

SNAP Mock Test Paper -2

SECTION-I: GENERAL ENGLISH

DIRECTIONS (Qs. 1 & 2): For the word given in CAPITALS at the top of each table, match the dictionary definitions on the left (A, B, C, D) with their corresponding usage on the right (E, F, G, H). Select the option that has all definitions and usage correctly matched:

1. STEEP:

Meaning	Usage
A. Having a very sharp slope	E. He found the price too steep and decided against buying it.
B. To soak in liquid	F. She had steeped the clothes in a solution to get rid of the smell.
C. Too great or too high	G. He was steeped in learning but was surprisingly inarticulate.
D. Saturate	H. The trekkers were used to steep mountains but this one unnerved them.

(a) A:E, B:F, C:G, D:H | (b) A:G, B:F, C:E, D:H | (c) A:H, B:F, C:E, D:G | (d) A:H, B:E, C:F, D:G

2. LAST:

Meaning	Usage
A. To continue in existence or operation	E. The sole was being cut on the last so that it would fit in well.
B. To be enough for needs of	F. The car lasted much longer than anyone had expected.
C. A foot-shaped form on which a shoe is repaired	G. Last but not the least, thanks was due to the jury which had done such a good job.

D. At the end; in conclusion

H. The provisions would have lasted them less than a fortnight.

(a) A:F, B:H, C:E, D:G | (b) A:E, B:G, C:F, D:H | (c) A:F, B:E, C:H, D:G | (d) A:G, B:H, C:E, D:F

3. Do you imitate others? (Convert to Passive Voice)

- (a) Are others imitated by you?
- (b) Are others being imitated by you?
- (c) Were others being imitated by you?
- (d) Have others been imitated by you?

DIRECTIONS (Qs. 4-5): Choose the word or set of words for each blank that best fits the meaning of the sentence.

4. Many educators believe that bilingual education has proved to have _____ definite education in any one tongue.

- (a) correlations with | (b) limitations on | (c) advantages over | (d) connotations for

5. Language, culture and personality may be considered independently of each other in thought, but they are _____ in fact.

- (a) equivocal | (b) pervasive | (c) inseparable | (d) autonomous

6. Identify the logical sequence of sentences marked A to F (A is 1st, F is last):

- A. To Krishnamurti, listening was an art, and a miracle.
- B. So how you received a question mattered much more than finding an answer.
- C. When the brain was absolutely quiet and there was no sound made by the word, that was real listening.
- D. Do you feel it, it is there in the room as he once said to his biographer and friends when deep in a meditative conversation.
- E. When one listened to it totally and did not translate it nor convert it into an idea, something tremendous happened.
- F. Such a dialogue was real meditation, not just sitting and breathing according to a particular system.

- (a) ABCEDF | (b) ADCBEF | (c) ADBCEF | (d) ACBEDF

7. Select the version that best rephrases the underlined part:

Teachers and parents alike should realize that to say a particular child is better than the other is doing a great injustice to both the children.

- (a) say a particular child is better than the other is doing a great injustice to the former.
- (b) say a particular child is better than other is doing a great injustice to both of them.
- (c) say a particular child is better than the other is to do a great injustice to both the children.
- (d) say a particular child is good than the other is doing a great injustice to both the

children.

8. CULPABILITY: The culpability of one, who unknowingly sins, has different connotations in these Eastern regions.

(a) accountability | (b) laudatory | (c) praiseworthiness | (d) usefulness

9. Two of these words are most nearly the SAME or OPPOSITE in meaning.

Identify those two words:

(A) Fallacy (B) Adage (C) Dictum (D) Endorse

(a) B-D | (b) B-C | (c) C-D | (d) A-D

10. We all know that there is only one God. (Passive Voice)

- (a) We are all known that there is only one God.
- (b) It is known to us all that there is only one God.
- (c) We have all known that there is only one God.
- (d) Only one God is known by us all.

11. Choose the correct spelling:

(a) Interegnum | (b) Intrenum | (c) Interregnum | (d) Interregnim

12. Identify the correct figure of speech: "All animals are equal, but some are more equal than others."

(a) Paradox | (b) Oxymoron | (c) Personification | (d) Metaphor

13. Choose the word NOT having a prefix:

(a) Unfinished | (b) Unfriendly | (c) Unknown | (d) Understand

14. The move to allow dumping of mercury _____ an outcry from residents of the area who _____ that high levels of mercury will affect their health and destroy ecologically sensitive forest area.

(a) resulted, insist | (b) provoked, fear | (c) incited, determined | (d) activated, accept

15. Due to high inflation in the economy, the availability of goods has _____ and the prices have gone _____.

(a) reduced, high | (b) increased, down | (c) not changed, low | (d) doubled, stable

SECTION-II: QUANTITATIVE AND DATA INTERPRETATION & SUFFICIENCY

16. The sum of four numbers is 64. If you add 3 to the first number, 3 is subtracted from the second number, the third is multiplied by 3 and the fourth is divided by 3, then all the results are equal. What is the difference between the largest and the smallest of the original numbers?

(a) 21 | (b) 27 | (c) 32 | (d) Cannot be determined

17. There are two examination rooms A and B. If 10 candidates are sent from room A to room B, the number of candidates in each room is the same, while if 20 are sent from room B to room A, the number of candidates in room A becomes double the number in room B. The number of candidates in each room are, respectively:

(a) 80 and 100 | (b) 100 and 80 | (c) 80 and 120 | (d) 100 and 60

18. If $a = x / (x+y)$ and $b = y / (x-y)$, then $xy / (x^2+y^2)$ is equal to:

(a) $(a^2 b^2) / (a^2+b^2)$ | (b) $(a^2+b^2) / (ab)$ | (c) $(ab) / (a-b)$ | (d) $(ab) / (a+b)$

19. A sells a tube to B at a profit of 20% and B sells it to C at profit of 25%. If C pays Rs 225 for it, what did A pay for it?

(a) Rs. 100 | (b) Rs. 125 | (c) Rs. 150 | (d) Rs. 175

20. A garrison has provisions of food for a certain number of days. After 15 days, 1/4 of the men left and it is found that the provisions will now last just as before. How long was that?

(a) 50 days | (b) 60 days | (c) 70 days | (d) 40 days

21. Two equal glasses filled with mixtures of alcohol and water in the proportions of 2 : 1 and 1 : 1 respectively were emptied into a third glass. What is the proportion of alcohol and water in the third glass?

(a) 5 : 7 | (b) 7 : 5 | (c) 7 : 6 | (d) 6 : 7

22. Mr. Dua invested money in two schemes A and B offering compound interest @ 8% p.a. and 9% p.a. respectively. If the total amount of interest accrued through two schemes together in two years was Rs 4818.30 and the total amount invested was Rs 27,000, what was the amount invested in Scheme A?

(a) Rs 12,000 | (b) Rs 13,500 | (c) Rs 15,000 | (d) Cannot be determined

23. Three men, four women and six children can complete a work in seven days. A woman does double the work a man does and a child does half the work a man does. How many women alone can complete this work in 7 days?

(a) 7 | (b) 8 | (c) 12 | (d) Cannot be determined

24. A plane left 30 minutes later than the scheduled time and in order to reach the destination 1500 km away in time, it had to increase the speed by 250 km/h from the usual speed. Find its usual speed.

(a) 720 km/h | (b) 740 km/h | (c) 730 km/h | (d) 750 km/h

25. Local trains leave from a station at an interval of 14 minutes at a speed of 36 km/h. A man moving in the same direction along the road meets the trains at an interval of 18 minutes. What is the speed of the man?

(a) 8 km/h | (b) 7 km/h | (c) 6 km/h | (d) 5.8 km/h

26. A plot of land in the form of a rectangle has dimensions 240 m × 180 m. A drainlet 10 m wide is dug all around it (outside) and the earth dug out is evenly spread over the plot, increasing its surface level by 25 cm. The depth of the drainlet is:

(a) 1.225 m | (b) 1.229 m | (c) 1.227 m | (d) 1.223 m

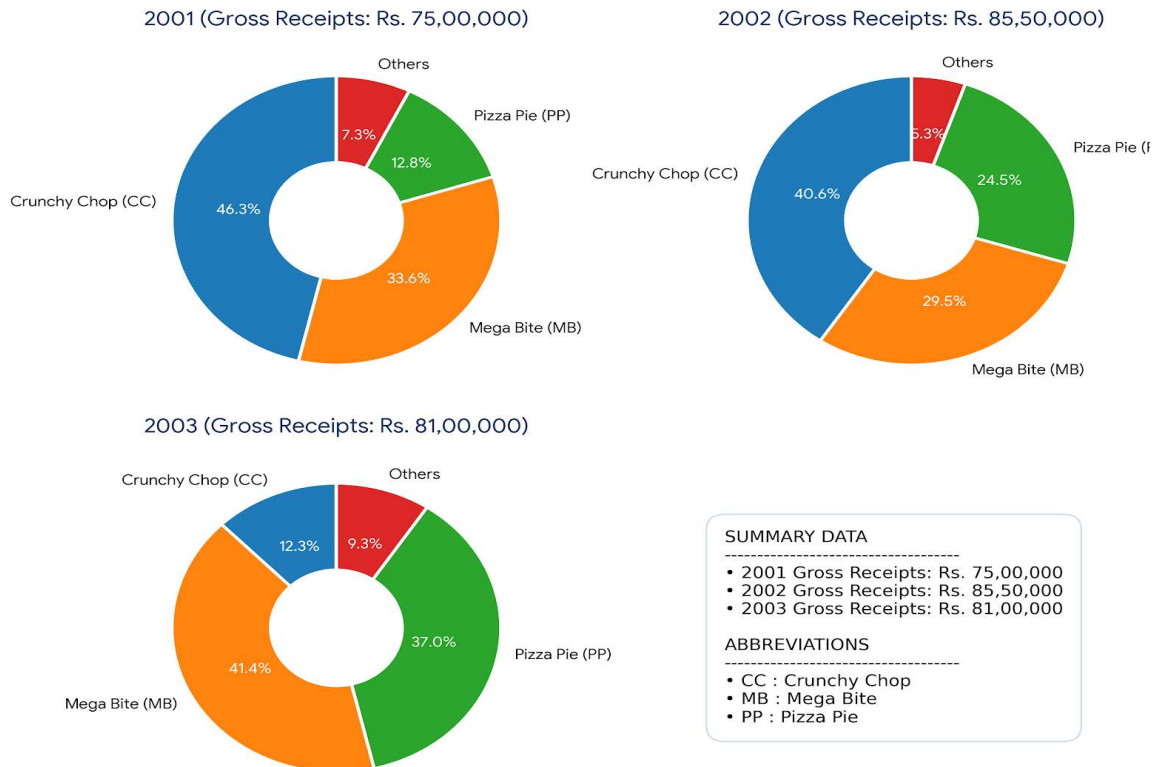
27. The hands of a clock are 10 cm and 7 cm respectively. The difference between the distance traversed by their extremities in 3 days 5 hours is:

(a) 4552.67 cm | (b) 4557.67 cm | (c) 4555.67 cm | (d) 4559.67 cm

28. The probability that a student is not a swimmer is 1/5. Then the probability that out of five students, four are swimmers is:

(a) $5C4 \cdot (4/5)^2 \cdot (1/5)$ | (b) $(4/5)^4 \cdot (1/5)$ | (c) $5C4 \cdot (4/5)^4 \cdot (1/5)$ | (d) None of these

DIRECTIONS (Qs. 29-30): The following fast-food receipt pie charts represent gross sales during 2001-2003:



Year	Total Gross Receipts	Crunchy Chop (CC)	Mega Bite (MB)	Pizza Pie (PP)	Others
2001	Rs. 75,00,000	46.3%	33.6%	12.8%	7.3%
2002	Rs. 85,50,000	40.6%	29.5%	24.5%	5.3%
2003	Rs. 81,00,000	12.3%	41.4%	37.0%	9.3%

29. The gross receipts for the year 2001 are approximately what percent of the gross receipts for all the three years?

(a) 30% | (b) 46.3% | (c) 46.7% | (d) Cannot be determined

30. Over all the three years, the average percentage of gross receipts for Crunchy Chop exceeds the average percentage of gross receipts for Pizza Pie by what percent?

(a) 29.35% | (b) 33.62% | (c) 26.75% | (d) 31.01% (None of these)

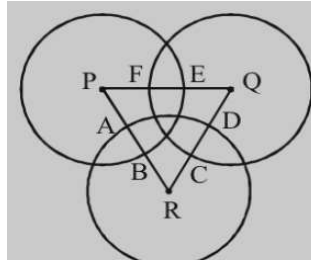
31. A is the set of positive integers such that when divided by 2, 3, 4, 5 and 6 leaves the remainders 1, 2, 3, 4 and 5 respectively. How many integer(s) between 0 and 100 belong to set A?

(a) 0 | (b) 1 | (c) 2 | (d) None of these

32. $S_1 = \{2, 4, 6, 8, \dots, 800\}$, $S_2 = \{3, 6, 9, 12, \dots, 900\}$. If $S_3 = S_1 \cup S_2$, what will be the 105th element of S_3 arranged in increasing order?

(a) 120 | (b) 630 | (c) 158 | (d) 198

33. Three circles, each of radius 20 cm have centres at P, Q, R. Further, $AB = 5$ cm, $CD = 10$ cm and $EF = 12$ cm. What is the perimeter of triangle PQR?



(a) 120 | (b) 66 | (c) 93 | (d) 87

34. When 7^{84} is divided by 342, what is the remainder?

(a) 0 | (b) 1 | (c) 49 | (d) 341

35. If $t_n = n / (n+2)$, the value of $t_3 * t_4 * t_5 * \dots * t_{53}$ equals:

(a) $2/495$ | (b) $2/477$ | (c) $12/55$ | (d) $1/1485$

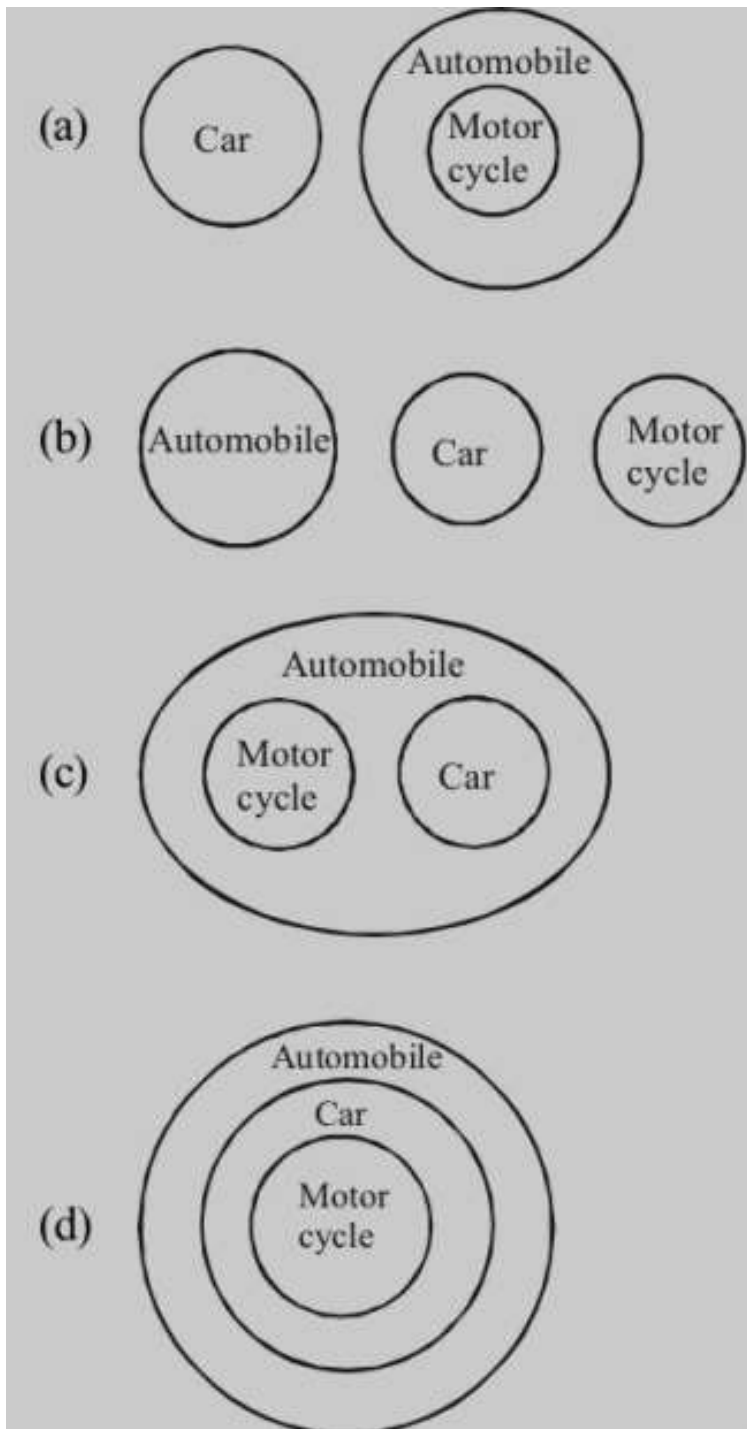
SECTION-III: ANALYTICAL & LOGICAL REASONING

36. In a class of 50 students, 23 speak English, 15 speak Hindi and 18 speak Punjabi, 3 speak only English and Hindi, 6 speak only Hindi and Punjabi and 6 speak only English and Punjabi. If 9 speak only English, how many speak all three languages?

(a) 0 | (b) 4 | (c) 3 | (d) 5

37. Which of the following diagrams correctly represents the relationship between

Automobiles, Cars and Motorcycles?



38. Aruna cuts a cake into two halves and cuts one half into smaller pieces of equal size. Each of the small pieces is 20 grams in weight. If she has seven pieces of the cake in all with her, how heavy was the original cake?

(a) 120 grams | (b) 140 grams | (c) 240 grams | (d) 280 grams

39. If $P = 6$, $J = 4$, $L = 8$, $M = 24$, then $M * J / L + J = ?$

(a) 8 | (b) 36 | (c) 16 | (d) 0

40. A cube is painted white on all sides. It is then cut into 64 smaller cubes of equal sizes. How many of these smaller cubes have no paint on any side?

(a) 8 | (b) 6 | (c) 4 | (d) 1

DIRECTIONS (Qs. 41-42): Asha & Charu are good in Maths and Athletics. Deepa & Asha are good in Athletics and Studies. Charu & Beena are good in GK and Maths. Deepa, Beena & Ela are good in Studies and GK. Ela & Deepa are good in Studies and Arts.

41. Who is good in Studies, General Knowledge, Athletics and Arts?

(a) Asha | (b) Beena | (c) Charu | (d) Deepa

42. Who is good in Studies, General Knowledge and Mathematics?

(a) Asha | (b) Beena | (c) Charu | (d) Deepa

DIRECTIONS (Qs. 43-44): Crew selection for spaceship: Needs 4 more members (at least 2 pilots, rest engineers). Pilot candidates: Dalbir, Eric, Farid. Engineer candidates: Lal, Monty, Naveen, Paul. Eric will not work with Lal. Dalbir & Paul will not work with Naveen.

43. If Naveen is chosen, which of the following must be other members?

(a) Farid, Lal and Monty | (b) Dalbir, Eric and Monty | (c) Eric, Farid and Monty | (d) Eric, Farid and Paul

44. Which of the following statements must be true?

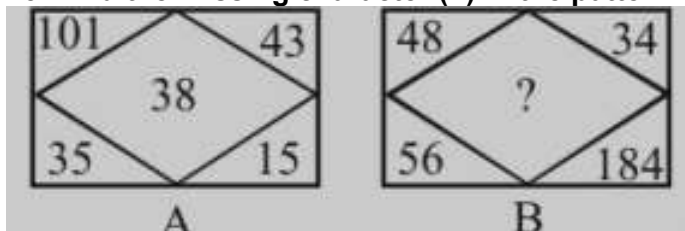
A: If Dalbir is rejected, then Monty must be chosen.

B: If Dalbir is rejected, then Farid must be chosen.

C: If Dalbir is chosen, then Paul must also be chosen.

(a) B only | (b) C only | (c) A and B only | (d) A and C only

45. Find the missing character (?) in the pattern:



(a) 127 | (b) 142 | (c) 158 | (d) 198

46. State agency 'Housewell' constructed 500 flats for the middle class but

received fewer than 100 applications. Which explains this?

- (a) A private builder's scheme nearby is overbooked despite 100% advance.
- (b) The flats are not accessible by bus or train.
- (c) The quality of construction is reported poor.
- (d) The cost and payment conditions are demanding and higher than usual govt schemes.

47. Joginder is Jaspal's brother. Jaspal is Nirmal's brother. Nirmal is not Joginder's brother. Therefore, Nirmal is Joginder's sister.

- (a) Definitely true | (b) False | (c) Probably false | (d) Can't say

48. Bald people are generally intellectual. Anupam is bald. Therefore, Anupam is an intellectual.

- (a) False | (b) True | (c) Can't say | (d) Probably true

49. Meaningful word with 1st, 4th, 7th, 11th letters of 'INTERPRETATION' (I, E, R, T). If more than one word can be formed give M; if none give X.

- (a) I | (b) R | (c) X | (d) M

50. Ramesh is 9th from left and Suman is 6th from right. When they interchange positions, Ramesh becomes 15th from left. Suman's position from right is:

- (a) 12th | (b) 13th | (c) 15th | (d) 6th

51. Choose the odd one out:

- (a) 9611 | (b) 7324 | (c) 2690 | (d) 1754

52. Expression: $P / Q + R - T * K$. How is P related to K?

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

53. Identify the odd term in the series: BOR, G3U, E3P, J7S, H9N

- (a) E3P | (b) H9N | (c) J7S | (d) G3U

54. WRITING : PLAGIARISM ::

- (a) confidence : deception | (b) money : misappropriation | (c) gold : theft | (d) germ : disease

55. CONDENSATION : REFRIGERATE ::

- (a) evaporation : heat | (b) consumption : cook | (c) oration : listen | (d) exhaustion : buy

56. Statement: "Where there is a will, there is a way."

Assumptions: I. People find excuses to avoid something. II. The intention to do something is more important.

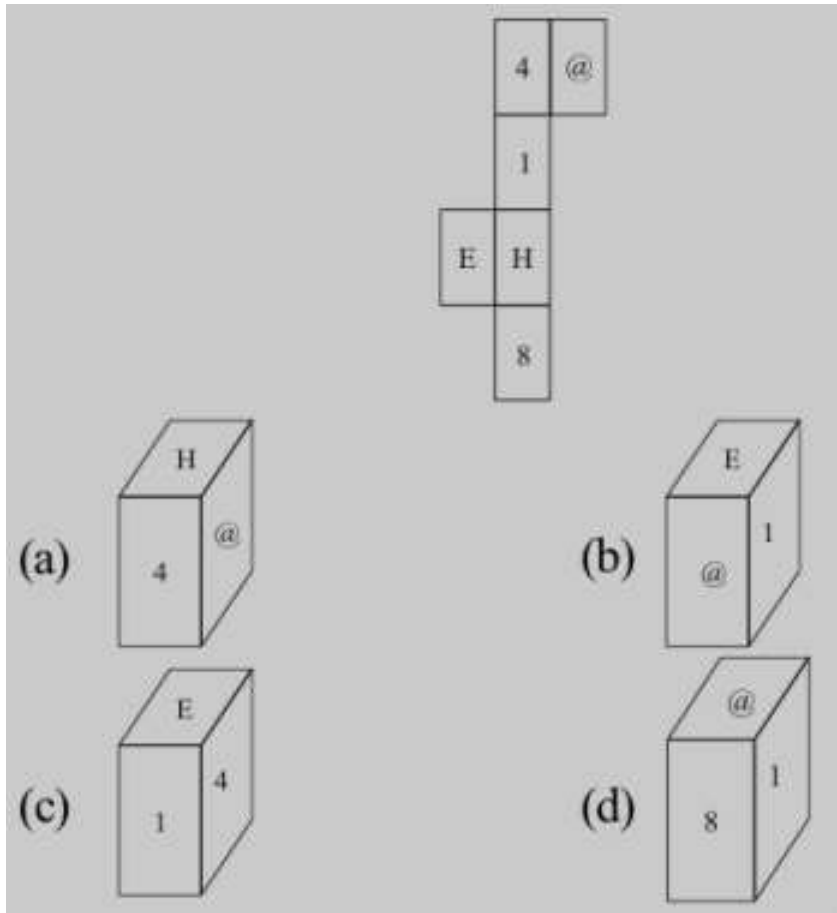
- (a) Both I and II are implicit | (b) Only assumption II is implicit | (c) Only assumption I is implicit | (d) Neither I nor II is implicit

57. Statement: Should hunting be banned in India?

Arguments: I. Yes, hunting leads to depletion of species. II. No, it is a fun hobby.

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

58. Folded cube net: Top box has '#', right has '@', middle vertical strip has 'F', 'H', '8', left has 'E'. Which box is correctly formed?



59. Sanjith faces north. Turns right walks 10 m, turns left walks 30 m, turns right walks 25 m, turns right walks 50 m, turns right walks 40 m. In which direction is he from his start?

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

60. Indu travels east 35 km, turns right walks 15 km, turns right walks 15 km, turns right walks 15 km and stops. What is the minimum distance to the starting point?

(a) 35 km | (b) 30 km | (c) 20 km | (d) 25 km

ANSWER KEYS

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	(c)	7	(c)	13	(d)	19	(c)	25	(a)
2	(a)	8	(b)	14	(b)	20	(b)	26	(c)
3	(a)	9	(b)	15	(a)	21	(b)	27	(b)
4	(c)	10	(b)	16	(c)	22	(a)	28	(c)
5	(c)	11	(c)	17	(b)	23	(a)	29	(a)
6	(d)	12	(a)	18	(d)	24	(d)	30	(d)
31	(b)	37	(c)	43	(c)	49	(d)	55	(a)
32	(c)	38	(c)	44	(c)	50	(a)	56	(b)
33	(c)	39	(c)	45	(b)	51	(b)	57	(a)
34	(b)	40	(b)	46	(d)	52	(d)	58	(c)
35	(a)	41	(d)	47	(a)	53	(c)	59	(c)
36	(d)	42	(b)	48	(d)	54	(b)	60	(c)

HINTS & SOLUTIONS

1. (c) Too steep in (E) means too high (C). Steeped the clothes in a solution in (F) means to soak in liquid (B). Steeped in learning in (G) means saturate (D). To steep mountains in (H) means mountains having sharp slopes (A).

2. (a) The sole being cut on the last (E) means something to do with shoe (C). The car lasted in F means continued in operation (A). Last but not the least in (G) means at the end (D). The provisions would have lasted in (H) means enough (B).

4. (c) Limitations on means to have negative effects on something, thus, cannot be the answer in the sense of the sentence. Correlation with means there is a link between the two and connotations for implies that the first will affect the second in some manner but the sense of the sentence suggests it is a comparison and a positive comparison for the first over second so advantages over will be the right answer.

5. (c) Equivocal means ambiguous or vague, pervasive means something to be found everywhere, inseparable are things that cannot be separated from each other and autonomous means independent is followed by a 'but'; so the noun or adjective that follows should be opposite in meaning to Independent. Thus, inseparable is the right answer.

6. (d) A is followed by C as C defines listening which is introduced in A. This is followed by A which gives an analogy to what is discussed in C.

7. (c) 'Doing' is not in agreement with 'to say' in the original sentence.

9. (b) Adage and Dictum are synonyms which means

an old saying.

10. (b) It is known to us all that there is only one God.

11. (c) Interregnum

12. (a) A paradox is a figure of speech in which a statement appears to contradict itself. This type of statement can be described as paradoxical. Here, the words 'equal' and 'more than equal' are paradoxical.

13. (d) All others except (d) have prefix. 'un' which means not

14. (b)

15. (a) Reduced and high are the correct words to be filled here

$$\text{Alcohol} = \frac{2}{3} + \frac{1}{2} = \frac{7}{6} ; \text{water} = \frac{1}{3} + \frac{1}{2} = \frac{5}{6}$$

$$\therefore \text{Required ratio} = \frac{7}{6} : \frac{5}{6} = 7 : 5$$

16. (c) Let the four numbers be A, B, C and D.

$$\text{Let } A + 3 = B - 3 = 3C = \frac{D}{3} = x.$$

$$\text{Then, } A = x - 3, B = x + 3, C = \frac{x}{3} \text{ and } D = 3x.$$

$$A + B + C + D = 64$$

$$\Rightarrow (x - 3) + (x + 3) + \frac{x}{3} + 3x = 64$$

$$\Rightarrow 5x + \frac{x}{3} = 64 \Rightarrow 16x = 192 \Rightarrow x = 12$$

Thus, the numbers are 9, 15, 4 and 36.

$$\therefore \text{Required difference} = (36 - 4) = 32.$$

17. (b) According to questions, we have

$$A - 10 = B + 10$$

$$\Rightarrow A - B = 20 \dots(i)$$

$$\text{and } 2(B - 20) = (A + 20)$$

$$\Rightarrow 2B - 40 = A + 20$$

$$\text{or } A - 2B = -60 \dots(ii)$$

From (i) and (ii), we get

$$A = 100 \text{ and } B = 80$$

$$\begin{aligned} 18. (d) \frac{ab}{(a+b)} &= \left[\frac{x}{(x+y)} \times \frac{y}{(x-y)} \right] / \left[\frac{x}{(x+y)} + \frac{y}{(x-y)} \right] \\ &= \frac{xy}{(x^2 - xy + xy + y^2)} = \frac{xy}{(x^2 + y^2)} \end{aligned}$$

19. (c) Let A paid = Rs x

$$\begin{aligned}
 &125 \% \text{ of } 120\% \text{ of } x = 225 \\
 &\Rightarrow (125 / 100) \times (120 / 100) \times x = 225 \\
 &\Rightarrow x = (225 \times 100 \times 100) / (125 \times 120) = \text{Rs } 150
 \end{aligned}$$

20. (b) Initially, let there be x men having food for y days.

After 15 days, x men had food for $(y - 15)$ days.

Also, $(x - x/4)$ men had food for y days.

$$\therefore (3x/4) : x :: (y - 15) : y$$

$$\Rightarrow (3x/4) \times y = x(y - 15)$$

$$\Rightarrow 3y = 4y - 60 \Rightarrow y = 60 \text{ days}$$

21. (b) Alcohol in 1st glass = $2/3$; water in 1st glass = $1/3$

Alcohol in 2nd glass = $1/2$; water in 2nd glass = $1/2$ Alcohol = $2/3 + 1/2 = 7/6$; water = $1/3 + 1/2 = 5/6$

$$\therefore \text{Required ratio} = 7/6 : 5/6 = 7 : 5$$

22. (a) Let the investment in scheme A be Rs x .

Then, investment in scheme

$$B = \text{Rs } (27000 - x).$$

$$\therefore [x \times \{ (1 + 8/100)^2 - 1 \}] + (27000 - x) \times \{ (1 + 9/100)^2 - 1 \}]$$

$$= 4818.30.$$

$$\Rightarrow [x \times (104/625)] + [1881(27000 - x) / 10000] = 418830 / 100$$

$$\Rightarrow 1664x + 1881(27000 - x) = 48183000$$

$$\Rightarrow 217x = 2604000 \Rightarrow x = 2604000 / 217 = 12000.$$

23. (a) Let 1 woman's 1 day's work = x .

Then, 1 man's 1 day's work = $x / 2$

and 1 child's 1 day's work = $x / 4$.

$$\text{So, } (3x/2 + 4x + 6x/4) = 1/7 \Rightarrow x = (1/7 \times 4/28) = 1/49.$$

$\therefore$ 1 woman alone can complete the work in 49 days.

So, to complete the work in 7 days, women required

$$= (49 / 7) = 7.$$

24. (d) Let the usual speed of the plane be x km/h

$\therefore$ Time taken in covering the distance of 1500 km

$$= 1500 / x \text{ hours}$$

$$1500 / (x + 250) = 1500 / x - 1 / 2$$

$$\Rightarrow 3000x = 3000(x + 250) - x(x + 250)$$

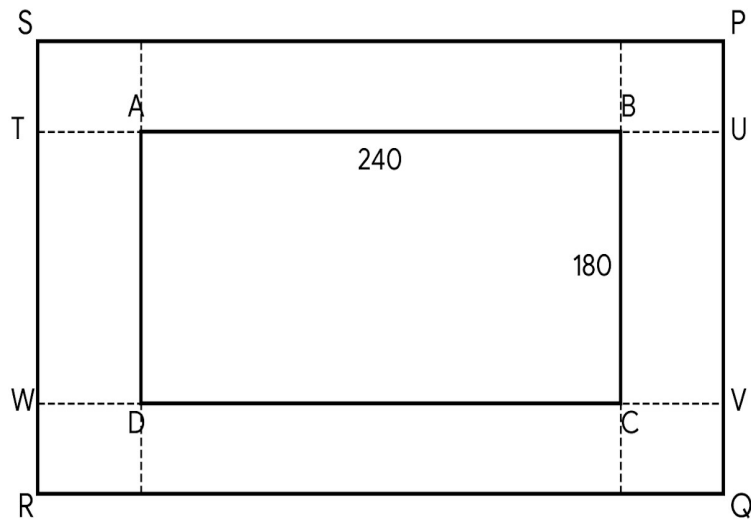
$$\Rightarrow x^2 + 250x - 3000 \times 250 = 0$$

$$\Rightarrow x = [-250 \pm \sqrt{(62500 + 3000000)}] / 2$$

$$= (-250 + 1750) / 2 = 750 \text{ km/h}$$

25. (a) Let speed of man = S km/h. Then,
 $36 \times 14/60 = 18/60 [36 - S] \Rightarrow 36 - S = 28 \Rightarrow S = 8 \text{ km/h}.$

26. (c) Volume of earth dig out divided by area of drain will give the answer.



Here $ST = WR = TA = BU = 10 \text{ m}.$

$$\text{Depth} = (240 \times 180 \times 0.25) / (260 \times 10 \times 2 + 180 \times 10 \times 2)$$

$$= (240 \times 180 \times 0.25) / (20(260 + 180)) = 1.227 \text{ m}$$

27. (b) Distance traversed by the extremity of the minute

hand in one hour = $2 \times (22 / 7) \times 10$.

Distance traversed by the extremity of the minute hand in 77 hours (3 days and 5 hours)

$$= 2 \times (22 / 7) \times 10 \times 77$$

$$= 22 \times 220 = 4840 \text{ cm}$$

Distance traversed by the hour hand in 12 hours

$$= 2 \times (22 / 7) \times 7 = 44 \text{ cm}$$

Distance traversed by the hour hand in 77 hours

$$= (44 / 12) \times 77 = (11 \times 77) / 3 = 847 / 3 = 282.33 \text{ cm}$$

$$\therefore \text{Required difference} = 4840 - 282.33 = 4557.67 \text{ cm}$$

28. (c) 4 students out of 5 can be selected in 5C_4 ways.

Probability of a student being not a swimmer = $1/5$

Probability of a student being a swimmer

$$= (1 - 1/5) = 4/5$$

$$\text{Required probability} = {}^5C_4 \times (1/5) \times (4/5)^4$$

29. (a) Required to percentage

$$= [75,00,000 / (75,00,000 + 85,50,000 + 81,00,000)] \times 100$$

$$= (750 / 2415) \times 100 = 31.05 \approx 30\%$$

30. (d) Average percentage of gross receipts for Crunchy Chop for the years 2001 to 2003

$$= 46.3\% \text{ of } 75,00,000 + 40.6\% \text{ of } 85,50,000 + 12.3\% \text{ of}$$

$$81,00,000 / (75,00,000 + 85,50,000 + 81,00,000) \times 100$$

$$= (79,401 / 24,15,000) \times 100 = 32.87\%$$

Average percentage of gross receipts for Pizza Pie for the year 2001 to 2003

$$12.8\% \text{ of } 7500000 + 24.6\% \text{ of } 8550000 + 37\% \text{ of } 8100000 / 2415000 \times 100$$

$$= (606030 / 2415000) \times 100 = 25.09\%$$

$$\% \text{ increase} = (32.87 - 25.09) / 25.09 = 31.01$$

31. (b) Note that, $2 - 1 = 3 - 2 = 4 - 3 = 5 - 4 = 6 - 5 = 1$

Hence, the required number will be of the form LCM of

(2, 3, 4, 5, 6) $n - 1$ where n is any integer.

LCM of 2, 3, 4, 5, 6 is 60. Hence the elements of A will be of the form $60n - 1$, where n is any integer.

Only for n is equal to 1 the number ($60 - 1 = 59$) will be between 0 and 100.

Hence, only one integer between 0 and 100 belongs to A .

32. (c) Starting from 1, in every set of 6 consecutive natural numbers there will be 4 elements that belong to S_3 (e.g. 2, 3, 4, 6). So we can say that the 104th element of S_3 will be $(4 \times 104) / 6 = 156$. The next element i.e. the 105th element will be 158.

33. (c) $PR = PB + AR - 5 = 20 + 20 - 5$ [AB = 5 cm]

So, perimeter = $PR + PQ + QR$

$$= 20 + (20 - 5) + 20 + (20 - 10) + 20 + (20 - 12)$$

$$= 35 + 30 + 28 = 93$$

$$34. (b) 7^{84} / 342 = (7^3)^{28} / (7^3 - 1) = [\{ (7^3)^{28} - 1 + 1 \} / (7^3 - 1)]$$

$$= [\{ (7^3)^{28} - 1 \} / (7^3 - 1)] + [1 / (7^3 - 1)]$$

$\{ (7^3)^{28} - 1 \} / (7^3 - 1)$ is always divisible as it is in the form of $(x^n - y^n) / (x - y)$.

Hence, the remainder is 1.

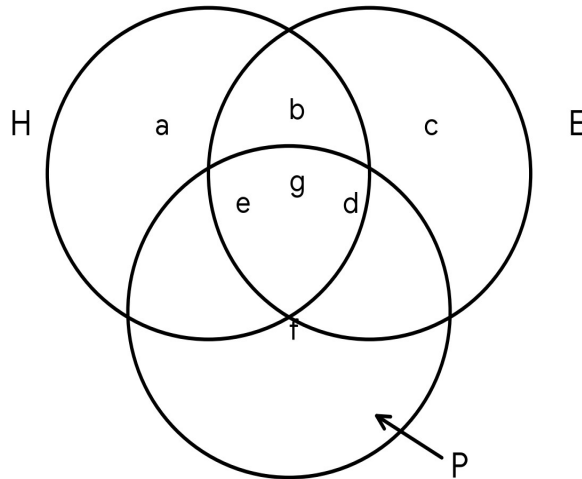
$$35. (a) t_n = n / (n + 2) \Rightarrow t_3 = 3/5 ; t_4 = 4/6 ; t_5 = 5/7$$

Thus, $t_3 \times t_4 \times t_5 \times \dots \times t_{53}$

$$= (3/5) \times (4/6) \times (5/7) \times (6/8) \dots \times (51/53) \times (52/54) \times (53/55)$$

$$= (3 \times 4) / (54 \times 55) = 2 / 495$$

36. (d) We have, $b + c + g + d = 23 \dots(i)$



Now, $a + b + g + e = 15$ and $\dots(ii)$

$e + f + g + d = 18 \dots(iii)$

(given) $b = 3, d = 6, e = 6, c = 9$

putting these value in (i) we get the required result, $g = 5$.

37. (c) Both cars and motorcycles are automobiles.

38. (c) The seven pieces consist of 6 smaller equal pieces and one half cake piece.

Weight of each small piece = 20gms

So, total weight of the cake = $2 \times (20 \times 6) = 240\text{gms}$

39. (c) $24 \times 4 \div 8 + 4 = 24 \times (1/2) + 4 = 12 + 4 = 16$

40. (b) The total no. of all such smaller cubes = 6.

41. (d) From the table above, it is clear that Deepa is good in Studies, General Knowledge and Arts.

42. (b) Clearly, Beena is good in Studies, General Knowledge and Mathematics.

Sol. (43 to 44):

Group Captain – Malhotra

Additional No. of creaws = 4

At least two are pilots.

While others are engineers.

Candidates for engineers : Lal, Monty, Naveen and Paul.

Candidates for pilots : Dalbir, Eric and Farid.

43. (c) As Naveen is chosen, Dalbir and paul cannot be chosen. Therefore, the pilots chosen are Eric and Farid. Eric cannot be a crew with Lal. Hence, monty will be Chosen.

44. (c) Both A and B are true.

45. (b) In fig. (A),

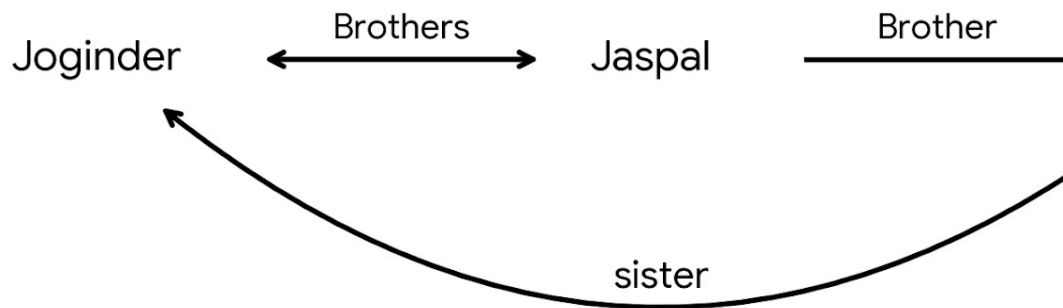
$$(101 + 15) - (35 + 43) = 116 - 78 = 38.$$

In fig. (B), Missing number

$$= (48 + 184) - (56 + 34) = 232 - 90 = 142.$$

46. (d) The flats are constructed for the middle class and if the prices are higher then it is obvious that they are not going to buy it.

47. (a)



From the statements, it is clear that Nirmal is Joginder's Sister.

48. (d) The term 'generally' the statements make the inference probably true.

49. (d) The first, fourth, seventh and eleventh letters of the word INTERPRETATION are I, E, R and T respectively. The words formed are TIER, RITE and TIRE.

50. (a) Position of Suman from right
 = [Difference of Ramesh's position + First position of Suman]
 = [(15 - 9) + 6] = 12th

51. (b) In all other numbers, the sum of the digits is 17.

52. (d) $P \div Q + R - T \times K$ means P is mother of Q, Q is father of R, R is the brother of T and T is the daughter of K.
 $\Rightarrow$ Q is the husband of K and therefore P is mother-in-law of K.

53. (c) There are two series :
 I. B0R E3P H9N

First letter moves + 3 steps forward. The middle numerical component moves +3, +6, +9 and the letter in the third position moves 2 steps backwards (-2).

II. G3U, J7S

The same pattern follows in this series.

Hence, J7S does not fit.

54. (b) Plagiarise is to copy writings and present them as one's own. Similarly, misappropriation of money is to apply wrongfully or dishonestly, as funds entrusted to one's care.

55. (a) When we refrigerate, there is condensation or cooling, and similarly, on heating, there is generally Evaporation.

56. (b)

57. (a)

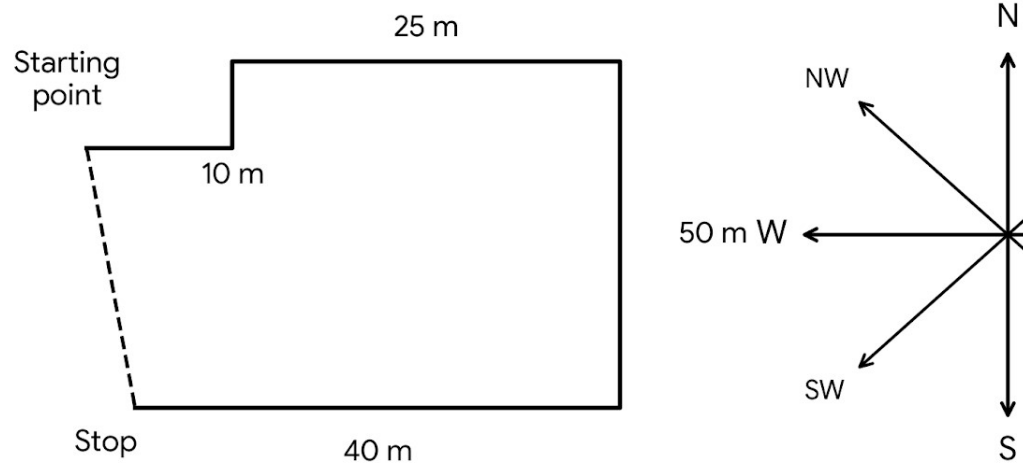
58. (c) As, H and 4 are on opposite faces. So, option (a) is Wrong.

'E' and @ are on opposite face, so option (b) is also wrong.

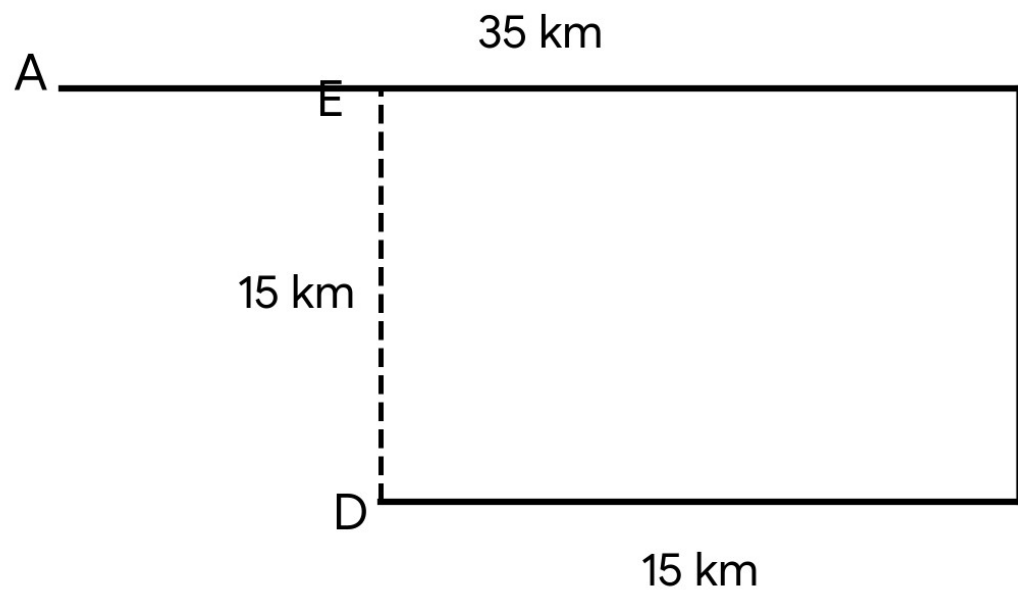
'8' and '1' are on opposite face, so option (d) is also wrong.

Hence, correct option is box shown in option ©

59. (c) According to the given information, the direction diagram is as follows:



60. (c) According to the given information, the direction diagram is as follows:



$$AB = 35, EB = DC = 15\text{ km}$$

$$\begin{aligned} AE &= AB - EB \\ &= 35 - 15 \\ AE &= 20\text{ km.} \end{aligned}$$