

OICL Assistant Previous Year Paper 2015

Directions (1-4): Study the following information carefully and answer the questions given below.

Ten boxes A, B, C, D, E, F, G, H, I, and J are kept one above the other in shelves but not necessarily in the same order. The lowermost shelf is numbered as 1 and the topmost shelf is numbered as 10.

Box E is kept three boxes below box A. Box C is kept two boxes above box H which is kept at an odd-numbered position but not on Shelf 3. The number of boxes placed between Box H and box B is more than the number of boxes placed between box C and box A. Box G is kept immediately below box A. Only two boxes are kept between box I and box G which is kept above I. Box B is not kept adjacent to box G and Box C but it is placed below Box D. Box F is kept adjacent to box H. Box B is not placed above Box J which is not kept adjacent to Box C.

Q1. How many boxes are kept between box J and box F?

- (a) One
- (b) Five
- (c) Two
- (d) Four
- (e) Three

Q2. Four of the following five are alike in a certain way and hence form a group. Which among the following does not belong to that group?

- (a) G
- (b) H
- (c) E
- (d) F
- (e) I

Q3. Which among the following statement(s) is/are false?

I. Difference between the Stack number F and Stack number I is Stack number A.

II. Box F is kept below Box J

III. Even number of boxes are kept between box C and box E.

- (a) Only I
- (b) Both II and III
- (c) Only III
- (d) Both I and II
- (e) All I, II and III

Q4. Which among the following boxes is kept four boxes above box I?

- (a) Box C
- (b) Box F
- (c) Box H
- (d) Box A
- (e) None of these

Q5. If in the given word "ABBREVIATORY" vowel is replaced with its immediately succeeding vowel and consonant is replaced with its immediately succeeding letter. Then the repeated letters are dropped and the remaining letters are arranged in alphabetical order from left to right. Which among the following letter is second to the left of the second letter from the right end after arrangement?

- (a) Z
- (b) W
- (c) O
- (d) I
- (e) None of these

Directions (6-7): In each of the following questions, a few statements have been given. Analyse the given statements and answer whether the data given in the statements are sufficient to answer the question or not.

Q6. Five patients (P, Q, R, S, and T) have appointments on different days of the week from Monday to Friday. On which day does patient R have an appointment?

Statement I: Patient P's appointment is two days before patient Q's. Patient R's appointment is just after patient Q's appointment.

Statement II: Patient T's appointment is on Friday and patient S's appointment is three days before patient T's appointment. Patient R's appointment is not on Wednesday.

- (a) If statement I alone is sufficient
- (b) If both statements I and II are sufficient
- (c) If neither statement I nor II is sufficient
- (d) If either statement I or II is sufficient
- (e) If only statement II is sufficient

Q7. Five students (P, Q, R, S, and T) are standing in a line from left to right based on their ranks in a competition. What is R's rank?

Statement I: P is ranked higher than Q but lower than R.

Statement II: T is ranked highest, and S is ranked lower than Q.

- (a) If statement I alone is sufficient
- (b) If both statements I and II are sufficient
- (c) If neither statement I nor II is sufficient
- (d) If either statement I or II is sufficient
- (e) If only statement II is sufficient

Directions (8-10): In each question below, some statements are given followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements, disregarding commonly known facts.

Q8. Statements:

All mangoes are kiwis
No kiwis are lemons
All lemons are limes

Conclusions:

- I. Some limes can be kiwis
II. No Mangoes are lemons
(a) Only I follows
(b) Both I and II follow
(c) Only II follows
(d) None follows
(e) Either I or II follows

Q9. Statements:

Only metals are minerals
No metals are plastics
All plastics are rubbers

Conclusions:

- I. No rubbers are minerals
II. Some metals are rubbers
(a) Only I follows
(b) Both I and II follow
(c) Only II follows
(d) None follows
(e) Either I or II follows

Q10. Statements:

Only a few chairs are tables
All chairs are furniture
All furniture are desks

Conclusions:

- I. Some desks are not chairs
II. Some desks are tables
(a) Only I follows
(b) Both I and II follow
(c) Only II follows
(d) None follows
(e) Either I or II follows

Directions (11-14): Study the following information carefully and answer the questions given below.

There are eight persons named J, K, L, M, N, O, P and Q sit around a square table. Four persons sit at the corners of the table facing away from the centre, while the other four persons sit at the middle of the side of the table facing towards the centre. Persons sit at the corners like different fruits among Banana, Apple, Grapes and Mango. Persons sit at the middle of the side like different vegetables among Cucumber, Brinjal, Beans and Cabbage. All the information is not necessarily in the same order.

Number of persons sit between the one who likes apple and Q when counted from left of Q is same as the number of persons sit between L and the one who likes brinjal when counted from the right of L. M sits opposite to the one who likes Banana. The one who likes Beans sits 2nd to the left of K. O sits just next to the person who likes Brinjal. Q sits opposite to the person who likes Brinjal. K sits just next to P who likes Mango. N sits opposite to the person who likes Cucumber but not adjacent to the one who likes grapes. O sits 2nd to the left of M.

Q11. Who among the following person likes Cabbage?

- (a) J
- (b) N
- (c) L
- (d) M
- (e) None of the above

Q12. Who sits opposite to the person who likes Apple?

- (a) J
- (b) The one who likes grapes
- (c) P
- (d) The one who likes banana
- (e) N

Q13. Who among the following sits 2nd to the right of the person who likes Grapes?

- (a) J
- (b) N
- (c) The one who likes Mango
- (d) L
- (e) None of the above

Q14. Who among the following likes Brinjal?

- (a) J
- (b) K
- (c) None of these
- (d) O
- (e) Q

Directions (15): One of the unfortunate paradoxes of our lives today is that despite adequate food production and unimaginable advances in technology, one in three persons worldwide is not getting enough of the right food to eat and approximately 800 million of seven billion sleep hungry every night. Poor diets globally are more responsible for ill health as compared with the combined effect of drugs, tobacco and alcohol. According to the International Food Policy Research Institute, India needs focus not only on rice and wheat — more diversity is needed, with the addition of vegetables, fruits and dairy farming.

Q15. Which of the following abrogates the issue stated in given statement?

- (I) Chief of Food & Agriculture organization of United Nations has given a statement that hunger rate is increasing day by day.
 - (II) Farming of vegetables & fruits can aid in food production of India.
 - (III) In a recent survey by a medical association, it is found that most of the ill people in world are affected by consumption of Alcohol & tobacco.
- (a) Only II
 - (b) Only I and III
 - (c) Only III
 - (d) Only II and III
 - (e) None of them

Directions (16-19): Study the following information carefully and answer the questions given below.

In this code language,

"Technology is advancing" is coded as "10MJ 11TK 3RC"

"Information and communication" is coded as "14LN 4MD 12LL"

"Future innovations are key" is coded as "4VD 7IG 4ID 12ML"

Q16. What will be the code for "Mindless" as per the given code language?

- (a) 9HP
- (b) 13HI
- (c) 1HP
- (d) 9HI
- (e) None of these

Q17. What will be the codes for "Artificial Intelligence" as per the given code language?

- (a) 11KM 13XK
- (b) 13XM 11ZK
- (c) 12XM 11ZK
- (d) 10XM 12ZK
- (e) None of these

Q18. What will be the code for "Common" as per the given code language?

- (a) 7LG
- (b) 7XG
- (c) 3XT
- (d) 8ML
- (e) none of these

Q19. What may be the possible word for "8IH" as per the given code language?

- (a) Manual
- (b) Mammal
- (c) Moonlight
- (d) Mountain
- (e) Mentors

Q20. If 1 is added to all the even digits and 2 is subtracted from all the odd digits and then all the digits are arranged in ascending order from right to left, which of the following has the minimum number of digits repeated in the new number thus formed?

I. 5463298724

II. 3549563427

III. 4983476458

- (a) Only I
- (b) Only III
- (c) Both II and III
- (d) All I, II and III
- (e) Both I and III

Directions (21-24): Study the following information carefully and answer the questions given below.

Eleven persons: M, N, O, P, Q, R, S, T, U, V and W gave the IBPS PO Prelims exam in three different exam centres: A, B and C. At least three and not more than four persons gave exam at a particular centre. R gave the exam at the same centre as O but not at Centre B. U and V gave the exam at Centre C. Exam of N, V and W are at different centres. P and W gave the exam at different centres. P didn't give exam in the same centre as V. R didn't give exam in the same centre as P. Q did not give the exam at the same centre as W and V. T and S gave exam at different centre. S gave exam in Centre A. T and Q gave exam at different centres. M didn't give exam in the same centre as V and Q.

Q21. Who among the following persons gave the exam in the same centre as O?

- (a) N
- (b) V
- (c) M
- (d) S
- (e) None of the above

Q22. Which of the following statements is/are true?

- (a) W and U gave the exam at the same centre.
- (b) P gave the exam at the Centre B.
- (c) M and V gave the exam in the same centre.
- (d) Q and S gave the exam at the same centre.
- (e) All are true

Q23. Which of the following pairs of persons gave the exam at the same centre?

- (a) S and V
- (b) P and N
- (c) U and N
- (d) S and R
- (e) None of these

Q24. In which centre does the least number of persons gave exam?

- (a) Centre A
- (b) Centre B
- (c) Centre C
- (d) Either Centre A or Centre B
- (e) Either Centre B or Centre C

Q25. Statement: The government is considering a proposal to make financial literacy education mandatory in schools across the country to help students understand the basics of saving, investing, and managing debt from an early age.

Arguments:

- I. Yes, mandatory financial literacy education will equip students with essential skills that are crucial for managing personal finances effectively in adulthood.
- II. No, adding financial literacy as a mandatory subject will increase the burden on students who are already struggling with an overloaded curriculum.
- III. Yes, early financial education can reduce the chances of individuals falling into debt traps and make them more responsible citizens.

Which of the following arguments are strong?

- (a) Only I is strong
- (b) Only I and III are strong
- (c) Only II is strong
- (d) All I, II, and III are strong
- (e) Only III is strong

Directions (26-29): A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of an input and rearrangement.

Input: 48 Stream 82 Damage 35 read 57 apple unit 9 86 end

Step I: Apple 9 48 stream 82 Damage 35 read 57 unit 86 end

Step II: Apple 9 48 stream 82 35 read 57 unit end damage 86

Step III: End 35 apple 9 48 stream 82 read 57 unit damage 86

Step IV: End 35 apple 9 48 stream 57 unit damage 86 read 82

Step V: Unit 48 end 35 apple 9 stream 57 damage 86 read 82

Step VI: Unit 48 end 35 apple 9 damage 86 read 82 stream 57

And Step VI is the last step of the rearrangement of the above input.

As per the rules followed in the above steps, find out in each of the following questions the appropriate step for the given input.

Input: 76 Mountain 29 exams 43 write 61 orange block 5 92 idol

Q26. In which step the elements “write block 92” found in the same order?

- (a) Step I
- (b) Step II
- (c) Step III
- (d) Step V
- (e) No such step

Q27. In step IV, which of the following word/number would be at 2nd position to the right of 7th element from the right end?

- (a) 43
- (b) Orange
- (c) Exams
- (d) None of these
- (e) 92

Q28. How many numbers are there to the right of “mountain” in step III?

- (a) Three
- (b) Four
- (c) Two
- (d) One
- (e) None

Q29. Which of the following would be the step V after arrangement?

- (a) Idol 29 orange 43 exams 5 write 61 block 92 mountain 76
- (b) Idol 29 exams 5 write 61 block 92 Orange 43 mountain 76
- (c) Orange 43 idol 29 exams 5 write 61 block 92 mountain 76
- (d) Orange 43 idol 29 exams 5 write 61 block 76 mountain 92
- (e) None of these

Q30. Statement: The Indian government has recently introduced the 'One Nation, One Election' proposal, which aims to synchronize the timing of Lok Sabha and State Assembly elections. The government argues that this move will save significant financial resources and reduce the frequent disruptions caused by multiple elections.

Which of the following can be assumed from the above statement?

- (I) Holding simultaneous elections will streamline the electoral process in India.
 - (II) The frequent elections are currently a financial burden on the country.
 - (III) All political parties in India support the 'One Nation, One Election' proposal.
- (a) Only I and II
 - (b) Only II
 - (c) Only I and III
 - (d) Only III
 - (e) Only I

Directions (31-32): Study the following information carefully and answer the questions given below.

There are ten members in a family of three generation. P is brother-in-law of A. P has no siblings. S is daughter-in-law of R. A is uncle of X. R is grandfather of X. R has only one child. D has two children i.e., one son and one daughter. T is grandfather of K. X and K are not sibling. U is mother-in-law of D. S has only one son. Gender of X and G is same. S has only one sibling.

Q31. How is U related to X?

- (a) Aunt
- (b) Sister
- (c) Mother
- (d) Grand mother
- (e) None of these

Q32. How is S related to D?

- (a) Mother
- (b) Aunt
- (c) Sister-in-law
- (d) Sister
- (e) None of these

Directions (33-35): Study the following information carefully and answer the questions given below.

8 R # 5 % T 3 7 \$ L 9 & F 4 K * 6 E ^ N 1 @ G 2 W 7 D Q 8 U 5 Z

Q33. If all the symbols are dropped from the given series which element will be fifteenth from the right end?

- (a) 2
- (b) Q
- (c) 6
- (d) 5
- (e) K

Q34. Which of the following letter is fifth to the left of the nineteenth element from the left end of the given arrangement?

- (a) L
- (b) N
- (c) T
- (d) W
- (e) F

Q35. Which of the following element is exactly in between 9 and D?

- (a) E
- (b) ^
- (c) F
- (d) N
- (e) None of these

Directions (36-40): Study the following information carefully and answer the questions given below.

Eight persons - Riya, Siya, Hina, Varun, Rahul, Karan, Roy and Gita – get their salary on four different dates - 6, 12, 15, 27 in two different months - March and September. Each of them gets different amount of salary per month (in thousands): 15, 22, 30, 43, 50, 54, 57 and 63. No two persons get salary on the same date.

Karan gets 7000 less amount of salary than Siya. Gita gets salary on a date before Roy and Riya get the salary. Riya gets her salary on an even number date but not in the month of March. The one who gets 30000 gets it on the 12th but not in September. Varun gets his salary on a date before Hina but after Karan. Four persons get salary between the one who gets 30000 and Roy. The one who gets 63000 on the date which is a multiple of 4. Hina gets salary after Roy. The amount of salary Hina gets is 8000 less than the amount of salary which Varun gets. The one who gets the salary two persons before Riya gets an amount of 50000. The one who gets salary immediately after Siya gets an amount of salary which is completely divisible by 9. Neither Gita nor Roy gets the lowest amount of Salary. Rahul gets more salary as compared to Hina.

Q36. Who among the following persons gets salary on the 6th of September and what is the amount of salary he/she gets?

- (a) Gita- 54000
- (b) Riya- 63000
- (c) Riya- 54000
- (d) Riya-15000
- (e) Gita-15000

Q37. Which of the following statements is/are true?

- (a) Gita gets her salary in the month of September
- (b) Siya gets her salary in the month of September
- (c) Varun gets more amount of salary as compared to Riya.
- (d) Siya gets her salary on 27th of March.
- (e) All are true

Q38. Which among the following pairs of persons gets salary in the same month?

- (a) Karan and Roy
- (b) Riya and Rahul
- (c) Varun and Roy
- (d) Gita and Hina
- (e) None of the above

Q39. Who among the following persons gets the third highest amount of salary?

- (a) Riya
- (b) Karan
- (c) Varun
- (d) Gita
- (e) Hina

Q40. Four of the following five are alike in a certain way and hence form a group. Find the one who doesn't belong to that group.

- (a) Karan
- (b) Riya
- (c) Rahul
- (d) Roy
- (e) Hina

Directions (41-43): Read the following passage carefully and answer the questions given below them.

Industrial Revolution, in modern history, is the process of change from an agrarian economy to one dominated by industry and machine manufacturing. These technological changes introduced **novel** ways of working and living and fundamentally transformed society. This process began in Britain in the 18th century and from there spread to other parts of the world. Although used earlier by French writers, the term Industrial Revolution was first popularized by the English economic historian Arnold Toynbee (1852-83) to describe Britain's economic development from 1760 to 1840. Since Toynbee's time the term has been more broadly applied as a process of economic transformation than as a period of time in a particular setting. This explains why some areas, such as China and India, did not begin their first industrial revolutions until the 20th century, while others, such as the United States and Western Europe, began undergoing "second" industrial revolutions by the late 19th century.

Q41. What change was brought about by the industrial revolution?

- (a) India emerged as an agricultural-dominated country following the advent of the industrial revolution
- (b) The farmers became able to cultivate consistent yields by using advanced technology regardless of seasonal variations.
- (c) The industrial revolution transited the agriculture-based economy into a machine and industry-oriented economy.
- (d) The world economy got more integrated and cross-border production got started after the Industrial revolution.
- (e) None of these

Q42. Which of the following information is/are correct with reference to the terminology 'Industrial Revolution'?

- (I) It was an English economic historian who popularised the term 'Industrial Revolution'.
 - (II) Arnold Toynbee characterized the Industrial Revolution as the economic advancement experienced by Britain.
 - (III) The term 'industrial revolution' had never been used before Arnold Toynbee coined it.
- (a) Only (I)
 - (b) Both (II) & (III)
 - (c) Only (II)
 - (d) Both (I) & (II)
 - (e) Both (II) & (III)

Q43. Which of the following words is an antonym for 'novel'?

- (a) repress
- (b) traditional
- (c) surmise
- (d) impetus
- (e) rigorous

Directions (44-48): Read the following passage carefully and answer the questions given below them.

Despite being one of the most intensely studied insect groups, the evolutionary history and drivers of butterfly diversification were poorly understood by researchers. To address this lacuna, an international team of researchers sequenced 391 genes from nearly 2,300 butterfly species from 90 countries to help reconstruct a new phylogenomic tree of butterflies representing 92% of all genera.

While the earlier classification was based more on butterfly morphology, the latest attempt has been based on genome sequencing. As a result, the researchers found that at least 36 butterfly tribes require reclassification. According to the study published recently in the journal Nature Ecology and Evolution, butterflies originated in the Americas about 100 million years ago. "Since we sequenced the genomes to reconstruct a large phylogeny (species tree) and used a molecular clock, we were able to estimate the time of origin of butterflies from moths and dispersal of butterflies from North America, which is their place of origin, to the rest of the world," says one of the researchers. "There is no adaptive reason for butterflies to originate in North America. It's more of coincidence that butterflies had their origin in North America where the closest moth relatives of the earliest butterflies were present."

Q44. What can be said about researchers' understanding of the past evolution and diversification of butterflies?

- (a) Researchers weren't much apprised of the evolutionary history and causes behind the diversification of butterflies.
- (b) Researchers have discovered the vast majority of butterfly species and the factors responsible for their variegation.
- (c) Researchers were fully cognizant of the advent of new species of butterflies and how they divaricate from each other.
- (d) Despite researchers having knowledge of all prevailing species, the intricacies of their evolution remained elusive.
- (e) None of these

Q45. Which of the following information does the researcher convey regarding the origin of butterflies?

- (a) The closest moth relatives of the earliest butterflies can be traced back to North America.
- (b) The first butterfly species emerged a hundred million ago in the Americas.
- (c) North America is the provenance of butterflies, from which they dispersed to other parts of the world.
- (d) All of these
- (e) Only (a) and (c)

Q46. Which of the following statements is FALSE as per the information given in the passage?

- (a) Recent classification of butterflies has been based on genome sequencing to determine butterflies' genetics.
- (b) All are true
- (c) The butterfly is among the insect groups that have undergone extensive research.
- (d) Researchers reckon that there is no adaptive ground that can be attributed to butterflies originating in North America.
- (e) The genes analysed by the international team belonged to two-thousand butterfly species.

Q47. Which of the following words is a synonym for 'estimate'?

- (a) scatter
- (b) refute
- (c) condense
- (d) gauge
- (e) protract

Q48. Which of the following words is an antonym for 'intensely'?

- (a) vehemently
- (b) ineffably
- (c) cogently
- (d) gently
- (e) inexorably

Directions (49-53): In each of the following sentences there are two blank spaces. Below each five pairs of words have been denoted by numbers (A), (B), (C), (D) and (E). Find out which pair of words can be filled up in the blanks in the sentences in the same sequence to make the sentence meaningfully complete.

Q49. The new technology promises to _____ manufacturing industries, bringing efficiency and _____ to various sectors.

- (a) homage, conceal
- (b) amalgamate, generate
- (c) deluge, resemble
- (d) revolutionize, innovation
- (e) flee, devastate

Q50. The film director's _____ vision and _____ execution brought the story to life on the screen.

- (a) muddled, haphazard
- (b) lackadaisical, extravagant
- (c) incomprehensible, gruesome
- (d) subdued, precise
- (e) coherent, meticulous

Q51. The educational institution emphasizes _____ growth and _____ development in its curriculum.

- (a) peculiar, compartmentalized
- (b) deemed, focused
- (c) stagnant, linear
- (d) intellectual, holistic
- (e) sporadic, fragmented

Q52. The city boasts _____ architecture and _____ cultural heritage, attracting tourists from all over the world.

- (a) contemporary, diverse
- (b) dilapidated, negligible
- (c) generic, insignificant
- (d) outdated, monotonous
- (e) futuristic, isolated

Q53. The new legislation aims to _____ social equality and _____ discrimination in all forms.

- (a) perpetuate, cumbersome
- (b) uphold, intensify
- (c) foster, obliterate
- (d) embrace, amplify
- (e) advocate, provoke

Directions (54-58): In each of the given questions an inference is given in bold which is then followed by three paragraphs. You have to find the paragraph(s) from where it is inferred. Choose the option with the best possible outcome as your choice.

Q54. The new educational policy promotes skill-based learning and practical application.

(i) The new educational policy focuses on providing students with hands-on learning experiences and encouraging the application of practical skills. It aims to equip them with the necessary knowledge and abilities to navigate real-world situations effectively. By shifting away from rote learning and emphasizing skill development, the policy seeks to foster a more practical and applicable approach to education.

(ii) Under the new educational policy, theoretical knowledge takes precedence over practical application. The emphasis is on traditional teaching methods and memorization of facts and concepts. The policy demonstrates that skill-based learning or applying knowledge in practical contexts is peripheral.

(iii) The new educational policy focuses on the significance of including practical skills and their relevance in the learning process. It aims to integrate experiential learning methods, such as internships and projects, to enhance students' skill sets. By combining theoretical knowledge with practical application, the policy seeks to provide a comprehensive educational experience.

- (a) Only (i)
- (b) Both (ii) & (iii)
- (c) All of these
- (d) Only (iii)
- (e) Both (i) & (iii)

Q55. The new tax reforms are expected to boost economic growth and encourage investment.

(i) The introduction of new tax reforms aims to create a favourable business environment by reducing tax burdens and simplifying the tax system. Tax cuts are aimed to stimulate capital formation. Having capital encourages investment which will eventually boost domestic production. An increase in domestic production has a favourable impact on economic growth.

(ii) The new tax reforms prioritize tax collection by increasing tax rates. The critics argue that higher tax rates may have adverse effects on economic growth, investment, and consumer spending. The reforms may lead to a decline in business activities and deter potential investors.

(iii) The new tax reforms aim to redistribute wealth by imposing higher taxes on the wealthy and providing tax incentives for small businesses. The objective is to reduce income inequality and promote a more equitable distribution of resources within society. Moreover, it is seen as a necessary step towards addressing budget deficits and ensuring sustainable economic growth.

- (a) Only (i)
- (b) Both (ii) & (iii)
- (c) Both (i) & (iii)
- (d) Only (iii)
- (e) All of these

Q56. Forests play a crucial role in maintaining ecological balance and preserving biodiversity.

(i) Forests act as carbon sinks, absorbing carbon dioxide from the atmosphere and mitigating the effects of climate change. They reduce greenhouse gas emissions and makes our planet liveable by holding onto some of Earth's heat energy so that it doesn't all escape into space. Moreover, forests provide habitats for numerous plant and animal species, promoting biodiversity and supporting ecological balance where all living organisms, their interactions, and their surrounding environment are in a stable and sustainable condition.

(ii) The Earth's ecosystems have been altered by anthropogenic processes, including land use, harvesting populations, species introductions and climate change. These anthropogenic processes greatly alter plant and animal communities, thereby changing transmission of the zoonotic pathogens they carry. Biodiversity conservation may be a potential win-win strategy for maintaining ecosystem health and protecting public health, yet the causal evidence to support this strategy is limited.

(iii) Forests serve as habitats for an incredibly diverse range of plants and animals. The complex structure of forests provides various niches and microhabitats that support a multitude of organisms. These characteristics of forests provide living to many species. By protecting and conserving forests, we can safeguard the incredible array of species and ecosystems, which in turn ensures the balance of the ecological system.

Which paragraph supports the given inference?

- (a) Only (i)
- (b) Both (ii) and (iii)
- (c) Both (i) and (iii)
- (d) Only (ii)
- (e) All of these

Q57. Competition within the realm of business acts as a catalyst that spurs innovation.

(i) In a fiercely competitive market, companies are constantly driven to find new ways to stand out and gain an edge over their rivals. This drive for differentiation and outperforming competitors often leads to the development of innovative solutions, products, and services that capture the attention of customers. As companies strive to attract and retain customers in the face of competition, they are compelled to invest in research and development, pushing the boundaries of innovation.

(ii) The presence of competition creates a dynamic environment where companies are motivated to continuously improve their offerings. To stay relevant and gain a competitive advantage, businesses must adapt to changing market trends, customer demands, and emerging technologies. This adaptability drives the need for innovation, as companies seek to meet evolving customer expectations and deliver superior value. The relentless pursuit of staying ahead in the competitive landscape fuels a culture of innovation.

(iii) As companies compete for market share, they are incentivized to find more efficient ways of operating, optimize their processes, and reduce costs. This drive for efficiency often leads to the discovery and implementation of innovative technologies and practices that enhance productivity and profitability. Moreover, the pressure to attract more customers creates a sense of urgency, prompting companies to explore new markets, expand their offerings, and explore untapped opportunities for growth.

- (a) All of these
- (b) Both (ii) and (iii)
- (c) Both (i) and (ii)
- (d) Only (iii)
- (e) Only (i)

Q58. The recent increase in online shopping indicates a shift in consumer behaviour.

(i) The convenience and accessibility offered by online shopping platforms have led to a surge in their popularity. Recent data has revealed that people, due to their increasing busy lifestyles, hardly get time to go to physical markets to shop and they are only left with the option to shop online. Therefore, in the last few years, a sharp surge has been observed in online shopping.

(ii) Despite the increasing popularity of online shopping, traditional brick-and-mortar stores remain the dominant force in the retail industry. Many consumers still do not fully embrace online shopping and prefer the tangible experience of shopping in physical stores. This is often due to their dissatisfaction with the quality of goods or services offered by e-commerce platforms.

(iii) The surge in online shopping can be attributed to transient factors like the COVID-19 pandemic and associated lockdown measures. However, it does not necessarily imply a lasting inclination among consumers to consistently purchase from diverse online platforms or sustain their preference for online goods and services in the long term.

- (a) Both (i) & (iii)
- (b) Only (i)
- (c) Both (ii) & (iii)
- (d) Only (iii)
- (e) All of these

Directions (59-64): In the following question, sentences are given with a part in bold. The given phrase in bold may or may not contain an error. The options following can replace the incorrect phrase. The correct phrase that is to be replaced will be your answer. If the sentence is already correct then select 'No improvement required' as your answer.

Q59. The Olympic medallist has worked tirelessly for his childhood to pursue his goal.

- (a) tireless since his
- (b) tirelessly from his
- (c) tireless for his
- (d) No improvement required
- (e) tirelessly since his

Q60. Each of the officer need to stay late in branches to complete the targets.

- (a) Each of the officers needing
- (b) Each of the officer needs
- (c) Each of the officers needs
- (d) Each of the officer needed
- (e) No improvement required

Q61. The authority has given I the task to prepare the presentation by tomorrow.

- (a) has gave me the
- (b) has given me the
- (c) have given me the
- (d) has giving me the
- (e) No replacement required

Q62. The doctor **has recommended abstaining to** eating sugary foods as part of her new healthy lifestyle.

- (a) has recommended abstaining from
- (b) has recommend abstaining from
- (c) has recommended abstaining with
- (d) has recommend abstaining to
- (e) No improvement required

Q63. The strategies **to mitigate and adapt to** low-carbon vary based on a city's characteristics.

- (a) to mitigate and adapt at
- (b) to mitigating and adapt to
- (c) No improvement required
- (d) for mitigate and adapt to
- (e) to mitigating and adapting to

Q64. My sister **was habituated to bite** her nails in her childhood.

- (a) was habituated to bite
- (b) was habituated to biting
- (c) was habituated to bites
- (d) was habituated to bitten
- (e) No improvement required

Directions (65-69): Given below are few sentences where parts of the sentence have been jumbled. Rearrange the parts sentences in the proper sequence to form a meaningful statement and then answer the questions given below.

- (A) of a given instance of (1)/ what we consider as the 'meaning' (2)/ speech or writing (3)/ this 'something' is typically (4)/
- (B) specific meanings, and rules for (1)/ the common understanding of language (2)/ combining those words into sentences (3)/ is that it consists of words, which carry (4).
- (C) who questioned categories such (1)/ such as Friedrich Nietzsche (1844-1900) and Martin Heidegger (1889-1976), (2)/ this tradition has been challenged by philosophers (3)/ as 'knowledge', 'truth' and 'identity' (4).
- (D) of language — a speech or a piece of writing — refers (1)/ 'real world' out there (2)/ we believe that any use (3)/ to 'something' in the (4).
- (E) in time, Algeria-born French philosopher Jacques Derrida (1930-2004) (1)/ theory of 'deconstruction' (2)/ carried this critique to (3)/its furthest end with his (4).
- (F) with the necessary use of binaries underpins (1)/ the Western philosophical tradition of reason, logic, ethics, (2)/ and values that together constitute modernity (3)/ this assumption of a text's meaning being stable, along(4).

Q65. Which of the following is the correct sequence of the rearrangement of the sentence (A)?

- (a) 1432
- (b) 4231
- (c) 4213
- (d) 3412
- (e) None of these.

Q66. Which of the following is the correct sequence of the rearrangement of the sentence (D)?

- (a) 1432
- (b) 3142
- (c) 4213
- (d) 2143
- (e) None of these.

Q67. Which of the following is the correct sequence of the rearrangement of the sentence (E)?

- (a) 1342
- (b) 2143
- (c) 4231
- (d) 3412
- (e) None of these.

Q68. Which of the following is the correct sequence of the rearrangement of the sentence (C)?

- (a) 1432
- (b) 3142
- (c) None of these
- (d) 3124
- (e) 3214

Q69. What is the correct rearrangement of the given sentences to form a meaningful paragraph?

- (a) DABCFE
- (b) FDAECB
- (c) ADFBCE
- (d) BDAFCE
- (e) None of these.

Directions (70-77): In the following passage there are blanks, each of which has been denoted by a letter. For each blank, a few options are given. Find out the appropriate word which fits the blank appropriately.

In ancient India, the lowest court was the family court starting from the family arbitrator and the judge at the highest _____ (A) was the king. One of the primary duties of the _____ (B) was the _____ (C) of justice, and in this process, the King was aided by his counsellors and ministers. As the civilization advanced, the duties of the King were _____ (D) to the judges who had knowledge of the Vedas. Justice was administered on the basis of 'dharma' or a structure of rules specifying the responsibilities that an individual must fulfil in his life. Customs served as a source of law. This system continued till the Mughal period. During the Mughal period, the office of Qazi was responsible for the dispensation of justice. Every _____ (E) capital and every large town had a Qazi. The Qazis held the trial in the presence of the parties and were _____ (F) to write their legal documents very carefully. The King was the highest court of appeal. This system of justice was replaced by the British. The British introduced the common law system in India and established the Sadar Diwani Adalat. They were later followed by the _____ (G) of high courts. The first high court was established at Calcutta in 1862. The high courts were also established in Madras and Bombay. Subsequently, the federal court was established by the Government of India Act, 1935 which had a wider _____ (H) than the high courts. Thus, the present judicial system of India is based largely on the common law system.

Q70. Which of the following words will fit in the given bank (A)?

- (a) chasten
- (b) pedestal
- (c) coeval
- (d) endorsement
- (e) cumber

Q71. Which of the following words will fit in the given bank (B)?

- (a) instinctive
- (b) sovereign
- (c) maestro
- (d) magnanimous
- (e) affinity

Q72. Which of the following words will fit in the given bank (C)?

- (a) dispensation
- (b) entice
- (c) divulgence
- (d) uproar
- (e) exhaustion

Q73. Which of the following words will fit in the given bank (D)?

- (a) mitigated
- (b) substantiated
- (c) clinched
- (d) articulated
- (e) delegated

Q74. Which of the following words will fit in the given bank (E)?

- (a) putative
- (b) yearning
- (c) provincial
- (d) heckling
- (e) pondered

Q75. Which of the following words will fit in the given bank (F)?

- (a) expected
- (b) propagated
- (c) exemplified
- (d) emboldened
- (e) overlooked

Q76. Which of the following words will fit in the given bank (G)?

- (a) ravaging
- (b) ransacking
- (c) establishment
- (d) wrecking
- (e) ruination

Q77. Which of the following words will fit in the given bank (H)?

- (a) injunction
- (b) defendant
- (c) abrogation
- (d) jurisdiction
- (e) probation

Directions (78-80): Read the following passage carefully and answer the questions given below them.

The island of Sriharikota serves as a barrier that shields a brackish water lagoon that we call the Pulicat lake. Being mostly off-limits to tourists because it is an ISRO launch site, this area is teeming with 76 species of water birds. The lake itself has an average depth of only one metre, although it is nearly 60 km long. The tidal flats, and both fresh and brackish water wetlands found here are ideal for the spot-billed pelican (a water bird). Although classified as 'Near-Threatened' in the IUCN red list, this bird looms large in our minds when we think of water birds.

The spot-billed pelican's comical walk points to weak leg muscles, which also means that the bird is not a great swimmer, and catches fish near the surface of the water. The common name comes from blue spots on the sides of the large bills. A social bird, this species sometimes goes fishing in groups, forming a semi-circle that pushes the fish towards shallow water. It also forms a foraging partnership with the little cormorant. Cormorants are divers, and their dives cause the fish present in deeper regions to scatter towards the surface, where the pelican awaits them.

Q78. What factors make Pulicat Lake an optimal environment for the spot-billed pelican?

- (a) Tidal flats along with wetlands with both fresh and brackish water.
- (b) Geographical positioning of and climate around the lake offer a conducive environment.
- (c) Cormorants that help spot-billed pelican bird obtain their food effortlessly.
- (d) The complete absence of human intervention in the surrounding areas of the lake.
- (e) All of these

Q79. Which of the following words is a synonym for 'foraging'?

- (a) undulating
- (b) scavenging
- (c) abetting
- (d) bothering
- (e) retrofitting

Q80. Which of the following words is an antonym for 'barrier'?

- (a) solace
- (b) assistance
- (c) sufferance
- (d) gist
- (e) scrutiny

Directions (81-85): Read the following table carefully and answer the questions given below.
The table shows the number of people who travelled by train and the percentage of people who travelled by flight in four (A, B, C and D) different cities in 2022.

Cities	People who travelled by train	Percentage of people who travelled by flight
A	$1.7X$	32%
B	$2.4X$	$\frac{Y}{6}\%$
C	70	$(X+15)\%$
D	Y	$\left(\frac{X+Y}{5}\right)\%$

Note: (i) 35% people travelled by train in city C.
(ii) The average number of people who travelled by train in cities B and D is 135.
(iii) Total people who travelled = People who travelled by train + People who travelled by flight.

Q81. People who travelled by flight in cities A and C together is how much more/less than the people who travelled by train in cities B and D together.

- (a) 120
- (b) 100
- (c) 80
- (d) 75
- (e) 150

Q82. People who travelled by train in city E are $1.2Y$ and people who travelled by flight by cities A and E in the ratio of $8:\frac{X}{5}$ respectively. Find the total people who traveled in city E.

- (a) 230
- (b) 180
- (c) 175
- (d) 225
- (e) 270

Q83. People who travelled by flight in city B is what percentage of people who travelled by train in city D.

- (a) 33.33%
- (b) 66.67%
- (c) 8.33%
- (d) 14.28%
- (e) 26.67%

Q84. In city A, 55% of people travelled in business class on the flight, and the remaining people travelled in economic class on the flight. Find the ratio of people who travelled by train in city C to people who travelled by economic class in flight in city A.

- (a) 33:7
- (b) 31:8
- (c) 39:5
- (d) 35:9
- (e) 36:5

Q85. Total people who travelled in city D in 2023 are $4X$ and percentage of people who travelled by flight in city D in 2023 is $\frac{Y}{6}\%$. People who travelled by train in city D in 2023 is how much percentage more or less than the total people who travelled to city C in 2022.

- (a) 10%
- (b) 20%
- (c) 25%
- (d) 15%
- (e) 40%

Q86. A invests Rs $(X+1600)$ in compound interest at 10% p.a. for two years and he received interest of Rs 1176. If he invests of Rs $(X-800)$ in simple interest at $R\%$ p.a. for three years and he received interest after three years is Rs 1440, then find the value of R .

- (a) 12.5%
- (b) 7.5%
- (c) 5%
- (d) 20%
- (e) 15%

Q87. The cost price of an article is Rs $(X+500)$. The shopkeeper marked the article 80% above its cost price, and the shopkeeper earned 44% profit on selling the article. The shopkeeper allows a discount of Rs 1260 on the article, then find the value of X .

- (a) 3750
- (b) 3250
- (c) 3500
- (d) 3000
- (e) 3900

Q88. The ratio of the speed of a current to the upstream speed of a boat is 2:3 and the boat can cover 210 km downstream in five hours. How much distance (in km) the boat travelled in still water in six hours.

- (a) 60
- (b) 150
- (c) 90
- (d) 120
- (e) 180

Q89. The ratio of length of train A to train B is 7:8 and speed of trains A and B is 72 km/hr and 25 m/sec respectively. Trains A and B can cross each other while running opposite direction in $16\frac{2}{3}$ seconds. If length of a bridge is half of the length of train A, then find the time (in seconds) taken by train B to cross the bridge.

- (a) 23
- (b) 19
- (c) 21
- (d) 27
- (e) 25

Q90. The present age of A is five years less than that of B and the present age of C is 60% of the present age of A. If the difference between the age of B four years ago and the age of C three years hence is 4 years, then find the age of A after ten years.

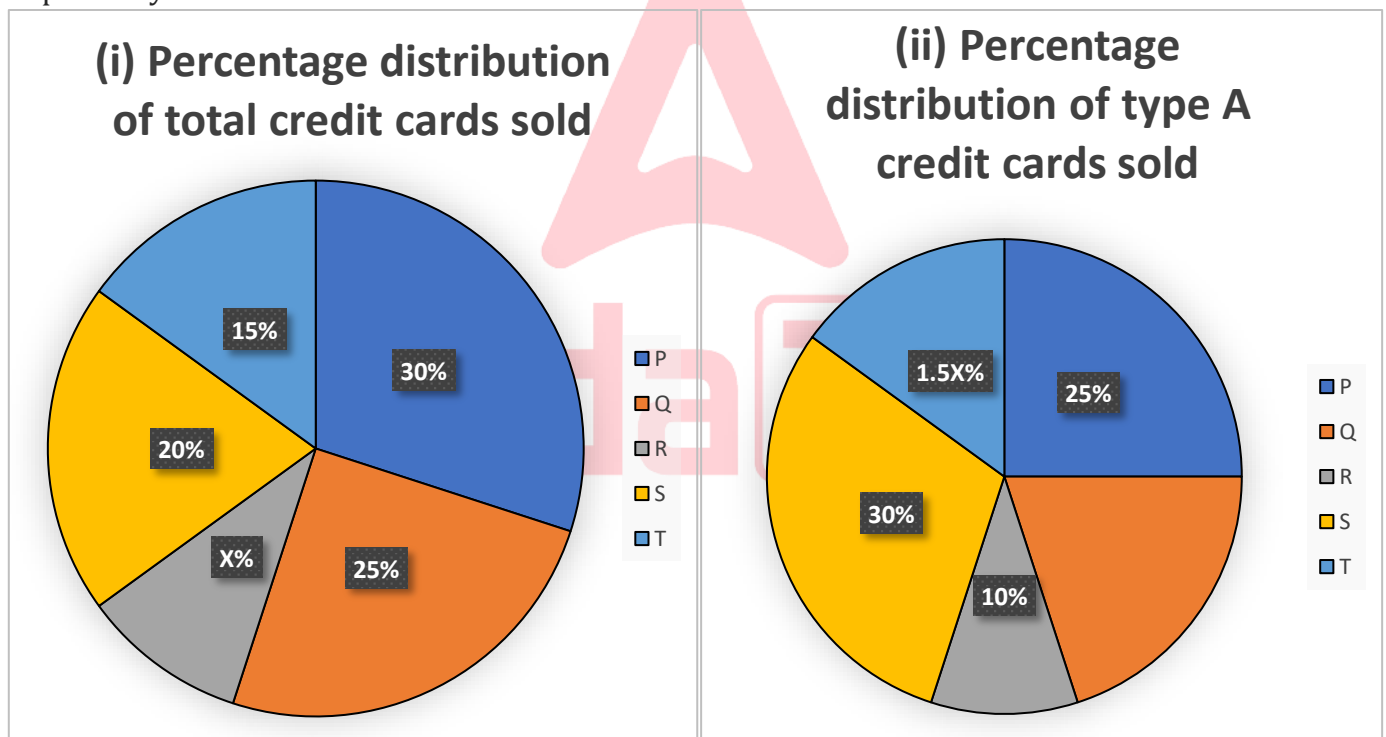
- (a) 21 years
- (b) 25 years
- (c) 22 years
- (d) 26 years
- (e) 24 years

Directions (91-95): Read the following pie charts carefully and answer the questions given below.

The pie chart (I) shows percentage distribution of total credit cards (type A+ type B) sold and the pie chart (II) shows percentage distribution of type A credit cards sold by five (P, Q, R, S and T) different companies.

Note: (i) The difference between total credit cards sold by R and S is 140.

(ii) The ratio of total credit cards sold to total type B credit cards sold by these five companies is 7:3 respectively.



Q91. Type B credit cards sold by T is how much percentage more or less than the type A credit cards sold by P.

- (a) 25%
- (b) 40%
- (c) 55%
- (d) 75%
- (e) 60%

Q92. Total credit cards sold by S is how much more or less than the type B credit card sold by R and Q together.

- (a) 25
- (b) 30
- (c) 40
- (d) 35
- (e) 50

Q93. 40% of type A credit cards sold by Q have a limit of Rs 10000, 25% of the remaining have a limit of Rs 15000 and rest have a limit of Rs 20000. Find the ratio of type B credit cards sold by S to type A credit cards sold by Q whose limit is Rs 20,000.

- (a) 7:2
- (b) 6:11
- (c) 3:5
- (d) 4:7
- (e) 5:9

Q94. For company T, if the ratio of type A credit cards sold to males and females is 7:5 and the ratio type B credit cards sold to male and females is 2:1 respectively, then find the sum of type A and B credit cards sold to females is what percentage of total credit card sold by Q (approx.).

- (a) 29%
- (b) 11%
- (c) 19%
- (d) 23%
- (e) 8%

Q95. If total credit cards sold by Y is 8X and type B credit cards sold by Y is 60% that of R, then find the type A credit cards sold by Y.

- (a) 66
- (b) 44
- (c) 82
- (d) 14
- (e) 56

Q96. The volume of a cone is 264 cm^3 and height of the cone is equal to side of a square whose perimeter is 28 cm. If the ratio of the radius of the cone to a cylinder is 3:4 and height of the cylinder is 14 cm, then find the curved surface area (in cm^2) of the cylinder.

- (a) 662
- (b) 704
- (c) 892
- (d) 756
- (e) 668

Directions (97-100): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer

- (a) If $x > y$
- (b) If $x \geq y$
- (c) If $x < y$
- (d) If $x \leq y$
- (e) If $x = y$ or no relation can be established between x and y

Q97. I. $3x^2 - 28x + 65 = 0$

II. $4y^2 - 36y + 81 = 0$

Q98. I. $3x^2 = 27$

II. $6y^{\frac{5}{2}} = \frac{162}{y^{\frac{1}{2}}}$

Q99. I. $x^3 - 24x^2 + 119x = 0$

II. $y^3 - 30y + 216y = 0$

Q100. I. $2x^2 - 20x - 15x + 62 = 0$

II. $y^2 + 5y - 14 = 0$

Directions (101-105): Read the following information carefully and answer the questions given below. The information shows student likes three types (P, Q and R) pens in a school.

The average number of students who like only two pens is 23. Students who like only pen P are 20 more than that of only R and students who like only pen Q are 40% less than that of only P. Students who like all three pens together are 12 and sum of students who like pen only P & Q together and all the three pens together are half of the students who like only pen R. The ratio of students who like only pen P to who like only pen Q and R together is 8:3 and the students who like pen Q is 108.

Q101. Find the students who like at least two pens.

- (a) 81
- (b) 64
- (c) 9^2
- (d) Both (a) & (c)
- (e) 36

Q102. Find the ratio of students who like pens only P and Q together students who likes only pen R.

- (a) 1:2
- (b) 3:10
- (c) 4:5
- (d) 7:2
- (e) 2:1

Q103. Students who like at most one pen is how much more or less than the students like only pen Q and R together.

- (a) 151
- (b) 145
- (c) 144
- (d) 154
- (e) 158

Q104. If total students in the school are 329, then find the students who do not like any pen.

- (a) 50
- (b) 45
- (c) 60
- (d) 70
- (e) 30

Q105. Students who like only pen P is how much percentage more or less than the students like only pen Q and R together.

- (a) 66.67%
- (b) 125%
- (c) 166.67%
- (d) 133.33%
- (e) 180%

Q106. A started a business with an investment of Rs 6000. After five months, B joined with an investment of Rs X and after three months of the start of the business C joined with an investment of Rs (X-2000). If, at the end of the year, the profit share of A is Rs 1600 out of the total profit of Rs. 4400, then find the value of (X+500).

- (a) 14500
- (b) 11000
- (c) 8500
- (d) 12500
- (e) 9500

Q107. The quantity of milk in a vessel is 16.67% more than that of water. If 26 liters of mixture are taken out and X liters of milk are added in the vessel, then the ratio of milk to water in the final mixture becomes 5:3. Find the value of X. (Note: Initial quantity of the mixture is $(8^2 + 1)$ liters)

- (a) 12
- (b) 9
- (c) 6
- (d) 15
- (e) 4

Q108. A can complete $\frac{3}{5}$ th of a work in 15 days, and B can complete $16\frac{2}{3}\%$ of the work in $\frac{20}{3}$ days. C is half as efficient as that of A. If A, B, and C together started the work together and after 10 days D joined them to complete the remaining work in 1.5 days, then find the time (in days) taken by D to complete the whole work.

- (a) 16.67
- (b) 8.33
- (c) 12.5
- (d) 33.33
- (e) 66.67

Q109. The average weight of A, B, and C is 36 kg, and the average weight of B and C is 40 kg. If the ratio of weight of A to C is 7:9, then find the weight of B (in kg).

- (a) 28
- (b) 44
- (c) 36
- (d) 66
- (e) none of these.

Directions (110–112): In the given questions, two quantities are given, one as 'Quantity I' and another as 'Quantity II'. You have to determine relationship between two quantities and choose the appropriate option. (Compare only numeric values)

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I \geq Quantity II
- (d) Quantity I \leq Quantity II
- (e) Quantity I = Quantity II or no relation

Q110. Quantity I. Pipes A and B together can fill a tank in 7 minutes and pipes A and C together can fill the tank in 28 minutes. If pipe B alone can fill the tank in 14 minutes, then find the time (in minutes) taken by pipes B and C together can fill the tank.

Quantity II. 27

Q111. Quantity I. A shopkeeper marked an article 120% above its cost price and allow X% discount. If the shopkeeper sold the article 65% on profit, then find the value of X.

Quantity II. $\frac{\frac{25}{100} \times 440}{4.4} = ?$

Q112. A man invests Rs (2X+696) in compound interest compounded half yearly for one year at 20% p.a. and he received interest of Rs X. He invests (5X+740) in compound interest at R% p.a. for two years and he received interest of Rs (2.5X+15).

Quantity I. Find the value of $\frac{X}{18}$.

Quantity II. Find the value of R.

Directions (113-115): The following questions are accompanied by two statements i.e. statement (I) and statement (II). You have to determine which statement (s) is/are sufficient/necessary to answer the questions.

- (a) Neither statement (I) nor statement (II) by itself is sufficient to answer the question.
- (b) Statement (II) alone is sufficient to answer the question but statement (I) alone is not sufficient to answer the question.
- (c) Either statement (I) or statement (II) by itself is sufficient to answer the question.
- (d) Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.
- (e) Statement (I) alone is sufficient to answer the question but statement (II) alone is not sufficient to answer the questions.

Q113. Find the age of D four year ago.

Statement I. The present age A is 20% less than that of B and the present age of C is five years more than the average age of A and B.

Statement II. The average present age of B, C, and D is 19 years and the age of D is two years, hence equal to the present age of A.

Q114. The perimeter of a rectangle is 80 cm, then find the side of a square.

Statement I. The ratio of length to breadth of the rectangle is 2:3 respectively and the ratio of the area of the rectangle to the area of the square is 3:8 cm.

Statement II. The area of the rectangle is 375 cm² and perimeter of the square is one cm less than the length of the rectangle. (length of the rectangle > breadth of the rectangle)

Q115. Ankur spends 20% of his monthly income on food, 25% of the remaining income on rent and 10% of the remaining income spend on travelling. He invests the remaining income on SIP and LIC in the ratio of 5:4 respectively. Find his monthly income.

Statement I. Amount invest on LIC is 20% more than the amount spends on food.

Statement II. The difference between amount invests on SIP and amount spend on travelling is Rs720.

Directions (116-120): What approximate value will come in place of question mark (?) in the following questions (You are not expected to calculate the exact value).

Q116. $14.98 \times 24.88\% \text{ of } 140.02 = ? \times 15$

- (a) 45
- (b) 25
- (c) 50
- (d) 35
- (e) 65

Q117. $1569.99 + 2190.012 - \frac{4}{9} \text{ of } 198.12 = \frac{?}{4}$

- (a) 12122
- (b) 14478
- (c) 18750
- (d) 10980
- (e) 14688

Q118. 80.04% of $560.05 + 19.02^2 - \sqrt[3]{4913.21} = ?$

- (a) 702
- (b) 868
- (c) 912
- (d) 792
- (e) 446

Q119. $44.04 \div 3.97 \times 8.99 \div 2.94 + 3.01 = \sqrt{?}$

- (a) 6
- (b) 36
- (c) 24
- (d) 1296
- (e) 216

Q120. $\sqrt{39.94\% \text{ of } 375.08 + 75.07\% \text{ of } 59.92} = ?$

- (a) 12
- (b) 14
- (c) 16
- (d) 18
- (e) 22

Solutions

Solutions (1-4):

Final Arrangement is here:

Shelves	Boxes
10	D
9	C
8	F
7	H
6	A
5	G
4	J
3	E
2	I
1	B

Clues: Box E is kept three boxes below box A. Box G is kept immediately below box A. Box C is kept two boxes above box H which is kept at an odd-numbered position but not on Shelf 3. Only two boxes are kept between box I and box G which is kept above I.

Inference: We will have five possible cases here:

Shelves	Case 1	Case 2	Case 3	Case 4	Case 5
	Boxes	Boxes	Boxes	Boxes	Boxes
10	A				
9	G	A		C	C
8		G	A		
7	E		G	H	H
6	I	E		A	
5		I	E	G	A
4			I		G
3	C	C	C	E	
2				I	E
1	H	H	H		I

Clues: Box B is not kept adjacent to box G and Box C but it is placed below Box D. Box F is kept adjacent to box H.

Inference: Case 2 gets cancelled here:

Shelves	Case 1	Case 2	Case 3	Case 4	Case 5
	Boxes	Boxes	Boxes	Boxes	Boxes
10	A		D	D/J	D
9	G	A	B	C	C
8	D	G	A	F	F
7	E		G	H	H
6	I	E		A	B
5	B	I	E	G	A
4			I	J/D	G
3	C	C	C	E	
2	F		F	I	E
1	H	H	H	B	I

Clues: The number of boxes placed between Box H and box B is more than the number of boxes placed between box C and box A. Box B is not placed above Box J which is not kept adjacent to Box C.

Inference: Case 1, Case 3 and Case 5 gets cancelled here:

Shelves	Case 1	Case 3	Case 4	Case 5
	Boxes	Boxes	Boxes	Boxes
10	A	D	D	D
9	G	B	C	C
8	D	A	F	F
7	E	G	H	H
6	I		A	B
5	B	E	G	A
4		I	J	G
3	C	C	E	
2	F	F	I	E
1	H	H	B	I

Inference: Final Arrangement is here:

Shelves	Boxes
10	D
9	C
8	F
7	H
6	A
5	G
4	J
3	E
2	I
1	B

S1. Ans.(e)

Sol. Three boxes are kept between box J and box F.

S2. Ans.(d)

Sol. Except Box F, all the other boxes are kept in prime number shelf.

S3. Ans.(b)

Sol. Both II and III are false.

S4. Ans.(d)

Sol. Box A is kept four boxes above box I.

S5. Ans.(d)

Sol. ABBREVIATORY= ECCSIWUEUUSZ=IWOZ=IOWZ.

S6. Ans.(b)

Sol. If both statements I and II are sufficient to answer the question.

Days	Persons
Monday	P
Tuesday	S
Wednesday	Q
Thursday	R
Friday	T

S7. Ans.(b)

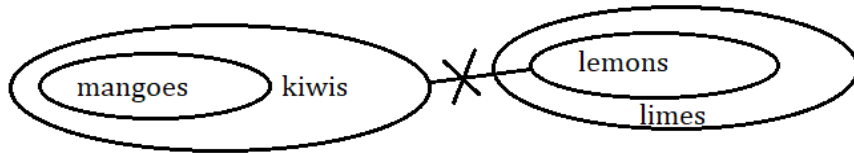
Sol. If both statements I and II are sufficient to answer the question.

$T > R > P > Q > S$

S8. Ans.(b)

Sol. I. Follow- There is no direct relation between the given elements but in the case of possibility it will follow.

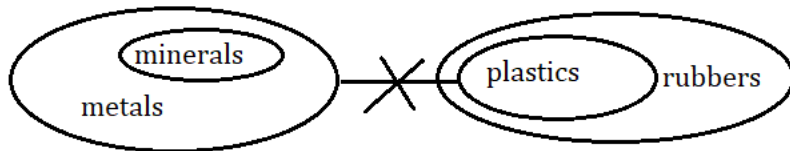
II. Follow- As No kiwis are lemons and all mangoes are kiwis so no mangoes are lemons logically follows.



S9. Ans.(a)

Sol. I. Follow- No rubbers are minerals because Minerals can't be related to any other elements except Metals.

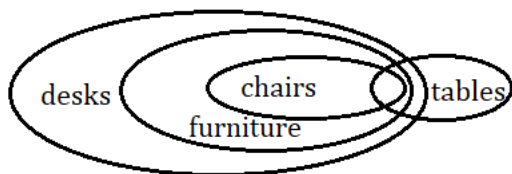
II. Not Follow- There is no definite relation between metal and rubbers so definite relation will not follow.



S10. Ans.(c)

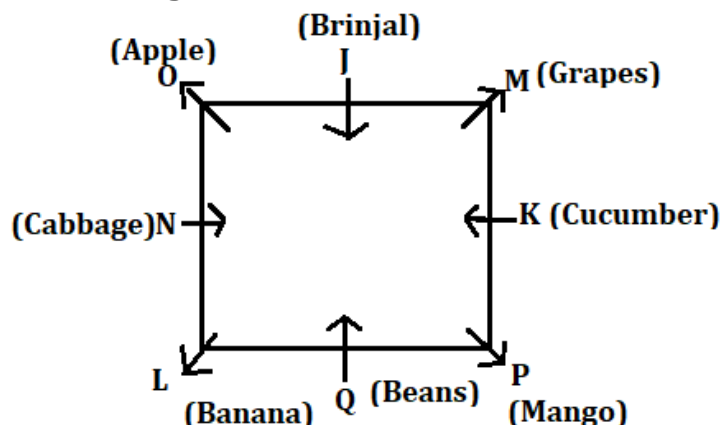
Sol. I. Not Follow- All parts of chairs are furniture and all part of furniture are desks so all chairs will be desks but we can't say some desks are not chairs.

II. Follow- Some parts of chairs are tables and all chairs are desks so some desks are tables logically follows.



Solutions (11-14):

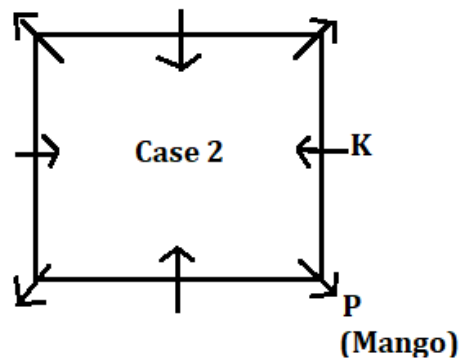
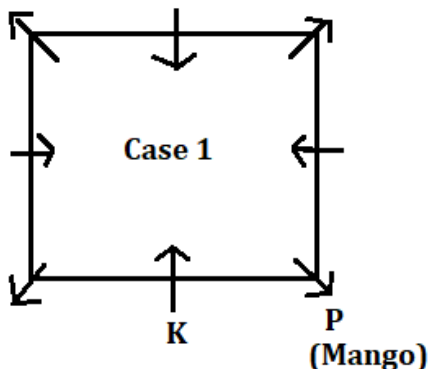
Final arrangement:



Explanation:

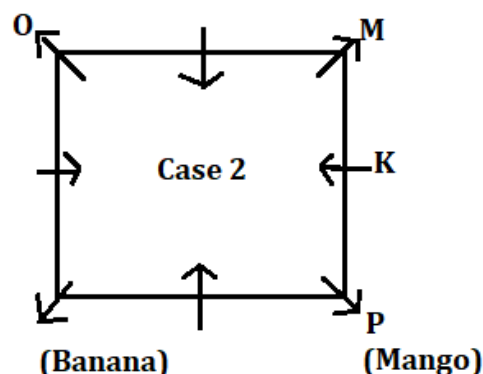
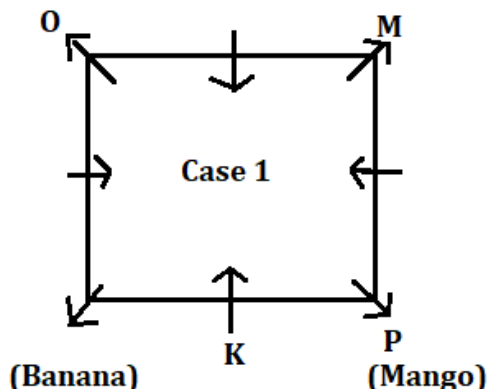
Clues: K sits just next to P who likes Mango.

Inference: We get two possible cases as K may sit immediate right of P or immediate left of P because we know the one who likes fruits sits at the corner.



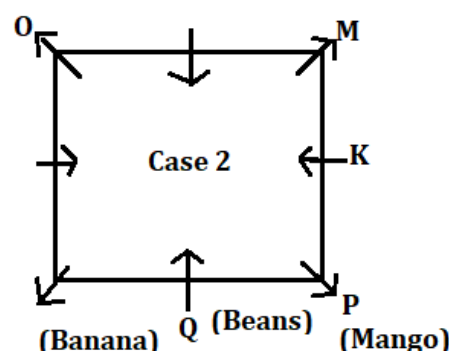
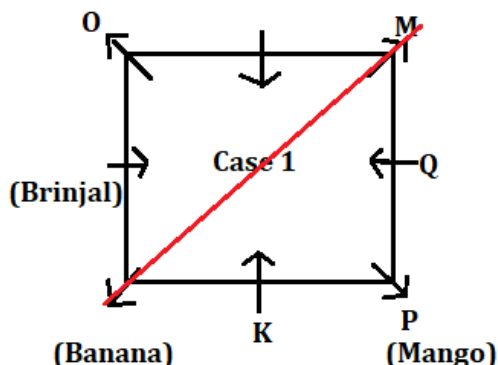
Clues: M sits opposite to the one who likes Banana. O sits 2nd to the left of M.

Inference: We know the one who likes fruits sits at the corner so according to the condition M will sit 2nd to the left of P in both the cases: -



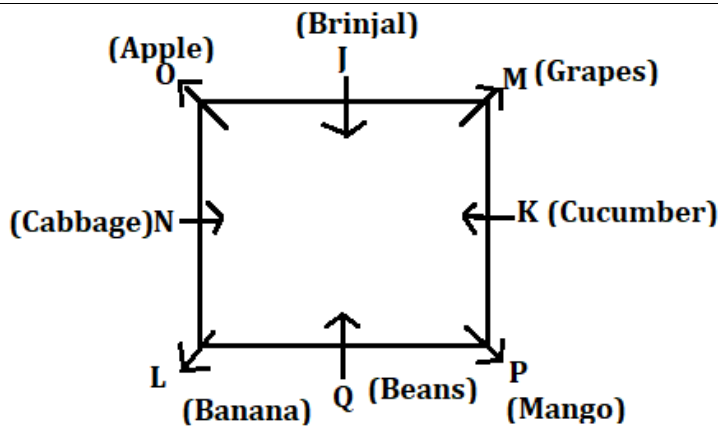
Clues: O sits just next to the person who likes Brinjal. Q sits opposite to the person who likes Brinjal. The one who likes Beans sit 2nd to the left of K.

Inference: Case 1 will be cancelled here because there is no place left for the one who likes beans. (Brinjal)



Clues: N sits opposite to the person who likes Cucumber but not adjacent to the one who likes grapes. Number of persons sit between the one who likes apple and Q when counted from left of Q is same as the number of persons sit between L and the one who likes brinjal when counted from right of L.

Inference: We know persons sit at the corners like different fruits. Persons sit in the middle of the side like different vegetables. So, O will like apple and M will like grapes. K will like cucumber and N will like cabbage; J is one of the persons so the final arrangement:



S11. Ans.(b)

Sol. N likes cabbage.

S12. Ans.(c)

Sol. P sits opposite to the person who likes Apple.

S13. Ans.(c)

Sol. The one who likes Mango sits 2nd to the right of the person who likes Grapes.

S14. Ans.(a)

Sol. J likes Brinjal.

S15. Ans.(c)

Sol. Statement (I)-False-Reason: In statement, main issue of hunger has been discussed and FAO chief is raising same issue. So, it is supporting the given statement.

Statement (II)-False-Reason: It is already mentioned in given statement, "India needs focus not only on rice and wheat — more diversity is needed, with the addition of vegetables, fruits and dairy farming."

Statement (III)-True-Reason: Yes, it is abrogating as in statement, it is clearly mention that more people get ill due to Hunger rather than consumption of alcohol and tobacco.

Solutions (16-19):

Logic:

Number – Total number of letters + 1

Letter – 1st letter is the opposite letter of the 2nd last letter as per the english alphabetical series.

2nd letter is the letter whose place value (english alphabetical series) is equal to the number code that comes for the word as given above.

S16. Ans.(d)

S17. Ans.(b)

S18. Ans.(a)

S19. Ans.(e)

S20. Ans.(e)

Sol. I. Original number = 5463298724

Number after operation = 3571379535

Number in ascending order from right to left = 9775553331

II. Original number = 3549563427

Number after operation = 1357371535

Number in ascending order from right to left = 7755533311

III. Original number = 4983476458

Number after operation = 5791557539

Number in ascending order from right to left = 997755531

So, Number in first and third option have minimum number of repeated digits i.e., three

Solutions (21-24):

Final Arrangement is here:

Exam Centres	Persons
A	N
	P
	S
	Q
B	W
	T
	M
C	R
	O
	U
	V

Clues: R gave the exam at the same centre as O but not at Centre B. U and V gave the exam at Centre C. Exam of N, V and W are at different centres. P and W gave the exam at different centres. P didn't give exam in the same centre as V. R didn't give exam in the same centre as P.

Inference: We have three possible cases here:

Exam Centres	Case 1	Case 2	Case 3
	Persons	Persons	Persons
A	R	W	N
	O		P
	W		
B	N	N	W
	P	P	
C	U	R	R
	V	O	O
		U	U
		V	V

Clues: Q did not give the exam at the same centre as W and V. T and S gave exam at different centre. S gave exam in Centre A. T and Q gave exam at different centres.

Inference: Case 2 gets cancelled here:

Exam Centres	Case 1	Case 2	Case 3
	Persons	Persons	Persons
A	R	W	N
	O	S	P
	W		S
	S		Q
B	N	N	W
	P	P	T
	Q	Q	
C	U	R	R
	V	O	O
	T	U	U
		V	V

Clues: M didn't give exam in the same centre as V and Q.

Inference: Case 1 gets cancelled here:

Exam Centres	Case 1	Case 3
	Persons	Persons
A	R	N
	O	P
	W	S
	S	Q
B	N	W
	P	T
	Q	M
C	U	R
	V	O
	T	U
	M	V

Inference: Final Arrangement is here:

Exam Centres	Persons
A	N
	P
	S
	Q
B	W
	T
	M
C	R
	O
	U
	V

S21. Ans.(b)

Sol. V gave the exam in the same centre as O.

S22. Ans.(d)

Sol. Q and S gave the exam in the same centre is the true statement.

S23. Ans.(b)

Sol. P and N gave the exam at the same centre.

S24. Ans.(b)

Sol. In Centre B the least number of persons gave exam.

S25. Ans.(b)

Sol. The correct answer is (b) Only I and III are strong because both arguments I and III highlight the long-term benefits of financial literacy, such as effective financial management and responsible citizenship. Argument II, while valid, is less compelling compared to the significant benefits presented in I and III.

Solutions (26-29):

Logic -

Vowels are arranged in step 1, step 3 and step 5 in alphabetical order from left to right along with the smallest, 2nd smallest and 3rd smallest number.

Consonants are arranged in step 2, step 4 and step 6 in alphabetical order from right to left along with the highest, 2nd highest and 3rd highest number.

Input: 76 Mountain 29 exams 43 write 61 orange block 5 92 idol

Step I: Exams 5 76 mountain 29 43 write 61 orange block 92 idol

Step II: Exams 5 76 mountain 29 43 write 61 orange idol block 92

Step III: Idol 29 exams 5 76 mountain 43 write 61 orange block 92

Step IV: Idol 29 exams 5 43 write 61 orange block 92 mountain 76

Step V: Orange 43 idol 29 exams 5 write 61 block 92 mountain 76

Step VI: Orange 43 idol 29 exams 5 block 92 mountain 76 write 61

S26. Ans.(e)

Sol. There is no such step in which “write block 92” found in the same order.

S27. Ans.(b)

Sol. 7th element from the right end instep IV – write
2nd to the right of write - Orange

S28. Ans.(a)

Sol. There are three numbers to the right of “mountain” in step 3.

S29. Ans.(c)

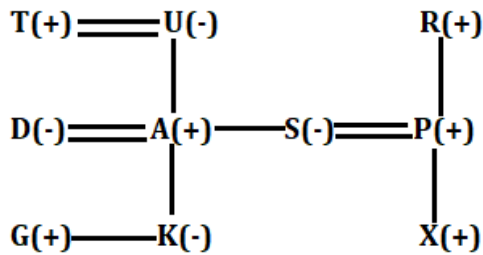
Sol. “Orange 43 idol 29 exams 5 write 61 block 92 mountain 76” is the step V.

S30. Ans.(a)

Sol. The correct answer is (a) Only I and II because the statement implies that simultaneous elections will streamline the process and reduce financial burdens, but it does not indicate that all political parties support the proposal.

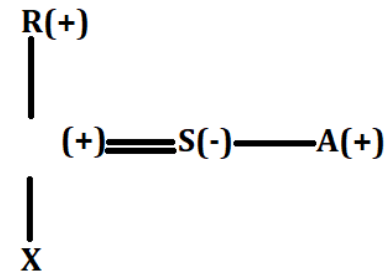
Solutions (31-32):

Final arrangement:



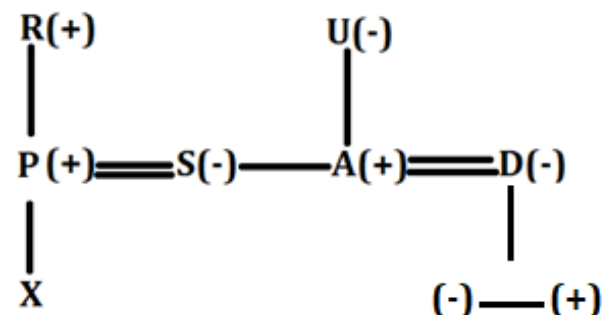
Clues: S is daughter-in-law of R. A is uncle of X. R is grandfather of X. R has only one child.

Inference: Thus, S will be mother of X and sister of A.



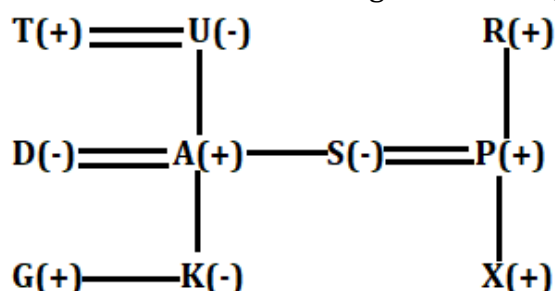
Clues: P is brother-in-law of A. P has no siblings. U is mother-in-law of D. D has two children i.e., one son and one daughter. S has only one sibling.

Inference: It means D is wife of A.



Clues: D has two children i.e., one son and one daughter. T is grandfather of K. X and K are not sibling. S has only one son. Gender of X and G is same.

Inference: After combining all the clues, we get the final arrangement: -



S31. Ans.(d)

Sol. U is grandmother of X.

S32. Ans.(c)

Sol. S is sister-in-law of D.

Solutions (33-35):

S33. Ans.(e)

Sol. 8 R 5 T 3 7 L 9 F 4 K 6 E N 1 G 2 W 7 D Q 8 U 5 Z

K will be fifteenth from the right end

S34. Ans.(c)

Sol. T is fifth to the left of the ^ which is nineteenth element from the left end of the given arrangement

S35. Ans.(b)

Sol. 9 & F 4 K * 6 E ^ N 1 @ G 2 W 7 D

Solutions (36-40):

Final Arrangement is here:

Months	Dates	Persons	Salaries (in thousands)
March	6	Karan	43
	12	Varun	30
	15	Siya	50
	27	Gita	54
September	6	Riya	15
	12	Rahul	63
	15	Roy	57
	27	Hina	22

Clues: Riya gets her salary on an even number date but not in the month of March. The one who gets 30000 gets it on the 12th but not in September. Four persons get salary between the one who gets 30000 and Roy. The one who gets 63 thousand gets on the date which is a multiple of 4.

Inference: We will have two possible cases here:

Months	Dates	Case 1		Case 2	
		Persons	Salaries (in thousands)	Persons	Salaries (in thousands)
March	6				
	12		30		30
	15				
	27				
September	6	Riya			
	12		63	Riya	63
	15	Roy		Roy	
	27				

Clues: Hina gets salary after Roy. The amount of salary Hina gets is 8000 less than the amount of salary which Varun receives. Varun gets his salary on a date before Hina but after Karan. The one who gets the salary two persons before Riya gets an amount of 50000.

Inference:

Months	Dates	Case 1		Case 2	
		Persons	Salaries (in thousands)	Persons	Salaries (in thousands)
March	6	Karan		Karan	
	12	Varun	30	Varun	30
	15		50		
	27				50
September	6	Riya			
	12		63	Riya	63
	15	Roy		Roy	
	27	Hina	22	Hina	22

Clues: Karan gets 7000 less amount of salary than Siya. The one who gets salary immediately after Siya gets an amount of salary which is completely divisible by 9. Gita gets salary on a date before Roy and Riya get the salary. Neither Gita nor Roy gets the lowest amount of Salary. Rahul gets more salary as compared to Hina.

Inference: Case 2 gets cancelled here as Rahul gets more salary as compared to Hina and in Case 2 only place for the one who gets 15000 is left.

Months	Dates	Case 1		Case 2	
		Persons	Salaries (in thousands)	Persons	Salaries (in thousands)
March	6	Karan	43	Karan	43
	12	Varun	30	Varun	30
	15	Siya	50		15
	27	Gita	54	Siya	50
September	6	Riya	15	Gita	54
	12	Rahul	63	Riya	63
	15	Roy		Roy	
	27	Hina	22	Hina	22

Inference: Only place for the amount 57000 is left. Final Arrangement is here:

Months	Dates	Persons	Salaries (in thousands)
March	6	Karan	43
	12	Varun	30
	15	Siya	50
	27	Gita	54
September	6	Riya	15
	12	Rahul	63
	15	Roy	57
	27	Hina	22

S36. Ans.(d)

Sol. The amount of salary Riya gets is 15000 and she gets it on 6th of September.

S37. Ans.(c)

Sol. Varun gets more amount of salary as compared to Riya is the true statement.

S38. Ans.(b)

Sol. Riya and Rahul gets salary in the same month.

S39. Ans.(d).

Sol. Gita gets the third highest amount of salary.

S40. Ans.(a).

Sol. Except Karan, all the other persons get their salary in the month of September.

S41. Ans.(c)

Sol. The correct choice is option (c) which can be inferred from the first few lines of the passage which mention, "Industrial Revolution, in modern history, the process of change from an agrarian economy to one dominated by industry and machine manufacturing. These technological changes introduced novel ways of working and living and fundamentally transformed society."

(a) India emerged as an agricultural-dominated country following the advent of the industrial revolution: The passage does not mention any specific focus on India or how the industrial revolution specifically impacted India's economy. Therefore, there is no evidence to support this statement.

(b) The industrial revolution enabled farmers to cultivate consistent yields regardless of seasonal variations: The passage does not provide any information about how the industrial revolution specifically improved farming techniques or enabled consistent yields. While the industrial revolution did bring advancements in agriculture, the passage does not focus on this aspect.

(d) The world economy got more integrated and cross-border production got started after the Industrial revolution: This is the incorrect statement doesn't support by the passage.

S42. Ans.(d)

Sol. The correct choice is option (d). Refer to lines which mentions, "Although used earlier by French writers, the term Industrial Revolution was first popularized by the English economic historian Arnold Toynbee (1852–83) to describe Britain's economic development from 1760 to 1840. Since Toynbee's time the term has been more broadly applied as a process of economic transformation than as a period of time in a particular setting."

The term Industrial Revolution was first introduced by French writers.

S43. Ans.(b)

Sol. The antonym for "novel" is (b) traditional. Novel means something new, original, or innovative.

(a) Repress: To suppress or hold back, often referring to emotions or desires.

(b) Traditional: existing in or as part of a tradition; long-established.

(c) Surmise: To make an educated guess or inference based on limited evidence or information.

(d) Impetus: The driving force or motivation behind something; a stimulus or catalyst.

(e) Rigorous: Thorough, strict, or demanding in terms of standards, procedures, or requirements.

S44. Ans.(a)

Sol. The correct choice is option (a) which can be inferred from the first paragraph which mentions, "Despite being one of the most intensely studied insect groups, the evolutionary history and drivers of butterfly diversification were poorly understood by researchers."

Option (c) is incorrect as the option mentions recently evolving butterfly species while the passage mentions all species of butterflies.

Option (b) and option (d) are incorrect as they contradict the information given in the passage.

S45. Ans.(d)

Sol. The correct choice is option (d) which can be inferred from the following lines in the second paragraph.

Option (a): "Since we sequenced the genomes to reconstruct a large phylogeny (species tree) and used a molecular clock, we were able to estimate the time of origin of butterflies from moths and dispersal of butterflies from North America, which is their place of origin, to the rest of the world," says one of the researchers.

Option (b): "According to the study published recently in the journal Nature Ecology and Evolution, butterflies originated in the Americas about 100 million years ago."

Option (c): "There is no adaptive reason for butterflies to originate in North America. It's more of coincidence that butterflies had their origin in North America where the closest moth relatives of the earliest butterflies were present."

S46. Ans.(e)

Sol. The incorrect information is mentioned in option (e).

For option (a), refer to the second paragraph which mentions, "While the earlier classification was based more on butterfly morphology, the latest attempt has been based on genome sequencing."

For option (c), refer to the first paragraph which mentions, "Despite being one of the most intensely studied insect groups, the evolutionary history and drivers of butterfly diversification were poorly understood by researchers."

For option (d), refer to the second paragraph which mentions, "There is no adaptive reason for butterflies to originate in North America. It's more of coincidence that butterflies had their origin in North America where the closest moth relatives of the earliest butterflies were present."

For option (e), refer to first paragraph which mentions, ". To address this lacuna, an international team of researchers sequenced 391 genes from nearly 2,300 butterfly species from 90 countries to help reconstruct a new phylogenomic tree of butterflies representing 92% of all genera."

S47. Ans.(d)

Sol. 'Gauge' is a synonym for 'estimate'. 'Estimate' means 'roughly calculate or judge the value, number, quantity, or extent of.'

(a) Scatter: It means to disperse or distribute things widely or randomly.

(b) Refute: It means to prove a statement, theory, or claim to be false or incorrect.

(c) Condense: It means to make something more compact, concentrated, or concise.

(d) Gauge: It means to make an estimate or judgment about something.

(e) Protract: It means to prolong, extend, or lengthen something in time.

S48. Ans.(d)

Sol. 'Gently' is an antonym for 'intensely'. 'Intensely' means 'with extreme force or strength.'

(a) Vehemently: It means with strong emotion, intensity, or force.

(b) Ineffably: It means in a way that is too great, powerful, or beautiful to be expressed or described in words.

(c) Cogently: It means in a convincing or persuasive manner, often characterized by clear and logical arguments. It is unrelated to the intensity of something.

(d) Gently: It means in a mild, calm, or tender manner, with a lack of force or intensity.

(e) Inexorably: It means in a relentless, unstoppable, or inevitable manner.

S49. Ans.(d)

Sol. The sentence states that the new technology promises to have a significant impact on manufacturing industries, bringing efficiency and innovation to various sectors. Among the given options, "revolutionize" best fits the context as it implies a transformative and game-changing effect on the manufacturing industries. Additionally, "innovation" aligns with the idea of introducing new and creative ideas, processes, or products.

Revolutionize: To completely change or transform something, often with new ideas or methods.

Innovation: The introduction of new ideas, processes, or products that bring improvements or advancements.

Amalgamate: To combine or merge things together to form a unified whole.

Generate: To produce, create, or bring into existence.

Deluge: A severe flood or overwhelming amount of something.

Resemble: To have a similar appearance or quality to someone or something else.

Homage: A tribute or act of respect shown towards someone or something.

Conceal: To hide, cover, or keep something secret or unseen.

Flee: To run away or escape from a dangerous or undesirable situation.

Devastate: To cause severe damage, destruction, or emotional distress.

S50. Ans.(e)

Sol. The sentence suggests that the film director's vision and execution were crucial in bringing the story to life on the screen. Among the given options, "coherent" best fits the context as it implies a clear and logical vision that ensures the film's overall consistency. Additionally, "meticulous" aligns with the idea of careful attention to detail and precise execution, which is essential in creating a compelling film.

Muddled: Confused, unclear, or disorganized.

Haphazard: Random, lacking order or planning.

Coherent: Logical, consistent, or making sense as a whole.

Meticulous: Extremely careful, paying great attention to detail.

Incomprehensible: Not able to be understood or grasped.

Gruesome: Extremely unpleasant, shocking, or horrifying.

Subdued: quiet and rather reflective or depressed.

Precise: Accurate, exact, or having a high level of accuracy.

Lackadaisical: Lacking enthusiasm, energy, or effort; lazy or careless.

Extravagant: Excessive, elaborate, or indulgent, often beyond what is necessary.

S51. Ans.(d)

Sol. The sentence suggests that the educational institution places importance on both intellectual growth and holistic development in its curriculum. Among the given options, "intellectual" aligns with the idea of emphasizing cognitive or mental growth and academic pursuits. Additionally, "holistic" implies a comprehensive approach that considers all aspects of an individual's development, including physical, emotional, and social well-being.

Peculiar: Strange, unusual, or distinctive.

Compartmentalized: Divided or organized into separate sections or categories.

Deemed: Considered or judged in a specific way.

Focused: Concentrated or directed attention on a particular thing or goal.

Stagnant: Not moving or progressing; lacking growth or development.

Linear: Following a straight line or a logical sequence; without deviation.

Sporadic: Occurring irregularly or intermittently; not consistent or predictable.

Fragmented: Broken into separate parts or pieces; lacking coherence or completeness.

Intellectual: Relating to the mind, intellect, or mental abilities.

Holistic: Considering or addressing the whole rather than individual parts; comprehensive and interconnected.

S52. Ans.(a)

Sol. The sentence suggests that the city has impressive architecture and a rich cultural heritage, which attracts tourists from around the world. Among the given options, "contemporary" aligns with the idea of modern or current architectural styles, indicating that the city has architectural designs that are up-to-date and reflective of the present time. Additionally, "diverse" suggests a wide range or variety, implying that the city's cultural heritage is multifaceted and encompasses different traditions, customs, and influences.

Outdated: No longer current or modern; old-fashioned or obsolete.

Monotonous: Lacking in variety or interest; dull or repetitive.

Dilapidated: In a state of disrepair or decay; run-down or deteriorated.

Negligible: So small or unimportant as to be not worth considering; insignificant.

Generic: Lacking distinctive characteristics; common or ordinary.

Insignificant: Unimportant or not worthy of attention or consideration.

Contemporary: Belonging to the present time; modern or current.

Diverse: Having a variety of different elements or characteristics; varied or diverse.

Futuristic: Having or suggesting a design or style from the future; forward-thinking or innovative.

Isolated: Separated or disconnected from others; remote or secluded.

S53. Ans.(c)

Sol. The sentence states that the new legislation aims to achieve social equality and eliminate discrimination in all forms. Among the given options, "foster" implies promoting or nurturing social equality, while "obliterate" indicates completely eliminating or eradicating discrimination. Therefore, option (c) foster and obliterate is the correct choice.

Perpetuate: To continue or maintain a situation, often in a negative or undesirable manner.

Cumbersome: Difficult to handle or manage due to size, complexity, or weight.

Foster: To encourage or promote the development or growth of something.

Obliterate: To completely destroy or eliminate something; to erase or remove completely.

Uphold: To support or maintain something, often a principle or belief.

Intensify: To increase in strength, magnitude, or degree; to make more intense or severe.

Embrace: To accept or support something willingly or eagerly.

Amplify: To increase the volume, intensity, or effect of something; to make something louder or more significant.

Advocate: To support or promote a cause, idea, or action.

Provoke: To stimulate or incite a reaction, often a strong emotional or negative response.

S54. Ans.(e)

Sol. The correct choice is (e).

The inference that the new educational policy aims to promote skill-based learning and practical application can be inferred from paragraph (i). It highlights the shift from rote learning to hands-on learning experiences and emphasizes the application of practical skills. On the other hand, paragraph (ii) contradicts the inference by focusing on theoretical knowledge and traditional teaching methods. Paragraph (iii) supports the importance of practical skills and mentions the focus of new policy which is significance of practical skills. Therefore, the most direct and suitable inference is derived from paragraph (i) and paragraph (iii), making option (e) the correct choice.

S55. Ans.(a)

Sol. The correct choice is (a).

The inference that the new tax reforms are expected to boost economic growth and encourage investment can be drawn from paragraph (i). It explains how the reforms aim to create a favourable business environment, attract investments, and stimulate economic growth. Paragraph (ii) contradicts this by emphasizing higher tax rates and stricter regulations, which may discourage investment and subsequently economic growth. Paragraph (iii) discusses wealth redistribution and an increase in tax collection which may boost economic growth but doesn't mention investment and the impact on investment. Therefore, option (a) is the correct choice.

S56. Ans.(c)

Sol. The given inference, that the conservation of forests plays a crucial role in maintaining ecological balance and preserving biodiversity, is supported by paragraphs (i) and (iii).

Paragraph (i) highlights how forests act as carbon sinks, absorbing carbon dioxide and helping to mitigate climate change. Further, the passage mentions how forest promotes biodiversity and supports ecological balance.

Paragraph (ii) focuses on the anthropogenic process that has altered the earth's ecosystem, plants, and animal communities. It is however mentioned that biodiversity can maintain ecosystem health and protect public health but it is not the major focus of the paragraph, and is only mentioned to state the effectiveness of biodiversity conservation. Therefore, the paragraph (ii) doesn't support the inference appropriately.

Paragraph (iii) emphasizes how forests serve and provide living to diverse species by providing them habitats, niche, and microhabitats. This implies that forests are crucial for maintaining biodiversity which subsequently maintains ecosystem. Therefore, paragraphs (i), and (iii) support the given inference, making the correct choice (c) "Both (i) and (iii)".

S57. Ans.(a)

Sol. The correct choice is (a) "All of these" as all paragraphs (i), (ii) and (iii) support the idea that competition in the business world fosters innovation and growth among companies.

Paragraph (i) emphasizes the drive for differentiation and outperforming competitors, which can be inferred as a motivation for companies to innovate. However, it does explicitly state that competition fosters innovation and growth.

Paragraph (ii) suggests that competition creates a dynamic environment where companies must continuously improve and adapt to remain competitive. This implies that the pressure to compete drives the need for innovation and growth.

Paragraph (iii) highlights how competition incentivises companies to find more efficient ways of operating, explore new markets, and seek growth opportunities. This suggests that competition stimulates innovation and growth.

Therefore, the correct answer is (a) "All of these".

S58. Ans.(b)

Sol. The correct choice is (b) Only (i).

The inference that the recent increase in online shopping indicates a shift in consumer behaviour and the growing importance of e-commerce can be derived from paragraph (i). It explains how the convenience and accessibility of online shopping have led to its increased popularity, reflecting a change in consumer behaviour and highlighting the significance of e-commerce. Paragraph (ii) contradicts this by suggesting that traditional brick-and-mortar stores still dominate the retail landscape. Paragraph (iii) presents a different perspective, attributing the increase in online shopping to temporary factors rather than a long-term shift. Therefore, option (b) is the correct choice.

S59. Ans.(e)

Sol. The given highlighted word is incorrect. We use 'for' to denote the period of time e.g. 'For 3 years' while we use 'since' with a point in time in the past e.g., 'since morning or since childhood.' Therefore, options (b) and (c) are also incorrect. Moreover, we need an adverb 'tirelessly' to modify verb 'worked' and for this reason option (a) is also incorrect. 'Tireless' is an adjective. The correct sentence will be, **"The Olympic medallist has worked tirelessly since his childhood to pursue his goal."**

S60. Ans.(c)

Sol. The given highlighted word is incorrect. Phrase 'each of the' is always followed by plural noun and singular verb. Therefore, here 'officer' should be replaced with 'officers' and 'need' should be replaced with 'needs'. The correct sentence will be, **"Each of the officers needs to stay late in branches to complete the targets."**

S61. Ans.(b)

Sol. The given highlighted word is incorrect. The pronoun "me" should be used instead of "I" when it functions as the object of the verb "given". Moreover, 'authority' is a singular object so will use singular auxiliary verb 'has'. Auxiliary verbs 'has/have/ had' are always followed by past participle and past participle of 'give' is 'given'. Therefore, the correct sentence will be, **"The authority has given me the task to prepare the presentation by tomorrow."**

S62. Ans.(a)

Sol. The given highlighted word is incorrect. We use past participle form of verb after auxiliary verb 'has' therefore, 'has recommended' will be used. Additionally, the word 'abstain' is normally followed by the preposition "from" when it means "to give something up" or "not to indulge in something." Hence the correct replacement is 'has recommended abstaining from'. The correct sentence will be, "**The doctor has recommended abstaining from eating sugary foods as part of her new healthy lifestyle.**"

S63. Ans.(c)

Sol. The given highlighted phrase is correct and needs no improvement.

S64. Ans.(b)

Sol. The phrase 'habituated to' which means 'make or become accustomed or used to something', is always followed by gerund. Therefore, only option (b) is the correct choice and correct sentence will be, "My sister was habituated to biting her nails in her childhood."

A gerund is a verb form that functions as a noun in a sentence. It is created by adding the suffix "-ing" to a verb.

S65. Ans.(c)

Sol. The correct sequence of the given phrases will be 4213. The statement thus formed will be: "This 'something' is typically what we consider as the 'meaning' of a given instance of speech or writing."

S66. Ans.(b)

Sol. The correct sequence of the given phrases will be 3142. The statement thus formed will be: "**We believe that any use of language — a speech or a piece of writing — refers to 'something' in the 'real world' out there.**"

S67. Ans.(a)

Sol. The correct sequence of the given phrases will be 1342. The statement thus formed will be: "**In time, Algeria-born French philosopher Jacques Derrida (1930-2004) carried this critique to its furthest end with his theory of 'deconstruction'.**"

S68. Ans.(e)

Sol. The correct sequence of the given phrases will be 3214. The statement thus formed will be: "**This tradition has been challenged by philosophers such as Friedrich Nietzsche (1844-1900) and Martin Heidegger (1889-1976), who questioned categories such as 'knowledge', 'truth' and 'identity'.**"

S69. Ans.(d)

Sol. The correct order of the given sentences is BDAFCE.

The first sentence is (B), "The common understanding of language is that it consists of words, which carry specific meanings, and rules for combining those words into sentences" and mentions that the common understanding of language is based on the idea that language is composed of words that have specific meanings. Words are the building blocks of language and they convey particular concepts or ideas. Additionally, there are rules that dictate how these words can be combined to form coherent and meaningful sentences.

The second sentence is (D), "We believe that any use of language — a speech or a piece of writing — refers to 'something' in the 'real world' out there". This statement mentions the belief that whenever language is used, whether it is in the form of a spoken speech or a written piece, it is intended to refer to something that exists in the external reality or the "real world."

The third sentence is (A), "This 'something' is typically what we consider as the 'meaning' of a given instance of speech or writing". This statement mentions which mentions that the "something" referred to in the previous statement is what we commonly understand as the "meaning" of a particular instance of speech or writing. This meaning is the intended interpretation or understanding that we want to communicate to others.

The fourth sentence is (F), "This assumption of a text's meaning being stable, along with the necessary use of binaries underpins the Western philosophical tradition of reason, logic, ethics, and values that together constitute modernity ". This sentence mentions the meaning of a text is stable, combined with the reliance on binary oppositions, forms the foundation of the Western philosophical tradition encompassing reason, logic, ethics, and values, which collectively shape modernity.

The fifth sentence is (C), "This tradition has been challenged by philosophers such as Friedrich Nietzsche (1844-1900) and Martin Heidegger (1889-1976), who questioned categories such as 'knowledge', 'truth' and 'identity' ". This sentence mentions that Friedrich Nietzsche, a philosopher from the late 19th century, and Martin Heidegger, a philosopher from the 20th century, both played significant roles in critiquing and reevaluating traditional philosophical assumptions that is also mentioned in the previous statement.

The last sentence is (E), "In time, Algeria-born French philosopher Jacques Derrida (1930-2004) carried this critique to its furthest end with his theory of 'deconstruction'". This statement mentions that Jacques Derrida, a philosopher who was born in Algeria and later became a French citizen. It states that Derrida took the critique of traditional philosophy to its extreme with his theory of 'deconstruction'.

S70. Ans.(b)

Sol. The most suitable word for the blank in this context would be "pedestal".

In the given sentence, it mentions that the family court was the lowest court, and it gradually goes up to the highest position, which was held by the king. The word "pedestal" refers to a position of great importance or authority. In this case, it signifies that the king occupied the highest position in the judicial system.

"Chasten" (option a) means to discipline or correct through punishment. It does not fit the context of the sentence.

"Endorsement" (option d) refers to approval or support, which is not relevant to the highest position in the court system.

"Coeval" (option c) means existing at the same time, which doesn't convey the sense of hierarchical authority.

"Cumber" (option e) means to burden or obstruct, which is not suitable in the given context.

Therefore, the correct answer is (b) "pedestal," as it best fits the meaning of the sentence, indicating the highest position held by the king in the court system.

S71. Ans.(b)

Sol. The most suitable word for the blank in this context would be "sovereign" (option b).

In the given sentence, it mentions that one of the primary duties of the entity being referred to was the dispensation of justice. The word "sovereign" refers to a supreme ruler or authority who holds power and exercises control over a territory or a group of people. In the context of dispensing justice, the term "sovereign" implies the entity responsible for making legal decisions and maintaining law and order.

"Instinctive" (option a) means natural or intuitive, which does not convey the idea of an authority responsible for dispensing justice.

"Maestro" (option c) typically refers to a master in a particular field, such as music or art, and does not fit the context of dispensing justice.

"Magnanimous" (option d) means generous or forgiving, which is not directly related to the dispensation of justice.

"Affinity" (option e) refers to a natural liking or connection, but it does not convey the notion of authority in the context of dispensing justice.

Therefore, the correct answer is (b) "sovereign," as it best fits the meaning of the sentence, indicating the entity responsible for the dispensation of justice.

S72. Ans.(a)

Sol. The most suitable word for the blank in this context would be "dispensation" (option a).

In the given sentence, it mentions that one of the primary duties of the sovereign was the act of performing or carrying out justice. The word "dispensation" refers to the distribution or giving out of something, especially in an official or systematic manner. In the context of justice, "dispensation" implies the act of administering or delivering justice in a fair and impartial manner.

"Divulgence" (option c) means the act of revealing or making something known, which does not fit the context of performing justice.

"Entice" (option b) means to attract or persuade someone to do something, which is not directly related to the act of performing justice.

"Uproar" (option d) refers to a loud and chaotic noise or disturbance, which is not applicable in the context of justice.

"Exhaustion" (option e) means extreme tiredness or fatigue, which is unrelated to the act of performing justice.

Therefore, the correct answer is (a) "dispensation," as it best fits the meaning of the sentence, indicating the act of performing or carrying out justice.

S73. Ans.(e)

Sol. The most suitable word for the blank in this context would be "delegated" (option e).

In the given sentence, it mentions that as civilization advanced, the duties of the King were transferred or assigned to the judges who had knowledge of the Vedas. The word "delegated" means to entrust or authorize someone else to perform a task or duty on one's behalf. In this case, the King delegated his duties to the judges, implying that he assigned or transferred those responsibilities to them.

"Mitigated" (option a) means to make something less severe or intense, which does not fit the context of transferring duties.

"Substantiated" (option b) means to provide evidence or support for something, which is not directly related to the transfer of duties.

"Clinched" (option c) means to secure or settle something decisively, which does not accurately convey the idea of transferring duties.

"Articulated" (option d) means to express or communicate something clearly, which is not applicable in the context of transferring duties.

Therefore, the correct answer is (e) "delegated," as it best fits the meaning of the sentence, indicating the act of transferring the King's duties to the judges.

S74. Ans.(c)

Sol. The most suitable word for the blank in this context would be "provincial" (option c).

In the given sentence, it mentions that every capital and large town had a Qazi. The word "provincial" means relating to a province or a particular region. In this context, it implies that each capital and large town had a Qazi appointed specifically for that region or province.

"Putative" (option a) means generally considered or assumed to be something, which does not accurately convey the idea of a capital or town having a Qazi.

"Yearning" (option b) means a strong desire or longing for something, which is not applicable in the context of a Qazi in a capital or town.

"Heckling" (option d) means to interrupt or harass someone with aggressive or mocking comments, which is unrelated to the concept of a Qazi.

"Pondered" (option e) means to think about something carefully or deeply, which does not fit the context of a Qazi in a capital or town.

Therefore, the correct answer is (c) "provincial," as it best fits the meaning of the sentence, indicating that a Qazi was appointed in each capital and large town, corresponding to the specific province or region.

S75. Ans.(a)

Sol. The most suitable word for the blank in this context would be "expected" (option a).

In the given sentence, it mentions that the Qazis held trials in the presence of the parties and were expected to write their legal documents very carefully. The word "expected" implies that it was a requirement or a standard practice for the Qazis to meticulously draft their legal documents.

"Overlooked" (option e) means to fail to notice or consider something, which contradicts the idea that the Qazis were expected to pay attention to their legal document drafting.

"Propagated" (option b) means to spread or promote something widely, which is not relevant in the context of the Qazis' role in writing legal documents.

"Exemplified" (option c) means to serve as a typical example of something, which is not suitable in conveying the idea of careful drafting of legal documents.

"Emboldened" (option d) means to give someone confidence or courage, which is unrelated to the expected task of careful document writing.

Therefore, the correct answer is (a) "expected," as it accurately conveys the notion that the Qazis were obligated or anticipated to write their legal documents with great care.

S76. Ans.(c)

Sol. The most suitable word for the blank in this context would be "establishment" (option c).

In the given sentence, it mentions that the British introduced the common law system in India and established the Sadar Diwani Adalat. The word "establishment" here refers to the act of creating or setting up the Sadar Diwani Adalat, which was a significant development in the legal system.

"Ransacking" (option b) means to violently search or pillage a place, which is not appropriate in the context of the establishment of high courts.

"Ravaging" (option a) means to cause severe damage or destruction, which doesn't align with the idea of establishing high courts.

"Wrecking" (option d) means to cause the destruction of something, which is not suitable in describing the introduction of high courts.

"Ruination" (option e) means the act of ruining or destroying something completely, which doesn't accurately represent the establishment of high courts.

Therefore, the correct answer is (c) "establishment," as it appropriately signifies the British action of setting up the subsequent high courts following the Sadar Diwani Adalat.

S77. Ans.(d)

Sol. The most suitable word for the blank in this context would be "jurisdiction" (option d).

In the given sentence, it mentions that the federal court was established by the Government of India Act, 1935. The word "jurisdiction" here refers to the authority or power of a court to hear and decide on cases within a specific geographical or subject matter area. The sentence indicates that the federal court had a wider jurisdiction than the high courts, meaning it had the authority to handle a broader range of cases.

"Injunction" (option a) refers to a court order that requires a person to do or refrain from doing a specific action, which doesn't align with the context of court establishment.

"Defendant" (option b) refers to a person who is accused or sued in a court of law, which is not suitable in describing the establishment of the federal court.

"Abrogation" (option c) refers to the repeal or abolition of a law, right, or agreement, which is not applicable in this sentence.

"Probation" (option e) refers to a period of testing or trial, usually given as a part of a sentence, which doesn't fit the context of court establishment.

Therefore, the correct answer is (d) "jurisdiction," as it appropriately signifies the broader authority of the federal court compared to the high courts.

S78. Ans.(a)

Sol. The correct choice is option (a) which can be concluded from the first paragraph which mentions, "The tidal flats, and both fresh and brackish water wetlands found here are ideal for the spot-billed pelican (a water bird). Although classified as 'Near-Threatened' in the IUCN red list, this bird looms large in our minds when we think of water birds."

All other options aren't correct in the context of the question.

S79. Ans.(b)

Sol. The correct answer is (b) scavenging.

The word "foraging" refers to the act of searching or gathering food, typically in the wild. A synonym for "foraging" is "scavenging," which also means searching for food or resources. It involves finding and consuming leftover or discarded items.

Option (a) undulating means moving in a wave-like motion and is unrelated to the concept of searching for food.

Option (c) abetting means assisting or supporting someone in a wrongdoing, which is not related to foraging.

Option (d) bothering means annoying or disturbing, which is not synonymous with foraging.

Option (e) retrofitting means modifying or updating something to make it more efficient or functional, which is unrelated to foraging.

Therefore, the correct answer is (b) scavenging.

S80. Ans.(b)

Sol. The correct answer is (b) assistance.

The word "barrier" refers to something that acts as an obstacle or hindrance, creating a separation or restriction. An antonym for "barrier" is a word that represents the opposite meaning or concept.

Option (b) assistance means help or support, which is the opposite of a barrier. Assistance implies aiding or facilitating progress rather than hindering it.

Option (a) solace means comfort or relief, which is unrelated to the concept of a barrier.

Option (c) sufferance means endurance or tolerance, which is not an antonym of barrier.

Option (d) gist means the main point or essence of something, which is unrelated to the concept of a barrier.

Option (e) scrutiny means careful examination or inspection, which is not an antonym of barrier.

Solutions (81-85):

People who travelled by train in city C = 70

$$35\% = 70$$

$$100\% = 200$$

Percentage of people who travelled by flight in city C

$$= (X + 15)\% = (100 - 35)\%$$

$$X + 15 = 65$$

$$X = 50$$

$$(X+15)\% = (50+15)\% = 65\%$$

$$\text{People who travelled by flight in city C} = 200 \times \frac{65}{100} = 130$$

$$\text{People who travelled by train in city B} = 2.4X = 120$$

$$\text{People who travelled by train in city D} = 135 \times 2 - 120 = 150$$

$$Y = 150$$

$$\text{Percentage of people who travelled by flight in city D} = \frac{X+Y}{5}\% = \frac{50+150}{5}\% = 40\%$$

$$\text{People who travelled by flight in city D} = \frac{150}{60} \times 40 = 100$$

$$\text{Percentage of people who travelled by flight in city B} = \frac{Y}{6}\% = \frac{150}{6}\% = 25\%$$

$$\text{People who travelled by flight in city B} = \frac{120}{75} \times 25 = 40$$

$$\text{People who travelled by train in city A} = 1.7X = 85$$

$$\text{Percentage of people who travelled by flight in city A} = \frac{85}{68} \times 32 = 40$$

Cities	People who travelled by train	People who travelled by flight
A	85	40
B	120	40
C	70	130
D	150	100

S81. Ans.(b)

Sol. Required difference = $(120 + 150) - (40 + 130) = 270 - 170 = 100$

S82. Ans.(a)

Sol. People who travelled by train in city E = $1.2 \times 150 = 180$

Ratio of people who travelled by flight by cities A and E = $8 : \frac{50}{5} = 8 : 10$
 $= 4 : 5$

People who travelled by flight by city E = $\frac{40}{4} \times 5 = 50$

Total people who traveled in city E = $50 + 180 = 230$

S83. Ans.(e)

Sol. Required percentage = $\frac{40}{150} \times 100 = 26.67\%$

S84. Ans.(d)

Sol. People travelled in business class on the flight in city A = $40 \times \frac{55}{100} = 22$

People travelled in economic class on the flight in city A = $40 - 22 = 18$

Required ratio = $70 : 18 = 35 : 9$

S85. Ans.(c)

Sol. Total people who travelled in city D in 2023 = $4X = 4 \times 50 = 200$

People who travelled by flight in city D in 2023 = $200 \times \frac{150}{6} \times \frac{1}{100} = 50$

People who travelled by train in city D in 2023 = $200 - 50 = 150$

Total people who travelled in city C in 2022 = $70 + 130 = 200$

Required percentage = $\frac{200-150}{200} \times 100 = 25\%$

S86. Ans.(e)

Sol. Compound interest for two years at 10% per annum = $\left(10 + 10 + \frac{10 \times 10}{100}\right) \% = 21\%$

ATQ,

$$\frac{21}{100} \times (X + 1600) = 1176$$

$$X + 1600 = 5600$$

$$X = 4000$$

Amount he invest in simple interest = $4000 - 800 = \text{Rs } 3200$

$$3200 \times \frac{R}{100} \times 3 = 1440$$

$$R = 15\%$$

S87. Ans.(d)

Sol. Marked price = $\frac{180}{100} \times (X + 500)$

Selling price = $\frac{144}{100} \times (X + 500)$

$$\text{ATQ, } (X + 500) \times \left(\frac{180}{100} - \frac{144}{100}\right) = 1260$$

$$(X + 500) \times \frac{36}{100} = 1260$$

$$X = 3000$$

S88. Ans.(e)

Sol. Let the speed of the boat and speed of the current be X km/hr and Y km/hr respectively.

ATQ,

$$\frac{Y}{X-Y} = \frac{2}{3}$$

$$3Y = 2X - 2Y$$

$$5Y = 2X$$

$$\frac{5}{2} = \frac{X}{Y}$$

$$\frac{5a}{2a} = \frac{X}{Y}$$

$$\frac{210}{7a} = 5$$

$$a = 6$$

$$\text{Required distance} = 6 \times 5 \times 6 = 180 \text{ km}$$

S89. Ans.(a)

Sol. Let the length (in meters) of train A and train B is 7x and 8x respectively

$$\text{Speed of the train A} = 72 \times \frac{5}{18} = 20 \text{ m/sec}$$

ATQ,

$$\frac{7x+8x}{20+25} = \frac{50}{3}$$

$$\frac{15x}{15} = 50$$

$$x = 50$$

The length of train A and train B is 350 meters and 400 meters respectively

$$\text{Required time} = \frac{400 + \frac{350}{2}}{25} = 23 \text{ seconds}$$

S90. Ans.(b)

Sol. Let the present age of B be x years

And the present age of A = (x-5) years

The present age of C = $\frac{60}{100} \times (x-5)$ years

ATQ,

$$(x-4) - \left(\frac{3}{5} \times (x-5) + 3 \right) = 4$$

$$x-4 - \frac{3x}{5} = 4$$

$$\frac{2x}{5} = 8$$

$$x = 20$$

$$\text{Age of A after ten years} = (20-5) + 10 = 25 \text{ years}$$

Solutions (91-95)

$$\text{Percentage of total credit card sold by R} = (100 - (30 + 25 + 20 + 15)) = 10\%$$

$$X = 10$$

Let total credit card sold by all five companies be 100a

$$\text{Give, } \frac{100a \times (20-10)}{100} = 140$$

$$10a = 140$$

$$a = 14$$

Total credit card sold by all five companies = 1400

Total credit cards of type B = $\frac{1400}{7} \times 3 = 600$

Total credit cards of type A = $1400 - 600 = 800$

Percentage of credit cards sold by T = $1.5 \times 10 = 15\%$

Percentage of credit cards sold by Q = $100 - (25 + 15 + 10 + 30) = 20\%$

Companies	Total credit cards sold	Type A credit card sold	Type B credit card sold
P	$1400 \times \frac{30}{100} = 420$	$800 \times \frac{25}{100} = 200$	$420 - 200 = 220$
Q	$1400 \times \frac{25}{100} = 350$	$800 \times \frac{20}{100} = 160$	$350 - 160 = 190$
R	$1400 \times \frac{10}{100} = 140$	$800 \times \frac{10}{100} = 80$	$140 - 80 = 60$
S	$1400 \times \frac{20}{100} = 280$	$800 \times \frac{30}{100} = 240$	$280 - 240 = 40$
T	$1400 \times \frac{15}{100} = 210$	$800 \times \frac{15}{100} = 120$	$210 - 120 = 90$

S91. Ans.(c)

Sol. Required percentage = $\frac{200-90}{200} \times 100 = 55\%$

S92. Ans.(b)

Sol. Required difference = $280 - (190 + 60) = 30$

S93. Ans.(e)

Sol. Type A credit cards by Q whose limit is Rs 20,000 = $160 \times \frac{60}{100} \times \frac{75}{100} = 72$

Required ratio = $40 : 72 = 5 : 9$

S94. Ans.(d)

Sol. Type A and type B credit card sold to females by T = $120 \times \frac{5}{12} + 90 \times \frac{1}{3}$
 $= 50 + 30 = 80$

Required percentage = $\frac{80}{350} \times 100 = 22.8\% \approx 23\%$

S95. Ans.(b)

Sol. Total credit cards sold by Y = $8X = 80$

Type B Credit cards sold by Y = $\frac{60}{100} \times 60 = 36$

Type A credit cards sold by Y = $80 - 36 = 44$

S96. Ans.(b)

Sol. Height of the cone = $\frac{28}{4} = 7$ cm

Let radius of the cone be r cm

$\frac{1}{3} \times \frac{22}{7} \times r \times r \times 7 = 264$

$r \times r = 36$

$r = 6$

Radius of the cylinder = $\frac{6}{3} \times 4 = 8$ cm

Required area = $2 \times \frac{22}{7} \times 8 \times 14 = 704 \text{ cm}^2$

S97. Ans.(e)

Sol. I. $3x^2 - 28x + 65 = 0$

$$3x^2 - 15x - 13x + 65 = 0$$

$$3x(x - 5) - 13(x - 5) = 0$$

$$(3x - 13)(x - 5) = 0$$

$$x = 5, \frac{13}{3}$$

II. $4y^2 - 36y + 81 = 0$

$$4y^2 - 18y - 18y + 81 = 0$$

$$2y(2y - 9) - 9(2y - 9) = 0$$

$$(2y - 9)(2y - 9) = 0$$

$$y = \frac{9}{2}, \frac{9}{2}$$

So, no relation can be established between x and y

S98. Ans.(d)

Sol. I. $3x^2 = 27$

$$x^2 = 9$$

$$x = -3, 3$$

II. $6y^{\frac{5}{2}} = \frac{162}{y^{\frac{1}{2}}}$

$$y^{\frac{5}{2} + \frac{1}{2}} = 27$$

$$y^3 = 27$$

$$y = 3$$

So, $x \leq y$

S99. Ans.(e)

Sol. I. $x^3 - 24x^2 + 119x = 0$

$$x(x^2 - 24x + 119) = 0$$

$$x(x^2 - 17x - 7x + 119) = 0$$

$$x(x(x - 17) - 7(x - 17)) = 0$$

$$x((x - 17)(x - 7)) = 0$$

$$x = 0, 17, 7$$

II. $y^3 - 30y^2 + 216y = 0$

$$y(y^2 - 30y + 216) = 0$$

$$y(y^2 - 12y - 18y + 216) = 0$$

$$y(y(y - 12) - 18(y - 12)) = 0$$

$$y = 0, 12, 18$$

So, no relation can be established between x and y

S100. Ans.(b)

Sol. I. $2x^2 - 20x - 15x + 62 = 0$

$$2x^2 - 35x + 62 = 0$$

$$2x^2 - 4x - 31x + 62 = 0$$

$$2x(x - 2) - 31(x - 2) = 0$$

$$x = \frac{31}{2}, 2$$

$$\begin{aligned} \text{II. } y^2 + 5y - 14 &= 0 \\ y^2 + 7y - 2y - 14 &= 0 \\ y(y + 7) - 2(y + 7) &= 0 \\ y &= -7, 2 \\ \text{So, } x &\geq y \end{aligned}$$

Solutions (101-105)

Students who like only pen R be x

Students who like only pen P = $x + 20$

Students who like only pen Q = $\frac{60}{100} \times (x + 20)$

Students who like only pen Q and R together = $\frac{x+20}{8} \times 3$

Given, $\left(\frac{60}{100} \times (x + 20) + \frac{x}{2} + \frac{x+20}{8} \times 3\right) = 108$

$$\left(\frac{3x}{5} + 12\right) + \frac{x}{2} + \frac{3x+60}{8} = 108$$

$$\frac{24x+20x+15x+300}{40} = 96$$

$$\frac{59x+300}{40} = 96$$

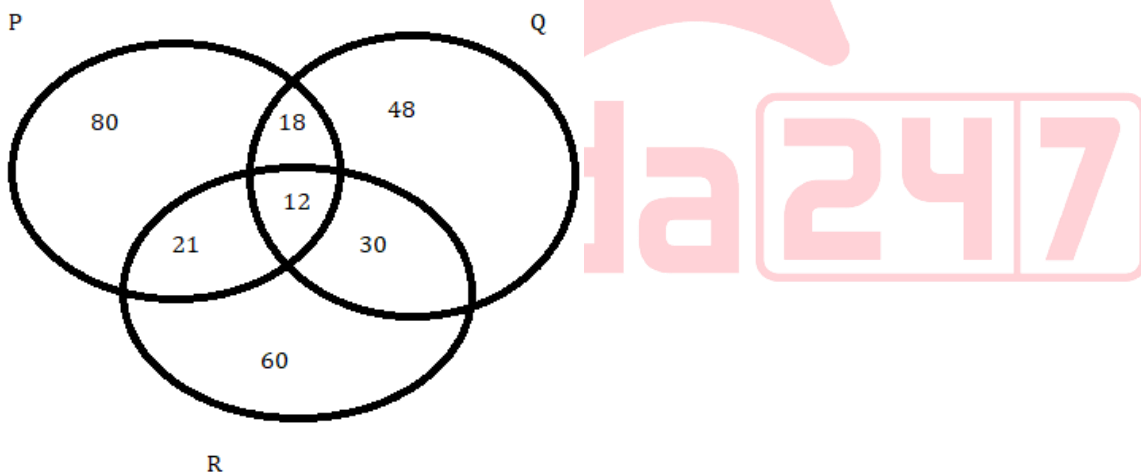
$$x = 60$$

Total number of students who like only two pens = $23 \times 3 = 69$

Students who like only pen P and Q together = $30 - 12 = 18$

Students who like only pen Q and R together = $\frac{x+20}{8} \times 3 = \frac{80}{8} \times 3 = 30$

Students who like only pen P and R together = $69 - 18 - 30 = 21$



S101. Ans.(d)

Sol. Students who like at least two pens = $21 + 12 + 30 + 18 = 81$

S102. Ans.(b)

Sol. Required ratio = $18 : 60 = 3 : 10$

S103. Ans.(e)

Sol. Students who like at most one pen = $80 + 48 + 60 = 188$

Required difference = $188 - 30 = 158$

S104. Ans.(c)

Sol. Students who don't like any pen = $329 - (80 + 18 + 48 + 21 + 12 + 30 + 60)$
 $= 329 - 269 = 60$

S105. Ans.(c)

Sol. Required percentage = $\frac{80-30}{30} \times 100 = 166.67\%$

S106. Ans.(e)

Sol. Profit sharing ratio of A, B and C = $6000 \times 12 : X \times 7 : (X - 2000) \times 9$

ATQ,

$$\frac{6000 \times 12}{7X + 9X - 18000} = \frac{1600}{2800}$$

$$126000 = 16X - 18000$$

$$144000 = 16X$$

$$9000 = X$$

$$\text{Required value} = 9000 + 500 = 9500$$

S107. Ans.(b)

Sol. Initial quantity of the mixture = 65 liters

Ratio of quantity of milk to water = 7:6

$$\text{Quantity of milk} = 65 \times \frac{7}{13} = 35 \text{ litres}$$

$$\text{Quantity of water} = 65 \times \frac{6}{13} = 30 \text{ litres}$$

ATQ,

$$\frac{35 - 26 \times \frac{7}{13} + X}{30 - 26 \times \frac{6}{13}} = \frac{5}{3}$$

$$\frac{21 + X}{18} = \frac{5}{3}$$

$$X = 9$$

S108. Ans.(e)

Sol. A complete the work = $\frac{15}{3} \times 5 = 25$ days

B complete the work = $\frac{6}{1} \times \frac{20}{3} = 40$ days

Total work (LCM of 25 & 40) = 200 units

Efficiency of A = $\frac{200}{25} = 8$ units/day

Efficiency of B = $\frac{200}{40} = 5$ units/day

Efficiency of C = $\frac{8}{2} = 4$ units/day

Amount of work done by A, B and C in 10 days = $10 \times (8 + 5 + 4) = 170$ units

Remaining work = $200 - 170 = 30$ units

Efficiency of D = $\frac{30}{1.5} - (8 + 5 + 4) = 3$ units/day

Required days = $\frac{200}{3} = 66.67$ days

S109. Ans.(b)

Sol. Total weight of A, B and C = $36 \times 3 = 108$ kg

Total weight of B and C = $40 \times 2 = 80$ kg

Weight of A = $108 - 80 = 28$ kg

Weight of C = $\frac{28}{7} \times 9 = 36$ kg

Weight of B = $80 - 36 = 44$ kg

S110. Ans.(a)

Sol. Quantity I. Let capacity of the tank (LCM of 7, 28 & 14) = 28 units

Efficiency of pipes A and B = $\frac{28}{7} = 4$ units/min

Efficiency of pipes A and C = $\frac{28}{28} = 1$ units/min

Efficiency of pipe B = $\frac{28}{14} = 2$ units/min

Efficiency of pipe A = $4 - 2 = 2$ units/min

Efficiency of pipe C = $1 - 2 = -1$ units/min (empty pipe)

Required time = $\frac{28}{2-1} = 28$ min

Quantity II. 27

So, Quantity I > Quantity II

S111. Ans.(e)

Sol. Quantity I.

Let cost price = $100a$

Marked price = $100a \times \frac{220}{100} = 220a$

Selling price = $220a \times \frac{100-X}{100}$

ATQ,

$100a \times \frac{165}{100} = 220a \times \frac{100-X}{100}$

$X = 25$

Quantity II. $\frac{\frac{25}{100} \times 440}{4.4} = ?$

$\frac{110}{4.4} = ?$

$25 = ?$

So, Quantity I = Quantity II

S112. Ans.(b)

Sol. Composite compound interest of two years at 10% = $\left(10 + 10 + \frac{10 \times 10}{100}\right) \% = 21\%$

ATQ,

$\frac{21}{100} \times (2X + 696) = X$

$42X + 21 \times 696 = 100X$

$21 \times 696 = 58X$

$252 = X$

Amount invest in compound interest at R% p.a. = $5X + 740 = \text{Rs.}2000$

$$2000 \times \left(\left(1 + \frac{R}{100} \right)^2 - 1 \right) = (2.5 \times 252 + 15)$$

$$2000 \times \left(\left(1 + \frac{R}{100} \right)^2 - 1 \right) = 645$$

$$\left(1 + \frac{R}{100} \right)^2 = \frac{645}{2000} + 1$$

$$\left(1 + \frac{R}{100} \right)^2 = \frac{2645}{2000}$$

$$\left(1 + \frac{R}{100} \right)^2 = \frac{529}{400}$$

$$1 + \frac{R}{100} = \frac{23}{20}$$

$$\frac{R}{100} = \frac{3}{20}$$

$$R = 15$$

Quantity I.

$$\text{Required value} = \frac{X}{18} = \frac{252}{18} = 14$$

Quantity II.

$$\text{Required value} = R = 15$$

So, Quantity I < Quantity II

S113. Ans.(d)

Sol. Statement I.

Let the present age of B be $5x$ years

$$\text{The present age of A} = 5x \times \frac{80}{100} = 4x \text{ years}$$

$$\text{And the present age of C} = \frac{4x+5x}{2} + 5 = 4.5x + 5 \text{ years}$$

Statement II.

Total present age of B, C and D = 57 years

From both statements together

The present age of D = $4x - 2$ years

$$5x + 4.5x + 5 + 4x - 2 = 57$$

$$13.5x = 54$$

$$x = 4$$

The age of D four years ago = $4(4) - 2 - 4 = 10$ years

So, both the statements taken together are necessary to answer

S114. Ans.(c)

Sol. Statement I.

Let the length and breadth of the rectangle is $2x$ cm and $3x$ cm respectively

$$\text{Given, } 2(2x + 3x) = 80$$

$$5x = 40$$

$$x = 8$$

The length and breadth of the rectangle is 16 cm and 24 cm respectively

$$\text{Area of the square} = \frac{16 \times 24}{3} \times 8 = 1024 \text{ cm}^2$$

$$\text{Side of the square} = \sqrt{1024} = 32 \text{ cm}$$

Statement II.

Let the length and breadth of the rectangle be l cm and b cm respectively.

$$\text{Give, } 2(l + b) = 80$$

$$l + b = 40 \dots (i)$$

And

$$l \times b = 375$$

$$b = \frac{375}{l}$$

b value put in (i)

$$\frac{375}{l} + l = 40$$

$$l^2 - 40l + 375 = 0$$

$$l^2 - 15l - 25l + 375 = 0$$

$$l = 15, 25$$

Length of the rectangle = 25 cm

And breadth of the rectangle = 15 cm

Perimeter of the square = $25 - 1 = 24$ cm

$$\text{Side of the square} = \frac{24}{4} = 6 \text{ cm}$$

So, either statement (I) or statement (II) by itself is sufficient to answer.

S115. Ans.(b)

Sol. Let the monthly income be $100a$

$$\text{Amount spent on food} = 100a \times \frac{20}{100} = 20a$$

$$\text{Amount spent on rent} = (100a - 20a) \times \frac{25}{100} = 20a$$

$$\text{Amount spent on travelling} = (100a - 20a - 20a) \times \frac{10}{100} = 6a$$

$$\text{Amount invest on SIP} = (100a - 20a - 20a - 6a) \times \frac{5}{9} = 30a$$

$$\text{Amount invest on LIC} = (100a - 20a - 20a - 6a) \times \frac{4}{9} = 24a$$

Statement I.

Amount invest on LIC is 20% more than the amount spends on food.

Statement II.

ATQ,

$$30a - 6a = 720$$

$$24a = 720$$

$$a = 30$$

Monthly income of A = $30 \times 100 = \text{Rs } 3000$

So, statement (II) alone is sufficient to answer

S116. Ans.(d)

$$\text{Sol. } 15 \times \frac{25}{100} \times 140 = ? \times 15$$

$$\frac{525}{15} = ?$$

$$35 = ?$$

S117. Ans.(e)

Sol. $1570 + 2190 - \frac{4}{9} \text{ of } 198 = \frac{?}{4}$

$$3760 - 88 = \frac{?}{4}$$

$$14688 = ?$$

S118. Ans.(d)

Sol. $\frac{80}{100} \times 560 + 361 - \sqrt[3]{4913}$

$$448 + 361 - 17 = ?$$

$$792 = ?$$

S119. Ans.(d)

Sol. $\frac{44}{4} \times \frac{9}{3} + 3 = \sqrt{?}$

$$\sqrt{?} = 11 \times 3 + 3$$

$$36 = \sqrt{?}$$

$$? = 1296$$

S120. Ans.(b)

Sol. $\sqrt{40\% \times 375 + 75\% \times 60} = ?$

$$? = \sqrt{150 + 45}$$

$$? = \sqrt{195}$$

$$? = 14$$

