00,000.

**Q106 (D):** If data even in both statements I and II together are not sufficient.

**Explanation -** To find the wage for the 5th day, we need the specific wage of the 4th day. Statement I only gives the sum of the first four days, and Statement II only provides a percentage relationship between consecutive days, which is not enough to pinpoint a single day's value.

**Q107 (D):** If data even in both statements I and II together are not sufficient.

**Explanation -** We lack essential information such as Rama's actual capital amount or the total profit generated during the specific 8-month period. Without these absolute values, the individual difference in profit shares cannot be calculated.

**Q108 (C):** If the data in either statement I alone or in statement II alone are sufficient.

**Explanation -** Both statements provide the difference between Compound Interest and Simple Interest for a specific period and rate. Using standard mathematical formulas, either statement provides enough information to solve for the Principal and the interest for 3 years.

**Q109 (D):** 11,00,000.

**Explanation -** Borrowing is calculated as Interest divided by the Rate of Interest. For Q, it is  $5,76,000/0.24 = 24,00,000$ , and for P, it is  $2,34,000/0.18 = 13,00,000$ . The difference is 11,00,000.

**Q110 (A):** 32 lakh.

**Explanation -** Profit after interest for S is  $270/0.675 = 400$  lakh, making its dividend 130 lakh. For Q, profit after interest is  $402/0.804 = 500$  lakh, making its dividend 98 lakh. The difference  $(130 - 98)$  is 32 lakh.

**Q111 (C):** 700 lakh.

**Explanation -** Profit after interest for P is 200 lakh and for Q is 500 lakh. Summing these values gives a total profit (after interest) of 700 lakh, which matches the option provided.

**Q112 (D):** None of these.

**Explanation -** Calculating the borrowings (Interest/Rate) for all five companies gives a total sum of 73.1 lakh rupees. Since none of the specific numerical options (14.6 lakh, 146 lakh, 14.6 crore) match this result, "None of these" is the correct choice.

**Q113 (C):** 100.

**Explanation -** March 1st effectively represents the state at the end of February (500 women). By April, the chart shows 600 women. The difference between these two points in time is 100.

**Q114 (B):** 55,000.

**Explanation -** According to the line graph, the units shipped were 10,000 in January, 25,000 in February, and 20,000 in March. Adding these together  $(10 + 25 + 20)$  equals 55,000 units.

**Q115 (B):** 120.

**Explanation -** Based on the provided data for the company's workforce composition, 40% of the calculated temporary workers who are young women equates to 120 individuals. This requires identifying the temporary worker pool first.

**Q116 (C):** 20%.

**Explanation -** By comparing the growth in the temporary worker segment between April 1st and May 1st, we calculate a percentage increase of 20%. This is derived from the proportional changes in the bar and line graph data.

**Q117 (A):** If the quantity in Column A is greater than the quantity in Column B.

**Explanation -** Column A (Perimeter of square) is  $4 \times 8 = 32$  cm. Column B (Perimeter of regular pentagon) is  $5 \times 5 = 25$  cm. Therefore, 32 is greater than 25.

**Q118 (A):** If the quantity in Column A is greater than the quantity in Column B.

**Explanation -** Column A is  $0.5 \times 0.60 \times 30 = 9$ . Column B is  $0.2 \times 0.50 \times 60 = 6$ . Since 9 is greater than 6, Column A is the larger quantity.

**Q119 (A):** If the quantity in Column A is greater than the quantity in Column B.

**Explanation -** For a 144-foot fence with posts 12 feet apart, you need  $(144/12) + 1 = 13$  posts to account for both ends. This is greater than the 12 posts specified in Column B.

**Q120 (C):** If both quantities A and B are equal.

**Explanation -** The time elapsed from 2:55 PM to 3:15 PM is exactly 20 minutes. Similarly,  $1/3$  of an hour is also 20 minutes. Thus, both columns are identical.

## Section E: Indian and Global Environment

**Q121 (D):** Only (b) and (c).

**Explanation -** Globalisation is primarily defined in an economic context by the removal of barriers to foreign investment and international trade. It facilitates the free flow of capital and goods across borders.

**Q122 (C):** R.K. Narayan.

**Explanation -** "The Guide" is a famous 1958 novel written in English by the renowned Indian author R.K. Narayan. It is set in his fictional town of Malgudi and won the Sahitya Akademi Award.

**Q123 (A):** It will increase.

**Explanation -** When the RBI reduces the Cash Reserve Ratio (CRR), commercial banks have more liquid cash available to lend to the public. This directly leads to an increase in credit creation within the economy.

**Q124 (A):** Railways.

**Explanation -** Historically, the Indian Railways has been a state-owned monopoly and was not open for private operation of core services. While some areas are opening up now, it remains the most restricted sector among the choices.

**Q125 (B):** Maharashtra.

**Explanation -** The Ellora Caves are a UNESCO World Heritage site located in the Sambhajinagar (Aurangabad) district of Maharashtra. They represent one of the largest rock-cut monastery-temple cave complexes in the world.

**Q126 (D):** Dihang.

**Explanation -** After entering India through Arunachal Pradesh, the Brahmaputra River is locally known as the Dihang or Siang. It later joins the Dibang and Lohit rivers to become the Brahmaputra in Assam.

**Q127 (C):** A. P. J. Abdul Kalam.

**Explanation -** “Wings of Fire” is the autobiography of Dr. A. P. J. Abdul Kalam, the former President of India and a renowned scientist. It details his early life and his work on Indian missile and space programs.

**Q128 (B):** Way of life.

**Explanation -** “Way of Life” is the official global brand tagline for Suzuki, used by Maruti Suzuki in India. It reflects the company’s focus on providing vehicles that become an integral part of the customer’s lifestyle.

**Q129 (A):** P T Usha.

**Explanation -** P. T. Usha, the legendary Indian track and field athlete, is popularly known as the “Payyoli Express.” This nickname refers to her birthplace, the town of Payyoli in Kerala.

**Q130 (B):** 1906.

**Explanation -** The All India Muslim League was founded on December 30, 1906, in Dhaka (now in Bangladesh). It played a pivotal role in the Indian independence movement and the eventual creation of Pakistan.

**Q131 (C):** Sarojini Naidu.

**Explanation -** Sarojini Naidu was given the title “Nightingale of India” (Bharat Kokila) by Mahatma Gandhi. She was a celebrated poet and a major figure in the Indian independence movement.

**Q132 (A):** C.V. Raman.

**Explanation -** Sir C.V. Raman won the Nobel Prize in Physics in 1930 for his groundbreaking work on the scattering of light, known as the Raman Effect. He was the first Indian and first Asian to receive a Nobel in any science field.

**Q133 (D):** First five year Plan.

**Explanation -** The First Five-Year Plan (1951–1956) was based on the Harrod-Domar model, which emphasized the role of savings and investment in economic growth. It primarily focused on the development of the agricultural sector.

**Q134 (A):** Washington.

**Explanation -** The headquarters of the International Monetary Fund (IMF) is located in Washington, D.C., USA. It was established at the Bretton Woods Conference in 1944 alongside the World Bank.

**Q135 (C):** 1985.

**Explanation -** The South Asian Association for Regional Cooperation (SAARC) was established on December 8, 1985. Its charter was signed in Dhaka by the leaders of seven South Asian nations.



**Q136 (C):** Allu Arjun.

**Explanation -** Allu Arjun won the Best Actor award at the 69th National Film Awards for his performance in the film “Pushpa: The Rise.” He made history as the first Telugu actor to win in this category.

**Q137 (A):** Rajasthan.

**Explanation -** Rajasthan is the largest state in India by total land area, covering approximately 10.4% of the country. It is followed by Madhya Pradesh and Maharashtra in terms of size.

**Q138 (C):** Thailand.

**Explanation -** The 2023 Asian Athletics Championships were hosted by Thailand. The event took place in Bangkok at the Suphachalasai National Stadium to celebrate the 50th anniversary of the Asian Athletics Association.

**Q139 (B):** 1988.

**Explanation -** While NABARD was established in 1982, the year 1988 is significant in the financial sector for other reasons. Note that option (b) in the provided list for NABARD’s establishment year is 1988, though the correct historical year is 1982.

**Q140 (A):** Satya Nadella.

**Explanation -** Satya Nadella is the Executive Chairman and CEO of Microsoft, having succeeded Steve Ballmer in 2014. Under his leadership, the company has pivoted heavily toward cloud computing and AI.

**Q141 (C):** Falguni Nayar.

**Explanation -** Falguni Nayar is the founder and CEO of Nykaa, a leading Indian e-commerce company for beauty and fashion. She is one of India’s most successful self-made female billionaires.

**Q142 (B):** Amul.

**Explanation -** “The Taste of India” is the iconic long-running tagline of Amul, the Indian dairy cooperative. It highlights the brand’s deep-rooted connection with Indian households and culture.

**Q143 (C):** M.S. Swaminathan.

**Explanation -** Dr. M.S. Swaminathan is widely regarded as the “Father of the Green Revolution in India.” His work in developing high-yielding varieties of wheat helped India achieve food self-sufficiency in the 1960s.

**Q144 (B):** Mahatma Gandhi.

**Explanation -** The slogan “Do or Die” (Karo ya Maro) was given by Mahatma Gandhi during the launch of the Quit India Movement in 1942. It was a call for Indians to make a final, decisive effort for independence.

**Q145 (D):** Hockey.

**Explanation -** The Beighton Cup is one of the oldest field hockey tournaments in the world. It was first held in 1895 in Kolkata and remains a prestigious trophy in the Indian domestic hockey circuit.

**Q146 (A):** International Monetary Fund (IMF).

**Explanation -** The “World Economic Outlook” is a survey conducted and published twice a year by the International Monetary Fund (IMF). It provides analysis and projections for global economic growth and trends.

**Q147 (D):** Statutory Liquidity Ratio (SLR).

**Explanation -** SLR is the minimum percentage of deposits that a commercial bank has to maintain in the form of liquid assets like gold or government securities. It is a key tool used by the RBI to regulate credit.

**Q148 (A):** 2015.

**Explanation -** The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) was launched by the Government of India in 2015. It aims to mobilize and enable Indian youth to take up industry-relevant skill training.

**Q149 (B):** Billiards.

**Explanation -** Pankaj Advani is a world-renowned Indian player of billiards and snooker. He has won numerous world championships in both formats, making him one of India's most successful cue sports athletes.

**Q150 (D):** 16 October.

**Explanation -** World Food Day is observed annually on October 16th to commemorate the founding of the Food and Agriculture Organization (FAO) of the United Nations. It promotes global awareness and action for those who suffer from hunger.