NIACL AO Prelims 2023 Memory Based Paper

Directions (1-5) : Read each sentence to find out whether there is any grammatical or idiomatic error in it. The error, if any, will be in one of the parts of the sentence. The corresponding letter of that part is the answer. If the given sentence is grammatically and contextually correct, then choose option "No error" as answer. (Ignore errors of punctuation, if any)

Q1. Yesterday I met (A) / my friend who (B) / is now a doctor (C) / and a musician (D) / No error (E) .
(a) A
(b) B
(c) C
(d) D
(e) No error

Q2. She is fond of (A) /hilly food as (B) /she lives in hilly areas (C) / since her childhood (D) / No error (E) .
(a) A
(b) B
(c) C
(d) D
(e) No error

Q3. Despite of several disputes, (A) / the couple decided to (B) / live together for the (C) /rest of their lives (D) / No error (E) .
(a) A
(b) B
(c) C
(d) D
(e) No error

Q4. The university will (A) / conduct exams (B) /after COVID-19 cases (C) / will decline (D) / No error (E) .
(a) A
(b) B
(c) C
(d) D
(e) No error

Q5. The G20 was created in (A) / response to the financial (B) / crises that arose in a (C) / number of emerging economy (D) / No error (E)
(a) A
(b) B
(c) C
(d) D
(e) No error

Directions (6-14) : Read the following passage carefully and answer the questions given below them.
The word 'tax' is derived from the Latin word taxare or taxo. It means 'to assess the worth of something'. Taxes are imposed by government for the use and service of the State. They are levied and collected by the State for the purchase or sale of merchandise or a service. Taxes provide revenue to the state, and is therefore one of the most significant aspects of any system of administration by any form of government.
The income tax as we know today was first introduced in India in 1860 by the British. It was introduced to compensate for the losses **sustained** by the government due to the rebellion of 1857. Income tax is defined as the annual charge levied on both earned income (wages, salaries or commission) and unearned income like dividends, interest or rent. In addition to financing a government's operations, progressive income taxation is designed to distribute wealth creation more evenly in a population and to serve as buffer in case of fluctuations in the economic cycle.
The Income Tax Act was passed in India in 1886, and there have been **constant** revisions and refinements in the Act since then. After the first World War, a new Income Tax Act was passed, in 1918, again to counter the residual effects of economic devastation caused by the war. This income tax Act was in place till 1922, when it was replaced by another Act. After 40 years, and 15 years after India gained freedom from the British, the income tax Act was _____again. The current Income Tax Act has been adopted in 1961, and bought into force with effect from April 1, 1962. It encompasses the whole of India. The Central Board of Revenue bifurcated and created a separate Board for Direct Taxes called as the Central Board of Direct Taxes under the aegis of Central Board of Revenue Act, 1963.

Q6. According to the passage, why does the government levy taxes?
(a) To keep the economy always in a profitable state.
(b) For controlling inflation through fiscal measures and its various policies.
(c) The government levies taxes in exchange for those services and means that states provide.
(d) To discourage the consumption of certain goods and services at a large scale.
(e) None of these

Q7. As mentioned in the passage, why is the tax a crucial feature of all administration systems?
(a) Because the amount of tax collection signifies the growth of an economy.
(b) Owing to finance the military needs of people and the government.
(c) For the reason that the government provides tax exemptions to taxpayers.
(d) Because tax is a source of income for any state government.
(e) None of these

Q8. As mentioned by the author, what was the motive behind introducing tax by the British people?
(a) To fund all government expenditure during the revolution held in 1857.
(b) To indemnify the losses suffered by the government caused by rebellion.
(c) To settle down all the differences of revolutionists by paying compensation.
(d) British government formed a tax regime to subsidize social schemes.
(e) None of these

Q9. Progressive income taxation is framed in a way which ……..
(a) manages to increase the amount of direct and indirect tax collection.
(b) helps in surviving the fluctuations in the economic cycle.
(c) allows the allocation the wealth creation equally among people.
(d) Only (a) and (b)
(e) Only (b) and (c)

Q10. According to the passage, what can be said about Income Tax Act since 1886?
(i) The current Income Tax Act was adopted after independence and is in effect since 1962.
(ii) Many frequent amendments have been done to the Income Tax Act since 1886.
(iii) Income Tax Act legislated after World War-I intended to counter the aftermaths of economic devastation.
(a) All of these
(b) Only (iii)
(c) Both (ii) and (iii)
(d) None of these
(e) Only (i)

Q11. Which of the following words will be the most suitable word for the blank given in the passage?
(a) reset
(b) forbade
(c) accelerated
(d) modified
(e) subsided

Q12. Which of the following word is a synonym of 'sustained' as highlighted in the passage?
(a) persisted
(b) affiliated
(c) rendered
(d) portend
(e) intermittent

Q13. Which of the following statements is FALSE with respect to the passage?
(a) The government charges tax on both earned income and unearned income.
(b) The Central Board of Direct Taxes is regulated under Central Board of Tax Act, 1963.
(c) The income tax was first put in place in India during British ruling.
(d) The term 'tax' simply means 'to access the worth of something'.
(e) None of these

Q14. Which of the following words is an antonym of 'constant' as highlighted in the passage?
(a) fitful
(b) perpetual
(c) prevalent
(d) bombast
(e) entrust

Directions (15-19) : In the given question, four words are highlighted in bold, one of which might be incorrect or wrongly spelt. Choose the word which is incorrect as your answer choice.

Q15. Local **observatory alerted residents** that there would be a dust **strom** the next day.
(a) observatory
(b) alerted
(c) residents
(d) strom
(e) No Error

Q16. A more **plosible explanation** would seem to be that people are fed up with the **Conservative government**.
(a) plosible
(b) explanation
(c) conservative
(d) government
(e) No Error

Q17. The rise in **unemployment** is seen as **indicative** of a new **economic resession**.
(a) unemployment
(b) indicative
(c) economic
(d) resession
(e) No Error

Q18. Although Janet is not a great singer, she is a **dextrous guitarist** who can play a song after **hearing** it only once.
(a) although
(b) dextrous
(c) guitarist
(d) hearing
(e) No Error

Q19. Climate change has a **devastating empact** on people and our planet, a fact that is now well proved by the **frequent** extreme **weather** conditions over the last decade across the world
(a) devastating
(b) empact
(c) frequent
(d) weather
(e) No Error

Directions (20-24) : In each of the following questions, a section of the sentence has been highlighted. If the sentence is grammatically and contextually incorrect, the error lies in the highlighted part and the correct substitution for that part is to be chosen from among the given options. If the sentence is correct, mark option "No improvement required" as the answer.

Q20. This course examines the role advertising **is playing** economically, culturally, and socially throughout history.
(a) will play
(b) will be playing
(c) has been playing
(d) has played
(e) No improvement required

Q21. A democratic, peaceful, well-governed nation state is a blessing which **should not be casual throw** away.
(a) cannot be casual throw
(b) cannot not be casually throw
(c) should not be casually thrown
(d) will not be casual throw
(e) No improvement required

Q22. The costs of bad policy are **spread across the public by large**, making it harder for people to organise.
(a) spread within the public by large
(b) spread across the public at large
(c) spread across the public from large
(d) spread beyond the public by large
(e) No improvement required

Q23. The gymnast hopes **she can reprise her** perfect performance in next week's competition.
(a) they can reprise their
(b) he can reprise his
(c) she can reprise their
(d) he can reprise their
(e) No improvement required

Q24. The traffic downtown is awful, with most lanes **having being at a standstill** for hours.
(a) had being a standstill
(b) having been at a standstill
(c) had been at a standstill
(d) had being at a standstill
(e) No improvement required

Directions (25-30) : In the following passage there are blanks, each of which has been denoted by a letter. For each blank, five options are given. Find out the appropriate word which fits the blank appropriately.
Medicinal plants have been used in healthcare since time_____ (A) . Studies have been carried out globally to verify their _____ (B) and some of the findings have led to the production of plant-based medicines. The emphasis on the use of medicinal plants had _____ (C) been placed on the treatment rather than prevention of diseases. However, there exists in the literature considerable report in recent times on research work on the use of medicinal plants and their constituents in disease prevention. A Group defined Traditional Medicine as the sum total of all knowledge and practices, whether _____ (D) or not, used in diagnosis, prevention and _____ (E) of physical, mental, or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether _____ (F) or in writing

Q25. Which of the following words will fit in the given blank (A) ?
(a) affirming
(b) scramble
(c) conservative
(d) merging
(e) immemorial

Q26. Which of the following words will fit in the given blank (B) ?
(a) efficacy
(b) obedience
(c) extension
(d) alliance
(e) heinous

Q27. Which of the following words will fit in the given blank (C) ?
(a) deceive
(b) coward
(c) hitherto
(d) rebel
(e) assign

Q28. Which of the following words will fit in the given blank (D) ?
(a) radical
(b) explicable
(c) moderate
(d) amend
(e) visual

Q29. Which of the following words will fit in the given blank (E) ?
(a) clinch
(b) overlook
(c) provoke
(d) elimination
(e) emerge

Q30. Which of the following words will fit in the given blank (F) ?
(a) verbally
(b) incumbency
(c) instantly
(d) dubiously
(e) allegedly

Directions (31-35) : Study the given information carefully and answer the related questions:
14 persons sit in two parallel rows such that seven persons sit in each row. The persons of row 1 face north and the persons of row-2 face south. The persons of both the rows sit exactly opposite to each other.
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. D sits just right of A but not in row 1. B sits third to the left of C but does not face G. P faces V who sits in the same row of Q.

Q31. Who among the following sits fourth to the right of P?
(a) H
(b) C
(c) T
(d) K
(e) R

Q32. What is the position of V with respect to A?
(a) 3rd to the right
(b) 5th to the right
(c) 4th to the left
(d) 2nd to the left
(e) A and V are not in same row

Q33. Four of the following five are same in a certain manner and related to a group. Who among the following does not belong to the group?
(a) Q
(b) H
(c) K
(d) F
(e) R

Q34. Who among the following faces B?
(a) Q
(b) G
(c) T
(d) D
(e) None of these

Q35. Which among the following pair of persons sit in the exact middle of each row?
(a) D, C
(b) V, P
(c) S, R
(d) B, T
(e) B, G

Directions (36-39) : In these questions, relationship between different elements is shown in the statements. These statements are followed by two conclusions. Find which of the conclusion will be true according to the statement:

Q36. Statements: C > T = R < W ≤ S = A < E ≥ B
Conclusions: I. S > C
II. W < B
(a) Only II is true
(b) Only I is true
(c) Either I or II is true
(d) Neither I nor II is true
(e) Both I and II are true

Q37. Statements: M ≥ O ≥ L ≥ E ≤ T < G ≤ K = F
Conclusions: I. F > T
II. M ≥ E
(a) Only II is true
(b) Only I is true
(c) Either I or II is true
(d) Neither I nor II is true
(e) Both I and II are true

Q38. Statements: X = O ≥ Y ≤ N ≤ D = W, Y ≥ Q = F
Conclusions: I. X ≥ F
II. D = Q
(a) Only II is true
(b) Only I is true
(c) Either I or II is true
(d) Neither I nor II is true
(e) Both I and II are true

Q39. Statements: S ≥ Y ≥ E = F ≥ R > P = L
Conclusions: I. F < S
II. E > L
(a) Only II is true
(b) Only I is true
(c) Either I or II is true
(d) Neither I nor II is true
(e) Both I and II are true

Directions (40-44) : Study the given information carefully and answer the questions based on it:
Five children of different ages like different fruits. The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. D is older to J but younger to the one who likes apple. D and J do not like plum. One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. The child who likes orange is not younger to the child who likes pear.

Q40. Who among the following likes orange?
(a) R
(b) J
(c) D
(d) A
(e) None of these

Q41. D likes which of the following fruit?
(a) Either kiwi or pear
(b) Either orange or pear
(c) Kiwi
(d) Orange
(e) Pear

Q42. How many persons are younger to H?
(a) 1
(b) 0
(c) 2
(d) 3
(e) 4

Q43. Which of the following pair is correct?
(a) R - apple
(b) A - pear
(c) All are correct
(d) D - kiwi
(e) J - orange

Q44. Same number of persons are younger and older to ___.
(a) R
(b) J
(c) D
(d) H
(e) A

Q45. In the number '846392754536', if all the prime digits are removed and even digits are divided by 2, then find the sum of odd digits in the new number formed after given operations?
(a) 12
(b) 16
(c) 14
(d) None of these
(e) 15

Q46. If all the letters of the word 'SECTIONAL' are replaced with their 3rd succeeding letter, then find how many meaningful words can be formed by using the letters which are at 2nd, 3rd, 6th and 8th places from the left end in the new word?
(a) One
(b) None
(c) Two
(d) Three
(e) Four

Directions (47-49) : In each of the questions below, three statements are given followed by two 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 conclusion(s) logically follows from the given statements disregarding commonly known facts.

Q47. Statements:
Only a few pizza is Burger.
Some Burger is Pasta.
Only Pasta is Order.
Conclusions:
I. Some Pasta can never be Burger.
II. All Pizza being Pasta is a possibility.
(a) Only I follows
(b) Only II follows
(c) Either I or II follows
(d) Neither I nor II follows
(e) Both I and II follow

Q48. Statements:
All Wave is Tide.
Some Tide is not Wide.
All Wide is Sea.
Conclusions:
I. Some Sea is Wave.
II. No Wave is Wide.
(a) Only I follows
(b) Only II follows
(c) Either I or II follows
(d) Neither I nor II follows
(e) Both I and II follow

Q49. Statements:
No Bingo is Group.
All Group is Enjoy.
Only a few Enjoy is Game.
Conclusions:
I. Some Game is not Bingo.
II. Some Enjoy is not Game.
(a) Only I follows
(b) Only II follows
(c) Either I or II follows
(d) Neither I nor II follows
(e) Both I and II follow

Q50. If all the consonants in the word 'SECTION' are replaced with their next vowel according to alphabetical series, then which vowel will appear more than twice?
(a) E
(b) I
(c) U
(d) None
(e) O

Directions (51-54) : Study the following information carefully and answer the questions given below:
Five boxes Q, W, E, R and T placed one above the other but not necessarily in the same order. Each box transfer to different cities viz. Delhi, Panji, Bangalore, Calcutta and Mumbai but not necessarily in the same order.
Box T is placed three places above to the box which transfer to Calcutta. Box Q is transfer to Delhi and placed two places above the box R. Box R is not transfer to Calcutta. Box W and box Q are not placed adjacent to each other. The box transfer to Bangalore is placed just above the box which is transfer to Mumbai. Neither box W nor box E is transfer to Mumbai. Box E is not transfer to Panji.

Q51. How many boxes are placed above the box E?
(a) One
(b) None
(c) Three
(d) Four
(e) Two

Q52. If box Q is related to Bangalore and box T is related to Mumbai in the same way ___ is related to Panji?
(a) R
(b) Either E or R
(c) E
(d) W
(e) Either R or W

Q53. Which of the following box is placed at even position?
(a) Q
(b) T
(c) W
(d) R
(e) Both T and W

Q54. Which of the following pair of combination is correct?
(a) Box W - Bangalore
(b) Box E - Bangalore
(c) Box E - Calcutta
(d) Box T - Calcutta
(e) Box W - Mumbai

Directions (55-59) : Study the following information carefully and answer the questions given below.
Eight persons - P, Q, R, S, T, U, V and W attended a workshop on two different dates i.e., 5th and 23rd of four different months viz. February, April, August and October but not necessarily in the same order. Each person attended the workshop only once.
Four persons attended the workshop between P and R who attended the workshop on 5th. Number of persons attended after P is same as the number of persons attended before S. T attended just after S. U attended the workshop in October. V attended the workshop just after U. W didn't attend the workshop before T.

Q55. Who attended the workshop on 23rd February?
(a) T
(b) Q
(c) None of these
(d) P
(e) W

Q56. Who attended the workshop in August?
(a) R
(b) Q
(c) S
(d) T
(e) W

Q57. How many persons attended the workshop between U and W?
(a) None
(b) One
(c) Three
(d) Two
(e) More than three

Q58. Which two persons attended the workshop in April?
(a) S and T
(b) Q and R
(c) P and W
(d) W and Q
(e) None of these

Q59. Who attended the workshop just after Q?
(a) P
(b) W
(c) R
(d) S
(e) U

Directions (60-62) : Study the following information carefully and answer the questions given below:
Ravi walks 12m in the north direction from point A and then turns towards his right. After walking 15m, he turns towards his left and walks 8m. Again, he turns towards his left and walks for 10m and reaches at point B. Rajesh starts to walk in the south direction from point C. After walking 18m, he turns towards his left and walks 6m to reach at point A.

Q60. What is the shortest distance and direction of point C with respect to point B?
(a) $4\sqrt{5}$m, south-east
(b) 25m, north-east
(c) $5\sqrt{5}$m, south-west
(d) $\sqrt{25}$m, north-west
(e) 20m, north-west

Q61. If Rajesh walks from point C in north and walks 25m, then turns left and walks 15m, in which direction is he now with respect to point B?
(a) South-west
(b) North-east
(c) South
(d) North-west
(e) North

Q62. If Ravi continues walking from point B in the same direction and stops at point Z which is north of point C, then what is the shortest distance and direction to reach point C?
(a) 6m, west
(b) 5m, east
(c) 2m, south
(d) 8m, south
(e) 2m, west

Directions (63-65) : Study the following information carefully and answer the questions given below:
Seven persons have different weights and all of them arranged in descending order from left to right according to their weight. P's weight is less than M's weight. Only two persons have more weight than P. Three persons have weight between M and Q. Weight of O is 6kg more than S's. N's weight is just more than O. S's weight is 33 Kg. R's weight is 12kg more than O's.

Q63. If the weight of M is square value, then what will be the sum of the weight of R and M?
(a) 92Kg
(b) 85Kg
(c) 100Kg
(d) 105Kg
(e) 70Kg

Q64. How many persons have less weight than R?
(a) Three
(b) Six
(c) Five
(d) Four
(e) Two

Q65. What will be the possible weight of P?
(a) 53Kg
(b) 38Kg
(c) 37Kg
(d) 45Kg
(e) 55Kg

Q66. A 64 liters mixture contains milk and water in the ratio 3 : 1 respectively. If X liters of the mixture are taken out and replaced with 13 liters of water, then the quantity of water is 40% in the resultant mixture. Find X?
(a) 16
(b) 12
(c) 15
(d) 18
(e) 24

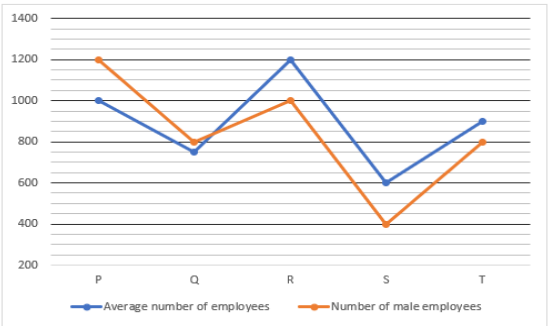
Q67. Rs.4800 is invested in scheme X for two years at simple interest of 20% p.a. The interest received from scheme X is reinvested for two years in scheme Y which offers compound interest of 10% p.a. Find the interest received from scheme Y.
(a) Rs.503.8
(b) Rs.384
(c) Rs.472.4
(d) Rs.403.2
(e) Rs.655.2

Q68. The ratio of speed of boat in still water to speed of stream is 6:1 respectively. If the upstream speed of boat 20 km/hr, then find the time taken by boat to cover 126 km in downstream?
(a) 4.2 hours
(b) 4.5 hours
(c) 5.5 hours
(d) 5 hours
(e) 6 hours

Q69. Train A can cross a pole in 16 seconds and can cross a 600 meters long platform in 36 seconds. Find time taken by train A to cross train B while running in same direction, if speed and length of train – B are 72 km/hr. and 640m respectively?
(a) 112 seconds
(b) 88 seconds
(c) 138 seconds
(d) 94 seconds
(e) 105 seconds

Q70. A and B started a business by investing of Rs. 32500 & Rs. 30000 respectively. After x months, B left the business. At the end of a year, the profit share of B is Rs 7200 out of total profit of Rs 22800. Find the value of x?
(a) 9
(b) 5
(c) 8
(d) 4
(e) 6

Directions (71-75) : The following line chart shows the average number of employees and number of male employees in five (P, Q, R, S & T) different companies. Study the given line graph carefully and answer the following questions.
Note: Total employees = Male employees + Female employees



Q71. Find the average number of female employees in companies Q & S together are how much more/less than average number of male employees in companies R & T together.
(a) 350
(b) 100
(c) 150
(d) 200
(e) 250

Q72. Find the respective ratio of male employees in companies Q & T together to the total number of female employees in companies P, Q and R together.
(a) 29: 27
(b) 27: 13
(c) 13: 27
(d) 16: 29
(e) 29: 16

Q73. If in company R, 25% of female and 50% male are graduates, then find the total number of employees who have done diploma. (Note: Employees are either graduates or diploma holders) .
(a) 1550
(b) 1750
(c) 1600
(d) 1800
(e) Can't be determined

Q74. If in another company Z, male employees are 40% of the total employees in company P and female employees are 60% of the male employees in company Q, then find total employees in company Z.
(a) 1140
(b) 1280
(c) 1360
(d) 1040
(e) 920

Q75. The difference between total male employees and total female employees is closest to square of which of the following natural number?
(a) 24
(b) 22
(c) 20
(d) 26
(e) 18

Q76. B alone can do a work in 15 days, while A, B & C together can do the same work in 5 days. If A alone takes 8 days less than C to complete the same work, then in how many days C can complete 75% of the same work?
(a) 15 days
(b) 20 days
(c) 24 days
(d) 18 days
(e) 16 days

Q77. The ratio of cost price to marked price of an article is 7: 10 and when allows 25% discount, then he earns Rs.40. If shopkeeper earns 30% profit on selling the same article, then find difference between amount of profit earned and amount of discount on selling the article.
(a) Rs.96
(b) Rs.72
(c) Rs.120
(d) Rs.168
(e) Rs.144

Q78. The average marks of 20 students of a class of is 45. If the marks of two more students Anil and Sunil are added, then the average increases by 3. If marks of Anil are 20 more than the marks of Sunil, then find the marks of Anil?
(a) 68
(b) 78
(c) 72
(d) 88
(e) 84

Q79. If diagonal of a square is $48\sqrt{2}$ cm and radius of a circle is $7/16^{th}$ of the side of square, then find the difference between area of the square and area of the circle (in cm square) ?
(a) 540
(b) 918
(c) 665
(d) 888
(e) 892

Q80. The ratio of present age of P is to that of Q is 6 : 5 and P is 12 years older to R. If R is three years younger to Q, then find the sum of age (in years) of Q and R eight years hence will be?
(a) 117
(b) 103
(c) 107
(d) 111
(e) 105

Directions (81-85) : What will come in the place of questions (?) mark in following number series.

Q81. 2, 96, 16, 768, 128, ?
(a) 5944
(b) 6244
(c) 6124
(d) 6144
(e) 6044

Q82. 3, ?, 127, 345, 731, 1333
(a) 29
(b) 27
(c) 31
(d) 30
(e) 26

Q83. 9, 82, 161, 244, ?, 430
(a) 313
(b) 335
(c) 329
(d) 331
(e) 333

Q84. 204, 210, 219, 233, ?, 286
(a) 258
(b) 254
(c) 218
(d) 220
(e) 276

Q85. 403, ?, 443, 478, 531, 608
(a) 415
(b) 432
(c) 417
(d) 420
(e) 408

Directions (86-90) : What approximate value should come in place of question mark (?) in following questions.

Q86. $64.98\%\text{ of }240 + 349.97 = (?)^3 - \sqrt[3]{215.99}$
(a) 8
(b) 6
(c) 10
(d) 2
(e) 4

Q87. $(4.01)^? \times \sqrt[4]{15.99} = \frac{(15.92)^2}{\sqrt[4]{16.01}}$
(a) 2
(b) 3
(c) 4
(d) 1
(e) 5

Q88. $7.99 \times (? + 59.97) = (7.99)^3$
(a) 6
(b) 12
(c) 4
(d) 8
(e) 16

Q89. ?% of 72.03 + 79.99 % of 125.01 = 118.09
(a) 18
(b) 10
(c) 15
(d) 25
(e) 35

Q90. ? % of 1050.03 + 363.99 = $(27.97)^2$
(a) 60
(b) 20
(c) 50
(d) 30
(e) 40

Directions (91-95) : Read the following information carefully and answer the questions given below.
There are 350 people in a group who like three (kiwi, grapes & apple) different types of fruits and 81 people like kiwi. The ratio of people who like only kiwi to only grapes is 2:5 and total people like only apple is 20% more than that people who like of only grapes. Total people like only kiwi and grape together are 15 and people like all the type of fruits is $1/6^{th}$ of people like only apples. Ratio of people like only kiwi & grapes together, only grapes & apple together to only apple & kiwi together is 5:3:2 respectively.

Q91. Find the number of people who like at least two types of fruits.
(a) 50
(b) 40
(c) 55
(d) 56
(e) 60

Q92. Find the number of people who doesn't like any fruits.
(a) 25
(b) 20
(c) 50
(d) 40
(e) 60

Q93. Number of people who like only grapes & apple together is what percentage number of people who like only kiwi?
(a) 22.5%
(b) 12.5%
(c) 18.5%
(d) 24.5%
(e) 16.5%

Q94. Find the ratio between number of people who like only kiwi to that of only grapes & kiwi together.
(a) 4:3
(b) 8:5
(c) 5:3
(d) 8:3
(e) None of these

Q95. Find the difference between number of people who like grapes and apples.
(a) 10
(b) 11
(c) 9
(d) 12
(e) 14

Directions (96-100) : Read the table carefully and answer the question given below. The table given below shows the ratio of laptops to watches sold by five different shops (A, B, C, D & E) and the difference between the laptop and watches sold by each shop.

Shops	Laptops: watches	Difference
A	5:8	30
B	2:1	25
C	4:3	26
D	3:5	12
E	7:3	20

Q96. Find the average number of laptops sold by B, A and E.
(a) 45
(b) 48
(c) 46
(d) 49
(e) 42

Q97. The number of watches sold by A and B together are how many more or less than number of the laptops sold by D and A together.
(a) 37
(b) 30
(c) 36
(d) 39
(e) 32

Q98. Find the ratio of the number of laptops sold by C and the average number of watches sold by C and D
(a) 9:17
(b) 52:27
(c) 7:6
(d) 18:19
(e) 17:12

Q99. The number of laptops sold by F is 20% more than the laptops sold by E and the ratio of laptops to watches sold by F is 2:1. If the difference between laptops and watches sold by F is N, then find the value of N^3.
(a) 9261
(b) 9108
(c) 9976
(d) 8999
(e) 9972

Q100. Find the difference between the maximum number of laptops sold and the minimum number of watches sold by all the given shops.
(a) 98
(b) 108
(c) 76
(d) 89
(e) 72

Solutions

S1. Ans. (d)
Sol. The error is in part (D) .
Explanation:
When two or more nouns refer to the same person or thing, and they are connected by "and," "as well as," "along with," or similar conjunctions, we use the article only before the first noun. The subsequent nouns do not require an article.
In the given sentence, the friend is described as being both a doctor and a musician. Since both "doctor" and "musician" refer to the same person (the friend) , we only need to use the article "a" before the first noun, which is "doctor." Therefore, the correct sentence would be: "Yesterday I met my friend who is now a doctor and musician."
Hence, the correct sentence formed will be "Yesterday I met my friend who is now a doctor and musician"

S2. Ans. (c)
Sol. The error in part (C) of the sentence is related to the tense inconsistency.
Let's break down the grammatical rule:
In the given sentence, the verb tense used is the present perfect continuous tense, which indicates an action that started in the past, continues in the present, and may continue into the future.
The correct form for the verb in this tense consists of the present perfect tense of "have" (has/have) followed by the auxiliary verb "been" and the present participle form (-ing form) of the main verb.
In the original sentence, the verb "lives" is in the simple present tense, which does not match the tense of the rest of the sentence. To make the verb tense consistent, we need to use the present perfect continuous form.
The corrected sentence would be: "She is fond of hilly food as she has been living in hilly areas since her childhood."
By using "has been living," we indicate that the action of living in hilly areas started in the past, has continued until the present, and may still be ongoing.

S3. Ans. (a)
Sol. The error is in part (A) of the sentence. The word "of" should be removed after "Despite." The correct form is "Despite several disputes." Therefore, the answer is (a) A.
Explanation:
The word "despite" is a preposition, and it is used to introduce a contrast or opposition between two things. It is followed by a noun or a pronoun, but it does not require the preposition "of" after it. So, in this case, we should remove the "of" after "Despite."
Corrected sentence: "Despite several disputes, the couple decided to live together for the rest of their lives."

S4. Ans. (d)
Sol. The error is in part (D) of the sentence. The verb form "will decline" should be changed to "decline." The corrected sentence would be: "The university will conduct exams after COVID-19 cases decline." Therefore, the answer is (d) D.
Explanation:
The sentence is discussing a future event (the university conducting exams) that is dependent on the occurrence of another event (COVID-19 cases declining) . In such cases, **we use the present tense after "after" or other time conjunctions, even if the main clause is in the future tense.**
Using "will decline" creates an unnecessary repetition of the future tense. Instead, we simply use the base form of the verb "decline" to indicate the expected action in the future.
Corrected sentence**: "The university will conduct exams after COVID-19 cases decline."**

S5. Ans. (d)
Sol. The error is in part (D) of the sentence. **"economy" should be changed to "economies" to match the plural form**.
The corrected sentence would be: **"The G20 was created in response to the financial crises that arose in a number of emerging economies."** Therefore, the answer is (d) D.
Explanation:
The phrase "a number of" is followed by a plural noun. In this case, "economies" should be used instead of "economy" to match the plural form. This is because the sentence is referring to multiple emerging economies that experienced financial crises.
Corrected sentence: "The G20 was created in response to the financial crises that arose in a number of emerging economies."

S6. Ans. (c)
Sol. To validate the answer, refer to the line of the first paragraph that mentions, "Taxes are imposed by government for the use and service of the State."

S7. Ans. (d)
Sol. To validate the answer, refer to the line of the first paragraph which mentions, "Taxes provide revenue to the state, and is therefore one of the most significant aspects of any system of administration by any form of government."

S8. Ans. (b)
Sol. The correct choice can be inferred from the second paragraph which mentions, "The income tax as we know today was first introduced in India in 1860 by the British. It was introduced to compensate for the losses sustained by the government due to the rebellion of 1857. "

S9. Ans. (e)
Sol. Both option (b) and (c) are correct. Refer to lines which mentions, "In addition to financing a government's operations, progressive income taxation is designed to distribute wealth creation more evenly in a population and to serve as buffer in case of fluctuations in the economic cycle. "

S10. Ans. (a)
Sol. All the given statements answer the question and can be inferred from the last paragraph of the passage.
For (i) : The current Income Tax Act has been adopted in 1961, and bought into force with effect from April 1, 1962.
For (ii) : The Income Tax Act was passed in India in 1886, and there have been **constant** revisions and refinements in the Act since then.
For (iii) : After the first World War, a new Income Tax Act was passed, in 1918, again to counter the residual effects of economic devastation caused by the war.

S11. Ans. (d)
Sol. The correct word for the given blank is 'modified'.
(a) reset: set again or differently.
(b) forbade: refuse to allow (something) .
(c) accelerated: (especially of a vehicle) begin to move more quickly.
(d) modified: make partial or minor changes to (something) .
(e) subsided: become less intense, violent, or severe.

S12. Ans. (a)
Sol. 'Persisted' is a synonym of 'sustained'.
(a) persisted: continue to exist; be prolonged.
(b) affiliated: officially attached or connected to an organization
(c) rendered: provide or give (a service, help, etc.) .
(d) portend: be a sign or warning that (something, especially something momentous or calamitous) is likely to happen.
(e) intermittent: occurring at irregular intervals; not continuous or steady.

S13. Ans. (b)
Sol. Option (b) is incorrect.
For option (a) , refer to the lines, "Income tax is defined as the annual charge levied on both earned income (wages, salaries or commission) and unearned income like dividends, interest or rent."
For option (b) , refer to the lines, "The Central Board of Revenue bifurcated and created a separate Board for Direct Taxes called as the Central Board of Direct Taxes under the aegis of Central Board of Revenue Act, 1963."
For option (c) , refer to the lines, "The income tax as we know today was first introduced in India in 1860 by the British"
For option (d) , refer to the lines, "The word 'tax' is derived from the Latin word taxare or taxo. It means 'to assess the worth of something'.

S14. Ans. (a)
Sol. 'Fitful' is an antonym of 'constant'.
(a) fitful: active or occurring spasmodically or intermittently; not regular or steady.
(b) perpetual: never ending or changing.
(c) prevalent: widespread in a particular area or at a particular time.
(d) bombast: high-sounding language with little meaning, used to impress people.
(e) entrust: assign the responsibility for doing something to (someone) .

S15. Ans (d)
Sol. the incorrect word is 'strom', which should be 'storm'.

S16. Ans (a)
Sol. The incorrect word is 'plosible', which should be, 'plausible'.
Plausible: seeming reasonable or probable.

S17. Ans (d)
Sol. The incorrect word is 'resession', which should be, 'recession'.

S18. Ans (b)
Sol. 'Dextrous' is incorrectly spelt here and the correct word is 'dexterous'.
Word: dexterous (also spelled as "dextrous")
Part of Speech: Adjective
Definition:
The word "dexterous" refers to someone who is skilful, adept, or clever in performing tasks with their hands or in dealing with situations requiring physical or mental coordination. It implies a high level of manual or mental skill, agility, or deftness.
Usage:
- The dexterous pianist effortlessly played a complex piece of music.
- She was dexterous with a needle, creating intricate embroidery patterns.

Synonyms:
skillful, adept, deft, adroit, nimble, clever, proficient, capable, masterful, talented, skilled, able
Antonyms:
clumsy, awkward, inept, unskillful, ungainly, uncoordinated, unskilled, inelegant, bungling, ineffectual

S19. Ans (b)
Sol. 'empact' is incorrectly spelt here and the correct word is 'impact'.
Word: impact
Part of Speech: Noun or Verb
Definition:
As a Noun:
Impact refers to the forceful contact or collision between two objects or surfaces.
In a broader sense, it denotes a strong effect or influence that one thing has on another, causing significant change or consequences.

As a Verb:
Impact means to have a strong effect or influence on something or someone, causing notable changes or outcomes.
Usage:
As a Noun:
The impact of the car crash was severe, causing extensive damage to both vehicles.
The impact of climate change on the environment is a growing concern worldwide.
As a Verb:
The new policy is expected to impact the company's profitability in the coming year.
The teacher's motivational speech had a profound impact on the students, inspiring them to work harder.
Synonyms (Noun) :
effect, influence, consequence, result, outcome, repercussion, aftermath, implication
Synonyms (Verb) :
affect, influence, affect, shape, alter, change, modify
Antonyms:
The antonyms for the noun form "impact" depend on the context in which it is used, as it can have opposite effects or consequences. For the verb form, antonyms would include "ineffective," "fail," "neglect," "ignore," etc.

S20. Ans (d)
Sol. The sentence talks about the role of advertising historically. Thus, the action advertising played would be in past tense, and consequently, option (d) would be correct. "Has been playing" cannot be used, as "throughout history" cannot include the present, and any continuous tense action includes the present.

S21. Ans (c)
Sol. To describe the verb "throw", an adverb has to be used. Thus, "casual" must be changed to "casually". Furthermore, with "be", a verb of the perfect tense should be used. So, "throw" must be replaced with "thrown". Thus, option (c) is the correct answer.

S22. Ans (b)
Sol. The given sentence contains is erroneous as "by large" is incorrectly used in place of "at large". By large" is not a good collocation and carries no meaning, and thus makes the sentence incoherent. "At large", however, defined as "as a whole; in general," completes the context of the sentence and is thus the required correction. No other errors exist in the sentence and thus, option (b) becomes the correct replacement for the highlighted part.

S23. Ans (e)
Sol. No improvement is needed in the sentence as it is already grammatically correct, and thus, option (e) is the correct answer.

S24. Ans (b)
Sol. "Having being" should be followed with another verb in its first form. As that is not the case, "having been" should be used instead, as "had being a standstill" and "had being at a standstill" are grammatically incorrect, and "had been" indicates that the action occurred sometime in the past, while the sentence is in the present tense and so is the action.

S25. Ans. (e)
Sol. The concerned sentence is mentioning that medicinal plants have been used in healthcare for a very long time ago. Therefore, the correct word for the blank is 'immemorial'.
(a) affirming: state emphatically or publicly.
(b) scramble: move hurriedly or clumsily from or into a particular place or position.
(c) conservative: averse to change or innovation and holding traditional values.
(d) merging: combine or cause to combine to form a single entity.
(e) immemorial: originating in the distant past; very old.

S26. Ans. (a)
Sol. The sentence is mentioning that many studies have been carried out globally to verify their effectiveness. Therefore, the correct word for the given blank is 'efficacy'.
(a) efficacy: the ability to produce a desired or intended result.
(b) obedience: compliance with an order, request, or law or submission to another's authority.
(c) extension: a part that is added to something to enlarge or prolong it.
(d) alliance: a union or association formed for mutual benefit, especially between countries or organizations.
(e) heinous: (of a person or wrongful act, especially a crime) utterly odious or wicked.

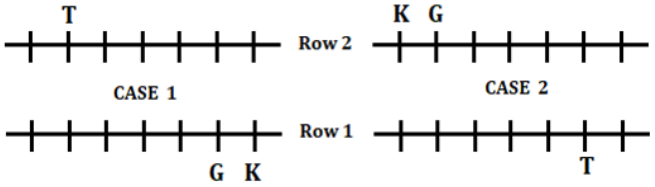
S27. Ans. (c)
Sol. The sentence is mentioning that until now the emphasis on the use of medicinal plants had been placed on the treatment. Therefore, the correct word for the blank is 'hitherto'.
(a) deceive: deliberately cause (someone) to believe something that is not true, especially for personal gain.
(b) coward: a person who is contemptibly lacking in the courage to do or endure dangerous or unpleasant things.
(c) hitherto: until now or until the point in time under discussion.
(d) rebel: a person who resists authority, control, or convention.
(e) assign: allocate (a job or duty) .

S28. Ans. (b)
Sol. The concerned sentence is mentioning that a Group defined Traditional Medicine as the sum total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental, or social imbalance. Therefore, the correct word for the blank is 'explicable'.
(a) radical: relating to or affecting the fundamental nature of something; far-reaching or thorough.
(b) explicable: able to be accounted for or understood.
(c) moderate: average in amount, intensity, quality, or degree.
(d) amend: improve the texture or fertility of (soil) .
(e) visual: related to seeing or sight.

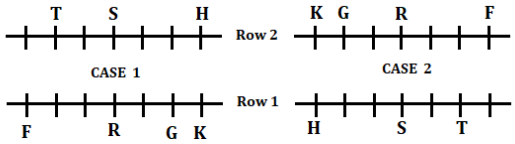
S29. Ans. (d)
Sol. The concerned sentence is mentioning that a Group defined Traditional Medicine as the sum total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental, or social imbalance. Therefore, the correct word for the blank is 'elimination'.
(a) clinch: confirm or settle (a contract or bargain) .
(b) overlook: fail to notice.
(c) provoke: stimulate or give rise to (a reaction or emotion, typically a strong or unwelcome one) in someone.
(d) elimination: the complete removal or destruction of something.
(e) emerge: move out of or away from something and become visible.

S30. Ans. (a)
Sol. The sentence is mentioning that relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing. Therefore, the correct word for the blank is 'verbally'.
(a) verbally: by means of words.
(b) incumbency: the holding of an office or the period during which one is held.
(c) instantly: at once; immediately.
(d) dubiously: with hesitation or doubt.
(e) allegedly: used to convey that something is claimed to be the case or have taken place, although there is no proof.

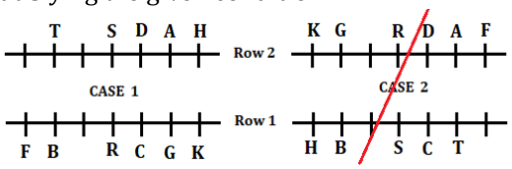
S31. Ans. (d)
Sol.
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Two possible cases will come out here as K can sit either in row 1 or in row 2.



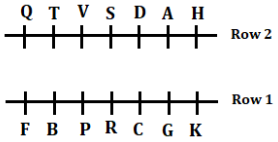
Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. Here, we get the definite positions of all the persons in both the cases.



D sits just right of A but not in row 1. B sits third to the left of C but does not face G. Case 2 will eliminate here for not satisfying the given condition.

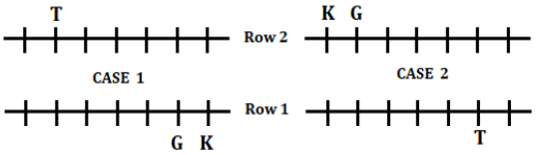


P faces V who sits in the same row of Q. It means, P will sit in row 1, Q and V will sit in row 2. Hence, the final arrangement is:

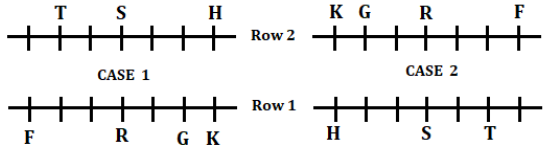


K sits 4th to the right of P.

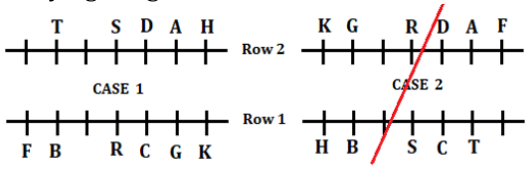
S32. Ans. (a)
Sol.
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Two possible cases will come out here as K can sit either in row 1 or in row 2.



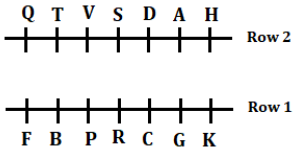
Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. Here, we get the definite positions of all the persons in both the cases.



D sits just right of A but not in row 1. B sits third to the left of C but does not face G. Case 2 will eliminate here for not satisfying the given condition.



P faces V who sits in the same row of Q. It means, P will sit in row 1, Q and V will sit in row 2. Hence, the final arrangement is:

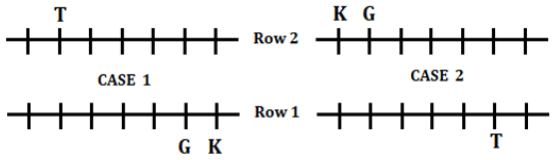


V sits 3rd to the right of A

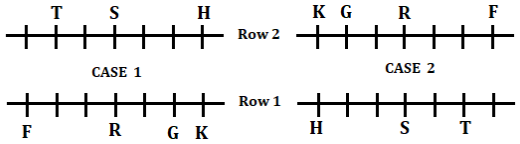
S33. Ans. (e)

Sol.

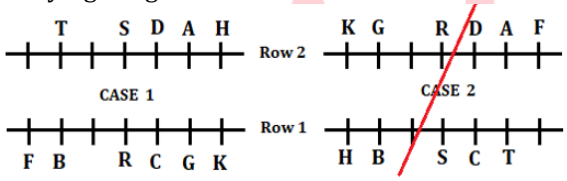
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Two possible cases will come out here as K can sit either in row 1 or in row 2.



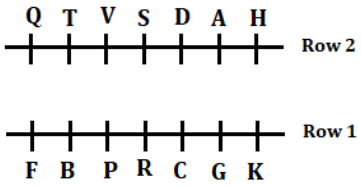
Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. Here, we get the definite positions of all the persons in both the cases.



D sits just right of A but not in row 1. B sits third to the left of C but does not face G. Case 2 will eliminate here for not satisfying the given condition.



P faces V who sits in the same row of Q. It means, P will sit in row 1, Q and V will sit in row 2. Hence, the final arrangement is:

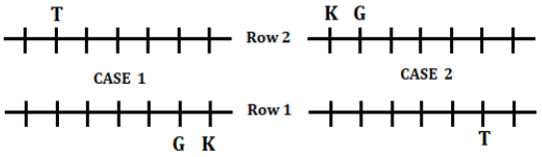


Except R, all sits at each end of both rows.

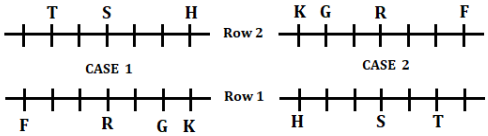
S34. Ans. (c)

Sol.

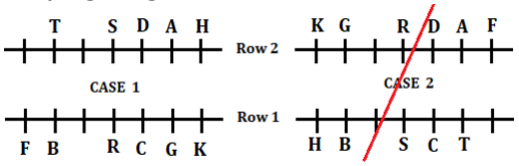
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Two possible cases will come out here as K can sit either in row 1 or in row 2.



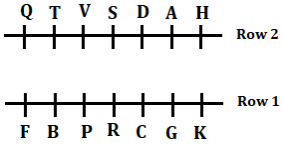
Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. Here, we get the definite positions of all the persons in both the cases.



D sits just right of A but not in row 1. B sits third to the left of C but does not face G. Case 2 will eliminate here for not satisfying the given condition.



P faces V who sits in the same row of Q. It means, P will sit in row 1, Q and V will sit in row 2. Hence, the final arrangement is:

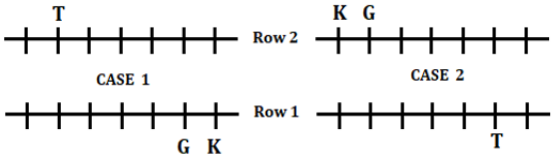


T faces B

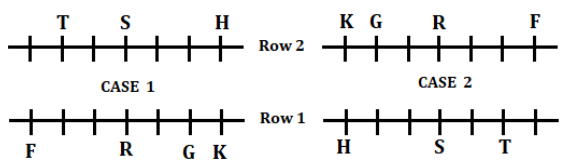
S35. Ans. (c)

Sol.

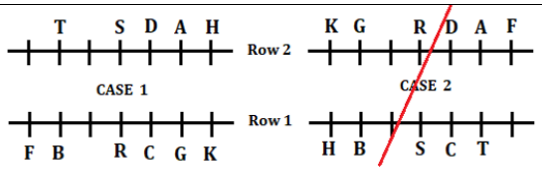
K sits just right of G and no one sits to the right of K. Three persons sit between T and the one who faces G. Two possible cases will come out here as K can sit either in row 1 or in row 2.



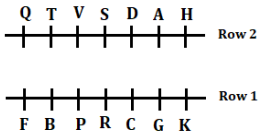
Odd number of persons sit between T and S who faces R. Two persons sit between R and F who sits diagonally opposite to H. Here, we get the definite positions of all the persons in both the cases.



D sits just right of A but not in row 1. B sits third to the left of C but does not face G. Case 2 will eliminate here for not satisfying the given condition.



P faces V who sits in the same row of Q. It means, P will sit in row 1, Q and V will sit in row 2. Hence, the final arrangement is:



S and R sit in the exact middle of row 2 and row 1 respectively.

S36. Ans. (d)
Sol. I. S > C (False) II. W < B (False)

S37. Ans. (e)
Sol. I. F > T (True) II. M ≥ E (True)

S38. Ans. (b)
Sol. I. X ≥ F (True) II. D = Q (False)

S39. Ans. (a)
Sol. I. F < S (False) II. E > L (True)

S40. Ans. (b)
Sol.
The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. four possible cases will arise here:
Case 1 – R > __ > __ > A > (plum)
Case 2 – _ > R > _ > (plum) > A
Case 3 – A > (plum) > _ > R > __
Case 4 – (plum) > A > __ > __ > R
D is older to J but younger to the one who likes apple. D and J do not like plum. Case 2 will eliminate here for not satisfying the given condition.
Case 1 – R (apple) > D > J > A > (plum)
~~**Case 2 –** _ > R _ > (plum) > A~~
Case 3 – A (apple) > (plum) > D > R > J
Case 4 – (plum) > A (apple) > D > J > R
One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. Here, we get that the 5th child is H and remaining fruit is orange. Also, case 3 and case 4 will eliminate here.
Case 1 – R (apple) > D (kiwi/pear) > J (orange) > A (kiwi/pear) > H (plum)
~~**Case 3 –** A (apple) > H (plum) > D (kiwi/pear) > R (orange) > J (kiwi/pear)~~
~~**Case 4 –** H (plum) > A (apple) > D (kiwi/pear) > J (orange) > R (kiwi/pear)~~
The child who likes orange is not younger to the child who likes pear. After this, the final arrangement is:
R (apple) > D (kiwi) > J (orange) > A (pear) > H (plum)
J likes orange.

S41. Ans. (c)
Sol. The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. four possible cases will arise here:
Case 1 – R > __ > __ > A > (plum)
Case 2 – _ > R > _ > (plum) > A
Case 3 – A > (plum) > _ > R > __
Case 4 – (plum) > A > __ > __ > R
D is older to J but younger to the one who likes apple. D and J do not like plum. Case 2 will eliminate here for not satisfying the given condition.
Case 1 – R (apple) > D > J > A > (plum)
~~**Case 2 –** _ > R _ > (plum) > A~~
Case 3 – A (apple) > (plum) > D > R > J
Case 4 – (plum) > A (apple) > D > J > R
One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. Here, we get that the 5th child is H and remaining fruit is orange. Also, case 3 and case 4 will eliminate here.
Case 1 – R (apple) > D (kiwi/pear) > J (orange) > A (kiwi/pear) > H (plum)
~~**Case 3 –** A (apple) > H (plum) > D (kiwi/pear) > R (orange) > J (kiwi/pear)~~
~~**Case 4 –** H (plum) > A (apple) > D (kiwi/pear) > J (orange) > R (kiwi/pear)~~
The child who likes orange is not younger to the child who likes pear. After this, the final arrangement is:
R (apple) > D (kiwi) > J (orange) > A (pear) > H (plum)
D likes kiwi.

S42. Ans. (b)
Sol. The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. four possible cases will arise here:
Case 1 – R > __ > __ > A > (plum)
Case 2 – _ > R > _ > (plum) > A
Case 3 – A > (plum) > _ > R > __
Case 4 – (plum) > A > __ > __ > R
D is older to J but younger to the one who likes apple. D and J do not like plum. Case 2 will eliminate here for not satisfying the given condition.
Case 1 – R (apple) > D > J > A > (plum)
~~**Case 2 –** _ > R _ > (plum) > A~~
Case 3 – A (apple) > (plum) > D > R > J
Case 4 – (plum) > A (apple) > D > J > R
One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. Here, we get that the 5th child is H and remaining fruit is orange. Also, case 3 and case 4 will eliminate here.
Case 1 – R (apple) > D (kiwi/pear) > J (orange) > A (kiwi/pear) > H (plum)
~~**Case 3 –** A (apple) > H (plum) > D (kiwi/pear) > R (orange) > J (kiwi/pear)~~
~~**Case 4 –** H (plum) > A (apple) > D (kiwi/pear) > J (orange) > R (kiwi/pear)~~
The child who likes orange is not younger to the child who likes pear. After this, the final arrangement is:
R (apple) > D (kiwi) > J (orange) > A (pear) > H (plum)
No one younger to H

S43. Ans. (c)
Sol. The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. four possible cases will arise here:
Case 1 – R > ___ > ___ > A > (plum)
Case 2 – _ > R > _ > (plum) > A
Case 3 – A > (plum) > _ > R > ___
Case 4 – (plum) > A > ___ > ___ > R
D is older to J but younger to the one who likes apple. D and J do not like plum. Case 2 will eliminate here for not satisfying the given condition.
Case 1 – R (apple) > D > J > A > (plum)
~~**Case 2 –** _ > R _ > (plum) > A~~
Case 3 – A (apple) > (plum) > D > R > J
Case 4 – (plum) > A (apple) > D > J > R
One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. Here, we get that the 5th child is H and remaining fruit is orange. Also, case 3 and case 4 will eliminate here.
Case 1 – R (apple) > D (kiwi/pear) > J (orange) > A (kiwi/pear) > H (plum)

~~**Case 3 –** A (apple) > H (plum) > D (kiwi/pear) > R (orange) > J (kiwi/pear)~~

~~**Case 4 –** H (plum) > A (apple) > D (kiwi/pear) > J (orange) > R (kiwi/pear)~~
The child who likes orange is not younger to the child who likes pear. After this, the final arrangement is:
R (apple) > D (kiwi) > J (orange) > A (pear) > H (plum)
All are correct

S44. Ans. (b)
Sol. The number of children older to R is same as the number of children younger to the one who likes plum. R does not like plum. Two children are in between R and A. four possible cases will arise here:
Case 1 – R > ___ > ___ > A > (plum)
Case 2 – _ > R > _ > (plum) > A
Case 3 – A > (plum) > _ > R > ___
Case 4 – (plum) > A > ___ > ___ > R
D is older to J but younger to the one who likes apple. D and J do not like plum. Case 2 will eliminate here for not satisfying the given condition.
Case 1 – R (apple) > D > J > A > (plum)
~~**Case 2 –** _ > R _ > (plum) > A~~
Case 3 – A (apple) > (plum) > D > R > J
Case 4 – (plum) > A (apple) > D > J > R
One child is in between the children who likes kiwi and pear. H does not like orange but he is younger to the one who likes kiwi. Here, we get that the 5th child is H and remaining fruit is orange. Also, case 3 and case 4 will eliminate here.
Case 1 – R (apple) > D (kiwi/pear) > J (orange) > A (kiwi/pear) > H (plum)

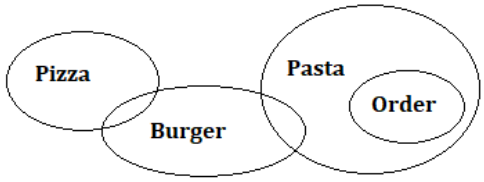
~~**Case 3 –** A (apple) > H (plum) > D (kiwi/pear) > R (orange) > J (kiwi/pear)~~

~~**Case 4 –** H (plum) > A (apple) > D (kiwi/pear) > J (orange) > R (kiwi/pear)~~
The child who likes orange is not younger to the child who likes pear. After this, the final arrangement is:
R (apple) > D (kiwi) > J (orange) > A (pear) > H (plum)
Same number of persons are younger and older to J.

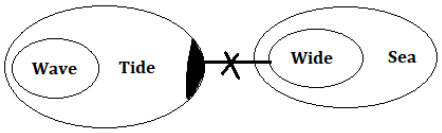
S45. Ans. (e)
Sol. New number = 423923; Required sum = 3+9+3 = 15

S46. Ans. (b)
Sol. New word = VHFWLRQDO, letters at 2nd, 3rd, 6th and 8th places = H, F, R, D
No meaningful word can be formed with these given letters.

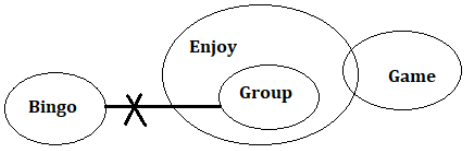
S47. Ans. (e)
Sol. I. Follows – because the part of pasta which is order can never relate with burger.
II. Follows – because pizza and pasta are not directly related with each other, so, their possible relation will follow.



S48. Ans. (d)
Sol. I. Not follows – definite relation between them will not follow because they are not directly related.
II. Not follow – because no direct relation between Wave and Wide is given. Hence, the definite relation will not follow.



S49. Ans. (b)
Sol.
I. Not follows – because definite relation between them will not follow as they are not directly related.
II. Follows – because according to the given relation, only some part of enjoy can be game. Hence, the remaining part cannot relate with game.



S50. Ans. (d)
Sol. New word = UEEUIOO

S51. Ans. (d)
Sol. From the given statements, Box T is placed three places above to the box which transfer to Calcutta. Here we get 2 possible cases. Box Q is transfer to Delhi and placed two places above the box R. Box R is not transfer to Calcutta.

Case 1		Case 2	
Box	Cities	Box	Cities
T		Q	Delhi
		T	
Q	Delhi	R	
	Calcutta		
R			Calcutta

Box W and box Q are not placed adjacent to each other. Here case 1 is ruled out now.

~~Case 1~~		Case 2	
~~Box~~	~~Cities~~	Box	Cities
~~T~~		Q	Delhi
		T	
~~Q~~	~~Delhi~~	R	
	~~Calcutta~~	W/E	
~~R~~		W/E	Calcutta

The box transfer to Bangalore is placed just above the box which is transfer to Mumbai. Neither box W nor box E is transfer to Mumbai. Box E is not transfer to Panji. So, the final arrangement is-

Box	Cities
Q	Delhi
T	Bangalore
R	Mumbai
W	Panji
E	Calcutta

Four boxes are placed above the box E

S52. Ans. (a)

Sol. From the given statements, Box T is placed three places above to the box which transfer to Calcutta. Here we get 2 possible cases. Box Q is transfer to Delhi and placed two places above the box R. Box R is not transfer to Calcutta.

Case 1		Case 2	
Box	Cities	Box	Cities
T		Q	Delhi
		T	
Q	Delhi	R	
	Calcutta		
R			Calcutta

Box W and box Q are not placed adjacent to each other. Here case 1 is ruled out now.

~~Case 1~~		Case 2	
~~Box~~	~~Cities~~	Box	Cities
~~T~~		Q	Delhi
		T	
~~Q~~	~~Delhi~~	R	
	~~Calcutta~~	W/E	
~~R~~		W/E	Calcutta

The box transfer to Bangalore is placed just above the box which is transfer to Mumbai. Neither box W nor box E is transfer to Mumbai. Box E is not transfer to Panji. So, the final arrangement is-

Box	Cities
Q	Delhi
T	Bangalore
R	Mumbai
W	Panji
E	Calcutta

If box Q is related to Bangalore and box T is related to Mumbai in the same way box R is related to Panji.

S53. Ans. (e)

Sol. From the given statements, Box T is placed three places above to the box which transfer to Calcutta. Here we get 2 possible cases. Box Q is transfer to Delhi and placed two places above the box R. Box R is not transfer to Calcutta.

Case 1		Case 2	
Box	Cities	Box	Cities
T		Q	Delhi
		T	
Q	Delhi	R	
	Calcutta		
R			Calcutta

Box W and box Q are not placed adjacent to each other. Here case 1 is ruled out now.

~~Case 1~~		Case 2	
~~Box~~	~~Cities~~	Box	Cities
~~T~~		Q	Delhi
		T	
~~Q~~	~~Delhi~~	R	
	~~Calcutta~~	W/E	
~~R~~		W/E	Calcutta

The box transfer to Bangalore is placed just above the box which is transfer to Mumbai. Neither box W nor box E is transfer to Mumbai. Box E is not transfer to Panji. So, the final arrangement is-

Box	Cities
Q	Delhi
T	Bangalore
R	Mumbai
W	Panji
E	Calcutta

Both T and W boxes are placed at even position

S54. Ans. (c)

Sol. From the given statements, Box T is placed three places above to the box which transfer to Calcutta. Here we get 2 possible cases. Box Q is transfer to Delhi and placed two places above the box R. Box R is not transfer to Calcutta.

Case 1		Case 2	
Box	Cities	Box	Cities
T		Q	Delhi
		T	
Q	Delhi	R	
	Calcutta		
R			Calcutta

Box W and box Q are not placed adjacent to each other. Here case 1 is ruled out now.

~~Case 1~~		Case 2	
~~Box~~	~~Cities~~	Box	Cities
~~T~~		Q	Delhi
		T	
~~Q~~	~~Delhi~~	R	
	~~Calcutta~~	W/E	
~~R~~		W/E	Calcutta

The box transfer to Bangalore is placed just above the box which is transfer to Mumbai. Neither box W nor box E is transfer to Mumbai. Box E is not transfer to Panji. So, the final arrangement is-

Box	Cities
Q	Delhi
T	Bangalore
R	Mumbai
W	Panji
E	Calcutta

Only option (c) is correct

S55. Ans. (b)
Sol. Final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Explanation:
Clue:
Four persons attended the workshop between P and R who attended the workshop on 5th.
Inference:
From the above clue we get three possible cases.

Months	Dates	Persons Case 1	Persons Case 2	Persons Case 3
February	5	R		
	23			P
April	5		R	
	23			
August	5			
	23	P		
October	5			R
	23		P	

Clues:
Number of persons attended after P is same as the number of persons attended before S. T attended just after S.
Inference:
Case 3 is cancelled here because there is no place for S as per the conditions.

Months	Dates	Persons Case 1	Persons Case 2	~~Persons Case 3~~
February	5	R	S	
	23		T	~~P~~
April	5	S	R	
	23	T		
August	5			
	23	P		
October	5			~~R~~
	23		P	

Clues:
U attended the workshop in October. V attended the workshop just after U.
Inference:
Case 2 is ruled out here because there is no place left for V.

Months	Dates	Persons Case 1	~~Persons Case 2~~
February	5	R	~~S~~
	23		~~T~~
April	5	S	~~R~~
	23	T	
August	5		
	23	P	
October	5	U	~~U~~
	23	V	~~P~~

Clues: W didn't attend the workshop before T.
Inference:
So, W will attend after T on 5th august and Q is one of the persons so the final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Q attended the workshop on 23rd February.

S56. Ans. (e)
Sol. Final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Explanation:
Clue:
Four persons attended the workshop between P and R who attended the workshop on 5th.
Inference:
From the above clue we get three possible cases.

Months	Dates	Persons Case 1	Persons Case 2	Persons Case 3
February	5	R		
	23			P
April	5		R	
	23			
August	5			
	23	P		
October	5			R
	23		P	

Clues: Number of persons attended after P is same as the number of persons attended before S. T attended just after S.
Inference:
Case 3 is cancelled here because there is no place for S as per the conditions.

Months	Dates	Persons Case 1	Persons Case 2	~~Persons Case 3~~
February	5	R	S	
	23		T	~~P~~
April	5	S	R	
	23	T		
August	5			
	23	P		
October	5			~~R~~
	23		P	

Clues: U attended the workshop in October. V attended the workshop just after U.
Inference: Case 2 is ruled out here because there is no place left for V.

Months	Dates	Persons	~~Persons~~
		Case 1	~~Case 2~~
February	5	R	~~S~~
	23		~~T~~
April	5	S	~~R~~
	23	T	
August	5		
	23	P	
October	5	U	~~U~~
	23	V	~~P~~

Clues: W didn't attend the workshop before T.
Inference: So, W will attend after T on 5th august and Q is one of the persons so the final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

W attended the workshop in August.

S57. Ans. (b)
Sol. Final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Explanation:
Clue:
Four persons attended the workshop between P and R who attended the workshop on 5th.
Inference:
From the above clue we get three possible cases.

Months	Dates	Persons	Persons	Persons
		Case 1	Case 2	Case 3
February	5	R		
	23			P
April	5		R	
	23			
August	5			
	23	P		
October	5			R
	23		P	

Clues: Number of persons attended after P is same as the number of persons attended before S. T attended just after S.
Inference: Case 3 is cancelled here because there is no place for S as per the conditions.

Months	Dates	Persons	Persons	~~Persons~~
		Case 1	Case 2	~~Case 3~~
February	5	R	S	
	23		T	~~P~~
April	5	S	R	
	23	T		
August	5			
	23	P		
October	5			~~R~~
	23		P	

Clues: U attended the workshop in October. V attended the workshop just after U.
Inference: Case 2 is ruled out here because there is no place left for V.

Months	Dates	Persons	~~Persons~~
		Case 1	~~Case 2~~
February	5	R	~~S~~
	23		~~T~~
April	5	S	~~R~~
	23	T	
August	5		
	23	P	
October	5	U	~~U~~
	23	V	~~P~~

Clues: W didn't attend the workshop before T.
Inference: So, W will attend after T on 5th august and Q is one of the persons so the final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

One person attended the workshop between U and W.

S58. Ans. (a)
Sol. Final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Explanation:
Clue: Four persons attended the workshop between P and R who attended the workshop on 5th.
Inference: From the above clue we get three possible cases.

Months	Dates	Persons	Persons	Persons
		Case 1	Case 2	Case 3
February	5	R		
	23			P
April	5		R	
	23			
August	5			
	23	P		
October	5			R
	23		P	

Clues: Number of persons attended after P is same as the number of persons attended before S. T attended just after S.

Inference:

Case 3 is cancelled here because there is no place for S as per the conditions.

Months	Dates	Persons Case 1	Persons Case 2	~~Persons Case 3~~
February	5	R	S	
	23		T	~~P~~
April	5	S	R	
	23	T		
August	5			
	23	P		
October	5			~~R~~
	23		P	

Clues: U attended the workshop in October. V attended the workshop just after U.

Inference: Case 2 is ruled out here because there is no place left for V.

Months	Dates	Persons Case 1	~~Persons Case 2~~
February	5	R	~~S~~
	23		~~T~~
April	5	S	~~R~~
	23	T	
August	5		
	23	P	
October	5	U	~~U~~
	23	V	~~P~~

Clues: W didn't attend the workshop before T.

Inference:

So, W will attend after T on 5th august and Q is one of the persons so the final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

S and T attended the workshop in April.

S59. Ans. (d)

Sol. Final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

Explanation:

Clue: Four persons attended the workshop between P and R who attended the workshop on 5th.

Inference: From the above clue we get three possible cases.

Months	Dates	Persons Case 1	Persons Case 2	Persons Case 3
February	5	R		
	23			P
April	5		R	
	23			
August	5			
	23	P		
October	5			R
	23		P	

Clues: Number of persons attended after P is same as the number of persons attended before S. T attended just after S.

Inference: Case 3 is cancelled here because there is no place for S as per the conditions.

Months	Dates	Persons Case 1	Persons Case 2	~~Persons Case 3~~
February	5	R	S	
	23		T	~~P~~
April	5	S	R	
	23	T		
August	5			
	23	P		
October	5			~~R~~
	23		P	

Clues: U attended the workshop in October. V attended the workshop just after U.

Inference: Case 2 is ruled out here because there is no place left for V.

Months	Dates	Persons Case 1	~~Persons Case 2~~
February	5	R	~~S~~
	23		~~T~~
April	5	S	~~R~~
	23	T	
August	5		
	23	P	
October	5	U	~~U~~
	23	V	~~P~~

Clues: W didn't attend the workshop before T.

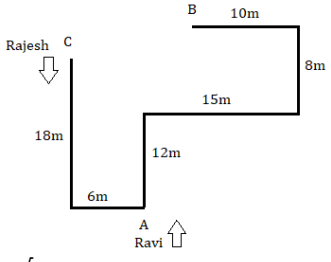
Inference: So, W will attend after T on 5th august and Q is one of the persons so the final arrangement:

Months	Dates	Persons
February	5	R
	23	Q
April	5	S
	23	T
August	5	W
	23	P
October	5	U
	23	V

S attended the workshop just after Q.

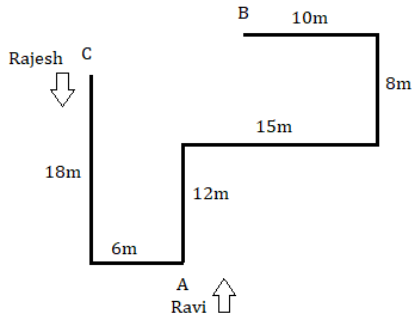
S60. Ans. (c)

Sol.



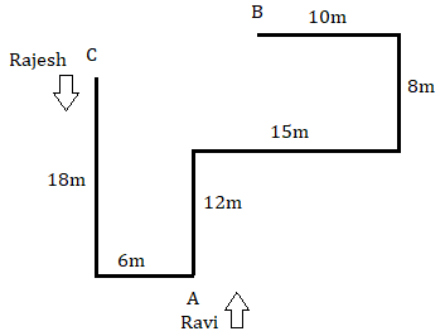
$5\sqrt{5}$m, south-west

S61. Ans. (d)
Sol.



North-west

S62. Ans. (c)
Sol.



2m, south

S63. Ans. (c)
Sol. Final arrangement:
R(51) > M > P > N > O(39) > Q > S(33)
Clues: P's weight is less than M's weight. Only two persons have more weight than P.
Inference:
We have the following arrangement:
M/ > M/ > P >>>>
Clues: Three persons have weight between M and Q. Weight of O is 6kg more than S's. N's weight is just more than O. S's weight is 33 Kg.
Inference: So, O's weight is 39Kg
__ > M > P > N > O(39) > Q > S(33)
Clues: R's weight is 12kg more than O's.
R(51) > M > P > N > O(39) > Q > S(33)
Inference: Thus, the final arrangement is:
R(51) > M > P > N > O(39) > Q > S(33)
M's weight must be 49Kg.
So, the sum will be
49 + 51=100Kg.

S64. Ans. (b)
Sol. Final arrangement:
R(51) > M > P > N > O(39) > Q > S(33)
Clues: P's weight is less than M's weight. Only two persons have more weight than P.
Inference:
We have the following arrangement:
M/ > M/ > P >>>>
Clues: Three persons have weight between M and Q. Weight of O is 6kg more than S's. N's weight is just more than O. S's weight is 33 Kg.
Inference: So, O's weight is 39Kg
__ > M > P > N > O(39) > Q > S(33)
Clues: R's weight is 12kg more than O's.
R(51) > M > P > N > O(39) > Q > S(33)
Inference: Thus, the final arrangement is:
R(51) > M > P > N > O(39) > Q > S(33)
Six persons have less weight than R.

S65. Ans. (d)
Sol. Final arrangement:
R(51) > M > P > N > O(39) > Q > S(33)
Clues: P's weight is less than M's weight. Only two persons have more weight than P.
Inference:
We have the following arrangement:
M/ > M/ > P >>>>
Clues: Three persons have weight between M and Q. Weight of O is 6kg more than S's. N's weight is just more than O. S's weight is 33 Kg.
Inference: So, O's weight is 39Kg
__ > M > P > N > O(39) > Q > S(33)
Clues: R's weight is 12kg more than O's.
R(51) > M > P > N > O(39) > Q > S(33)
Inference: Thus, the final arrangement is:
R(51) > M > P > N > O(39) > Q > S(33)
The possible weight of P is 45Kg.

S66. Ans (b)
Sol.

$$\text{Quantity of milk} = 64 \times \frac{3}{4} = 48\ kg$$
$$\text{Quantity of water} = 64 \times \frac{1}{4} = 16\ kg$$
ATQ,
$$\frac{48-\frac{3X}{4}}{16-\frac{X}{4}+13} = \frac{3}{2}$$
$$384 - 6X = 348 - 3X$$
$$3X = 36$$
$$X = 12$$

S67. Ans (d)
Sol.

$$\text{Interest received from scheme X} = \frac{4800\times2\times20}{100} = Rs.1920$$
$$\text{Equivalent interest \% of scheme Y} = 10 + 10 + \frac{10\times10}{100} = 21\%$$
$$\text{Interest received from scheme Y} = 1920 \times \frac{21}{100} = \text{Rs.}403.2$$

S68. Ans (b)
Sol.
Let speed of boat in still water and speed of stream be 6x and 1x respectively.
ATQ.

6x-1x=20
5x=20
x=4
Required time = 126/(7×4) =4.5 hours

S69. Ans.(a)
Sol.
Let length and speed of train A be l meters and V m/sec respectively.
ATQ,
$\frac{l}{16} = V$
$l = 16V$ ....(i)
And,
$\frac{l+600}{36} = V$
$l = 36V - 600$ ...(ii)
On solving (i) & (ii), we get
$V = 30,\ l = 480$
Now, speed of train – B = $72 \times \frac{5}{18}$ = 20 m/sec
Required time = $\frac{480+640}{30-20}$ = 112 seconds

S70. Ans(e)
Sol.
Profit ratio of A to B = $325 \times 12 : 300 \times x = 13 : x$
ATQ,
$\frac{13}{x} = \frac{22800-7200}{7200}$
$\frac{13}{x} = \frac{15600}{7200}$
$\frac{13}{x} = \frac{13}{6}$
x = 6

S71. Ans.(c)
Sol.
For company P:
Total number of employees= 2 × 1000 = 2000
Number of female employees= 2000 – 1200 = 800
Similarly for other companies,

Company	Total number of employees	Male employees	Female employees
P	2000	1200	800
Q	2 × 750 = 1500	800	1500 – 800 = 700
R	2 × 1200 = 2400	1000	2400 – 1000 = 1400
S	2 × 600 = 1200	400	1200 – 400 = 800
T	2 × 900 = 1800	800	1800 – 800 = 1000

Average number of female employees in companies Q & S = $\frac{700+800}{2}$ = 750
Average number of male employees in companies R & T= $\frac{1000+800}{2}$ = 900
Required difference = 900 – 750 = 150

S72. Ans.(d)
Sol.
For company P:
Total number of employees= 2 × 1000 = 2000
Number of female employees= 2000 – 1200 = 800
Similarly for other companies,

Company	Total number of employees	Male employees	Female employees
P	2000	1200	800
Q	2 × 750 = 1500	800	1500 – 800 = 700
R	2 × 1200 = 2400	1000	2400 – 1000 = 1400
S	2 × 600 = 1200	400	1200 – 400 = 800
T	2 × 900 = 1800	800	1800 – 800 = 1000

Male employees in companies Q & T =800+800=1600
Total number of female employees in companies P, Q and R =(800+700+1400) =2900
Required ratio=1600:2900=16:29

S73. Ans.(a)
Sol.
For company P:
Total number of employees= 2 × 1000 = 2000
Number of female employees= 2000 – 1200 = 800
Similarly for other companies,

Company	Total number of employees	Male employees	Female employees
P	2000	1200	800
Q	2 × 750 = 1500	800	1500 – 800 = 700
R	2 × 1200 = 2400	1000	2400 – 1000 = 1400
S	2 × 600 = 1200	400	1200 – 400 = 800
T	2 × 900 = 1800	800	1800 – 800 = 1000

Number of male diploma employees= $\frac{50}{100} \times 1000 = 500$
Number of female diploma employees= $\frac{75}{100} \times 1400 = 1050$
Required sum= 500 + 1050 = 1550

S74. Ans.(b)
Sol.
For company P:
Total number of employees= 2 × 1000 = 2000
Number of female employees= 2000 – 1200 = 800
Similarly for other companies,

Company	Total number of employees	Male employees	Female employees
P	2000	1200	800
Q	2 × 750 = 1500	800	1500 – 800 = 700
R	2 × 1200 = 2400	1000	2400 – 1000 = 1400
S	2 × 600 = 1200	400	1200 – 400 = 800
T	2 × 900 = 1800	800	1800 – 800 = 1000

Number of male employees in Z= $\frac{40}{100} \times 2000 = 800$
Number of female employees in Z= $\frac{60}{100} \times 800 = 480$
Required answer= 800 + 480 = 1280

S75. Ans.(b)
Sol.
For company P:
Total number of employees= 2 × 1000 = 2000
Number of female employees= 2000 – 1200 = 800
Similarly for other companies,

Company	Total number of employees	Male employees	Female employees
P	2000	1200	800
Q	2 × 750 = 1500	800	1500 – 800 = 700
R	2 × 1200 = 2400	1000	2400 – 1000 = 1400
S	2 × 600 = 1200	400	1200 – 400 = 800
T	2 × 900 = 1800	800	1800 – 800 = 1000

Total male employees= 1200 + 800 + 1000 + 400 + 800 = 4200
Total female employees= 800 + 700 + 1400 + 800 + 1000 = 4700
Difference= 4700 – 4200 = 500
Required number = 22 ($22^2 = 484$)

S76. Ans(a)
Sol.
Let C alone takes 'd' days to complete the work alone
So, A takes (d – 8) days to complete the work alone
ATQ –
$\frac{1}{(d-8)} + \frac{1}{15} + \frac{1}{d} = \frac{1}{5}$
$\frac{2}{15} = \frac{1}{d} + \frac{1}{(d-8)}$
$d^2 - 23d + 60 = 0$
d = 20 & d = 3
here vale of d can't be 3
So, Required days = $20 \times \frac{3}{4} = 15\ days$

S77. Ans.(a)
Sol. Let cost price & marked price of an article be Rs.70x and Rs.100x respectively
Selling price of article = 100x × 75/100 = Rs. 75x
ATQ, 70x + 40 = 75x
x = 8
So, cost price of article = 70x = Rs 560
Selling price of article = 75x = Rs.600
And marked price of article = 100x = Rs. 800
Now, new profit = 560 × 30/100 = Rs. 168
And new discount allowed = 800 – 560 – 168 = Rs. 72
Required difference = 168 – 72 = Rs. 96

S78. Ans(d)
Sol.
Total marks of 20 students = 20 × 45 = 900
ATQ,
Let total marks of Sunil = x
So, total marks of Anil = x + 20
$\frac{920+2x}{22} = 48$
920 + 2x = 1056
2x = 136
x = 68
So, marks of Anil = 68 + 20 = 88

S79. Ans.(b)
Sol.
Let side of square be 'a' cm
ATQ.
$a\sqrt{2} = 48\sqrt{2}$
$a = 48$
Radius of the circle = $48 \times \frac{7}{16} = 21\ cm$
Area of the circle = $\frac{22}{7} \times 21 \times 21 = 1386\ cm^2$
Area of the square = $48 \times 48 = 2304\ cm^2$
Required difference = $2304 - 1386 = 918\ cm^2$

S80. Ans(b)
Sol.
Let present age of R = n years
So, present age of P = (n + 12) years
And Present age of Q = (n + 3) years
ATQ –
$\frac{(n+12)}{(n+3)} = \frac{6}{5}$
5n + 60 = 6n + 18
n = 42
Required sum = 42 + (42 + 3) + 8 × 2 = 103 years

S81. Ans(d)
Sol. Pattern of series –
2 × 48 = 96
96 ÷ 6 = 16
16 × 48 = 768
768 ÷ 6 = 128
128 × 48 = **6144**

S82. Ans(a)
Sol. Pattern of series –
$3 = 1^3 + 2$
$? = 3^3 + 2 = \mathbf{29}$
$127 = 5^3 + 2$
$345 = 7^3 + 2$
$731 = 9^3 + 2$
$1333 = 11^3 + 2$

S83. Ans(e)
Sol. Pattern of series –
9 + 73 = 82
82 + 79 = 161
161 + 83 = 244
? = 244 + 89 = **333**
333 + 97 = 430

S84. Ans (b)
Sol. Pattern of series –
204, 210, 219, 233, ?=**254**, 286
+6 +9 +14 +21 +32
+3 +5 +7 +11

S85. Ans (d)
Sol. Pattern of the series –
403, ?=**420**, 443, 478, 531, 608
+17 +23 +35 +53 +77
+6 +12 +18 +24

S86. Ans(a)
Sol.
$?^3 = \frac{65}{100} \times 240 + 350 + \sqrt[3]{216}$
$?^3 = 156 + 356$
$? = 8$

S87. Ans(b)
Sol.
$4^? \times \sqrt[4]{16} = \frac{16^2}{\sqrt[4]{16}}$
$4^? \times 2 = \frac{256}{2}$
$4^? = 64$
$4^? = (4)^3$
$? = 3$

S88. Ans(c)
Sol.
$8 \times (? + 60) = (8)^3$
$8 \times ? = 512 - 480$
$? = \frac{32}{8}$
$? = 4$

S89. Ans(d)
Sol.
$?\times \frac{72}{100} = 118 - \frac{80}{100} \times 125$
$? \times \frac{72}{100} = 118 - 100$
$18 \times \frac{100}{72} = ?$
$? = 25$

S90. Ans(e)

Sol.

$\frac{?}{100} \times 1050 + 364 = (28)^2$

$\frac{?}{100} \times 1050 = 784 - 364$

$\frac{?}{100} \times 1050 = 420$

$? = \frac{420 \times 100}{1050}$

$? = 40$

S91. Ans (a)

Sol.

Let people like only kiwi and only grapes is 2x & 5x respectively.

People like only apple = $5x \times \frac{120}{100} = 6x$

People like all the type of fruits = $\frac{6x}{6} = x$

People like only grapes & apple together = $\frac{15}{5} \times 3 = 9$

People like only apple & kiwi together = $\frac{15}{5} \times 2 = 6$

ATQ.

$2x + x + 6 + 15 = 81$

$3x = 60$

$x = 20$

People like only kiwi and only grapes is 40 & 100 respectively.

People like only apple = 120

People like all the type of fruits = 20

Number of people who like at least two types of fruits = 15+6+9+20=50

S92. Ans (d)

Sol.

Let people like only kiwi and only grapes is 2x & 5x respectively.

People like only apple = $5x \times \frac{120}{100} = 6x$

People like all the type of fruits = $\frac{6x}{6} = x$

People like only grapes & apple together = $\frac{15}{5} \times 3 = 9$

People like only apple & kiwi together = $\frac{15}{5} \times 2 = 6$

ATQ.

$2x + x + 6 + 15 = 81$

$3x = 60$

$x = 20$

People like only kiwi and only grapes is 40 & 100 respectively.

People like only apple = 120

People like all the type of fruits = 20

Number of people who doesn't like any fruits = 350-(40+120+100+15+6+9+20) =350-310 =40

S93. Ans (a)

Sol.

Let people like only kiwi and only grapes is 2x & 5x respectively.

People like only apple = $5x \times \frac{120}{100} = 6x$

People like all the type of fruits = $\frac{6x}{6} = x$

People like only grapes & apple together = $\frac{15}{5} \times 3 = 9$

People like only apple & kiwi together = $\frac{15}{5} \times 2 = 6$

ATQ.

$2x + x + 6 + 15 = 81$

$3x = 60$

$x = 20$

People like only kiwi and only grapes is 40 & 100 respectively.

People like only apple = 120

People like all the type of fruits = 20

Required percentage = $\frac{9}{40} \times 100 = 22.5\%$

S94. Ans (d)

Sol.

Let people like only kiwi and only grapes is 2x & 5x respectively.

People like only apple = $5x \times \frac{120}{100} = 6x$

People like all the type of fruits = $\frac{6x}{6} = x$

People like only grapes & apple together = $\frac{15}{5} \times 3 = 9$

People like only apple & kiwi together = $\frac{15}{5} \times 2 = 6$

ATQ.

$2x + x + 6 + 15 = 81$

$3x = 60$

$x = 20$

People like only kiwi and only grapes is 40 & 100 respectively.

People like only apple = 120

People like all the type of fruits = 20

Required ratio = 40:15=8:3

S95. Ans (b)

Sol.

Let people like only kiwi and only grapes is 2x & 5x respectively.

People like only apple = $5x \times \frac{120}{100} = 6x$

People like all the type of fruits = $\frac{6x}{6} = x$

People like only grapes & apple together = $\frac{15}{5} \times 3 = 9$

People like only apple & kiwi together = $\frac{15}{5} \times 2 = 6$

ATQ.

$2x + x + 6 + 15 = 81$

$3x = 60$

$x = 20$

People like only kiwi and only grapes is 40 & 100 respectively.

People like only apple = 120

People like all the type of fruits = 20

Number of people like grapes = 100+15+9+20=144

Number of people like apple = 120+20+6+9=155

Required difference = 155 – 144 = 11

S96. Ans. (a)

Sol. For A,

Let the total watches and laptops sold by A be 8x and 5x respectively.

8x – 5x = 30

10 = x

Laptops = 50

Watches = 80

Similarly,

Shops	Laptops	Watches
A	50	80
B	$\frac{2}{2-1} \times 25 = 50$	50 – 25 = 25
C	$\frac{4}{4-3} \times 26 = 104$	104-26 = 78
D	$\frac{3}{5-3} \times 12 = 18$	18+12 =30
E	$\frac{7}{7-3} \times 20 = 35$	35-20 = 15

Required average = $\frac{50+50+35}{3} = 45$

S97. Ans. (a)

Sol. For A,

Let the total watches and laptops sold by A be 8x and 5x respectively.

8x – 5x = 30
10 = x
Laptops = 50
Watches = 80
Similarly,

Shops	Laptops	Watches
A	50	80
B	$\frac{2}{2-1} \times 25 = 50$	50 – 25 = 25
C	$\frac{4}{4-3} \times 26 = 104$	104-26 = 78
D	$\frac{3}{5-3} \times 12 = 18$	18+12 =30
E	$\frac{7}{7-3} \times 20 = 35$	35-20 = 15

Required answer = (80 + 25) – (50 + 18) =37

S98. Ans. (b)
Sol. For A,
Let the total watches and laptops sold by A be 8x and 5x respectively.
8x – 5x = 30
10 = x
Laptops = 50
Watches = 80
Similarly,

Shops	Laptops	Watches
A	50	80
B	$\frac{2}{2-1} \times 25 = 50$	50 – 25 = 25
C	$\frac{4}{4-3} \times 26 = 104$	104-26 = 78
D	$\frac{3}{5-3} \times 12 = 18$	18+12 =30
E	$\frac{7}{7-3} \times 20 = 35$	35-20 = 15

Required ratio = $104 : \frac{78+30}{2} = 104 : 54 = 52 : 27$

S99. Ans. (a)
Sol. For A,
Let the total watches and laptops sold by A be 8x and 5x respectively.
8x – 5x = 30
10 = x
Laptops = 50
Watches = 80
Similarly,

Shops	Laptops	Watches
A	50	80
B	$\frac{2}{2-1} \times 25 = 50$	50 – 25 = 25
C	$\frac{4}{4-3} \times 26 = 104$	104-26 = 78
D	$\frac{3}{5-3} \times 12 = 18$	18+12 =30
E	$\frac{7}{7-3} \times 20 = 35$	35-20 = 15

Laptops sold by F = 120% 35 = 42
Watches sold by F = $\frac{1}{2} \times 42 = 21$
N = 42 – 21 =21
$9261 = N^3$

S100. Ans. (d)
Sol. For A,
Let the total watches and laptops sold by A be 8x and 5x respectively.
8x – 5x = 30
10 = x
Laptops = 50
Watches = 80
Similarly,

Shops	Laptops	Watches
A	50	80
B	$\frac{2}{2-1} \times 25 = 50$	50 – 25 = 25
C	$\frac{4}{4-3} \times 26 = 104$	104-26 = 78
D	$\frac{3}{5-3} \times 12 = 18$	18+12 =30
E	$\frac{7}{7-3} \times 20 = 35$	35-20 = 15

Required answer = 104 – 15 = 89