

SYMBIOSIS NATIONAL APTITUDE TEST (SNAP)

SOLVED PAPER - 2020

Memory Based

GENERAL ENGLISH: READING COMPREHENSION, VERBAL REASONING, VERBAL ABILITY

- What is the meaning of "spilling the beans"?
(a) To get scared extremely
(b) To reveal a secret
(c) To manage multiple tasks
(d) To conceal the information
- What is the meaning of "Talking nineteen to the dozen"?
(a) Talking consciously (b) Running hurriedly
(c) Keeping up (d) Speaking continuously
- Identify figure of speech in the following sentence.
"I wandered lonely as a cloud"
(a) Simile (b) Personification
(c) Onomatopoeia (d) Hyperbole
- Identify the figure of speech in the following sentence.
"A child is a fire to lit, not a vase to be filled."
(a) Onomatopoeia (b) Personification
(c) Simile (d) Metaphor
- Choose the appropriate word to fill in the blank.
What prevented her ____ coming?
(a) From (b) While
(c) In (d) About
- Which conjunction can fill in the following sentence?
He had a severe tooth pain ____ he visited a doctor.
(a) In (b) So
(c) Lest (d) Because
- Which Adverb can be filled in the following sentence?
He appeared _____ excited to see his mother.
(a) Slightly (b) Enough
(c) So (d) Fairly
- Fill in the blank with most appropriate word.
A _____ of singers
(a) Class (b) Team
(c) Choir (d) Troupe
- Fill in the blank to make the sentence grammatically and contextually correct.
The world _____ better place to live.
(a) will be a better (b) would be a better
(c) should be a good (d) would be a good
- Which of the following is correctly spelt?
(a) Irriterivable (b) Irretrievable
(c) Irretreivable (d) Irritreivable
- Fill in the blank with the appropriate word.
He apologized _____
(a) Predominantly (b) Proactively
(c) Profusely (d) Purportedly
- Fill in the blank with the appropriate phrase.
A ship was _____.
(a) Holed up (b) Halting on
(c) Hauled at (d) Heed at
- Which of the following is a compound word?
(a) Colorado (b) Knowledge
(c) Butterfly (d) Raincheck
- What is meaning of *Largesse*?
(a) Globalized (b) Liberal
(c) Saturate (d) Acquittal
- Which of the following words is correctly spelt?
(a) Conseintious (b) Consciention
(c) Conscientious (d) Consientious

QUANTITATIVE, DATA INTERPRETATION AND DATA SUFFICIENCY

- Two successive discounts of 10% and 5% are equivalent to a single discount of
(a) 18.5% (b) 26.5%
(c) 14.5% (d) None of these
- P makes a profit of 12% on a transaction. Had he bought the article at 10% less and sold it for 4% less, by what percent his profit percentage would have increased?
(a) 53.65% (b) 62.25%
(c) 19.4% (d) None of these
- A sum of INR 15000 is put on compound interest. This sum becomes 2 times in 5 years at this rate. What would the original sum become after 20 years?
(a) 60000 (b) 225000
(c) 140000 (d) None of these
- A sum of INR 27800 is invested for 2 years in 2 different schemes, both on simple interest. The rates of interest are 14% and 11% in the 1st and the 2nd schemes respectively. The total interest after 2 years is INR 7016. What sum was invested in the 2nd scheme?
(a) ₹ 12800
(b) ₹ 16200
(c) ₹ 14600
(d) None of these
- A and B can finish a work in 10 days and 15 days respectively. They together work on it for 5 days and then the rest of the work is finished by C in 2 days. They get INR 450 for finishing this work. What should be the shares of A, B and C respectively?
(a) A = ₹ 180, B = ₹ 120, C = ₹ 150
(b) A = ₹ 225, B = ₹ 120, C = ₹ 105
(c) A = ₹ 225, B = ₹ 150, C = ₹ 75
(d) None of these

21. There are 10 people in a family: the average age of the 2 grandparents is 64 years; the average age of 2 uncles is 42 years; the average age of the 2 aunts is 38 years and the average age of 4 cousins is 16 years. What is the average age of the family members?
 (a) 32.8 (b) 40
 (c) 35.2 (d) None of these
22. The median salaries of 3 B-Schools A, B and C are in the ratio 7:6:5 in the year 2019. The median salaries of these 3 B-schools are in the ratio 3:3:4 in the year 2020. If the median salary of A increased by 20% from 2019 to 2020, by what percent did the median salary of B increase?
 (a) 40% (b) 38%
 (c) 18.5% (d) None of these
23. The combined age of a mother and daughter duo is 42 years. The product of their ages, 5 years back, was 60 years. What is the present age of the mother?
 (a) 40 years (b) 38 years
 (c) 32 years (d) None of these
24. A is 2 times B and B is 2 times C. The average of the reciprocals of A, B and C is $\frac{7}{12}$. What is the value of A?
 (a) 2 (b) 4
 (c) 1 (d) None of these
25. What is the value of $\log 8 / \log 64$?
 (a) 0.25 (b) $\frac{1}{3}$
 (c) 0.5 (d) None of these
26. Which of the following is a factor of $x^4 + 4x^2 + 3$?
 (a) $(x^2 - 1)$ (b) $(x^2 + 3)$
 (c) $(x^2 - 3)$ (d) None of these
27. If one of the sides of a square is increased by 20% and the other side of decreased by 20% to get a rectangle, what percent of the area of the square will be the area of this rectangle?
 (a) 96% (b) 4%
 (c) 60% (d) None of these
28. There is a cube of edge 8 cm. This cube is immersed in a water-filled vessel with the dimension of its rectangular base (12 cm \times 20 cm). By how many cms will the level of water rise in the vessel?
 (a) 3.75 cm (b) 3.13 cm
 (c) 2.03 cm (d) None of these
29. What is the value of $\sin 45^\circ + \tan 45^\circ$?
 (a) $\left(\frac{\sqrt{2}-1}{\sqrt{2}}\right)$ (b) $\left(\frac{2-\sqrt{2}}{2}\right)$
 (c) $\left(\frac{\sqrt{2}+1}{\sqrt{2}}\right)$ (d) None of these
30. What is the value of $\sin 42^\circ / \cos 48^\circ$?
 (a) 0.5 (b) 1
 (c) $\frac{\sqrt{2}-1}{\sqrt{2}}$ (d) None of these
31. What will be the missing term in the series:
 11, 88, ..., 6336, 57024, 456192?
 (a) 704 (b) 862
 (c) 764 (d) None of these
32. A bag has a total of 108 toys. These toys are of 3 different colours: black, green and white. If a toy is taken out randomly, the probabilities of getting a black and a green are $\frac{1}{3}$ and $\frac{4}{9}$ respectively. What is the number of white toys?
 (a) 36 (b) 24
 (c) 51 (d) None of these
33. The Average weight of three men A, B and C is 84 kg. D joins them and the average weight of the four becomes 80 kg. If E whose weight is 3 kg more than that of D replaces A, the average weight of B, C, D and E becomes 79 kg. The weight of A is.
 (a) 65 kg (b) 70 kg
 (c) 75 kg (d) 80 kg
34. The sum of the digits of a number is 10. The difference between this number and a number formed with the same digits, but in the reverse order, is 18. What is the square of formed by reversing its digits.
 (a) 2116 (b) 4096
 (c) 1764 (d) None of these
35. We have 60, 76 and 84 loaves of bread of companies A, B and C respectively. We have to supply these bread to retail stores so that a store has the bread of just one of the companies and all the stores have the same number of loaves. What can be the minimum number of stores?
 (a) 4 (b) 44
 (c) 55 (d) None of these

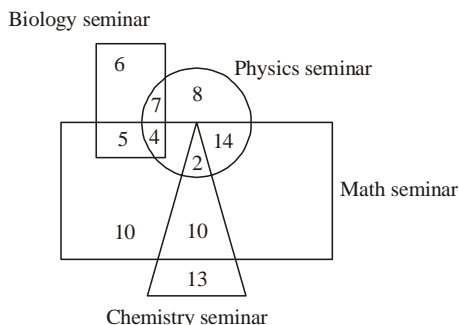
ANALYTICAL AND LOGICAL REASONING

36. Find the missing term of the series: 61, 74, 89, 97, ..., 121, 145
 (a) 117 (b) 118
 (c) 116 (d) None of these
37. Some As are Bs and some Bs are Cs. Which of the following is necessarily true?
 I. Some As are Cs II. All Cs are As
 (a) Only (I) follows
 (b) Only (II) follows.
 (c) Both (I) and (II) follows.
 (d) Neither I nor II follow.
38. If $H < G = J$ and $J > K$, then which of the following is necessarily true.
 (I) $H > K$ (II) $G > K$
 (a) only (I) is true.
 (b) only (II) is true.
 (c) both (I) and (II) are true.
 (d) Neither (I) nor (II) are true.
39. There are 40 people standing in a row. A is 12th from the left and B is 9th from the right. How many people are there in between A and B?
 (a) 18 (b) 19
 (c) 20 (d) None of these
40. Create meaningful words from the following and then find the odd one out.
 (a) HIFS (b) TBOA
 (c) UOBY (d) GATO

41. Find the missing term in the series: A15, B10,, D3.
 (a) C6 (b) C7
 (c) E3 (d) None of these
42. You are facing North. You take a right turn and walk for 5 Kms. You again take a right turn and walk for 3 Kms. You now take a left turn and walk for 2 Kms. You now take a 90-degree turn to your left. Which direction are you facing now?
 (a) East (b) West
 (c) North (d) South
43. Find the missing number that should come at the place of question mark (?).

17	13	19
272	156	342
306	?	380

- (a) 182 (b) 184
 (c) 187 (d) 191
44. The diagram below shows the number of people who attended seminars on Physics, Chemistry, Math and Biology. What is the number of people who attended exactly any two seminars?



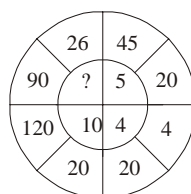
- (a) 21 (b) 36
 (c) 38 (d) 42
45. If P means division, T means addition, M means subtraction and D means multiplication, then the value of: 8D16P32T16D32P64 is:
 (a) 12 (b) 23
 (c) 6 (d) 3
46. **Directions:** In this question, a statement is followed by two courses of action numbered I and II. Consider everything in the statement to be true and decide which of the suggested courses of action logically follow(s) for pursuing.
Statement: The government of state 'Y' has decided to remove hutments and buildings that have come up beside the roads to broaden them in city 'A'.
Courses of action:
 I. The government of state 'Y' should rehabilitate the affected residents of hutments/buildings.
 II. The government should compensate the residents of targeted houses with a reasonable amount.
 (a) Only I follows
 (b) Only II follows
 (c) Either I or II follow
 (d) Neither I or II follow
47. Some have suggested a correlation between not wearing polished shoes and being lethargic – that those who don't

polish their shoes are generally lethargic than those who do. This, however, is not the case. I work at the employment exchange and the majority of the applicants have polished shoes.

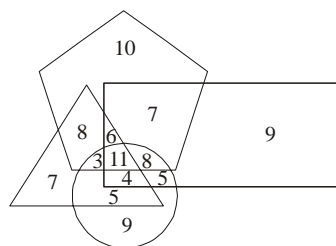
Which of the following assumptions is made by the author of the argument?

- (a) Lethargy and polished shoes are learned behaviours.
 (b) People with polished shoes are never unemployed.
 (c) Lethargy has its origins in an individual's family background.
 (d) People who apply for employment at the employment exchange are lethargic.

48.



- (a) 18 (b) 11
 (c) 8 (d) 7
49. If DIP is coded as 172203, then what is the code for "TAKE"?
- (a) 07152418 (b) 07142418
 (c) 33142418 (d) 07142518
50. In the following figure, the Pentagon, the Rectangle, the Triangle and the Circle represent the number of students in a class who play cricket, Soccer, Hockey and Baseball respectively.



Which of the following is the highest?

- (a) Number of students who play at least one of Hockey or Baseball.
 (b) Number of students who play exactly two of the sports.
 (c) Number of students who play exactly one of the four sports.
 (d) Number of students who play at least one of Cricket or Soccer.
51. Two adjacent faces of a cube are painted red and out of the remaining sides, two opposite faces are painted green. The cube is then cut into 125 equal smaller cubes. How many smaller cubes will have at most two sides painted?
 (a) 121 (b) 123
 (c) 117 (d) 113
52. Prashant forgot his five-digit ATM pin. However he remembers that the ATM PIN has a cube of a number in the 3rd place and prime numbers in the first and the last places. The even prime number is in the 1st place. He also

remembers that the digit in the 3rd place is equal to the product of the digits in the first and the second places and the sum of the digits in the first and the second places is equal to the digit in the fourth place. The digit in the last place is half the digit in the 4th place.

What is his ATM PIN?

- (a) 24863 (b) 24683
(c) 26483 (d) 23468

53. Refer to the sequence of letters given below and answer the questions that follow.

NFCIOROOIUMNTSMCTUAANRTIEICT
OANNTI

If all the vowels from the given sequence are removed, then which letter will be the 8th letter to the right of the 5th letter to the left of the 10th letter from the right?

- (a) R (b) T
(c) C (d) S

54. A traveller travels 10 km towards the East from Pune. He then turns 90 degrees towards his right and travels 5 km and again takes a 90 degrees turn towards his right and walks 5 km. What direction is he now with respect to Pune?

- (a) South-West (b) South-East
(c) North-West (d) North-East

Directions (Qs. 55-56): Read the given information and answer the following questions:

Eight people A, B, C, D, E, F, G and H are sitting on 8 chairs kept symmetrically around a circular table and equidistant from each other. All of them are facing towards the centre of the table. Some information about the order in which they are sitting is provided as follows:

- (i) F is sitting exactly opposite to C.
(ii) D is not next to F.
(iii) H is the only one sitting between G and C.
(iv) E is sitting two places to the right of B and is not next to F.

55. Which of the following is the correct position of H?

- (a) Left of C (b) Exactly Opposite of B
(c) Exactly Opposite of E (d) Cannot Be Determined

56. Which of the following statements is not correct?

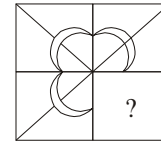
- (a) B is to the immediate right of F.
(b) G is sitting two places to the right of F.
(c) There are only six persons whose sitting positions can be exactly determined.
(d) All of these.

57. There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and the grandfather of F. There are two fathers, three brothers and a mother in the group.

How many male members are there in the group?

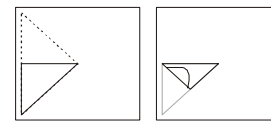
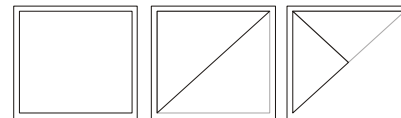
- (a) One (b) Two
(c) Three (d) Four

58. **Directions:** In the following question, a part of the figure is missing. Find out from the given options (a, b, c and d), the right figure to fit in the missing figure.



- (a) (b)
(c) (d)

59. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.



- (a) (b)
(c) (d)

60. I. Yes: Studies have shown that breathing in vehicular pollution reaches dangerous levels when the exposure to such pollution has been more than five hours in a day.
II. No. Breathing in vehicular pollution for more than five hours a day does not lead to lung cancer as was revealed in a study to analyze the effect of vehicular pollution.

- (a) Only I is strong.
(b) Only II is strong.
(c) Both I and II are strong
(d) Neither I nor II are strong.

ANSWERS WITH EXPLANATIONS

1. (b) Spill the beans: To reveal something that was meant to be a secret.

We had everything organized for Bruce's surprise party, but Kate accidentally spilled the beans to him at work.

2. (d) Talk nineteen to the dozen: To speak very rapidly, hurriedly, and/or energetically.

My aunt can get talking nineteen to the dozen if you get her on a topic she's passionate about.

3. (a) In the given sentence, the figure of speech used is 'simile'.

Simile: A figure of speech involving the comparison of one thing with another thing of a different kind, used to make a description more emphatic or vivid (e.g. as brave as a lion).
-the use of similes as a method of comparison.

Personification: The attribution of a personal nature or human characteristics to something non-human, or the representation of an abstract quality in human form.

Onomatopoeia: The formation of a word from a sound associated with what is named (e.g. cuckoo, sizzle).

Hyperbole: Exaggerated statements or claims not meant to be taken literally.

4. (d) The figure of speech used in the given sentence is, Metaphor.

Metaphor: A metaphor is a figure of speech that is used to make a comparison between two things that aren't alike but do have something in common. Unlike a simile, where two things are compared directly using like or as, a metaphor's comparison is more indirect, usually made by stating something is something else.

5. (a) Here, 'from' will be used. **From** expresses the origination of something from something else, something coming from somewhere, or some person. For example: Smriti comes from New York.

6. (b) "So" can be used to fit in the blank of the given sentence and make it grammatically and contextually correct.

7. (c) "So" is an adverb of degree and it can be used to fill the blank of the given sentence and make it contextually and grammatically correct.

8. (c) Here is the detailed information about the collective nouns.

A **choir** of singers. A **class** of students.

A **team** of players. A **troupe** of dancers.

9. (a) 'will be a better' will make the sentence grammatically and contextually correct.

10. (b) "Irretrievable" is the correctly spelt word among the given options.

Irretrievable: not able to be retrieved or put right.

11. (c) "Profusely" will fill the blank to make the sentence grammatically and contextually correct.

Profusely: to a great degree; in large amounts.

Predominantly: mainly; for the most part.

Proactively: by taking action to control a situation rather than just responding to it after it has happened.

Purportedly: as appears or is stated to be true, though not necessarily so; allegedly.

12. (a) "hole up" means to stay in a particular place as a refuge from something.

- to take shelter somewhere.

- to hide somewhere.

13. (d) Compound words: Combining two or more words in order to make a new word having a new meaning. They function as different parts of speech, dictating what form the compound word acquired.

Raincheck:

1. A ticket given for later use when a sporting fixture or other outdoor event is interrupted or postponed by rain.

2. A coupon issued to a customer by a shop, guaranteeing that a sale item which is out of stock may be purchased by that customer at a later date at the same reduced price.

14. (b) Largesse: liberal giving (as of money) to or as if to an inferior.

15. (c) The correctly spelt word is **Conscientious: wishing to do one's work or duty well and thoroughly.**

16. (c) Discount $D_1 = 10\%$

Discount $D_2 = 5\%$

$$\text{equivalent discount} = D_1 + D_2 - \frac{D_1 \cdot D_2}{100}$$

$$= 10 + 5 - \frac{10 \times 5}{100} = 15 - 0.5 = 14.5\%$$

17. (b) Let the cost price of the article = ₹100

$$\text{Selling price} = 100 + 100 \times \frac{12}{100} = ₹112$$

$$\text{When cost price} = 100 - 100 \times \frac{10}{100} = ₹90$$

$$\text{and selling price} = 112 - 112 \times \frac{4}{100} = ₹107.52.$$

$$\text{Profit \%} = \left(\frac{107.52 - 90}{90} \right) \times 100 = 19.47\%$$

$$\text{Increase in profit percent} = \left(\frac{19.47 - 12}{12} \right) \times 100 = 62.25\%$$

18. (d) Principal (P) = ₹15000.

Time (T) = 5 years.

Amount (A) = $2 \times 15000 = 2P$.

$$\text{So, } 2P = P \left(1 + \frac{r}{100} \right)^5 \Rightarrow \left(1 + \frac{r}{100} \right)^5 = 2$$

Now, $\left(1 + \frac{r}{100}\right)^{20} = 2^4 = 16$ times.

Hence, amount becomes = $16 \times 15000 = ₹ 240000$

19. (a) Let amount invested in first and second schemes are x and $(27800 - x)$ respectively.
ATQ,

$$\frac{x \times 2 \times 14}{100} + \frac{(27800 - x) \times 2 \times 11}{100} = 7016$$

$$\frac{6x}{100} = 7016 - 6116$$

$$x = \frac{900 \times 100}{6} = 15000$$

Hence, amount invested into second scheme = $27800 - 15000 = 12,800$

20. (c) Work done by A and B in 5 days

$$= 5 \left(\frac{1}{10} + \frac{1}{15} \right) = 5 \left(\frac{3+2}{30} \right) = \frac{5}{6}$$

$$\text{Rest work} = 1 - \frac{5}{6} = \frac{1}{6}$$

Amount of work finished by C in 2 day = $\frac{1}{6}$

\therefore C will finish whole work in $6 \times 2 = 12$ days.

Now, L.C.M. of 10, 15 and 12 = 60.

Unit of work done by them in one days are $\frac{60}{10}$, $\frac{60}{15}$ and $\frac{60}{12}$

i.e. 6, 4 and 5 units respectively.

As A and B works for 5 days and C works for 2 days.

Ratio of work done by them = $6 \times 5 : 4 \times 5 : 5 \times 2 = 3 : 2 : 1$.

Now, $3x + 2x + x = 450$

$\therefore x = 75$

Amount received by A = $3x = 3 \times 75 = ₹ 225$

Amount received by B = $2x = 2 \times 75 = ₹ 150$

Amount received by C = $x = 75 = ₹ 75$.

21. (c) Sum of the age of two grandparents

$$= 2 \times 64 = 128 \text{ years.}$$

Sum of the age of two uncles

$$= 2 \times 42 = 84 \text{ years.}$$

Sum of the age of two Aunts

$$= 2 \times 38 = 76 \text{ years}$$

Sum of the age of four cousins

$$= 4 \times 16 = 64 \text{ years.}$$

Average age of the family

$$= \frac{128 + 84 + 76 + 64}{10} = 35.2$$

22. (a) Let median salaries of A, B and C in 2019 are $7x$, $6x$ and $5x$ respectively.

A's salary in 2020 is $7x \times \frac{120}{100} = 8.4x$

Ratio of A and B salary in 2020 = $3 : 3$.

$$\therefore \frac{3}{3} = \frac{8.4x}{\text{B's salary}}$$

\therefore B's salary in 2020 = $8.4x$.

% increase in B's salary = $\left(\frac{8.4x - 6x}{6x} \right) \times 100 = 40\%$

23. (d) Let present age of Mother and daughter are M and D respectively.

ATQ,

$$M + D = 42 \quad \dots(i)$$

$$(M - 5)(D - 5) = 60$$

$$MD - 5(M + D) + 25 = 60.$$

$$MD - 5(42) + 25 = 60.$$

$$MD - 210 + 25 = 60$$

$$MD = 245.$$

$$\text{Now, } M - D = \sqrt{(M + D)^2 - 4MD}$$

$$= \sqrt{(42)^2 - 4 \times 245}$$

$$\therefore M - D = 28 \quad \dots(ii)$$

From (i) and (ii), $M = 35$

Hence, Mother's age = 35 years.

24. (b) ATQ, $A = 2B$ and $B = 2C$.

$$\text{Average} = \frac{\frac{1}{A} + \frac{1}{B} + \frac{1}{C}}{3} = \frac{7}{12}$$

$$\therefore \frac{1}{A} + \frac{1}{B} + \frac{1}{C} = \frac{7}{4} \quad \frac{1}{4C} + \frac{1}{2C} + \frac{1}{C} = \frac{7}{4}$$

$\therefore C = 1, B = 2$ and $A = 4$.

25. (c) $\frac{\log 8}{\log 64} = \frac{\log 8}{\log(8)^2} = \frac{1}{2} \cdot \frac{\log 8}{\log 8} = 0.5$.

26. (b) $f(x) = x^4 + 4x^2 + 3$

$$= x^4 + 3x^2 + x^2 + 3$$

$$= (x^2 + 3)(x^2 + 1)$$

Hence, factors are $(x^2 + 1)$ and $(x^2 + 3)$.

27. (a) Let side of the square is l .

then, area $A = l \times l = l^2$.

When one side increases by 20% and other decreases by 20%

$$\text{New area } A' = \left(l + \frac{20}{100}l \right) \times \left(l - \frac{20}{100}l \right)$$

$$= 1.2l \times 0.8l = 0.96l^2$$

$$\text{Required percent} = \frac{A'}{A} \times 100 = \frac{0.96l^2}{l^2} \times 100 = 96\%$$

28. (d) Volume of water displaced = Volume of the cube
 $12 \times 20 \times \text{height (h)} = 8 \times 8 \times 8$.

$$\therefore \text{Height (h)} = \frac{8 \times 8 \times 8}{12 \times 20} = 2.13 \text{ cm.}$$

29. (c) $\sin 45^\circ + \tan 45^\circ$

$$= \frac{1}{\sqrt{2}} + 1 = \left(\frac{\sqrt{2} + 1}{\sqrt{2}} \right)$$

30. (b) $\frac{\sin 42^\circ}{\cos 48^\circ} = \frac{\sin 42^\circ}{\cos(90^\circ - 42^\circ)} = \frac{\sin 42^\circ}{\sin 42^\circ} = 1$.

31. (d) $11, 88, 792, 6336, 57024, 456192$

$\xrightarrow{\times 8} \quad \xrightarrow{\times 9} \quad \xrightarrow{\times 8} \quad \xrightarrow{\times 9} \quad \xrightarrow{\times 8}$

32. (b) Let number of black and green toys in the box are m and n respectively.

then, probability of getting a black toy

$$= \frac{{}^m C_1}{{}^{108} C_1} = \frac{m}{108} = \frac{1}{3} \text{ (given)} \therefore m = \frac{108}{3} = 36.$$

Probability of getting a green toy

$$= \frac{{}^n C_1}{{}^{108} C_1} = \frac{n}{108} = \frac{4}{9}$$

$$\therefore n = \frac{108 \times 4}{9} = 12 \times 4 = 48.$$

Hence, number of white toy = $108 - 36 - 48 = 24$.

33. (c) Total weight of A, B and C = $84 \times 3 = 252$ kg.

D's weight = $80 \times 4 - 84 \times 3 = 68$ kg.

E's weight = $68 + 3 = 71$ kg.

Total weight of B, C, D and E = $79 \times 4 = 316$ kg.

Then, total weight of B and C = $316 - 68 - 71 = 177$ kg.

Hence, A's weight = $252 - 177 = 75$ kg.

34. (a) Let two digits are x and y .

$$\text{ATQ, } x + y = 10 \quad \dots(i)$$

$$\text{and, } (10x + y) - (10y + x) = 18.$$

$$(x - y) = 2 \quad \dots(ii)$$

From (i) and (ii), we get

$$x = 6 \text{ and } y = 4.$$

Hence, number = 64

Hence, square of (46) = $(46)^2 = 2116$.

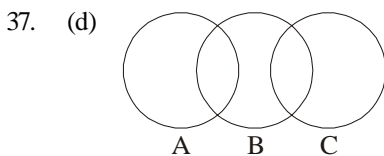
35. (c) H.C.F. of 60, 76 and 84 = 4.

Minimum number of stores

$$= \frac{60}{4} + \frac{76}{4} + \frac{84}{4} = 15 + 19 + 21 = 55.$$

36. (a) $61, 74, 89, 97, 117, 121, 145$

$\xrightarrow{+28} \quad \xrightarrow{+23} \quad \xrightarrow{+28} \quad \xrightarrow{+24} \quad \xrightarrow{+28}$



Hence, neither conclusion I nor II follow.

38. (b) $H < G = J > K$

(i) $H > K$ (Not sure) (ii) $G > K$ (True).

39. (b) Total number of people = 40.

A's position from left = 12 th.

B's position from right = 9 th.

$$\therefore \text{Number of people between A and B} = 40 - 12 - 9 = 19.$$

40. (d)

(a) HIFS — FISH

(b) TBOA — BOAT

(c) UOBY — BUOY

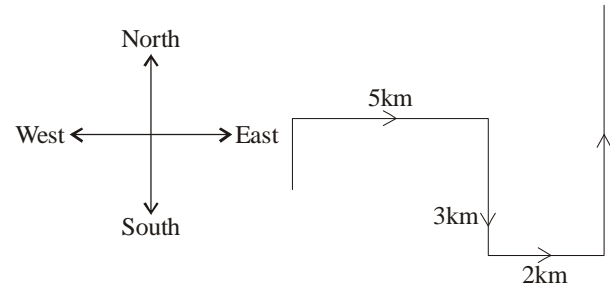
(d) GATO — GOAT

Here, Fish, Boat and Buoy are somehow related to water, whereas Goat is not related to water.

41. (a) $A \ 15, \ B \ 10, \ C \ 6, \ D \ 3$

$\xrightarrow{+1} \quad \xrightarrow{-5} \quad \xrightarrow{+1} \quad \xrightarrow{-4} \quad \xrightarrow{+1} \quad \xrightarrow{-3}$

42. (c)



Finally, you are facing towards North direction.

43. (a)

17	13	19
272	156	342
$272 + 2 \times 17 =$	$156 + 2 \times 13 =$	$342 + 2 \times 19 =$
306	= 182	= 380

44. (b) Number of people, who attend exactly two seminars:

Physics and Math = 14.

Physics and Biology = 7.

Math and Biology = 5.

Chemistry and Math = 10.

\therefore Total number of people, who attend exactly any two seminars = $14 + 7 + 5 + 10 = 36$.

45. (a) $P \rightarrow \div \quad T \rightarrow + \quad M \rightarrow - \quad D \rightarrow \times$

$$8 D \ 16 P \ 32 T \ 16 D \ 32 P \ 64$$

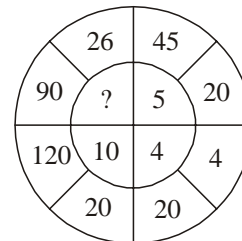
$$\Rightarrow 8 \times 16 \div 32 + 16 \times 32 \div 64$$

$$\Rightarrow 4 + 8 = 12.$$

46. (c) Both courses of actions I and II follows. Either government should rehabilitate the affected residents of hutments/Buildings. Or, they should compensate the residents of targeted houses.

47. (c) Assumption made by the Author of the argument is "Lethargy has its origins in an individual's family background".

48. (c)



Here,

$$\sqrt{20 - 4} = \sqrt{16} = 4$$

$$\sqrt{45 - 20} = \sqrt{25} = 5$$

$$\sqrt{120 - 20} = \sqrt{100} = 10.$$

$$\sqrt{90 - 26} = \sqrt{64} = 8.$$

49. (b)
$$\begin{array}{ccc} \text{D} & \text{I} & \text{P} \\ | & | & | \\ \hline 4 & 9 & 16 \\ \hline \text{Letter's position} \end{array}$$

$\Rightarrow \text{Code} = (4 + 13), (9 + 13), (16 + 13) = 172229$

Similarly,

$= 1722 (29 - 26) = 172203$

$$\begin{array}{cccc} \text{T} & \text{A} & \text{K} & \text{E} \\ | & | & | & | \\ \hline 20 & 1 & 11 & 5 \\ \hline \text{Letter's position} \end{array}$$

$\Rightarrow \text{Code} = (20 + 13), (1 + 13), (11 + 13), (5 + 13)$

$= 33 14 24 18 = (33 - 26) 14 24 18$

$= 07 14 24 18.$

50. (d)

(a) Number of students who play atleast one of Hockey or Baseball.

$7 + 8 + 6 + 3 + 11 + 8 + 4 + 5 + 9 = 66$

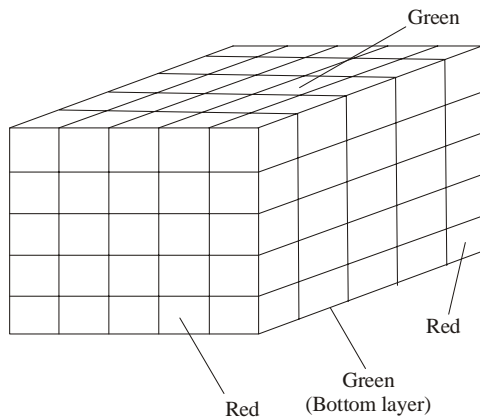
(b) Number of students who play exactly two of the sports $= 8 + 7 + 5 + 5 = 25.$

(c) Number of students who play exactly ones of the four sports $= 10 + 9 + 9 + 7 = 35.$

(d) Number of students who play atleast ones of cricket or soccer $= 10 + 8 + 6 + 7 + 9 + 3 + 11 + 8 + 4 + 5 = 71$

Hence, option (d) is correct.

51. (b)

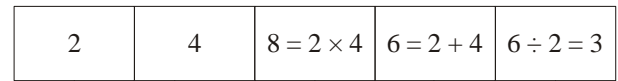


Total number of smaller cubes = 125.

Number of smaller cubes have 3 painted faces = 2.

Hence, number of smaller cubes have at most two painted faces $= 125 - 2 = 123.$

52. (a)



Even prime number

Cube of a number

Last place digit = Half of the fourth place

Second place digit = $\frac{\text{third place}}{\text{first place}}$

4th place digit = $(1^{\text{st}} + 2^{\text{nd}})$ place digit.

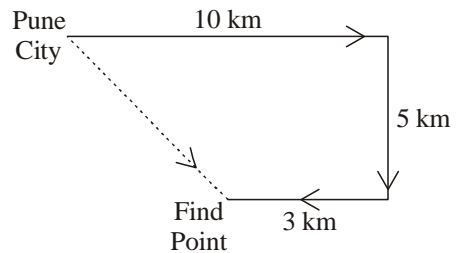
Hence, required number is '24863'.

53. (a) Sequence of letters after removing all vowel.

NFCRMNTSMCTNRRTCTNNT

Letter which is 8th to the right of the 5th to the left of the 10th from the right end $= 10 + 5 - 8 = 7^{\text{th}}$ from the right and that is letter 'R'.

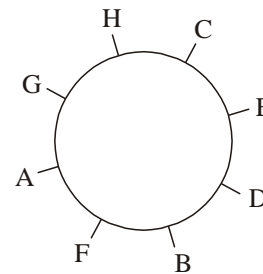
54. (b)



Hence, person is in south-east from Pune city.

Sol. (55 - 56) :-

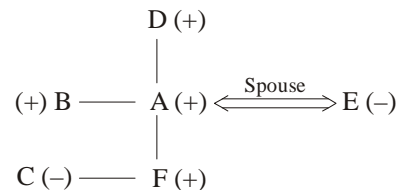
Sitting position of eight persons around a circular table is like this.



55. (b) B is exactly opposite to H.

56. (c) Sitting position of all eight people can be exactly determined.

57. (d)



male members in the group are D, A, B and F. Hence, there are 4 males in the family.

58. (c) 59. (c)

60. (a) Here, statement I is strong.