

SIDBI Grade A Previous Year Paper 2023

Directions (1-10): Read the following passage carefully and answer the questions given below them.

The sum and variation of our biological wealth, known as biodiversity, is essential to the future of this planet. The importance of our planet's biodiversity was strongly _____ at the United Nations Biodiversity Conference in Montreal, Canada. 188 country representatives adopted an agreement to "halt and reverse" biodiversity loss by conserving 30% of the world's land and 30% of the world's oceans, known as the 30×30 pledge. India currently hosts 17% of the planet's human population and 17% of the global area in biodiversity hotspots, placing it at the helm to guide the planet in becoming biodiversity champions. In response to this call, the Union Budget 2023 mentioned "Green Growth" as one of the seven priorities or Saptarishis. The **emphasis** on green growth is welcome news for India's biological wealth as the country is facing serious losses of natural assets such as soils, land, water, and biodiversity. The National Mission for a Green India aims to increase forest cover and **protect** existing forested lands. The Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI) is particularly significant because of the extraordinary importance of mangroves and coastal ecosystems in mitigating climate change. Finally, the Amrit Dharohar scheme directly mentions our biological wealth and is expected to "encourage optimal use of wetlands, and enhance biodiversity, carbon stock, eco-tourism opportunities and income generation for local communities". If implemented in letter and spirit, Amrit Dharohar, with its emphasis on sustainability by balancing competing demands, will benefit aquatic biodiversity and ecosystem services. It is critical that these programmes respond to the current state of the country's biodiversity with evidence-based implementation. A science-based and inclusive monitoring programme is critical for the success of these efforts. Finally, each of these efforts must be inclusive of local and nomadic communities where these initiatives will be implemented. Traditional knowledge of these communities should be **integrated** into the implementation plans.

Q1. According to the passage, the 30×30 pledge taken in the United Nations Biodiversity Conference emphasizes on which of the following agenda?

- (a) Curbing and restoring the loss of our biological wealth.
- (b) Effective conservation of at least 30% of the world's lands and oceans.
- (c) Explore advanced and innovative technologies to nurture agriculture.
- (d) All members of the group will come together to take effective measures.
- (e) Only (a) and (b)

Q2. As mentioned in the passage, what makes India a mentor of the world to become a biodiversity champion?

- (a) India's geographical location which makes it a suitable habitat for many species.
- (b) India's occupancy of seventeen percent of the global area in biodiversity hotspots.
- (c) India's human population which is seventeen percent of the world's total population.
- (d) Only (b) and (c)
- (e) All of these

Q3. Why is there a need to pursue green growth in India, as mentioned in the passage?

- (a) To restrain the usage of chemicals and pesticides in the harvest.
- (b) Since India is facing a serious crisis of natural assets.
- (c) To promote organic farming to foster economic growth.
- (d) It can reduce the prevalence of air pollution-related diseases
- (e) None of these

Q4. As suggested by the author in the passage, what is the target set under National Mission for Green India?

- (a) It aims at protecting forest lands and enhancing India's forest cover.
- (b) Ecological restoration of shifting cultivation areas, mangroves and scrubs.
- (c) Its goal is to adopt comprehensive soil health management practices.
- (d) Increase forest-based income of households in and around forest areas.
- (e) None of these

Q5. Which of the following measures is crucial for ensuring success of the government programmes, as mentioned by the author?

- (a) Providing environmental data which should be based on research and analysis.
- (b) Adequate and timely allocation of funds required for programmes implementation.
- (c) Comprehensive monitoring programme that should be based on scientific observations.
- (d) Formation of a separate committee to monitor the execution of programmes.
- (e) None of these

Q6. Which of the following words is a synonym of 'EMPHASIS' as highlighted in the passage?

- (a) baffle
- (b) ambiance
- (c) corroboration
- (d) revoke
- (e) stress

Q7. Which of the following words is an antonym of 'PROTECT' as highlighted in the passage?

- (a) refine
- (b) ravage
- (c) abate
- (d) perplex
- (e) ample

Q8. Which of the following statements is INCORRECT with respect to the information given in the passage?

- (a) Saptarishis signifies the seven priorities of the Union government.
- (b) Efficient use of wetlands is one of the motives of Amrit Darohar.
- (c) Mangroves and coastal ecosystem play an important role in curtailing climate change.
- (d) Traditional knowledge of local communities should be considered for governmental programmes.
- (e) All are correct

Q9. Which of the following words is the most suitable word for the blank given in the passage?

- (a) decree
- (b) conferred
- (c) articulated
- (d) prevailed
- (e) adjourned

Q10. Which of the following words is a synonym of 'integrated'?

- (a) convulse
- (b) vitiate
- (c) resonate
- (d) amalgamate
- (e) muffle

Directions (11-15): In this paragraph five coherent sentences are given. Rearrange those in a meaningful order to answer the given questions

- (A) Forthwith the other Cock came out of his corner and ruled the roost without a rival.
- (B) There were two Cocks in the same farmyard, and they fought to decide who should be master.
- (C) But an Eagle espied him from high up in the sky, and swooped down and carried him off.
- (D) When the fight was over, the beaten one went and hid himself in a dark corner;
- (E) while the victor flew up on to the roof of the stables and crowed lustily.

Q11. Which of the following should be the SECOND sentence after rearrangement?

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E

Q12. Which of the following should be the FIRST sentence after rearrangement?

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E

Q13. Which of the following should be the THIRD sentence after rearrangement?

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E

Q14. Which of the following should be the LAST sentence after rearrangement?

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E

Q15. Which of the following should be the FOURTH sentence after rearrangement?

- (a) A
- (b) B
- (c) C
- (d) D
- (e) E

Directions (16-20): Each sentence is divided into four parts in which one may have an error. Choose the part that most likely has the error as your answer.

Q16. He was dressed in waterproof clothing (A)/ which covered him (B)/ from head to foot, (C)/ suggesting he may have swam in from a boat. (D)

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No error

Q17. His duelist's skills were most unmatched, (A)/ with no one being able to (B)/ beat him in a sword fight (C)/ in the last twenty years. (D)

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No error

Q18. Advertising may be described (A)/ as the science of arresting (B)/ the human intelligence longest enough (C)/ to get money from it. (D)

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No error

Q19. I am equally doubtful that (A)/ these approaches (B)/ can be combined (C)/ with the company's policies. (D)

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No error

Q20. Hardly I had arrived there(A)/ when I was called back (B)/ to the head office (C)/100 miles away. (D)

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No error

Directions (21-23): Which of the phrases (a), (b), (c), (d) given below each sentence should replace the phrase printed in bold in the sentence to make it grammatically correct? If the sentence is correct as required, mark 'No correction required' as the answer.

Q21. The court found that the practice **was cruelty and caused the animal** unnecessary pain and suffering.

- (a) was cruelty and cause the animal
- (b) were cruelty and caused the animal
- (c) was cruel and caused the animals
- (d) was cruel and cause the animal
- (e) No correction required

Q22. Global vaccination rates are at **their lowest for 2008.**

- (a) its lowest for 2008.
- (b) their lowest since 2008.
- (c) its lower for 2008.
- (d) its lowest from 2008.
- (e) No correction required

Q23. Scientists are **considering as how to design** robots that mimic the gliding motion exhibited by flying snakes.

- (a) considering how to design
- (b) considering to how to design
- (c) considering as how to designs
- (d) considering as how design
- (e) No correction required

Directions (24-25): In each question a word is given, corresponding to it three sentences are given. Choose the correct sentence that has the correct usage of the word.

Q24. Reckon

- (A) The theory of more than nine planets in the milky way galaxy is **reckoned** as only a rumour.
- (B) I **reckon** that Manali is the most popular tourist spot for people living nearby.
- (C) She **reckoned** me not to go in the backyard at night.

- (a) Only (A)
- (b) Only (B)
- (c) Only (C)
- (d) Only (A) and (B)
- (e) Only (B) and (C)

Q25. Exacerbate

- (A) The illness of food poisoning might **exacerbate** with the intake of junk food.
- (B) The effects of climate change will **exacerbate** if deforestation is not controlled.
- (C) The tension between the two friends was **exacerbated** when one of them filled police complaint.

- (a) All (A), (B)and (C)
- (b) Only (B)
- (c) Only (C)
- (d) Only (A)
- (e) Only (A) and (C)

Directions (26-30): In the given passage few words are omitted and replaced with blank and a serial number. Corresponding to each number five options are given. Choose the word from the given options that can correctly fit into the blank without altering the intended meaning.

The role of sports in high school has been a _____(26) topic for many years. Some say students need to focus more on their academics and forget about sports, while others say school should be fun and sports make it so. A _____(27) of studies have shown that the benefits of participating in a sport far outweigh any potential risk. One of the major concerns of students spending time participating in sports is that they _____(28) important class time, and they can also provide the student with unnecessary stress.

Removing sports from the equation would free up students' lives and make for a potentially less stressful environment. _____(29), unless it is a sport forced on the student by well-meaning parents or other adults, studies show the benefits of sports on student athletes are greatly beneficial to the overall well-being of the student. Students who played sports _____(30) either improved academic scores, or they maintained their current level of academic grading.

Overall, studies show that students who play sports do not allow their commitment to their team to affect their commitment to their education. As mentioned, grades often improve for the student athlete.

Q26. (a) beneficial

(b) commercial

(c) controversial

(d) escalating

(e) competing

Q27. (a) horde

(b) bundles

(c) record

(d) people

(e) representative

Q28. (a) take in

(b) increase

(c) contemplate

(d) take away from

(e) present

Q29. (a) Though

(b) However

(c) Albeit

(d) Since

(e) Moreover

Q30. (a) transformed

(b) maintained

(c) completed

(d) admitted

(e) exhibited

Directions (31-34): Read the given information carefully and answer the following questions:

Nine persons live in a three-floor building where floors are numbered as 1 to 3 from bottom to top. Each floor has three flats named flat A, flat B and flat C. Flat A is west of flat B which is west of flat C.

Every person has a pet which are dog, cat, bird, horse, rabbit, parrot, turtle, fish and cow. One person lives in each flat on a floor. The persons are Z, Q, M, K, H, T, P, S and G. All information is not used in the same sequence as given.

K does not live on odd numbered floors. The one who has parrot lives immediate east of K. T and the one who has parrot do not live in same named flat. One floor gap between T and the one who has horse. The one who lives north of the one who has horse is immediate south-west of H. Z lives in the same named flat of H and west of the one who has rabbit. The number of persons lives to the west of the one who has rabbit is same as the number of persons lives to the east of S. S and T neither live in same named flat nor live on the adjacent floor of Z. The one who has fish lives on even numbered floor but south-east of the one who has bird. The one who has dog lives above G's flat but on the adjacent floor of the one who has bird. M lives above P but below the one who has cat. M does not live in flat B. The one who has cow do not live on the same floor of the one who has cat but lives south-east of the one who has turtle.

Q31. On which flat and floor does Q live?

- (a) Flat C, floor 2
- (b) Flat A, floor 1
- (c) Flat B, floor 3
- (d) Flat C, floor 3
- (e) Flat B, floor 2

Q32. Which person has cat?

- (a) H
- (b) T
- (c) S
- (d) Q
- (e) None of the above

Q33. The person who lives in flat A on floor 2 has which pet?

- (a) Dog
- (b) Horse
- (c) Bird
- (d) Turtle
- (e) None of the above

Q34. Which of the following statement is not correct?

- (a) G and Q live on adjacent floors
- (b) S has turtle
- (c) Z and the one who has cat live in same named flat
- (d) P lives in flat C
- (e) The one who has fish lives east of K

Directions (35-38): 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 input and rearrangement.

Input: 657839 Modest 748327 boastful humility 295473 549689 timid

Step I: grnrw 657839 Modest boastful humility 295473 549689 1912

Step II: ylzhufo grnrw Modest humility 295473 549689 1912 1820

Step III: nlwvhg ylzhufo grnrw humility 295473 1912 1820 1823

Step IV: snrorgb nlwvhg ylzhufo grnrw 1912 1820 1823 1614

Step V: \$\$\$\$@\$\$\$ \$\$\$\$\$\$ \$\$\$\$\$@\$\$ \$\$\$\$\$ 18 0 48 24

Step V is the last step of the given arrangement. As per the rules followed in the above arrangement find the steps for given input.

Input: Color round 534782 912347 store 192845 289346 gadgets

Q35. What is the position of 'hgliv' with respect to '1214' in step III?

- (a) 3rd to the right
- (b) 4th to the right
- (c) 6th to the left
- (d) 2nd to the left
- (e) 4th to the left

Q36. In step V, 'ilfmw' is converted into ____.

- (a) \$@@@
- (b) @@\$\$\$
- (c) @\$\$\$\$
- (d) None of these
- (e) \$\$\$@

Q37. How many elements are to the right of 'xloli' in step IV?

- (a) Five
- (b) Seven
- (c) Six
- (d) Four
- (e) None of these

Q38. Find the sum of even numbers in last step?

- (a) 46
- (b) 36
- (c) 38
- (d) 40
- (e) None of these

Q39. India is the world's most populous democracy and will, by 2030, be the most populous country, overtaking China. And it is young — there are more Indian 10-year-olds than there are Australians. With more than a dozen distinct languages, scripts and religions, India is multiculturalism on the grandest scale.

Which of the following is not in the line of given statement?

- (I) Australia will be the most popular study destination for Indian students.
 - (II) India is the cradle of the human race, the birth place of human speech, the mother of history, the grandmother of legend, and the great grandmother of tradition.
 - (III) In India there is a political equality which provides for the participation of all people without any discrimination as to gender, race, caste and colour.
- (a) Only II and III
 - (b) Only III
 - (c) Only I and III
 - (d) Only I
 - (e) All I, II and III

Q40. The collapse of a great wall of garbage in east Delhi's Ghazipur area, sweeping people and vehicles into a nearby canal, is a stark reminder that India's neglected waste management crisis can have deadly consequences. More than a year after the notification of the much-delayed Solid Waste Management Rules, cities and towns are in no position to comply with its stipulations, beginning with the segregation of different kinds of waste at source and their scientific processing. What may be the fallout of laxity towards waste management?

- (I) Organic Waste should use to make affordable household biogas plants and production of methane for power generation.
 - (II) Waste materials can worsen air pollution level due to which people will face issue in breathing.
 - (III) Supreme court comes in action after PIL has been filed by group of peoples in Delhi.
- (a) Only I and III
 - (b) Only II and III
 - (c) Only II
 - (d) Only III
 - (e) None of them

Directions (41-45): Study the following information carefully to answer the given questions.

Eight friends Alex, Brook, Cameron, Dylan, Ethan, Fiona, Grace, and Hayden are sitting around a circular table with equal distance between each other but not necessarily in the same order. Four of them are facing the centre while four are facing outside from the centre. They all belong to four different places viz. Aspen, Brighton, Crestview, and Davenport. Only two persons belong to each place.

Dylan doesn't belong to Brighton and Aspen. Ethan sits at the immediate left of Fiona. Alex belongs to Crestview and sits second to the right of Dylan. Hayden belongs to Aspen and sits third to the right of Brooke. Fiona sits second to the left of Dylan and doesn't belong to Crestview and Aspen. Cameron belongs to Davenport. Dylan is not an immediate neighbour of Ethan, who belongs to the same place as Alex. Brooke sits opposite to Cameron and belongs to Brighton. Those who belong to Aspen face towards the centre. Cameron doesn't sit to the immediate right of Hyden.

Q41. Who among the following is sitting second to the right of the one who sits at immediate left of Brook?

- (a) Alex
- (b) Hayden
- (c) Ethan
- (d) Grace
- (e) None of these

Q42. ____ sits 3rd to the right of ____ who sits opposite ____ respectively.

- (a) Alex, Grace, Brook
- (b) Hayden, Grace, Ethan
- (c) Brook, Alex, Ethan
- (d) Dylan, Hayden, Brook
- (e) None of these

Q43. Which of the following statement is true regarding Grace?

- (a) Grace faces outside the centre
- (b) Grace is immediate right of Brook.
- (c) Grace belongs to Aspen
- (d) Grace is an immediate neighbour of Hayden
- (e) All are true

Q44. Four of the following five are alike in a certain way and hence form a group. Which is the one that does not belong to the group?

- (a) Camron
- (b) Fiona
- (c) Grace
- (d) Hayden
- (e) Daylon

Q45. Who among the following belongs to Crestview?

- (a) Camron
- (b) Ethan
- (c) Grace
- (d) Hayden
- (e) Daylon

Directions (46-49): In each question, some statements are showing relationship between different elements and are followed by two conclusions. Assuming the given statements are true, now find out which of the two conclusion(s) is/are definitely true.

- (a) Only I is true
- (b) Only II is true
- (c) Either I or II is true
- (d) Neither I nor II is true
- (e) Both I and II are true

Q46. Statements: $V=K>M=E\geq R$, $E<W=Q\leq S=H$

Conclusions: I. $K<S$ II. $V\geq H$

Q47. Statements: $P<B\leq T<C$, $L\geq P=V\geq S\geq F=R$

Conclusions: I. $C>F$ II. $S\leq T$

Q48. Statements: $B=A\geq C=D$, $W=P\geq X=C>Z$, $S<H<J=Z$

Conclusions: I. $B>H$ II. $S<W$

Q49. Statements: $V\geq S=G\geq C\leq H=J\leq N$, $L>C=A$

Conclusions: I. $L>J$ II. $V\leq J$

Q50. The Delhi International Airport Limited (DIAL) has said that the random testing for corona will be carried out in coming week on passengers coming from states where the cases are increasing. "After collection of samples, the travelers would be allowed to exit. However, those passengers who are found positive, shall be mandatorily quarantined as per the protocol of ministry of health and family welfare.

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

- (I) Corona cases may increase in upcoming week.
 - (II) Delhi Government will announce for lockdown in the state.
 - (III) Domestic and International flights will be temporarily shut down within a month.
- (a) Only II and III
 - (b) Only III
 - (c) Only I and III
 - (d) Only II
 - (e) Only I

Q51. Seven persons A, B, C, D, P, Q and S buy things but not necessarily in the same order. Three persons buy between P and the one who buys just after C. B buys just before S. Three persons buy between S and D. No one buys between A and D. Two persons buy between A and S. P buys exactly between A and B. No one buys after Q. How many persons buy things between D and the one who buys just before S?

- (a) As many persons buy between S and Q
- (b) As many persons buy before P
- (c) Both (B) and (D)
- (d) Four
- (e) None of these

Directions (52-55): Study the following information carefully and answer the question given below.

Two friends meet at a coffee shop after walking a certain distance. Palak start from her home and walks 6m in north direction and reaches at D. From D, she takes two consecutive right turns of 4m and 6m to reach at C and E respectively. From E, she takes a left turn and walks 3m to reach at G. Now she takes right turn and walks 2m to reach at B. From B, she takes left turn and walks 5m to reach at F. From F, she takes a right turn and walks 6m to reach at H. From there, she takes a right turn and walks 8m to reach at coffee shop.

Payal starts walking from her home and walks 12m in east direction and reaches at R. From R, she takes a left turn and walks 9m to reach at P. From P, she takes a left turn and walks twice the distance as distance travelled by Palak from B to F, and reaches at Q. From Q, she two consecutive right turns of 4m and 5m to reach at T and S respectively. From S, she takes left turn and walks 6m to reach at coffee shop.

Q52. What is the shortest distance between F and S?

- (a) 208m
- (b) $4\sqrt{13}$ m
- (c) $3\sqrt{17}$ m
- (d) $\sqrt{408}$ m
- (e) 112m

Q53. Four of the following five belong to a group in a certain way, which among the following does not belong to that group?

- (a) S -G
- (b) T-E
- (c) Payal's home- coffee shop
- (d) Q- R
- (e) Q-H

Q54. In which direction is H with respect to P?

- (a) North
- (b) North-west
- (c) North-east
- (d) South
- (e) South-east

Q55. What is the total distance between point B and point Q?

- (a) 34m
- (b) 36m
- (c) 38m
- (d) 44m
- (e) 32m

Directions (56-60): Study the following information carefully and answer the questions given below:

Six persons A, B, C, D, M and E (but not necessarily in the same order) have different designations i.e., General

Manager (GM), Deputy General Manager (DGM), Assistant General Manager (AGM), Assistant Manager (AM), Section Officer (SO) and Clerk in a company. The order of seniority is the same as given above i.e., GM is the senior-most designation and Clerk is the junior-most designation. Each of the persons is posted in different states i.e., Delhi, Rajasthan, Haryana, Telangana, Kerala and Assam but not necessarily in the same order.

C is two designations junior to the person who is posted in Kerala. Two persons have designations between the person who is posted in Kerala and D. E is neither designated as GM nor as AGM. C and D are not posted in Haryana. The person who is designated as SO is not posted in Haryana. C is not posted in the Rajasthan. The person who is posted in Kerala is not the senior-most person. C is not designated as AM. M is not just senior to E. As many persons are senior to the person who is posted in Assam as junior to the person who is posted in Delhi. M is three designations senior to the person who is posted in Rajasthan. There are two designations between E and the person who is posted in Haryana. The person who is posted in Delhi is not the senior most person. A is not posted in Kerala, Assam and Delhi.

Q56. Who among the following persons is designated as SO?

- (a) M
- (b) The person who is posted in Delhi
- (c) E
- (d) The person who is posted in Assam
- (e) None of these

Q57. How many persons are senior to B?

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

Q58. How many designations are there between C and the person who is posted in Telangana?

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

Q59. What is the designation of the person who is posted in Assam?

- (a) DGM
- (b) SO
- (c) AGM
- (d) GM
- (e) None of these

Q60. Which of the following statement(s) is/are true?

- (a) The person who is posted in Haryana is designated as Clerk
- (b) M is not designated as DGM
- (c) More than one designation is there between B and C
- (d) E is posted in Rajasthan
- (e) All are true

Directions (61): In making decisions about important questions, it is desirable to be able to distinguish between “strong” arguments and “weak” arguments insofar as they relate to the question. “Strong” arguments are those which are both important and directly related to the question. “Weak” arguments are those which are of minor importance and also may not be directly related to the question or may be related to a trivial aspect of the question.

Each question below is followed by two arguments numbered I and II. You have to decide which of the arguments is a “strong” argument and which is a “weak” argument. Give answer

- (a) If only argument I is “strong”.
- (b) If only argument II is “strong”.
- (c) If either I or II is “strong”.
- (d) If neither I nor II is “strong”.
- (e) If both I and II are “strong”.

Q61. Statement: Should Non-Resident Indians (NRIs) be entitled to dual citizenship?

Arguments:

I. Yes, this will bolster the intimacy of the NRIs with the Indian soil.

II. No, the move will not be fruitful for all NRIs because there is a lack of provisions for dual citizenship in many countries.

Directions (62-64): Study the given information and answer the following questions:

There are seven persons S, R, O, A, B, M and P in a family of three generations. O is the only son of M. O has two children. A is the daughter-in-law of B who is a female. M is the spouse of B. P is the child of M. S is the niece of P and has one brother.

Q62. Who among the following is the mother of R?

- (a) A
- (b) P
- (c) B
- (d) S
- (e) None of these

Q63. What is the relation of P with respect to B?

- (a) Son-in-law
- (b) Daughter
- (c) Grandchild
- (d) Niece
- (e) None of these

Q64. What is the relation of M with respect to A?

- (a) Father
- (b) Father-in-law
- (c) Brother-in-law
- (d) Grandfather
- (e) None of these

Directions (65): In the following questions, the symbols %, @, &, \$ and # are used with the following meaning as illustrated below-

'A\$B' means 'A is not greater than B'

'A%B' means 'A is not smaller than B'

'A@B' means 'A is neither smaller nor greater than B'

'A&B' means 'A is neither equal to nor smaller than B'

'A#B' means 'A is neither equal to nor greater than B'

Now in each of the following questions assuming the given statements to be true, find which of the two conclusions I and II given below them is/are definitely true and give your answer accordingly.

Q65. Statements: D & F \$ H # J @ E & G % K & M # T

Conclusions: I. J&M II. F\$G

- (a) Only I is true
- (b) Only II is true
- (c) Both I and II are true
- (d) Either I or II is true
- (e) Neither I nor II is true

Directions (66-68): Each of the questions below, consist of a question and three statements numbered I, II and III given below it. You have to decide whether the data given in the statements are sufficient to answer the question or not. Read all statements and give answer.

Q66. Seven persons sit around a circular table such that all of them face away from the centre. Who among the following sits third to the left of C?

I. G sits two persons away from A. B sits adjacent to both E and G. D sits two persons away from B. C sits adjacent to F.

II. Three persons sit between E and A. D sits adjacent to A. F sits two persons away from the one who sits adjacent to C.

III. Only two persons sit between A and E who doesn't sit adjacent to G. F sits second to the right of D.

- (a) Both statements I and II are sufficient to answer
- (b) Both statements I and III are sufficient to answer
- (c) Both statements II and III are sufficient to answer
- (d) Statement II alone is sufficient to answer
- (e) Statements I, II and III even together are not sufficient to answer

Q67. Seven persons live in seven floor building such that the bottommost floor is numbered as 1, floor just above it is numbered as 2 and so on till the topmost floor is numbered as 7. How many persons live between R and S?

I. S lives on an even numbered floor below T. As many persons live above P as below the one who lives two floors above U.

II. Only three persons live between P and S. T lives two floors above V. U lives on the bottommost floor. R lives above Q but not adjacent to S.

III. S lives on an even numbered floor. T lives on a prime numbered floor. Only two persons live between U and Q.

- (a) Both statements II and III are sufficient to answer
- (b) Both statements I and III are sufficient to answer
- (c) All statements I, II and III are sufficient to answer
- (d) Statement II alone is sufficient to answer
- (e) Statements I, II and III even together are not sufficient to answer

Q68. Nine persons sit around a triangular table such that three of them sit at the corner and the two persons sit at each side of the table. All of them face towards the centre. Who among the following sits fourth to the left of I?

I. J sits third to the left of H. Only two persons sit between D and H. F sits adjacent to the one who sits next to B.

II. B sits adjacent to both J and E. Only two persons sit between J and D. I doesn't sit at the corner of the table.

III. B and E sit adjacent to each other. C sits third to the right of B. The one who sits adjacent G sits two persons away from I

-
- (a) Both statements I and II are sufficient to answer
 - (b) Both statements I and III are sufficient to answer
 - (c) All statements I, II and III are sufficient to answer
 - (d) Statement II alone is sufficient to answer
 - (e) Statements I, II and III even together are not sufficient to answer

Directions (69): Torrential rains and fierce winds, influenced by Cyclone Tauktae in the Arabian Sea, have left a trail of destruction in Kerala, especially in its coastal areas. Hundreds of families living close to the sea have had to abandon their homes and rush to relief camps set up by the state government. In the wake of the coronavirus pandemic, officials have demarcated facilities for those who have tested positive and in quarantine at relief camps, but many residents are still reluctant to move fearing the virus.

Q69. Which of the following can be inferred from the given statement?

- I. Houses and families near to costal areas are mainly get affected.
- II. Officials was aware and make arrangements by keeping covid19 in mind.
- III. Cyclone Tauktae will make its impact into another parts of country after Kerala.

- (a) Only II
- (b) Only I and III
- (c) Only III
- (d) Only I and II
- (e) All of three

Directions (70): Torrential rains and fierce winds, influenced by Cyclone Tauktae in the Arabian Sea, have left a trail of destruction in Kerala, especially in its coastal areas. Hundreds of families living close to the sea have had to abandon their homes and rush to relief camps set up by the state government. In the wake of the coronavirus pandemic, officials have demarcated facilities for those who have tested positive and in quarantine at relief camps, but many residents are still reluctant to move fearing the virus.

Q70. Which among the following statement is Cause and Effect?

- I. 200 medical and relief camps have been setup by Kerala government.
- II. 100 crores relief fund has been announced by PM Modi.

Give answer

- (a) If Statement I is the cause and Statement II is its effect.
- (b) If Statement II is the cause and Statement, I is its effect.
- (c) If both the Statements I and II are independent causes.
- (d) If both the Statements I and II are effects of independent causes.
- (e) If both the Statement I and II are effects of some common causes.

Q71. If N men can do a work in (N+16) days and (2N+32) men can do same work in 8 days then find in how many days (N-8) men can do half of the work.

- (a) 32 days
- (b) 16 days
- (c) 64 days
- (d) 48 days
- (e) 8 days

Q72. A bag contains 5 red balls, X yellow balls and 4 green balls, if one ball drawn random from bag probability of being yellow ball is $\frac{1}{4}$. If three balls will draw random from bag, then find probability of that at least two balls are yellow colour?

- (a) $\frac{9}{55}$
- (b) $\frac{5}{66}$
- (c) $\frac{3}{55}$
- (d) $\frac{7}{55}$
- (e) $\frac{8}{55}$

Q73. Vessel A contains x liters mixture of milk and water in the ratio of 7 : 5 respectively, while vessel B contains y liters mixture of milk and water in the ratio of 3 : 2 respectively. When both vessels mixed together, then resulting mixture become 120 liters more than initial mixture in vessel B. If quantity of milk in vessel B is 50 liters more than that in vessel A, then find y (in liters).

- (a) 200
- (b) 80
- (c) 100
- (d) 120
- (e) 160

Q74. The cost price of article X is Rs. 16 more than that of article Y, while article Y is marked up 20% above cost price and article X is marked up 25% above cost price. If sum of marked price of both articles is Rs. 216 and article X is sold at 12.5% discount, then find the profit (in Rs.) on article X.

- (a) 18
- (b) 15
- (c) 6
- (d) 12
- (e) 9

Q75. A boat covers D km downstream in $2T$ hours and it takes T hours when the boat covers $(D - 400)$ km in still water. If the speed of boat in still water is six times the speed of current, then find the value of D .

- (a) 750
- (b) 710
- (c) 740
- (d) 730
- (e) 700

Q76. A, B and C entered into a partnership by investing Rs. 400, Rs. 500 and Rs. 1000 respectively. If the time period of investment of A, B and C is t months, $(t-2)$ months and $(t + 4)$ months respectively, then the profit share ratio of A, B and C is 16: 15: 60 respectively. Find the value of t^2 .

- (a) 49
- (b) 64
- (c) 36
- (d) 81
- (e) 144

Q77. X number of people lived in a village in which 36% are women and 52% are men and rest are children (boys+ girls). If the ratio of boys to girls are in the ratio of 7: 5 and total men are 4500 more than that of boys, then find the value of X.

- (a) 10000
- (b) 15000
- (c) 14000
- (d) 13000
- (e) 12000

Q78. A man invested Rs. X in scheme A at rate of 10% p.a. for two years and Rs. Y in scheme B at the rate of 20% p.a. for same period of time. The ratio of compound interest received from scheme A to that of scheme B is 7:11. If sum of money invested in both the scheme is Rs.7700 then, find the value of X.

- (a) Rs.3500
- (b) Rs.4400
- (c) Rs.1100
- (d) Rs.3000
- (e) Rs.3300

Q79. Train A of length X meter crosses a pole in 15 sec and the train B of length Y meters crosses the pole in 5 sec. If the train A crosses train B which is standing on a platform in 25 sec., then find the ratio of the length of train A to B.

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

Q80. If Sheetal's present age is 40% more than Suruchi's present age and the sum of their ages 5 years from now will be 82, then find the difference between their ages 4 years ago (In years).

- (a) 10
- (b) 12
- (c) 14
- (d) 16
- (e) 18

Directions (81-86): What approximate value will come in place of question mark (?) in the following questions (You are not expected to calculate the exact value).

Q81. $453.85 + 643.88 + 563.8 - 435.77 = ? + 199.98$

- (a) 1026
- (b) 1046
- (c) 1076
- (d) 1036
- (e) 1016

Q82. $\frac{4.12}{7.09} \div 63.88 \times 48.99 = ?$

- (a) $\frac{9}{16}$
- (b) $\frac{5}{16}$
- (c) $\frac{3}{16}$
- (d) $\frac{7}{16}$
- (e) $\frac{11}{16}$

Q83. $3^{4.98} \times 3^? \div 243 = 3^{15.003}$

- (a) 15
- (b) 18
- (c) 12
- (d) 10
- (e) 8

Q84. 54.76% of 619.9 + ? = 2999% of 54

- (a) 1209
- (b) 1259
- (c) 1239
- (d) 1219
- (e) 1279

Q85. $(414.89 \times 53.89) \div 45.23 - 149.7 = ? \times 3.98$

- (a) 57
- (b) 37
- (c) 87
- (d) 97
- (e) 17

Q86. $\sqrt{123.67 - (152.11 + 54.99 - 24.87) + 121.89} = ?$

- (a) 5
- (b) 1
- (c) 14
- (d) 8
- (e) 20

Q87. Pipe P and Pipe Q alone can fill a tank in 20 minutes and 80 minutes respectively. But later it is found that due to a leak both pipes together can take 24 minutes extra than the time taken when both pipes fill the tank without any leak. Find the time taken by the leak to empty the completely filled tank.

- (a) $25\frac{2}{3}$ mins
- (b) $23\frac{2}{3}$ mins
- (c) $21\frac{2}{3}$ mins
- (d) $26\frac{2}{3}$ mins
- (e) $28\frac{2}{3}$ mins

Q88. In a class, the average mark of X candidates in an examination is 140. If the average mark of passed candidates is 160 and the average mark of failed candidates is 90, then the number of failed candidates in the class is what percentage of the number of passed candidates in the same class?

- (a) 45%
- (b) 30%
- (c) 50%
- (d) 40%
- (e) 35%

Q89. Area of a rectangle is 572 cm^2 and length of the rectangle is 26 cm. If radius of a cylinder is six cm more than breadth of the rectangle and curved surface area of the cylinder is 3168 cm^2 , then find the height of the cylinder (in cm).

- (a) 9
- (b) 16
- (c) 18
- (d) 24
- (e) 15

Q90. A person spends 10% of his monthly salary on food and from the remaining he spends 20% on the trips. He spends 25% of the remaining salary on the electricity bill. If he saved the remaining salary and the difference between his savings and on food is Rs. 880, then find the monthly salary of the person.

- (a) Rs. 2000
- (b) Rs. 4000
- (c) Rs. 1000
- (d) Rs. 2500
- (e) Rs. 1500

Directions (91-95): Each question consists of two equations I & II. You have to solve each equation and mark answer as per instructions.

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

Q91. I. $10x^2 - 17x + 3 = 0$
II. $10y^2 - 41y + 40 = 0$

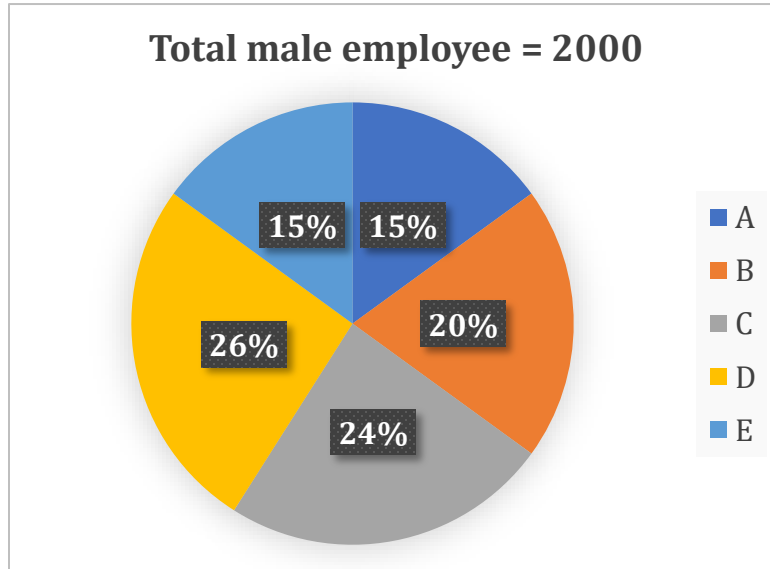
Q92. I. $25x^2 - 25x + 6 = 0$
II. $3y^2 + 2y - 1 = 0$

Q93. I. $x^2 = \sqrt[3]{1331} + 25^{\frac{1}{2}}$
II. $y^3 = 64$

Q94. I. $2x^2 - 13x + 21 = 0$
II. $3y^2 - 14y + 15 = 0$

Q95. I. $63x^2 + 2x - 1 = 0$
II. $42y^2 + 5y - 2 = 0$

Directions (96-100): Pie chart given below shows percentage distribution of total number of male employees working in five different companies. Read the data carefully and answer the questions.



Q96. If total female employees working in 'D' are $37\frac{1}{2}\%$ less than total male employees working in B, then find ratio of male to female employees working in D respectively?

- (a) 52 : 27
- (b) 52 : 25
- (c) 52 : 23
- (d) 52 : 29
- (e) 25 : 52

Q97. If ratio of total male employees to female employees working in E is 6 : 5, then find total female employees working in E is what percent (approximate) of total male employees working in C?

- (a) 52%
- (b) 56%
- (c) 62%
- (d) 48%
- (e) 60%

Q98. Find the average number of male employees working in companies A, C & E?

- (a) 480
- (b) 300
- (c) 320
- (d) 360
- (e) 420

Q99. If total employees working in company F are 12.5% more than total male employees working in company D and ratio of male to female employees working in F is 2 : 1, then find total male employees working in F is what percent less than the total male employees working in B?

- (a) 0.25%
- (b) 5%
- (c) 2.5%
- (d) 2%
- (e) None of these

Q100. Find the central angle for total male employees working in B & E together with respect to total male employees working in all five companies together?

- (a) 117°
- (b) 106°
- (c) 116°
- (d) 126°
- (e) 144°

Directions (101-105): Study the table given below and answer the following questions. The table gives information about employees in 5 different departments of a company. Total employees in any department = Total (male + female) employees in that department.

Departments	Total employees	% of female employees out of total employees	% of graduated employees out of total employees	Total graduated male employees
Production	6,000	20%	40%	1500
Finance	1,200	40%	80%	500
R & D	800	60%	90%	480
Marketing	4,000	45%	60%	1800
HR	600	75%	80%	360

Note – 1. % of female employees in any department = $\frac{\text{Total female employees in that department}}{\text{Total employees in that department}} \times 100$

2. % of graduated employees in any department = $\frac{\text{Total graduated employees in that department}}{\text{Total employees in that department}} \times 100$

Q101. Total graduated employees in the Finance and R & D departments together are how much more or less than total male employees in the Marketing department?

- (a) 570
- (b) 520
- (c) 540
- (d) 550
- (e) 560

Q102. Non – graduated female employees in the Production and Marketing departments together are what percent of total employees in the Production and Marketing departments together?

- (a) 15%
- (b) 20%
- (c) 18%
- (d) 12%
- (e) 24%

Q103. The average of graduated employees in the Production, Marketing & HR departments are what percent more or less than total employees in the Finance department?

- (a) $33\frac{1}{3}\%$
- (b) $66\frac{2}{3}\%$
- (c) $23\frac{1}{3}\%$
- (d) $46\frac{2}{3}\%$
- (e) $83\frac{1}{3}\%$

Q104. The total number of male employees in the Finance and R &D departments together are how much more or less than graduated female employees in Marketing & HR departments together?

- (a) 360
- (b) 350
- (c) 280
- (d) 240
- (e) 320

Q105. Find the total number of graduated female employees in Production, Finance and R & D departments together?

- (a) 1,500
- (b) 1,600
- (c) 1,800
- (d) 1,200
- (e) 1,000

Directions (106-110): Read the following information and answer the questions given below.

Information about the total boys and girls in three (X, Y and Z) different schools. Total students (boys and girls) in Y are 230. Boys in Y are 60% more than girls in Z and girls in X are 20 more than boys in Y. The boys in X are 30 less than the girls in Z. Girls in Y and boys in Z are the same and the average boys in all three schools are 100.

Q106. Find the ratio of total students (boys and girls) in X and girls in Z.

- (a) 1:3
- (b) 5:2
- (c) 3:2
- (d) 5:4
- (e) 6:5

Q107. Boys in X is what percentage more or less than the girls in Y?

- (a) 100%
- (b) 200%
- (c) 0%
- (d) 75%
- (e) 50%

Q108. Find the difference between total students (boys and girls) in Z and sum of girls in X and Y.

- (a) 75
- (b) 55
- (c) 80
- (d) 90
- (e) 100

Q109. If total students (boys and girls) in P is 80% of the girls in Y. If boys in P is 40% less than the boys in Z, then find the girls in P.

- (a) 15
- (b) 10
- (c) 12
- (d) 16
- (e) 14

Q110. Total students (boys and girls) in Z are what percentage of total girls in all three schools (approx.).

- (a) 43%
- (b) 49%
- (c) 54%
- (d) 37%
- (e) 69%

Solutions

S1. Ans.(e)

Sol. By going through the lines of the first paragraph of the passage we can conclude that option (e) is the correct choice. Refer to lines, that mentions, **“188 country representatives adopted an agreement to “halt and reverse” biodiversity loss by conserving 30% of the world’s land and 30% of the world’s oceans, known as the 30×30 pledge.”**

S2. Ans.(d)

Sol. The correct choice is option(d). To validate the answer, refer to the lines that mentions, **“India currently hosts 17% of the planet’s human population and 17% of the global area in biodiversity hotspots, placing it at the helm to guide the planet in becoming biodiversity champions.”**

S3. Ans.(b)

Sol. To validate the answer, refer to line which mentions, **“The emphasis on green growth is welcome news for India’s biological wealth as the country is facing serious losses of natural assets such as soils, land, water, and biodiversity.”**

S4. Ans.(a)

Sol. The correct choice is the option (a). To validate the answer, refer to the lines that mentions, **“The National Mission for a Green India aims to increase forest cover and protect existing forested lands.”**

S5. Ans.(c)

Sol. To validate the answer, refer to the lines of the second paragraph that mention, **“A science-based and inclusive monitoring programme is critical for the success of these efforts.”**

S6. Ans.(e)

Sol. ‘Stress’ is a synonym of ‘emphasis’.

- (a) baffle: totally bewilder or perplex.
- (b) ambiance: the character and atmosphere of a place.
- (c) corroboration: evidence which confirms or supports a statement, theory, or finding; confirmation.
- (d) revoke: officially cancel (a decree, decision, or promise).
- (e) stress: to give importance to something

S7. Ans.(b)

Sol. ‘Ravage’ is an antonym of ‘protect’.

- (a) refine: remove impurities or unwanted elements from (a substance), typically as part of an industrial process.
- (b) ravage: cause severe and extensive damage to.
- (c) abate: (of something unpleasant or severe) become less intense or widespread.
- (d) perplex: make (someone) feel completely baffled.
- (e) ample: enough or more than enough; plentiful.

S8. Ans.(e)

Sol. All the given sentences are correct.

For option (a), refer to the lines, "In response to this call, the Union Budget 2023 mentioned "Green Growth" as one of the seven priorities or Saptarishis."

For option (b), refer to the lines, "Finally, the Amrit Dharohar scheme directly mentions our biological wealth and is expected to "encourage optimal use of wetlands, and enhance biodiversity, carbon stock, eco-tourism opportunities and income generation for local communities"."

For option (c), refer to the lines, "The Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI) is particularly significant because of the extraordinary importance of mangroves and coastal ecosystems in mitigating climate change."

For option (d), refer to the lines, "Finally, each of these efforts must be inclusive of local and nomadic communities where these initiatives will be implemented. Traditional knowledge of these communities should be integrated into the implementation plans."

S9. Ans.(c)

Sol. 'Articulated' is the most suitable word for the given blank.

(a) **decree:** an official order that has the force of law.

(b) **conferred:** grant (a title, degree, benefit, or right).

(c) **articulated:** pronounce (something) clearly and distinctly.

(d) **prevailed:** prove more powerful or superior.

(e) **adjourned:** break off (a meeting, legal case, or game) with the intention of resuming it later.

S10. Ans.(d)

Sol. 'Amalgamate' is a synonym of 'integrated'.

(a) **convulse:** throw (a country) into violent social or political upheaval.

(b) **vitiate:** spoil or impair the quality or efficiency of.

(c) **resonate:** produce or be filled with a deep, full, reverberating sound

(d) **amalgamate:** combine or unite to form one organization or structure.

(e) **muffle:** wrap or cover for warmth.

S11. Ans.(d)

Sol. The given sentences indicate a series of events occurred to form a coherent story. Sentence (B) stands as an introductory sentence of the story, where the two main characters of the story are presented in a certain state of affairs. Sentence (D) should be the next one in the arrangement, as it mentions the aftermath of the fight between the cocks. Sentence (E) further details the information given in sentence (D). Sentence (C) should be the fourth statement in the sequence as it mentions another event which occurred after the events mentioned in B,D and E. Moreover, it is to be noticed that sentence (C) begins with 'but' which gives a contradiction to the existing tone of the story. Sentence (A) brings the story to an end and thus becomes the last sentence in the sequence. Therefore, the final sequence formed is BDECA.

S12. Ans.(b)

Sol. The given sentences indicate a series of events occurred to form a coherent story. Sentence (B) stands as an introductory sentence of the story, where the two main characters of the story are presented in a certain state of affairs. Sentence (D) should be the next one in the arrangement, as it mentions the aftermath of the fight between the cocks. Sentence (E) further details the information given in sentence (D). Sentence (C) should be the fourth statement in the sequence as it mentions another event which occurred after the events mentioned in B,D and E. Moreover, it is to be noticed that sentence (C) begins with 'but' which gives a contradiction to the existing tone of the story. Sentence (A) brings the story to an end and thus becomes the last sentence in the sequence. Therefore, the final sequence formed is BDECA.

S13. Ans.(e)

Sol. The given sentences indicate a series of events occurred to form a coherent story. Sentence (B) stands as an introductory sentence of the story, where the two main characters of the story are presented in a certain state of affairs. Sentence (D) should be the next one in the arrangement, as it mentions the aftermath of the fight between the cocks. Sentence (E) further details the information given in sentence (D). Sentence (C) should be the fourth statement in the sequence as it mentions another event which occurred after the events mentioned in B,D and E. Moreover, it is to be noticed that sentence (C) begins with 'but' which gives a contradiction to the existing tone of the story. Sentence (A) brings the story to an end and thus becomes the last sentence in the sequence. Therefore, the final sequence formed is BDECA.

S14. Ans.(a)

Sol. The given sentences indicate a series of events occurred to form a coherent story. Sentence (B) stands as an introductory sentence of the story, where the two main characters of the story are presented in a certain state of affairs. Sentence (D) should be the next one in the arrangement, as it mentions the aftermath of the fight between the cocks. Sentence (E) further details the information given in sentence (D). Sentence (C) should be the fourth statement in the sequence as it mentions another event which occurred after the events mentioned in B,D and E. Moreover, it is to be noticed that sentence (C) begins with 'but' which gives a contradiction to the existing tone of the story. Sentence (A) brings the story to an end and thus becomes the last sentence in the sequence. Therefore, the final sequence formed is BDECA.

S15. Ans.(c)

Sol. The given sentences indicate a series of events occurred to form a coherent story. Sentence (B) stands as an introductory sentence of the story, where the two main characters of the story are presented in a certain state of affairs. Sentence (D) should be the next one in the arrangement, as it mentions the aftermath of the fight between the cocks. Sentence (E) further details the information given in sentence (D). Sentence (C) should be the fourth statement in the sequence as it mentions another event which occurred after the events mentioned in B,D and E. Moreover, it is to be noticed that sentence (C) begins with 'but' which gives a contradiction to the existing tone of the story. Sentence (A) brings the story to an end and thus becomes the last sentence in the sequence. Therefore, the final sequence formed is BDECA.

S16. Ans.(d)

Sol. The error lies in part (D) of the sentence. The regular past tense of “swim” is “swam”: “I swam to the island.” However, when the word is preceded by a helping verb, it changes to “swum”. Thus it can be understood that swam is the past tense of swim, while swum is the past participle.

S17. Ans.(a)

Sol. The error lies in the first part of the sentence. If you describe something as unmatched, you are emphasizing that it is better or greater than all other things of the same kind. Therefore, “unmatched” is considered as an adjective of superlative degree. Hence, the usage of “most” is redundant with “unmatched”.

S18. Ans.(c)

Sol. In the given sentence, the error lies in part (C) of the sentence. Note that, if an adjective is used before “enough”, it should always be in positive degree (i.e., “long” in this case). Using comparative degrees and superlative degrees before “enough” would be incorrect.

S19. Ans.(a)

Sol. In an assertive affirmative sentence, ‘doubtful’ is followed by ‘whether’ or ‘if’. However, if the sentence is assertive negative, ‘doubtful’ is followed by ‘that’. Since the given sentence is affirmative sentence, ‘that’ should be replaced by ‘whether’.

S20. Ans.(a)

Sol. The error lies in part (A) of the sentence. If hardly, scarcely, barely and no sooner are in the initial position, the subject and auxiliary are inverted. Thus, the phrase should be, “Hardly had I....”

S21. Ans.(c)

Sol. The given sentence is in past tense so the verb should also be in past tense. Further, ‘cruelty’ is incorrect and use of ‘cruel’ (adjective) for ‘practices’ is correct. So the correct replacement is option (c).

S22. Ans.(b)

Sol. Possessive determiner ‘its’ should be ‘their’ for ‘rates’. The word ‘for’ is used to show a period of time, in the past, present or future. The word ‘since’ is used to present the starting point of an action that continues in the present and takes the usage of the present perfect or present perfect continuous tense verb. The word ‘from’ is always used as a preposition.

S23. Ans.(a)

Sol. We don’t use ‘as’ after word ‘consider’. Contextually we don’t need ‘to’ here. Therefore, the correct replacement is option (a).

S24. Ans.(d)

Sol. ‘Reckon’ which means ‘consider or regard in a specified way’ OR ‘be of the opinion’ has been used grammatically and contextually correctly in statements (A) and (B).

S25. Ans.(a)

Sol. 'Exacerbate' means 'make (a problem, bad situation, or negative feeling) worse' and has been used correctly in all statements.

S26. Ans.(c)

Sol. The given passage describes crucial role sports and academics play in a student's life. It is important to maintain a balance between the two. The passage further illustrates the pros and cons of academics and sports in student lives. The meanings of the words given in options are: -

Beneficial- resulting in good; favourable or advantageous.

Commercial- concerned with or engaged in commerce.

Controversial- giving rise or likely to give rise to controversy or public disagreement.

Escalating- increasing rapidly.

Competing- be able to rival another or others.

Thus, by analyzing each word and understanding the theme of the passage the most suitable word for the given blank is "controversial" which fits in the sentence grammatically as well as contextually.

S27. Ans.(a)

Sol. The next sentence of the passage mentions the benefits of participating in a sport that are presented in several research studies. The meanings of the words given in options are: -

Horde- a large group of people.

Bundles- a collection of things or quantity of material tied or wrapped up together.

Record- a thing constituting a piece of evidence about the past, especially an account kept in writing or some other permanent form.

People- human beings in general or considered collectively.

Representative- typical of a class, group, or body of opinion.

Thus, by analyzing each word and understanding the theme of the passage the most suitable word for the given blank is "horde" which fits in the sentence grammatically as well as contextually.

S28. Ans.(d)

Sol. The most suitable phrase for the given blank is "take away from" which means to reduce the value or importance of (something).

Take in: include or encompass something

Take away from- to deduct; subtract. t

Increase- become or make greater in size, amount, or degree.

Contemplate- look thoughtfully for a long time at.

Present- in a particular place.

S29. Ans.(b)

Sol. “However” is the most suitable word to fill the blank as the sentence displays a contradiction in the two ideas of inclusion of sport. It illustrates about the impact of sports when opted voluntarily by students or made it obligatory by parents.

Though- despite the fact that; although.

However- used to introduce a statement that contrasts with or seems to contradict something that has been said previously.

Albeit- though

Since- for the reason that; because.

Moreover- as a further matter; besides.

S30. Ans.(e)

Sol. By analyzing the meanings of the given options and the tone of the passage, the most suitable word for the given blank becomes “exhibited”.

Transformed- make a marked change in the form, nature, or appearance of.

Maintained- cause or enable (a condition or situation) to continue.

Completed- finish making or doing.

Admitted- confess to be true or to be the case.

Exhibited- manifest clearly (a quality or a type of behaviour).

Solutions (31-34):**Final arrangement:**

Floor	Flat A	Flat B	Flat C
3	S - Turtle	H – Bird	T – cat
2	K - Dog	Q - Parrot	M - Fish
1	G - Horse	Z – Cow	P - Rabbit

Clue: K does not live on odd numbered floors. The one who has parrot lives immediate east of K. T and the one who has parrot do not live in same named flat.

Inference: Two possible cases will come out here.

Floor	Flat A	Flat B	Flat C	Flat A	Flat B	Flat C
	Case 1			Case 2		
3	T/		T/	T/	T/	
2	K	Parrot	T/	T/	K	Parrot
1	T/		T/	T/	T/	

Clue: One floor gap between T and the one who has horse. The one who lives north of the one who has horse is immediate south-west of H. Z lives in the same named flat of H and west of the one who has rabbit.

Inference: Above information is arranged in the table.

Floor	Flat A	Flat B	Flat C	Flat A	Flat B	Flat C
	Case 1			Case 2		
3	T/	H	T/	T	H	
2	K	Z/ - Parrot	Rabbit/		K	Parrot
1	Horse	Z/	Rabbit/	Horse	Z	Rabbit

Clue: The number of persons lives to the west of the one who has rabbit is same as the number of persons lives to the east of S. S and T neither live in same named flat nor live on the adjacent floor of Z.

Inference: Case 2 will eliminate here for not satisfying the above condition.

Floor	Flat A	Flat B	Flat C	Flat A	Flat B	Flat C
	Case 1			Case 2		
3	S/	H	T	T	H	
2	K	Parrot			K	Parrot
1	S/ - Horse	Z	Rabbit	Horse	Z	Rabbit

Clue: The one who has fish lives on even numbered floor but south-east of the one who has bird. The one who has dog lives above G's flat but on the adjacent floor of the one who has bird. M lives above P but below the one who has cat. M does not live in flat B.

Information: Above information is arranged in the table.

Floor	Flat A	Flat B	Flat C
	Case 1		
3	S - bird/ cat/	H - bird/ cat/	T - cat/
2	K - Dog	Parrot	M - Fish
1	G - Horse	Z	P - Rabbit

Clue: The one who has cow do not live on the same floor of the one who has cat but lives south-east of the one who has turtle.

Inference: The remaining person is Q. Now, the final arrangement is:

Floor	Flat A	Flat B	Flat C
3	S - Turtle	H - Bird	T - cat
2	K - Dog	Q - Parrot	M - Fish
1	G - Horse	Z - Cow	P - Rabbit

S31. Ans.(e)

Sol. Q lives in flat B, floor 2.

S32. Ans.(b)

Sol. T has cat.

S33. Ans.(a)

Sol. The person who lives in flat A on floor 2 has dog.

S34. Ans.(c)

Sol. Statement (c) is not correct.

Solutions (35-38):

Words: Firstly, each word is taken in alphabetical order as per its last letter then the word is placed at the extreme left end of each step after changing its all letters to the opposite letters.

Numbers: The number is picked in decreasing order. The given six-digit numbers are considered into two parts (first three and last three digits). Add the first three digits and place the addition before the addition of last three digits. The resultant number is placed at the extreme right end in each step.

In step V: Letter: Consonant change into "\$" and vowel change into "@".

Number: Multiply all digits within the number.

Input: Color round 534782 912347 store 192845 289346 gadgets

Step I: ilfmw Color 534782 store 192845 289346 gadgets 1214

Step II: hgliv ilfmw Color 192845 289346 gadgets 1214 1217

Step III: xloli hgliv ilfmw 192845 gadgets 1214 1217 1913

Step IV: tzwvtvgh xloli hgliv ilfmw 1214 1217 1913 1217

Step V: \$\$\$\$\$\$ \$\$@\$@\$ \$\$\$@\$ @\$\$\$\$ 8 14 27 14

S35. Ans.(e)

Sol. 'hgliv' is 4th to the left of '1214' in step III.

S36. Ans.(c)

Sol. In step V, 'ilfmw' is converted into '@\$\$\$\$'.

S37. Ans.(c)

Sol. Six elements are to the right of 'xloli' in step IV.

S38. Ans.(b)

Sol. Required sum = 8+14+14 = 36

S39. Ans.(d)

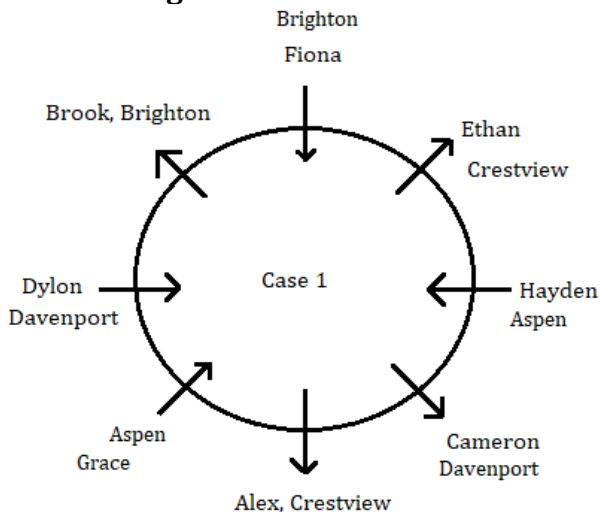
Sol. Population of India and Australia has been compared but nowhere discussed or central theme about education or study destination. So (I) is not in line with the given statement. Option (II) defines the Indian culture and (III) is the basic principle of democracy. So, II and III are in line with the given statement.

S40. Ans.(b)

Sol. Option (I) may be the effective course of action, it's not the fallout. Option (II) may be the fallout as management is careless, they are not taking appropriate steps. Option (III) may be the fallout as after a year there is no improvement in case and if PIL will be filed, Supreme court may look into the matter.

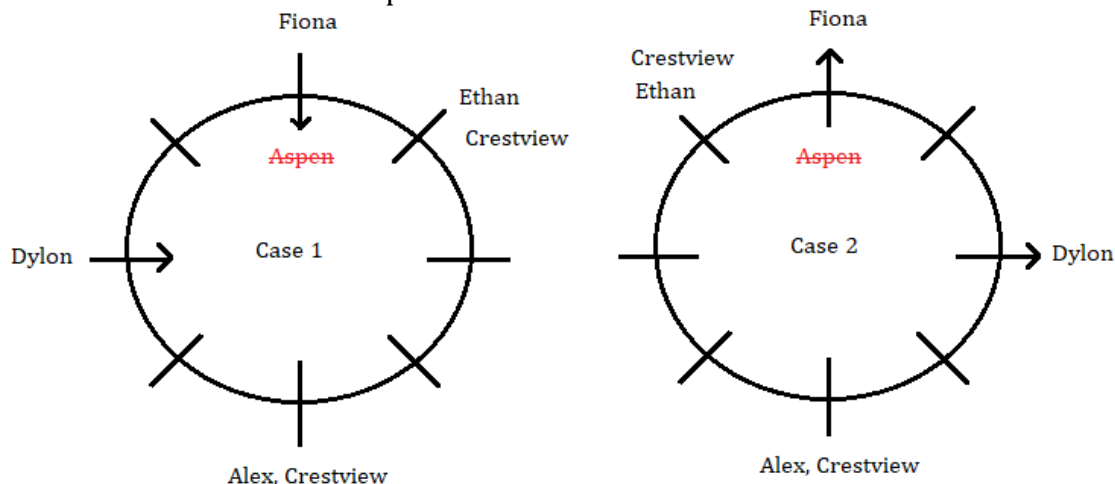
Solutions (41-45):

Final arrangement-



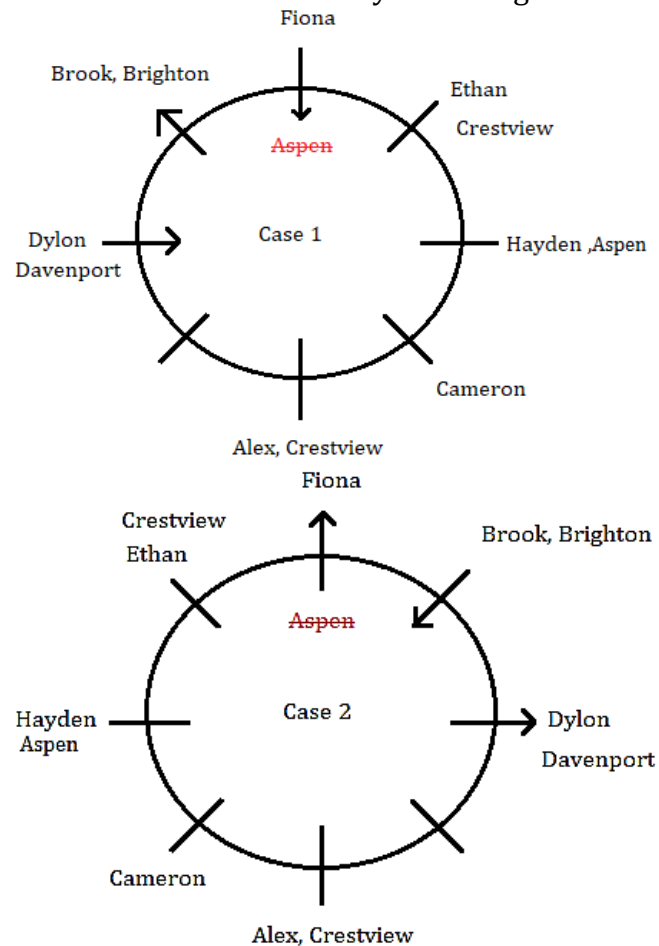
Clues-Alex belongs to Crestview and sits second to the right of Dylan. Fiona sits second to the left of Dylan and doesn't belong to Crestview and Aspen. Ethan sits at the immediate left of Fiona. Dylan is not an immediate neighbour of Ethan who belongs to the same place as Alex.

Inference- Here we have 2 possible cases.



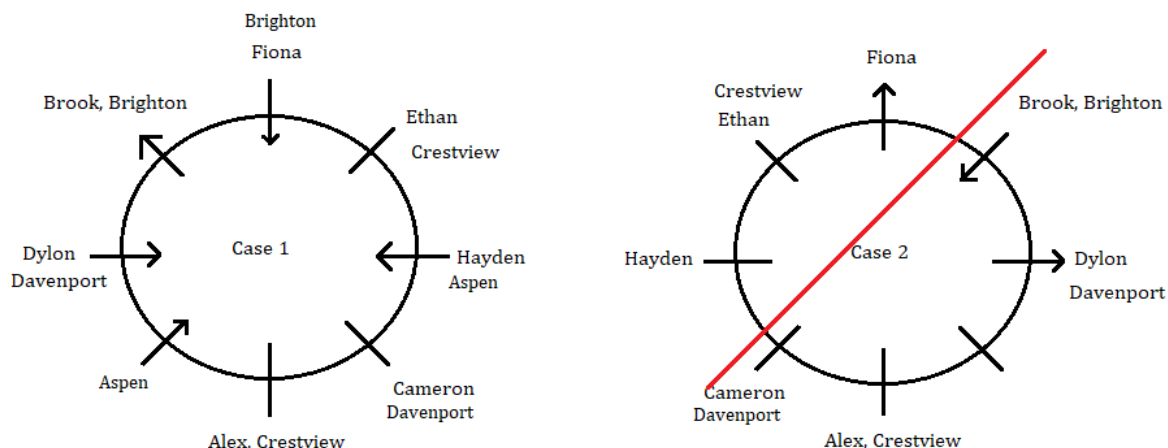
Clues-Dylan doesn't belong to Brighton and Aspen. Brooke sits opposite to Cameron and belongs to Brighton. Hayden belongs to Aspen and sits third to the right of Brooke.

Inference- Which means Dylan belongs to Davenport. So, Hayden either belongs to Davenport or Brighton.



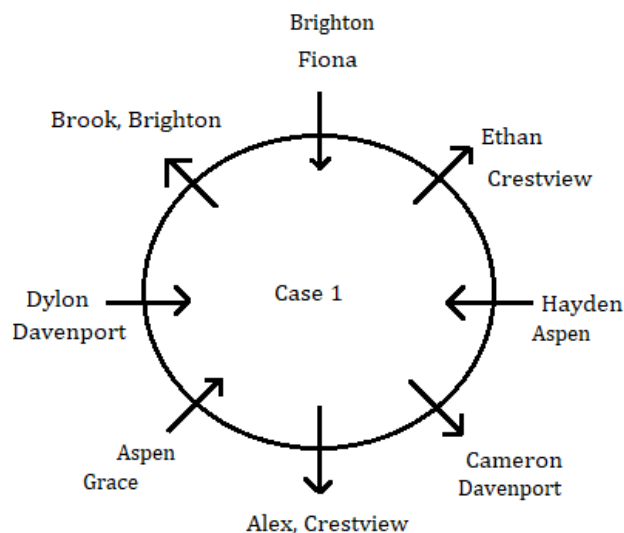
Clues- Cameron belongs to Davenport. Those who belong to Aspen face towards the centre. Cameron doesn't sit to the immediate right of Hyden.

Inference- Here case 2 is ruled out now because Cameron doesn't sit to the immediate right of Hyden



Clues- Four of them are facing the centre while four are facing outside from the centre.

Inference- So, the final arrangement is-



S41. Ans.(a)

Sol. Alex is sitting second to the right of the one who sits at immediate left of Brook.

S42. Ans.(b)

Sol. Hayden sits 3rd to the right of Grace who sits opposite Ethan

S43. Ans.(c)

Sol. Option (c) is true

S44. Ans.(a)

Sol. All faces inside except Cameron

S45. Ans.(b)

Sol. Ethan belongs to Crestview

S46. Ans.(c)

Sol. I. $K < S$ (False) II. $V \geq H$ (False)

S47. Ans.(a)

Sol. I. $C > F$ (True) II. $S \leq T$ (False)

S48. Ans.(e)

Sol. I. $B > H$ (True) II. $S < W$ (True)

S49. Ans.(d)

Sol. I. $L > J$ (False) II. $V \leq J$ (False)

S50. Ans.(e)

Sol. As it has been decided for random testing so it can be said that DIAL is expecting some case rise. In the above statement, testing of corona and if someone found positive, they will be quarantined has been discussed but there is no provision of lockdown. One of measures i.e. Quarantine has been taken by DIAL as per the protocol of ministry of health and family welfare so flight shut down cannot be assumed as per given statement.

S51. Ans.(b)

Sol. From the given statements, three persons buy between P and the one who buys just after C. B buys just before S. Three persons buy between S and D.

P _ _ _ C _ _ _ B S _ _ _ D

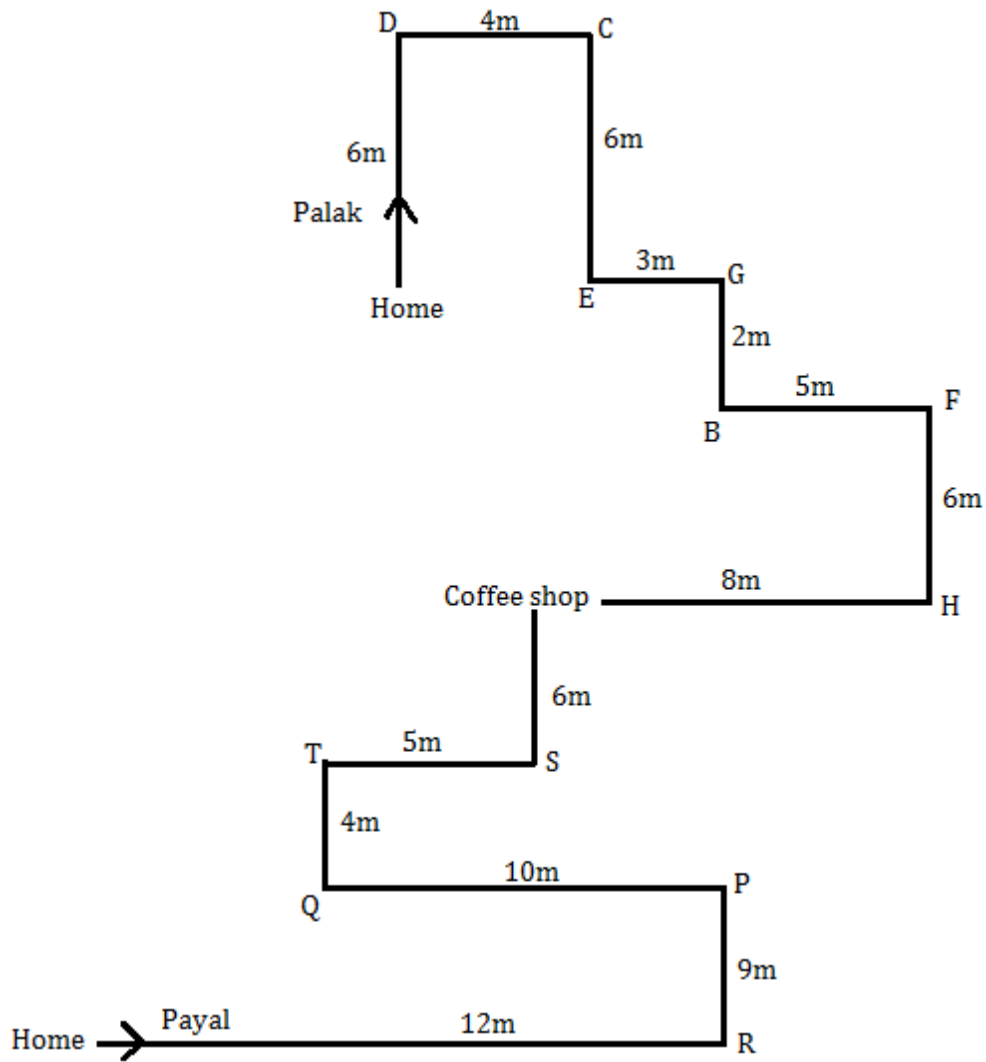
C _ _ _ _ P D _ _ B S

No one buys between A and D. Two persons buy between A and S. P buys exactly between A and B. No one buys after Q. After combining the all we get the final arrangement is-

D A P B S C Q

Two persons buy things between D and the one who buys just before S

Solutions (52-55):
Final arrangement:



S52. Ans.(b)

Sol. Shortest distance between F and S is $4\sqrt{13}$ m.

S53. Ans.(d)

Sol. First destination is in south-west with respect to second destination except in option (d).

S54. Ans.(c)

Sol. North – East

S55. Ans.(a)

Sol. 34m

Solutions (56-60):**Final arrangement:**

Designations	Persons	States
General Manager (GM)	D	Assam
Deputy General Manager (DGM)	M	Haryana
Assistant General Manager (AGM)	A	Telangana
Assistant Manager (AM)	B	Kerala
Section Officer (SO)	E	Rajasthan
Clerk	C	Delhi

Clues: C is two designations junior to the person who is posted in Kerala. The person who is posted in Kerala is not the senior-most person. C is not designated as AM. Two persons have designations between the person who is posted in Kerala and D.

Inference: From the above conditions there are two possibilities i.e., Case 1 and Case 2.

Designations	Case 1		Case 2	
	Persons	States	Persons	States
General Manager (GM)			D	
Deputy General Manager (DGM)				
Assistant General Manager (AGM)		Kerala		
Assistant Manager (AM)				Kerala
Section Officer (SO)	C			
Clerk	D		C	

Clues: There are two designations between E and the person who is posted in Haryana. E is neither designated as GM nor as AGM. C and D are not posted in Haryana. The person who is designated as SO is not posted in Haryana.

Inference: From the above conditions it is clear that E is just senior to C.

Designations	Case 1		Case 2	
	Persons	States	Persons	States
General Manager (GM)		Haryana	D	
Deputy General Manager (DGM)				Haryana
Assistant General Manager (AGM)		Kerala		
Assistant Manager (AM)	E			Kerala
Section Officer (SO)	C		E	
Clerk	D		C	

Clues: M is three designations senior to the person who is posted in Rajasthan. C is not posted in the Rajasthan. M is not just senior to E. As many persons are senior to the person who is posted in Assam as junior to the person who is posted in Delhi. The person who is posted in Delhi is not the senior most person.

Inference: We have the following arrangement:

Designations	Case 1		Case 2	
	Persons	States	Persons	States
General Manager (GM)	M	Haryana	D	Assam
Deputy General Manager (DGM)		Assam/Delhi	M	Haryana
Assistant General Manager (AGM)		Kerala		
Assistant Manager (AM)	E	Rajasthan		Kerala
Section Officer (SO)	C	Assam/Delhi	E	Rajasthan
Clerk	D		C	Delhi

Clue: A is not posted in Kerala, Delhi and Assam.

Inference: From the above conditions case 1 is cancelled here as there is no place for A.

Only one person remains i.e., B and only one state remains i.e., Telangana. So, the Final arrangement is:

Designations	Case 1		Case 2	
	Persons	States	Persons	States
General Manager (GM)	M	Haryana	D	Assam
Deputy General Manager (DGM)		Assam/Delhi	M	Haryana
Assistant General Manager (AGM)		Kerala	A	
Assistant Manager (AM)	E	Rajasthan		Kerala
Section Officer (SO)	C	Assam/Delhi	E	Rajasthan
Clerk	D		C	Delhi

Inference: Only one person remains i.e., B and only one state remain i.e., Telangana. So, the Final arrangement is:

Designations	Persons	States
General Manager (GM)	D	Assam
Deputy General Manager (DGM)	M	Haryana
Assistant General Manager (AGM)	A	Telangana
Assistant Manager (AM)	B	Kerala
Section Officer (SO)	E	Rajasthan
Clerk	C	Delhi

S56. Ans.(c)

Sol. E is designated as SO

S57. Ans.(a)

Sol. Three persons are senior to B

S58. Ans.(a)

Sol. There are two designations between C and the person who is posted in Telangana

S59. Ans.(d)

Sol. The person who is designated as GM is posted in Assam

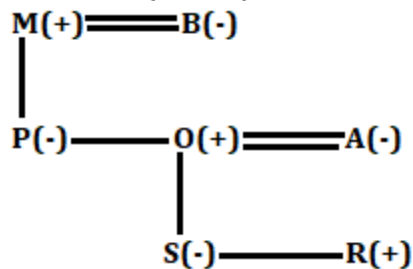
S60. Ans.(d)

Sol. The statement given in option (d), is true

S61. Ans.(a)

Sol. I is not strong because the intimacy of NRIs with Indian soil will be helpful for the Indian economy. II is a weak argument because a move can't be restricted only because the move does not give benefit to all of a kind.

Solutions (62-64):



S62. Ans.(a)

Sol. A is the mother of R

S63. Ans.(b)

Sol. P is daughter of B

S64. Ans.(b)

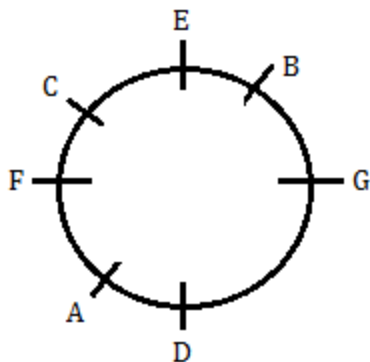
Sol. M is father-in-law of A

S65. Ans.(a)

Sol. I. J&M (True) II. F\$G (False)

S66. Ans.(b)

Sol. Both statements I and III are sufficient to answer.



S67. Ans.(a)

Sol. Both statements II and III are sufficient to answer.

Floors	Persons
7	R
6	P
5	T
4	Q
3	V
2	S
1	U

S68. Ans.(e)

Sol. Statements I, II and III even together are not sufficient to answer

S69. Ans.(d)

Sol. It is mentioned in the statement, Cyclone Tauktae in the Arabian Sea, have left a trail of destruction in Kerala, especially in its coastal areas. Officials have demarcated facilities for those who have tested positive and in quarantine at relief camps and it can be assumed but not inferred that it will make its impact in another parts of country.

S70. Ans.(e)

Sol. Both are the effects of some common causes and common cause is Cyclone Tauktae in the Arabian Sea that left a trail of destruction in Kerala especially in coastal areas.

S71. Ans.(a)

Sol. ATQ,

$$N(N + 16) = (2N + 32)8$$

$$N = 16$$

$$\text{Total work} = N(N + 16) = 16 \times 32 = 512$$

$$\text{Required time} = \frac{512}{2(16-8)} = 32 \text{ days}$$

S72. Ans.(d)

Sol. ATQ –

$$\frac{X}{X+9} = \frac{1}{4}$$

$$4X = X + 9$$

$$X = 3$$

Total number of balls = 12

Possible cases = (2 yellow and 1 green) or (2 yellow and 1 red) or 3 yellow

$$\text{Required probability} = \frac{3 \times 4}{220} + \frac{3 \times 5}{220} + \frac{1}{220}$$

$$= \frac{28}{220}$$

$$= \frac{7}{55}$$

S73. Ans.(a)

Sol. ATQ, $x + y = y + 120$

$$x = 120$$

$$\text{So, quantity of milk in vessel B} = 120 \times \frac{7}{12} + 50 = 120$$

$$\text{So, } y = 120 \times \frac{5}{3} = 200 \text{ liters}$$

S74. Ans.(e)

Sol. Let cost price of article Y = $10x$ Rs.

So, cost price of article X = $(10x + 16)$ Rs.

$$\text{Marked price of article X} = (10x + 16) \times \frac{125}{100} = (12.5x + 20) \text{ Rs.}$$

$$\text{Marked price of article Y} = 10x \times \frac{120}{100} = 12x \text{ Rs.}$$

ATQ,

$$24.5x + 20 = 216$$

$$24.5x = 196$$

$$x = 8$$

$$\text{Marked price of article X} = (12.5 \times 8 + 20) = 120 \text{ Rs.}$$

$$\text{Cost price of article X} = (10 \times 8 + 16) = 96 \text{ Rs.}$$

$$\text{ATQ, selling price of article X} = 120 \times \frac{7}{8} = 105$$

$$\text{Required profit} = 105 - 96 = 9 \text{ Rs.}$$

S75. Ans.(e)

Sol. Let the speed of current be x km/hr.

The speed of boat in = $6x$ km/hr.

ATQ,

$$\frac{D}{6x+x} = 2T \dots\dots\dots(i)$$

$$\frac{D-400}{6x} = \frac{2T}{2}$$

$$\frac{D-400}{6x} = T \dots\dots\dots(ii)$$

Dividing (i) and (ii)

$$\frac{\frac{D}{6x+x}}{\frac{D-400}{6x}} = \frac{2T}{T}$$

$$\frac{D}{7} \times \frac{6}{(D-400)} = \frac{2}{1}$$

$$6D = 14D - 5600$$

$$8D = 5600$$

$$D = 700$$

S76. Ans.(b)

Sol. Profit share ratio = $400 \times t : 500 \times (t - 2) : 1000 \times (t + 4) = 4t : 5(t-2) : 10(t+4)$

ATQ,

$$\frac{4t}{5t-10} = \frac{16}{15}$$

$$60t = 80t - 160$$

$$20t = 160$$

$$t = 8$$

$$\text{Required value} = 8^2 = 64$$

S77. Ans.(a)

Sol. Let the total people (X) = 1000A

Now,

$$\text{Number of women} = \frac{36}{100} \times 1000A = 360A$$

$$\text{Number of men} = \frac{52}{100} \times 1000A = 520A$$

$$\text{Number of children} = 1000A - 520A - 360A = 120A$$

$$\text{Number of boys} = \frac{7}{12} \times 120A = 70A$$

ATQ,

$$520A - 70A = 4500$$

$$450A = 4500$$

$$A = 10$$

$$\text{Required value, } X = 10000$$

S78. Ans.(b)

Sol. Cumulative rate of interest in scheme A = $\left(10 + 10 + \frac{10 \times 10}{100}\right)\% = 21\%$

Cumulative rate of interest in scheme B = $\left(20 + 20 + \frac{20 \times 20}{100}\right)\% = 44\%$

$$\frac{X \times \frac{21}{100}}{Y \times \frac{44}{100}} = \frac{7}{11}$$

$$\frac{X}{Y} = \frac{4}{3}$$

$$X + Y = 7700$$

$$\text{Let } X = 4a \text{ and } Y = 3a$$

$$7a = 7700$$

$$a = \text{Rs. } 1100$$

$$X = 4a = \text{Rs. } 4400$$

S79. Ans.(a)

Sol. Let the speed of train A be p meter/sec.

Speed of train B be q meter/sec.

ATQ,

$$\frac{X}{p} = 15 \dots (1)$$

$$\frac{Y}{q} = 5 \dots (2)$$

$$\frac{X+Y}{p} = 25$$

$$\frac{X}{p} + \frac{Y}{p} = 25$$

Putting from (1)

$$\frac{Y}{p} = 25 - 15$$

$$\frac{Y}{p} = 10 \dots (3)$$

Dividing (1) from (3)

$$\frac{\frac{X}{p}}{\frac{Y}{p}} = \frac{15}{10}$$

$$X : Y = 3 : 2$$

S80. Ans.(b)

Sol. Let the present age of Suruchi be $5x$ years.

$$\text{Sheetal's present age} = 5x \times \frac{140}{100} = 7x \text{ years}$$

ATQ,

$$7x + 5 + 5x + 5 = 82$$

$$x = 6$$

$$\text{Required difference} = (7 \times 6 - 4) - (5 \times 6 - 4) = 12 \text{ years}$$

S81. Ans.(a)

$$\text{Sol. } 454 + 644 + 564 - 436 - 200 = ?$$

$$? = 1662 - 636$$

$$? = 1026$$

S82. Ans.(d)

$$\text{Sol. } \frac{4}{7} \times \frac{1}{64} \times 49 = ?$$

$$\frac{7}{16} = ?$$

S83. Ans.(a)

$$\text{Sol. } 3^{5+?} \div 5 = 3^{15}$$

$$5+? - 5 = 15$$

$$? = 15$$

S84. Ans.(e)

$$\text{Sol. } \frac{55}{100} \times 620 + ? = \frac{3000}{100} \times 54$$

$$? = 1620 - 341$$

$$? = 1279$$

S85. Ans.(c)

Sol. $\frac{415 \times 54}{45} - 150 = ? \times 4$

$\frac{415 \times 6}{5} - 150 = ? \times 4$

$498 - 150 = ? \times 4$

$? = \frac{348}{4} = 87$

S86. Ans.(d)

Sol. $\sqrt{124 - (152 + 55 - 25) + 122} = ?$

$\sqrt{124 - 182 + 122} = ?$

$? = \sqrt{64}$

$? = 8$

S87. Ans.(d)

Sol. Total capacity of tank = 80 units (LCM of 20 and 80)

Efficiency of pipe P = $\frac{80}{20} = 4$ units/min

Efficiency of pipe Q = $\frac{80}{80} = 1$ units/min

Time taken by both the pipe to fill the tank when there is no leak = $\frac{80}{5} = 16$ min.

Time taken by both the pipe to fill the tank when the leak was there = $16 + 24 = 40$ mins.

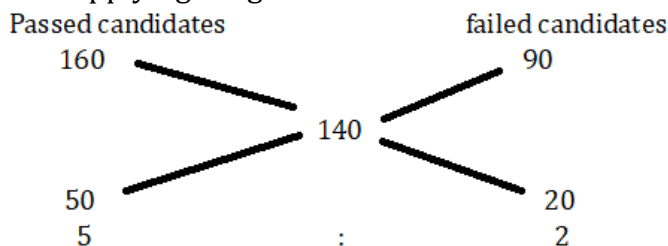
Total efficiency of both the pipe along with the leak = $\frac{80}{40} = 2$ units/min

Efficiency of the leak = $x = 5 - 2 = 3$ units/min

Required time = $\frac{80}{3} = 26\frac{2}{3}$ mins

S88. Ans.(d)

Sol. Applying allegation



Let the passed candidates be $5x$ and failed candidates be $2x$

Required percentage = $\frac{2x}{5x} \times 100 = 40\%$

S89. Ans.(c)

Sol. Breadth of the rectangle = $\frac{572}{26} = 22$ cm

Radius of the cylinder = $22 + 6 = 28$ cm

Let the height of the cylinder be h cm

ATQ,

$$2 \times \frac{22}{7} \times 28 \times h = 3168$$

$$h = 18$$

S90. Ans.(a)

Sol. Let the monthly salary of the person be $100x$

$$\text{Amount spends on food} = \frac{10}{100} \times 100x = 10x$$

$$\text{Amount spends on trip} = \frac{100x - 10x}{100} \times 20 = 18x$$

$$\text{Amount spends on electricity} = \frac{1}{4} \times (100x - 10x - 18x) = \frac{1}{4} \times 72x = 18x$$

$$\text{Amount he saved} = 72x - 18x = 54x$$

ATQ,

$$54x - 10x = 880$$

$$44x = 880$$

$$x = 20$$

$$\text{Required answer} = 100x = \text{Rs. } 2000$$

S91. Ans.(d)

Sol. I. $10x^2 - 17x + 3 = 0$

$$10x^2 - 15x - 2x + 3 = 0$$

$$5x(2x - 3) - 1(2x - 3) = 0$$

$$(5x - 1)(2x - 3) = 0$$

$$x = \frac{1}{5}, \frac{3}{2}$$

II. $10y^2 - 41y + 40 = 0$

$$10y^2 - 25y - 16y + 40 = 0$$

$$5y(2y - 5) - 8(2y - 5) = 0$$

$$(5y - 8)(2y - 5) = 0$$

$$y = \frac{8}{5}, \frac{5}{2}$$

$$\text{So, } x < y$$

S92. Ans.(a)

Sol. I. $25x^2 - 25x + 6 = 0$

$$25x^2 - 15x - 10x + 6 = 0$$

$$5x(5x - 3) - 2(5x - 3) = 0$$

$$(5x - 2)(5x - 3) = 0$$

$$x = \frac{2}{5}, \frac{3}{5}$$

II. $3y^2 + 2y - 1 = 0$

$$3y^2 + 3y - y - 1 = 0$$

$$3y(y + 1) - 1(y + 1) = 0$$

$$(3y - 1)(y + 1) = 0$$

$$y = \frac{1}{3}, -1$$

$$x > y$$

S93. Ans.(b)

Sol. I. $x^2 = \sqrt[3]{1331} + 25^{\frac{1}{2}}$

$$x^2 = 11 + 5$$

$$x^2 = 16$$

$$x = 4, -4$$

II. $y^3 = 64$

$$y = 4$$

$$x \leq y$$

S94. Ans.(e)

Sol. I. $2x^2 - 13x + 21 = 0$

$$2x^2 - 6x - 7x + 21 = 0$$

$$2x(x - 3) - 7(x - 3) = 0$$

$$(2x - 7)(x - 3) = 0$$

$$x = \frac{7}{2}, 3$$

II. $3y^2 - 14y + 15 = 0$

$$3y^2 - 9y - 5y + 15 = 0$$

$$3y(y - 3) - 5(y - 3) = 0$$

$$(3y - 5)(y - 3) = 0$$

$$y = \frac{5}{3}, 3$$

$$x \geq y$$

S95. Ans.(c)

Sol. I. $63x^2 + 2x - 1 = 0$

$$63x^2 + 9x - 7x - 1 = 0$$

$$9x(7x + 1) - 1(7x + 1) = 0$$

$$(9x - 1)(7x + 1) = 0$$

$$x = \frac{1}{9}, -\frac{1}{7}$$

II. $42y^2 + 5y - 2 = 0$

$$42y^2 + 12y - 7y - 2 = 0$$

$$6y(7y + 2) - 1(7y + 2) = 0$$

$$(6y - 1)(7y + 2) = 0$$

$$y = \frac{1}{6}, -\frac{2}{7}$$

no relation

S96. Ans.(b)

Sol. Total female employees working in 'D' = $2000 \times \frac{20}{100} \times \frac{62.5}{100} = 250$

Total male employees working in 'D' = $2000 \times \frac{26}{100} = 520$

Required ratio = $520 : 250 = 52 : 25$

S97. Ans.(a)

Sol. Total female employees working in E = $2000 \times \frac{15}{100} \times \frac{5}{6} = 250$

Total male employees working in C = $2000 \times \frac{24}{100} = 480$

Required percentage = $\frac{250}{480} \times 100 = 52.08\% \approx 52\%$ (approx.)

S98. Ans.(d)

Sol. Average number of male employees working in A, C & E = $\frac{1}{3} \times \left(\frac{15+24+15}{100} \right) \times 2000$

= $\frac{1}{3} \times 1080 = 360$

S99. Ans.(c)

Sol. Total employees working in F = $2000 \times \frac{26}{100} \times \frac{112.5}{100} = 585$

Total male employees working in F = $585 \times \frac{2}{3} = 390$

Total male employees working in B = $2000 \times \frac{20}{100} = 400$

Required percentage = $\frac{400-390}{400} \times 100 = 2.5\%$

S100. Ans.(d)

Sol. Required angle = $\frac{(20+15)}{100} \times 360^\circ = 126^\circ$

S101. Ans.(b)

Sol. Total graduated employees in Finance and R & D departments together

= $\left(1,200 \times \frac{80}{100} \right) + \left(800 \times \frac{90}{100} \right)$

= $960 + 720$

= $1,680$

Total male employees in Marketing department = $4,000 \times \frac{100-45}{100}$

= $2,200$

Required difference = $2,200 - 1,680 = 520$

S102. Ans.(a)

Sol. Non - graduated female employees in Production = $\left(6,000 \times \frac{20}{100} \right) - \left(\left(6,000 \times \frac{40}{100} \right) - 1,500 \right)$

= $1,200 - 900 = 300$

Non - graduated female employees in Marketing = $\left(4,000 \times \frac{45}{100} \right) - \left(\left(4,000 \times \frac{60}{100} \right) - 1,800 \right)$

= $1,800 - 600 = 1,200$

Required % = $\frac{300+1,200}{6,000+4,000} \times 100$

= $\frac{1,500}{10,000} \times 100 = 15\%$

S103. Ans.(d)

Sol. Average of graduated employees in Production, Marketing & HR departments

$$\begin{aligned} &= \frac{1}{3} \times \left(\left(6,000 \times \frac{40}{100} \right) + \left(4,000 \times \frac{60}{100} \right) + \left(600 \times \frac{80}{100} \right) \right) \\ &= \frac{1}{3} \times (2,400 + 2,400 + 480) \\ &= 1,760 \end{aligned}$$

$$\text{Required \%} = \frac{1,760 - 1,200}{1,200} \times 100$$

$$= 46\frac{2}{3}\%$$

S104. Ans.(e)

Sol. Total number of male employees in Finance & R &D departments together

$$\begin{aligned} &= \left(1,200 \times \frac{100 - 40}{100} \right) + \left(800 \times \frac{100 - 60}{100} \right) \\ &= 720 + 320 \\ &= 1040 \end{aligned}$$

Graduated female employees in Marketing & HR departments together

$$\begin{aligned} &= \left(\left(4,000 \times \frac{60}{100} \right) - 1,800 \right) + \left(\left(600 \times \frac{80}{100} \right) - 360 \right) \\ &= 600 + 120 = 720 \end{aligned}$$

$$\text{Required difference} = 1040 - 720 = 320$$

S105. Ans.(b)

Sol. Required number of female employees

$$\begin{aligned} &= \left(\left(6,000 \times \frac{40}{100} \right) - 1,500 \right) + \left(\left(1,200 \times \frac{80}{100} \right) - 500 \right) + \left(\left(800 \times \frac{90}{100} \right) - 480 \right) \\ &= 900 + 460 + 240 = 1,600 \end{aligned}$$

Solutions (106-110):

Let girls in Z be $5a$

$$\text{Boys in Y} = 5x \times \frac{160}{100} = 8a$$

$$\text{Girls in X} = 8a + 20$$

$$\text{Boys in X} = 5a - 30$$

$$\text{Let girls in Y} = \text{Boys in Z} = b$$

$$(5a - 30) + 8a + b = 100 \times 3$$

$$13a + b = 330 \dots (i)$$

And

$$8a + b = 230 \dots (ii)$$

From (i) & (ii)

$$a = 20, b = 70$$

Schools	Boys	Girls
X	70	180
Y	160	70
Z	70	100

S106. Ans.(b)

Sol. Required ratio = $(70 + 180) : 100$
 $= 250 : 100 = 5 : 2$

S107. Ans.(c)

Sol. Required percentage = $\frac{70-70}{70} \times 100 = 0\%$

S108. Ans.(c)

Sol. Required difference = $(180 + 70) - (70 + 100) = 80$

S109. Ans.(e)

Sol. Total students (boys and girls) in P = $80 \times \frac{70}{100} = 56$

Boys in P = $\frac{60}{100} \times 70 = 42$

Girls in P = $56 - 42 = 14$

S110. Ans.(b)

Sol. Required percentage = $\frac{70+100}{180+70+100} \times 100$
 $= \frac{170}{350} \times 100 = 48.57\% \approx 49\%$