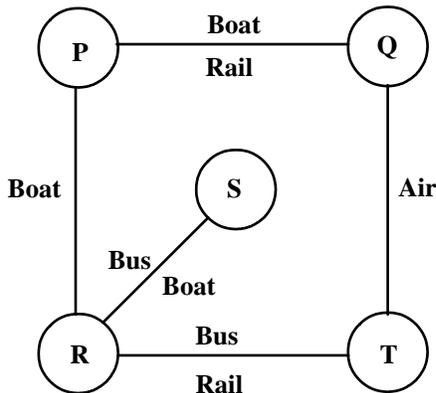


DETAILED SOLUTION

CSAT 2013

- Options 1 and 2 are only partially true with reference to the viewpoint put forth in the passage. "Muddling" and "imposition" are both focused on primarily in the first paragraph. Option 3 focuses on what the passage mentions about democracy as a whole, and is a suitable option.
Hence, the correct answer is **option 3**.
- "Imposition," used in quotes, suggests that we are not to take the literal meaning of the word. This, followed by the last sentence of the paragraph, suggests the assumption which is stated in option 1. Furthermore, the second paragraph talks about ancient Indian democracy which has viewed democracy as a concept of the West. Therefore, option 1 is more suitable. Option 2 is not supported in the passage at all.
Hence, the correct answer is **option 1**.
- The passage states "complying with all the laws of the land". This makes statement 1 correct.
The passage mentions independent directors, not government representatives, making statement 2 incorrect.
The passage mentions distinction between two types of funds. It does not mention "never investing", thereby making statement 3 incorrect.
Hence, the correct answer is **option 1**.
- Statement 1 is mentioned in the passage: "...known to have a positive influence on the share price of the company." Statement 2 is not mentioned in the passage. The word "main" in Statement 3 makes it incorrect - it is one of the criteria.
Hence, the correct answer is **option 1**.
- Option 2 is incorrect since the passage says that malnutrition occurs between six months and two years. Options 3 and 4 may help, but option 1 will definitely help.
Hence, the correct answer is **option 1**.
- Statements 1 and 2 are not the main causes of malnutrition although they may contribute to the issue.
Hence, the correct answer is **option 4**.
- The passage states, "Empirical studies show that the traditional methods are not adequate". This makes option 3 the best answer.
"Extremely" in option 1 makes it wrong.
Option 2 contradicts the passage since farmers do take actions to mitigate risks.
Option 4 is true but incomplete as an answer.
Hence, the correct answer is **option 3**.
- Option 2 is directly found in sentence 4 of paragraph 2 of the passage.
Hence, the correct answer is **option 2**.
- According to statement 3, a family may or may not be an example of a primary group. This eliminates options 1 and 2.
According to Statement 1, a primary group is small in size. But not all small groups are primary. There may be other groups also that are small in size. Therefore, option 3 can be eliminated.
From statement 2, a primary group has to have 'intimacy' as an essential characteristic. So, it can be inferred that members of a primary group know each other intimately.
Hence, the correct answer is **option 4**.
- Let the amount with A, B, C and D be a , b , c and d respectively.
 $a = b - 1$
 $\therefore a < b$
 $c = d + 5$
 $\therefore c > d$
 $d = 3 + b$
 $\therefore d > b$
 $\therefore c > d > b > a$
Thus, a gets the smallest amount.
Hence, **option 1**.

11. The network between the 5 cities is as shown below:



As can be seen, the ways to reach R from Q are Q-P-R and Q-T-R.

In the route Q-P-R, one can travel all the way by boat. However, in the route Q-T-R, one has to travel using either Air-Rail or Air-Bus as modes of transport.

Hence, if one wants to reach R from Q without changing the mode of transport, one should go by boat. Hence, **option 1**.

12. Consider the network shown above.

The person starts from P and gets back to P such that he visits all the cities.

Since S is connected only to R, he has to go to R, then to S and come back to R to move ahead.

Hence, the person has to visit R twice.

Hence, **option 2**.

13. As can be seen from the network given above, none of the given pairs of cities are connected directly. We need to go to at least one other city in each case while travelling from city X to city Y within these pairs.

Hence, **option 4**.

14. For each option, consider number of routes and number of modes of transport for each route.

Pair	Routes	Ways	Total Ways
Q and S	Q-P-R-S	$2 \times 1 \times 2 = 4$	4 + 4 = 8
	Q-T-R-S	$1 \times 2 \times 2 = 4$	
P and R	P-R	1	1 + 4 = 5
	P-Q-T-R	$2 \times 1 \times 2 = 4$	
P and T	P-Q-T	$2 \times 1 = 2$	2 + 2 = 4
	P-R-T	$1 \times 2 = 2$	
Q and R	Q-T-R	$1 \times 2 = 2$	2 + 2 = 4
	Q-P-R	$2 \times 1 = 2$	

Thus, the maximum travel options are between Q and S.

Hence, **option 1**.

15. Since Y is selected, W cannot be selected. Hence, options 1 and 4 can be eliminated.

Since C cannot play with Z, option 3 can also be eliminated.

Hence, **option 2**.

16. Since B is selected, W cannot be selected. Hence, options 1 and 4 can be eliminated. Since C cannot play with Z, option 2 can also be eliminated.

Hence, **option 3**.

17. Since all three males are selected, A, B and C are part of the group. Now, the only person that can be selected is a female. W and Z cannot be selected because of B and C respectively. So, one of X and Y can be selected. So, there are two combinations possible.

Hence, **option 2**.

18. Rohit and Tanya will not work together. So, options 2 and 4 are eliminated.

Kunal and Shobha will not work together. So, option 1 is eliminated.

The group in option 3 is an acceptable group.

Hence, **option 3**.

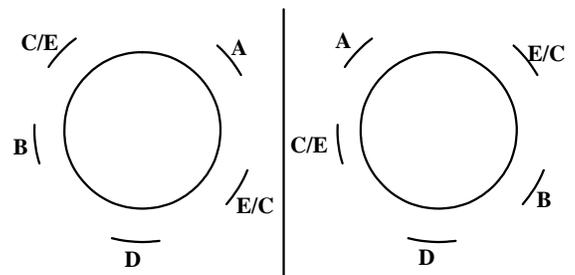
19. Here, there are 2 ways to interpret the line "A is seated two seats from D"

Interpretation 1: A is at the 2nd position from D (gap of 1)

Interpretation 2: A is at the 3rd position from D (gap of 2)

In either case, 2 people between A and D when counting clockwise is equivalent to one person between A and D when counting anti-clockwise; and vice-versa.

This can be shown as below:



In either of the above arrangements, D and B are seated next to each other. Similarly, E and A are also seated next to each other. Hence, both the statements are true.

Hence, **option 3**.

20. Tabulating the given conditions, we get

	Football	Cricket	Hockey	Basketball
A	Yes	Yes		Yes
B	Yes	Yes	Yes	
C		Yes	Yes	Yes
D	Yes		Yes	Yes

As seen in the table above, A is the only player who does not play hockey.

Hence, **option 4**.

21. As seen in the table in the first question of this set, D is the only player who plays football, basketball and hockey.

Hence, **option 1**.

22. As seen in the table in the first question of this set, the game common to B, C and D is hockey.

Hence, **option 2**.

23. Express the ages as mathematical inequalities.

Geeta > Meena and Bipin > Geeta

∴ Bipin > Geeta > Meena

Nothing can be said about the chess winning abilities of these people.

It logically follows that Meena is the youngest.

Hence, **option 4**.

24. Statements 1, 2 and 3 are directly justified from sentences 3 and 4 of paragraph 1.

Statement 4 is not mentioned in the passage at all.

Hence, the correct answer is **option 2**.

25. Option 3 is directly justified from sentence 2 of paragraph 1.

Options 1 and 2 are not mentioned in the passage.

Option 4 is an example of a global change.

Hence, the correct answer is **option 3**.

26. Option 4 is directly justified from sentence 2 of paragraph 2.

Options 1, 2 and 3 are not mentioned in the passage.

Hence, the correct answer is **option 4**.

27. Statements 1, 2 and 3 are mentioned in the second-last sentence of the passage, and justified in the last sentence.

Statement 4 is not mentioned in the passage.

Hence, the correct answer is **option 1**.

28. The day when all five groups meet is the LCM of the interval at which each group meets.

The interval for each group is: Gardening – 2 days, Electronic – 3 days, Chess – 4 days, Yachting – 5 days, Photography – 6 days

LCM of 2, 3, 4, 5 and 6 is 60

Thus, all groups meet once in 60 days.

Hence, in a period of 180 days, they meet 3 times on the same day.

Hence, **option 1**.

29. The city that each person belongs to is as shown in the table below.

	P	Q	R	S	T
A	No	Yes	No	No	No
B	No	No	No	No	Yes
C	Yes	No	No	No	No
D	No	No	Yes	No	No
E	No	No	No	Yes	No

Thus, it can be seen that B belongs to T and not S. All the other statements are correct.

Hence, **option 4**.

30. A, B, C, D, E, F and G are standing in a queue (in that order).

Each person can see the caps in front of him.

Since G can see all the caps except orange, G is wearing the orange cap.

Since D can see green and blue; green, blue and one more colour are in front of him.

Since E is fifth and can see violet and yellow, E can also see green and blue.

Thus, E cannot see indigo and red.

Since E is wearing indigo, the person behind him (i.e. F) is wearing red.

Hence, **option 3**.

31. Let the number of red, yellow and green balls be r , g and y respectively.

As per the conditions, $r = y$ and $y = 2g$

∴ $r = 2g$

Thus, the number of red balls is double the number of green balls.

Hence, **option 2**.

32. Option 2 is justified from the third-last sentence of the passage.

Hence, the correct answer is **option 2**.

33. Option 3 is justified from the last sentence of the passage.

Hence, the correct answer is **option 3**.

34. In a class of 45 students, a boy is ranked 20th.

Thus, there are 19 students in front of him and 25 students behind him.

Now, when 2 boys joined, his rank dropped by one.

This implies that one boy joined in front of him and one joined behind him.

So, there are 20 students in front of him and 26 behind him.

So, he is now 27th from the end.

Hence, **option 3**.

35. The relative speed between the thief and policeman is $(10 - 8)$ km/hr = 2 km/hr

$$\therefore \text{Time} = \frac{\text{Distance}}{\text{Relative Speed}} = \frac{0.1}{2} = 0.05 \text{ hours}$$

= 3 minutes

Hence, **option 2**.

36. Let the original speed be x km/hr.

$$\therefore \frac{63}{x} + \frac{72}{x+6} = 3$$

$$\therefore 63x + 378 + 72x = 3(x^2 + 6x)$$

$$\therefore x^2 + 6x = 45x + 126$$

$$\therefore x^2 - 39x - 126 = 0$$

$$\therefore x = 42 \text{ km/hr}$$

Hence, **option 3**.

37. The last sentence of paragraph 1 talks about soil microorganisms decomposing organic components of sewage and slurry, implying that these do not exist in water. This makes statement 2 correct.

Support for Statement 3 (eutrophication) is found in the entire second paragraph.

Statement 1 cannot be justified from the passage (though it may be true).

Hence, the correct answer is **option 2**.

38. From paragraph 1, we can deduce that option 2 is correct.

Hence, the correct answer is **option 2**.

39. Paragraph 2 mentions, "...change to eutrophic condition where high nutrient input..." justifying statement 3.

Statements 1 and 2 are not found anywhere in the passage.

Statement 4 is incorrect because the passage mentions "decomposition" of algal blooms, and not "creation".

There is no option that mentions only statement 3 as the right answer.

Hence, the question is ambiguous.

40. Statements 1 and 2 are justified from the last and the second-last sentences of paragraph 2.

Statement 3 states the opposite of the passage.

Hence, the correct answer is **option 2**.

41. Option 3 best captures the essence of the passage.

Options 1, 2 and 4 may be inferences from the passage, but are not its focus.

Hence, the correct answer is **option 3**.

42. Option 2 is justified from the last sentence in the passage. It is also the focus of the entire passage.

The remaining options are contradictory to the passage.

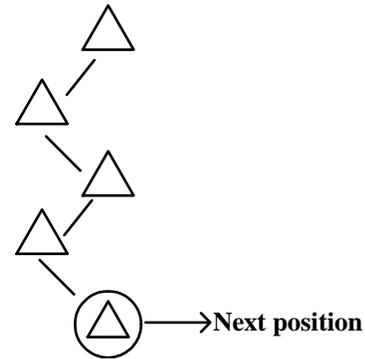
Hence, the correct answer is **option 2**.

43. Statements 1 and 2 are contradictory to the passage.

Hence, the correct answer is **option 2**.

44. There are 2 elements in each figure - a triangle and a sun.

The triangle moves anti-clockwise by one step in each figure (throughout the figure). The position of the triangle in the required figure is as shown below:



The sun moves anti-clockwise by one step in each figure within the inner quadrilateral. The correct position of the triangle and sun is obtained in the figure in option 2.

Hence, **option 2**.

45. In the series of 4 figures, the direction of arrow alternates (downward - upward). Hence, it should be facing down in the answer figure.

Also, the "cross within the circle" follows a fixed direction change from figure 1 to 4 (north - southeast - southwest - north). Hence, it should be facing southeast in the answer figure.

Both these conditions are met in the figure in option 3.

Hence, **option 3**.

46. The pattern here is that each element shifts left by 1 place in each figure. While the 1st two elements from the right retain their orientation, the left most element gets replaced by its water image while shifting.

Applying this pattern on the 4th problem figure, we get the figure given in option 2

Hence, **option 2**.

47. The number of men working is inversely proportional to the number of days required to complete the job. So, if x men working at constant speed finish some work in y days, the equation of work is of the form $xy = \text{constant}$.

This is represented by a rectangular hyperbola as shown in diagram IV.

Hence, **option 4**.

48. The pattern followed here is: sum of the numbers in the first and the third column is equal to the sum of the digits in the number present in the middle column.

$$3 + 7 = 3 + 7 + 0 = 103$$

$$2 + 6 = 2 + 2 + 4 = 8$$

$$1 + X = 7 + 3 + 0$$

$$\text{So, } X = 9$$

Hence, **option 3**.

Alternatively,

$$\text{Middle term} = \text{First term}^3 + \text{Third term}^3$$

$$370 = 3^3 + 7^3 = 27 + 343$$

$$224 = 2^3 + 6^3 = 8 + 216$$

$$730 = 1^3 + X^3$$

$$\therefore X^3 = 730 - 1 = 729$$

$$\therefore X = 9$$

Hence, **option 3**.

49. Let the distance covered be D km, amount of diesel used be L litres, the total payment be Rs. T and the time taken be t hours.

$$\therefore T = 6D + 40L \quad \dots \text{(i)}$$

$$\text{In option 1, Mileage} = 8 = D/L$$

$$\therefore L = D/8 \quad \dots \text{(ii)}$$

Putting equation (ii) in (i), we get,

$$11D = T = 2120$$

$$\therefore D = 192.72 \text{ km}$$

$$\therefore \text{Average speed} = D/t = 192.72/20 = 9.636 \text{ km/hr}$$

Similarly solving for the other options we get the values of the average speed (in km/hr) for options 2, 3 and 4 as 7.8, 8.23 and 8.54 respectively.

Thus, car A maintained the maximum speed.

Hence, **option 1**.

50. Let the missing figure be x .

$$\text{In the first figure, } 12 \times \frac{14}{2} = 84$$

$$\text{In the second figure, } 9 \times \frac{18}{2} = 81$$

$$\text{In the third figure, } 11 \times \frac{x}{2} = 88$$

$$\therefore x = 16$$

Hence, **option 2**.

51. Note that faces 6, 4, 3 and 2 are all adjacent to face 1.

Thus face 5 has to be opposite face 1.

Since faces A and B are adjacent to face 5, none of these can be face 1.

Hence, options 2, 3 and 4 can be eliminated.

Hence, **option 1**.

52. Total number of Physics professors = $32 + 8 = 40$

Physics professors in the age-group 35 to 44 = 40% of 40 = 16

Hence, **option 2**.

53. Note that apart from Chemistry, the number of males is more than the number of females for all the other subjects given in the options.

So, the ratio for Chemistry is less than 1 while that for the other 3 subjects (Physics, Mathematics and Economics) is more than 1.

Now, among these 3 subjects, the number of females is the same i.e. 8.

So, the subject with the highest number of males has the highest ratio.

Since Physics has the maximum number of males (32), it has the highest ratio of males to females.

Hence, **option 1**.

54. Total number of Psychology professors = $4 + 6 = 10$

Number of female Psychology professors = 6

\therefore Percentage of female Psychology professors

$$= \frac{6}{10} \times 100 = 60\%$$

Hence, **option 3**.

55. Total number of Physics professors = $32 + 8 = 40$

Number of Physics professors in the age group 25-34 = 30% of 40 = 12

Since 25% of professors in this group are female, the remaining 75% are male.

So, number of male Physics professors in the age group 25-34 = 75% of 12 = 9

Hence, **option 1**.

56. Total number of Psychology professors = $4 + 6 = 10$

This is 2% of the total number of professors.

$$\therefore \text{Total number of professors} = \frac{100}{2} \times 10 = 500$$

Hence, **option 2**.

57. Observe that each alternate figure has a circle and square, starting with a circle in the first figure.

So, the 7th figure should also have a circle.

Hence, option 3 can be eliminated.

Now, observe that the 1st and 4th figures have the arrows moving clockwise, the 2nd and 5th figures have the arrows moving anti-clockwise and the 3rd and 6th figures have the arrows moving in both directions.

So, the 7th figure should follow the pattern of the 1st and 4th figures i.e. the arrows should move clockwise.

Hence, **option 3**.

58. The very first line of the passage states, "...deleterious effects of habitat fragmentation...", which is a recurring theme through the passage.

Hence, the correct answer is **option 4**.

59. The passage clearly states that, "Continuity of forested landscapes...extinction prone species...most serious threat to bio diversity conservation." This validates option 1.

Hence, the correct answer is **option 1**.

60. Let the number of gold coins be x . So, the number of non-gold coins is $3x$.

Now, as per the given conditions:

$$\frac{x + 10}{3x} = \frac{1}{2}$$

$$\therefore 2x + 20 = 3x$$

$$\therefore x = 20$$

So, the total number of coins

$$= x + 10 + 3x = 20 + 10 + 60 = 90 \text{ coins.}$$

Hence, **option 1**.

61. The gardener has 1000 plants. Since he plants them such that number of plants in rows and columns is the same, total number of plants should be a perfect square.

The perfect square nearest to 1000 and greater than 1000 is 1024 i.e. 32^2

Hence, he needs to have at least 24 more plants.

Hence, **option 2**.

62. The amount with the 7 students is in A.P. with $S_n = 700$, $n = 7$ and $d = 20$

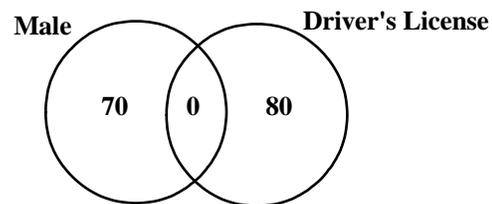
$$s_n = \frac{n}{2}(2a + (n - 1)d)$$

$$\therefore 700 = \frac{7}{2}(2a + 6(20))$$

$$\therefore a = 40$$

Hence, **option 2**.

63. If we consider zero as the minimum number of males having driver's license, we get

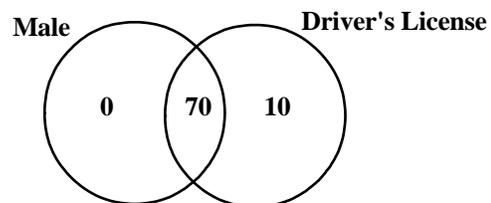


$$70 + 0 + 80 = 150$$

This is not possible as the total number of applicants is 120.

Hence the number of elements in the common set has to be minimum $150 - 120 = 30$ applicants

If we consider 70 as the maximum number of applicants having driver's license, we get



$$0 + 70 + 10 = 80$$

This is possible since the value is less than 120.

Hence, maximum applications having driver's license is 70

$$\therefore \text{Required ratio} = 30 : 70 = 3 : 7$$

Hence, **option 3**.

64. Here, the number of days the food will suffice is inversely proportional to the number of soldiers.

At the end of 10 days, the food would have sufficed for 20 more days with 1000 soldiers. Since the number of soldiers has doubled at the end of 10 days; the number of days the food would suffice gets halved.

Hence the food will last for $20/2$ i.e. 10 more days

Hence, **option 4**.

65. Let the consumption of petrol be 1 litre/day. Hence the total consumption is 10 litres.

Now, Arun consumes 25% more petrol every day.

Hence he consumes 1.25 litres of petrol every day.

Let y be the number of days the petrol will last.

$$\therefore 1.25 \times y = 10$$

$$\therefore y = 8$$

Hence, **option 4**.

66. Let the time taken to cover the distance by walking be x km.

Let the time taken to cover the distance by driving be y km.

$$\therefore x + y = 6 \quad \dots (i)$$

$$2x = 10 \quad \dots (ii)$$

On solving, $y = 1$

Thus he will need $1 \times 2 = 2$ hours to drive both ways.

Hence, **option 1**.

67. The passage states, "His parents were upset...expensive new bicycle". This expresses their anger about him coming home without his expensive bicycle.
Hence, the correct answer is **option 1**.
68. The last line of the passage states, "All right... your watch back" means that Jim had agreed to give his bike to the old man and the little boy under the condition that if something went wrong with the bike, he would get to keep the watch.
Hence, the correct answer is **option 3**.
69. The passage states, "As we climbed higher...making it difficult at times to see the road". This clearly validates option 3.
Hence, the correct answer is **option 3**.
70. The passage states, "There we felt that we would find a bed for the night". This validates option 4.
Hence, the correct answer is **option 4**.
71. The passage mentions that although the town that they were scheduled to go to was 15 kilometers away, after driving for 20 kilometers there was still no sign of the town. This implies that they feared losing their way.
Hence, the correct answer is **option 2**.
72. The pavement is designed for pedestrians and a street for vehicles. Since the lady was walking she was advised to use the pavement. The other options are irrelevant.
Hence, the correct answer is **option 1**.
73. The lady said, "I'm going to walk where I like. We've got liberty now". This clearly validates option 2 making the others redundant.
Hence, the correct answer is **option 2**.
74. From the passage, it is quite clear that the lady took the concept of liberty to an unrealistic extent. This points towards option 2. The other options are redundant.
Hence, the correct answer is **option 2**.
75. Option 2 can be eliminated immediately as you would be contravening the rules that you yourself have formulated.
Option 3, although correct in isolation will show some insensitivity on your part. Note the passage mentions that you do not want to annoy your personal secretary.

Therefore, the rejection of his request for a house allotment has to be handled with some tact.

Option 4 will not solve the problem in any way. By sitting on the file, your personal secretary does not get the house that he wants and this will certainly annoy him – which you do not want to do.

The only way to tackle this dilemma is to call the personal secretary to your room and explain as to why the allotment cannot be made. At least by having a face to face conversation you will be showing that this matter is important enough to warrant your time and efforts.

Hence, the correct answer is **option 1**.

76. Option 1 would have been a correct course of action – except for the fact that the passage mentions that you are in a hurry for your meeting. Therefore, you cannot afford to waste time in arguing with the clerk. Secondly, since this is a clear case of moral turpitude it should ideally be reported to the concerned authorities.
Option 2 – no action – is a weak response on your part and will open the gate to rampant corruption if many others also follow this course of ignoring the bribe being given.
Option 4, too, is completely incorrect as a course of action. By this action – of not taking any action – you are indirectly encouraging corruption which as a concerned citizen you simply cannot afford to do.
Since you are in a hurry, it is best that you note the incident and subsequently report the matter to the concerned authorities. This course of action will enable you to attend your meeting on time and at the same time will be an adequate response on your part to the bribe being given.
Hence, the correct answer is **option 3**.
77. Option 1 would be extremely insensitive on your part – since the poor villager has been waiting for you for an hour.
Option 2, too, is very insensitive. The poor villager has come to meet you personally and has waited for a considerable period of time. He will be reassured only if you meet him personally. Option 3, may be correct in some ways but note that the poor villager has traveled from his village just to meet you since you are the number one authority in the district. He will be reassured only if he knows that you will personally look into his problem.
Option 4, while not an ideal solution is the best under the circumstances. By talking to him personally the villager will be reassured that his grievance will be

looked into. At the same time by spending only a few minutes with him you are in a position to attend an important meeting. Thirdly, by taking the application from him, you are showing him that you will study the problem in the future and try to solve it.

Hence, the correct answer is **option 4**.

78. Option 1 would be illegal. It can be eliminated.

Option 2 would turn your friend into an enemy. The matter calls for more tact and sensitivity.

Option 4, too, would be insensitive. You being the District Magistrate and the final authority your close friend would expect you to address him directly – not pass the buck as it were.

By showing your close friend the copy of the government instructions and by “persuading” him to see reason you would probably be able to convince your close friends that rules are to be followed by everybody.

Hence, the correct answer is **option 3**.

79. Option 1 will not work. “Logical explanations” will not be effective when there exists a strong opposition to the family planning programme.

Option 2 does not attempt to solve the strong opposition to the family planning programme. Like option 1, it is simply logical. We need something more.

Family planning incentives may or may not be effective in this regard since the opposition to this programme is fierce. We are not sure if incentives will succeed in overcoming entrenched attitudes. Therefore, option 3 can also be eliminated. The best method is detailed in option 4. Let those who have undergone some family planning measure talk about their beneficial experiences to the people in that area. This method is the only method which has any chance of succeeding.

Hence, the correct answer is **option 4**.

80. Option 1 would be completely unethical.

Option 2, is a correct course of action but in view of the debt that you owe your friend would be an unsatisfactory response.

Option 4 would be too harsh – after all he is a very close friend who had helped you in the past.

By explaining your position in a face to face meeting, you stand a fair chance of convincing him that although you owe him a favour, this is one action that he cannot possibly take.

Hence, the correct answer is **option 3**.