Directions for Questions 1 and 2: There are five machines A, B, C, D and E situated on a straigh line at distances of 10 metres, 20 metres, 30 metres, 40 metres and 50 metres respectively from the origin of the line. A robot is stationed at the origin of the line. The robot serves the machines with raw material whenever a machine becomes idle. All the raw material is located at the origin. The robot is in an idle state at the origin at the beginning of a day. As soon as one or more machines become idle, they send messages to the robot-station and the robot starts and serves all the machines from which it received messages. If a message is received at the station while the robot is away from it, the robot takes notice of message only when it returns to the station. While moving, it serves the machines in the sequence in which they are encountered, and then returns to the origin, If any messages are pending at the station when it returns, it repeats the process again. Otherwise, it remains idle at the origin till the next message(s) is (are) received.

1. Suppose on a certain day, machines A and D have sent the first two messages to the origin at the beginning of the first second, and C has sent a message at the beginning of the 5th second and B at the beginning of the 6th second, and E at the beginning of the 10th second. How much distance in metres has the robot travelled since the beginning of the day, when it notices the message of E? Assume that the speed of movement of the robot is 10 metres per second.

    (a) 140   (b) 80

    (c) 340   (d) 360

2. Suppose there is a second station with raw material for the robot at the other extreme of the line which is 60 metres from the origin, that is, 10 metres from E. After finishing the services in a trip, the robot returns to the nearest station. If both stations are equidistant, it chooses the origin as the station to return to. Assuming that both stations receive the messages sent by the machines and that all the other data remains the same, what would be the answer to the above question?

    (a) 120   (b) 140

    (c) 340   (d) 70

Directions for Questions 3 and 4: There are three bottles of water, A, B, C, whose capacities are 5 litres, 3 litres, and 2 litres respectively. For transferring water from one bottle to another and to drain out the bottles, there exists a piping system. The flow through these pipes is computer controlled. The computer that controls the flow through these pipes can be fed with three types of instructions, as explained below:

Instruction type	Explanation of the instruction
FILL (X,Y)	Fill bottle labelled X from the water in bottle labelled Y, where the remaining capacity of X is less than or equal to the amount of water in Y
EMPTY (X,Y)	Empty out the water in bottle labelled X into bottle labelled Y, where the amount of water in X is less than or equal to the remaining capacity of Y.
DRAIN (X)	Drain out all the water contained in bottle labelled X.

Initially, A is full with water, and B and C are empty.

3. After executing a sequence of three instructions, bottle A contains one litre of water. The first and the third of these instructions are shown below:

First instruction FILL (C, A)

Third instruction FILL (C, A)

(a) The second instruction is FILL (B, A).

(b) The second instruction is EMPTY (C, B).

(c) The second instruction transfers water from B to C.

(d) The second instruction involves using the water in bottle A.

4. Consider the same sequence of three instructions and the same initial state mentioned above. Three more instructions are added at the end of the above sequence to have A contain 4 litres of water. In this total sequence of six instructions, the fourth one is DRAIN (A). This is the only DRAIN instruction in the entire sequence. At the end of the execution of the above sequence, how much water (in litres) is contained in C?

(a) One   (b) Two

(c) Zero   (d) None of these.

Directions for Questions 5–9: Sixteen teams have been invited to participate in the ABC Gold Cup Cricket tournament. The tournament is conducted in two stages. In the first stage, the teams are divided into two groups. Each group consists of eight teams, with each team playing every other team in its group exactly once. At the end of the first stage, the top four teams from each group advance to the second stage while the rest are eliminated. The second stage comprises of several rounds. A round involves one match for each team. The winner of a match in a round advances to the next round, while the loser is eliminated. The team that remains undefeated in the second stage is declared the winner and claims the Gold Cup.

The tournament rules are such that each match results in a winner and a loser with no possibility of a tie. In the first stage a team earns one point for each win and no points for a loss. At the end of the first stage teams in each group are ranked on the basis of total points to determine the qualifiers advancing to the next stage. Ties are resolved by a series of complex tie-breaking rules so that exactly four teams from each group advance to the next stage.

5. What is the total number of matches played in the tournament?

    (a) 28
    (b) 55

    (c) 63
    (d) 35

6. The minimum number of wins needed for a team in the first stage to guarantee its advancement to the next stage is:

    (a) 5
    (b) 6

    (c) 7
    (d) 4

7. What is the highest number of wins for a team in the first stage in spite of which it would be eliminated at the end of first stage?

    (a) 1
    (b) 2

    (c) 3
    (d) 4

8. What is the number of rounds in the second stage of the tournament?

    (a) 1
    (b) 2

    (c) 3
    (d) 4

9. Which of the following statements is true?

    (a) The winner will have more wins than any other team in the tournament.

    (b) At the end of the first stage, no team eliminated from the tournament will have more wins than any of the teams qualifying for the second stage.

    (c) It is possible that the winner will have the same number of wins in the entire tournament as a team eliminated at the end of the first stage.

    (d) The number of teams with exactly one win in the second stage of the tournament is 4.

10. There is a vertical stack of books marked 1, 2, and 3 on Table-A, with 1 at the bottom and 3 on top. These are to be placed vertically on Table-B with 1 at the bottom and 2 on the top, by making a series of moves from one table to the other. During a move, the topmost book, or the topmost two books, or all the three, can be moved from one of the tables to the other. If there are any books on the other table, the stack being transferred should be placed on top of the existing books, without changing the order of books in the stack that is being moved in that move. If there are no books on the other table, the stack is simply placed on the other table without disturbing the order of books in it. What is the minimum number of moves in which the above task can be accomplished?

    (a) One
    (b) Two

(c) Three   (d) Four

11. A shipping clerk has five boxes of different but unknown weights each weighing less than 100 kg. The clerk weighs the boxes in pairs. The weights obtained are 110, 112, 113, 114, 115, 116, 117, 118, 120 and 121 kgs. What is the weight, in kgs of the heaviest box?

(a) 60   (b) 62

(c) 64   (d) cannot be determined

12. There are three cities A, B and C. Each of these cities is connected with the other two cities by at least one direct road. If a traveller wants to go from one city (origin) to another city (destination), she/he can do so either by traversing a road connecting the two cities directly, or by traversing two roads, the first connecting the origin to the third city and the second connecting the third city to the destination. In all there are 33 routes from A to B (including those via C). Similarly there are 23 routes from B to C (including those via A). How many roads are there from A to C directly?

(a) 6   (b) 3

(c) 5   (d) 10

Directions for Questions 13–22: There are ten short passages given below. Read each of the passages and answer the question that follows it:

13. In a recent report the gross enrolment ratios at the primary level, that is the number of children enrolled in classes one to five as a proportion of all children aged 6 to 10, were shown to be very high for most states; in many cases they were way above 100 per cent! These figures are not worth anything since they are based on the official enrolment data compiled from school records. They might as well stand for gross exaggeration ratios.

Which one of the following options best supports the claim that the ratios are exaggerated?

(a) The definition of gross enrolment ratio does not exclude, in its numerator, children below 6 years or above 10 years enrolled in classes one to five.

(b) A school attendance study found that many children enrolled in the school records were not meeting a minimum attendance requirement of 80 per cent.

(c) A study estimated that close to 22 per cent of children enrolled in the class one records were below 6 years of age and still to start going to school.

(d) Demographic surveys show shifts in the population profile which indicates that the number of children in the age group of 6 to 10 years is declining.

14. Szymanski suggests that the problem of racism in football may be present even today. He begins by verifying an earlier hypothesis that clubs' wage bills explain 90% of their performance. Thus, if players' salaries were to be only based on their abilities, clubs that spend more should finish higher. If there is pay discrimination against some group of players —fewer teams bidding for black players thus lowering the salaries for blacks with the same ability as whites, that neat relation may no longer hold. He concludes that certain clubs seem to have achieved much less than what they could have, by not recruiting black players.

Which one of the following findings would best support Szymanski's conclusion?

(a) Certain clubs took advantage of the situation by hiring above average shares of black players.

(b) Clubs hired white players at relatively high wages and did not show proportionately good performance.

(c) During the study period, clubs in towns with a history of discrimination against blacks, under-performed relative to their wage bills.

(d) Clubs in one region, which had higher proportions of black players, had significantly lower wage bills than their counterparts in another region which had predominantly white players.

15. The pressure on Italy's 257 jails has been increasing rapidly. These jails are old and overcrowded. They are supposed to hold up to 43,000 people—9000 fewer than now. San Vitter in Milan, which has 1,800 inmates, is designed for 800. The number of foreigners inside jails has also been increasing. The minister in charge of prisons fears that tensions may snap and so has recommended to the government an amnesty policy.

Which one of the following would have most influenced the recommendation of the minister?

(a) Opinion polls have indicated that many Italians favor a general pardon.

(b) The opposition may be persuaded to help since amnesties must by approved by a two thirds majority in parliament.

(c) During a recent visit to a large prison the Pope whose pronouncements are taken seriously appealed for 'a gesture of clemency'.

(d) Shortly before the recommendation was made 58 prisons reported disturbances in a period of two weeks.

16. The offer of the government to make iodised salt available at a low price of one rupee per kilo is welcome, especially since the government seems to be so concerned about the ill effects of non-iodised salt. But it is doubtful whether the offer will actually be implemented. Way back in 1994, the government, in an earlier effort, had prepared reports outlining three new and simple but experimental methods for reducing the costs of iodisation to about five paise per kilo. But these reports have remained just those-reports on paper.

Which one of the following, if true, most weakens the author's contention that it is doubtful whether the offer will be actually implemented?

(a) The government proposes to save on costs by using the three methods it has already devised for iodisation.

(b) The chain of fair-price distribution outlets now covers all the districts of the state.

(c) Many small-scale and joint-sector units have completed trials to use the three iodisation methods for regular production.

(d) The government which initiated the earlier effort is in place even today and has more information on the effects of non-iodised salt.

17. About 96% of Scandinavian moths have ears tuned to the ultrasonic pulses that bats, their predators, emit. But the remaining 4% do not have ears and are deaf. However, they have a larger wingspan than the hearing moths, and also have higher wing loadings—the ratio

between a wing's area and its weight-meaning higher maneuverability.

Which one of the following can be best inferred from the above passage?

(a) A higher proportion of deaf moths than hearing moths fall prey to bats.

(b) Deaf moths may try to avoid bats by frequent changes in their flight direction.

(c) Deaf moths are faster than hearing moths, and so are less prone to becoming a bat's dinner than hearing moths.

(d) The large wingspan enables deaf moths to better receive and sense the pulses of their bat predators.

18. Argentina's beef cattle herd has dropped to under 50 million from 57 million ten years ago in 1990. The animals are worth less, too: prices fell by over a third last year, before recovering slightly. Most local meat packers and processors are in financial trouble, and recent years have seen a string of plant closures. The Beef Producers' Association has now come up with a massive advertisement campaign calling upon Argentines to eat more beef—their 'juicy, healthy, rotund, plate-filling' steaks.

Which one of the following, if true, would contribute most to a failure of the campaign?

(a) There has been a change in consumer preference towards eating leaner meats like chicken and fish.

(b) Prices of imported beef have been increasing, thus making locally grown beef more competitive in terms of pricing.

(c) The inability to crossbreed native cattle with improved varieties has not increased production to adequate levels.

(d) Animal rights pressure groups have come up rapidly, demanding better and humane treatment of farmyard animals like beef cattle.

19. The problem of traffic congestion in Athens has been testing the ingenuity of politicians and town planners for years. But the measures adopted to date have not succeeded in decreasing the number of cars on the road in the city centre. In 1980, an odd and even number-plate legislation was introduced, under which odd and even plates were banned in the city centre on alternate days, thereby expecting to halve the number of cars in the city centre. Then in 1993 it was decreed that all cars in use in the city centre must be fitted with catalytic converters; a regulation had just then been introduced, substantially reducing import taxes on cars with catalytic converters, the only condition being that the buyer of such a 'clean' car offered for destruction a car at least 15 years old.

Which one of the following options, if true, would best support the claim that the measures adopted to date have not succeeded?

(a) In the 1980s, many families purchased second cars with the requisite odd or even number plate.

(b) In the mid-1990s, many families found it feasible to become first-time car owners by buying a car more than 15 years old and turning it in for a new car with catalytic converters.

(c) Post-1993, many families seized the opportunity to sell their more than 15 year-old cars

and buy 'clean' cars from the open market, even if it meant forgoing the import tax subsidy.

    (d)   All of the above.

20.   Although in the limited sense of freedom regarding appointments and internal working, the independence of the Central Bank is unequivocally ensured, the same cannot be said of its right to pursue monetary policy without coordination with the central government. The role of the Central Bank has turned out to be subordinate and advisory in nature.

    Which one of the following best supports the conclusion drawn in the passage?

    (a)   A decision of the chairman of the Central Bank to increase the bank rate by two percentage points sent shock-waves in industry, academic and government circles alike.

    (b)   Government has repeatedly resorted to monetisation of the debt despite the reservation of the Central Bank.

    (c)   The Central Bank does not need the central government's nod for replacing soiled currency notes.

    (d)   The inability to remove coin shortage was a major shortcoming of this government.

21.   The *Shveta-chattra* the 'White Umbrella' was a symbol of sovereign political authority placed over the monarch's head at the time of the coronation. The ruler so inaugurated was regarded not as a temporal autocrat but as the instrument of protective and sheltering firmament of supreme law. The white umbrella symbol is of great antiquity and its varied use illustrates the ultimate common basis of non-theocratic nature of states in the Indian tradition. As such, the umbrella is found, although not necessarily a white one, over the head of Lord Ram, the Mohammedan sultans and Chatrapati Shivaji.

    Which one of the following best summarises the above passage?

    (a)   The placing of an umbrella over the ruler's head was a common practice in the Indian subcontinent.

    (b)   The white umbrella represented the instrument of firmament of the supreme law and the non-theocratic nature of Indian states.

    (c)   The umbrella, not necessarily a white one, was a symbol of sovereign political authority.

    (d)   The varied use of the umbrella symbolised the common basis of the non-theocratic nature of states in the Indian tradition.

22.   The theory of games is suggested to some extent by parlour games such as chess and bridge. Friedman illustrates two distinct features of these games. First, in a parlour game played for money, if one wins the other(others) loses(lose). Second, these games are games involving a strategy. In a game of chess, while choosing what action is to be taken, a player tries to guess how his /her opponent will react to the various actions he or she might take. In contrast, the card-pastime, 'patience' or 'solitaire' is played only against chance.

    Which one of the following can best be described as a 'game'?

    (a)   The team of Tenzing Norgay and Edmund Hillary climbing Mt. Everest for the first time in human history.

    (b)   A national level essay writing competition.

(c) A decisive war between the armed forces of India and Pakistan over Kashmir.

(d) Oil Exporters' Union deciding on world oil prices, completely disregarding the countries which have at most minimal oil production.

Directions for questions 23–27: Read each of the five problems given below and choose the answer from among the four given choices.

23. Persons X, Y, Z and Q live in red, green, yellow or blue coloured houses placed in a sequence on a street. Z lives in a yellow house. The green house is adjacent to the blue house. X does not live adjacent to Z. The yellow house is in between the green and red houses. The colour of the house X lives in is

    (a) blue

    (b) green

    (c) red

    (d) not possible to determine

24. My bag can carry no more than ten books. I must carry at least one book each of management, mathematics, physics and fiction. Also, for every management book I carry I must carry two or more fiction books, and for every mathematics book I carry I must carry two or more physics books. I earn 4, 3, 2 and 1 points for each management, mathematics, physics and fiction book, respectively, I carry in my bag. I want to maximise the points I can earn by carrying the most appropriate combination of books in my bag. The maximum points that I can earn are

    (a) 20   (b) 21

    (c) 22   (d) 23

25. Five persons with names P, M, U, T and X live separately in any one of the following: A palace, a hut, a fort, a house or a hotel. Each one likes two different colours from among the following blue, black, red, yellow and green. U likes red and blue. T likes black. The person living in a palace does not like black or blue. P likes blue and red. M likes yellow. X lives in a hotel. M lives in a

    (a) hut   (b) palace

    (c) fort   (d) house

26. There are ten animals—two each of lion, panther, bison, bear, and deer, in a zoo. The enclosures in the zoo are named X, Y, Z, P and Q and each enclosure is allotted to one of the following attendants Jack, Mohan, Shalini, Suman and Rita. Two animals of different species are housed in each enclosure. A lion and a deer cannot be together. A panther cannot be with either a deer or a bison. Suman attends to animals from among bison, deer, bear and panther only. Mohan attends to a lion and a panther. Jack does not attend to deer, lion or bison. X, Y and Z are allotted to Mohan, Jack and Rita respectively. X and Q enclosures have one animal of the same species. Z and P have the same pair of animals. The animals attended by Shalini are

    (a) bear & bison   (b) bison & deer

(c) bear & lion   (d) bear & panther

27. Eighty kilograms (kg) of store material is to be transported to a location 10 km away. Any number of couriers can be used to transport the material which can be packed in any number of units of 10, 20 or 40 kg. Courier charges are ` 10 per hour. Couriers travel at the speed of 10 km/hr if they are not carrying any load, at 5 km/hr if carrying 10 kg, at 2 km/hr if carrying 20 kg and at 1 km/hr if carrying 40 kg. A courier cannot carry more than 40 kg of load. The minimum cost at which 80 kg of store material can be transported will be

(a) ` 180                                                          (b) ` 160

(c) ` 140                                                          (d) ` 120

Directions for Questions 28–30: Each question is followed by two statements A and B. Answer each question using the following instructions.

Choose (a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.

Choose (b) if the question can be answered by using either statement alone.

Choose (c) if the question can be answered by using both the statements together but cannot be answered by using either statement alone.

Choose (d) if the question cannot be answered even by using both the statements together

28. How many people are watching TV programme P?
    A. Number of people watching TV programme Q is 1000 and number of people watching both the programmes P and Q is 100.
    B. Number of people watching either P or Q or both is 1500.

29. Ghosh Babu has decided to take a non-stop flight from Mumbai to No Mans Land in south America. He is scheduled to leave Mumbai at 5 am Indian Standard Time on December 10,2000 .What is the local time at No Mans Land when he reaches there?
    A. The average speed of the plane is 700 km /hr.
    B. The flight distance is 10,500 km.

30. What are the ages of two individuals *x* & *y*?
    A. The age difference between them is 6 years.
    B. The product of their ages is divisible by 6.

Answer Key

1. (a)	2. (a)	3. (b)	4. (c)
5. (c)	6. (b)	7. (a)	8. (c)
9. (c)	10. (d)	11. (b)	12. (a)
13. (c)	14. (b)	15. (d)	16. (c)
17. (b)	18. (a)	19. (d)	20. (b)

21. (d)	22. (c)	23. (a)	24. (c)
25. (b)	26. (c)	27. (b)	28. (c)
29. (d)	30. (d)		

Solutions:

Solutions for Questions 1 and 2:

Origin	A	B	C	D	E
Distance from origin	10	20	30	40	50

1. The robot would begin it's travels at the start of the first second when he starts from the origin. At this time it would have requests from A and D and would hence go to D and come back to the origin after meeting both these requests. A distance of 80 meters traveled in 8 seconds. When it reaches the origin it would see the message from C and B and move immediately to cater to these. By the time it comes back after catering to C, it would have travelled an additional 60 meters, and would see the message from E after travelling a total of 140 meters.

2. The robot's travels would be A to D to second raw material station (as that would be closer) a distance of 60 meters covered by the end of the sixth second. It would see the messages from C and B when it reaches the second station and move towards C and then B and then go on to the origin. A total of 120 meters would be traversed before it sees the message from E.

Solutions for Questions 3 and 4:

The instructions are self explanatory here. Perhaps the only thing you need to notice is that the first two instruction types would work only if there is enough capacity in the receiving vessel.

3. After the first FILL(C,A) instruction, the water situation would be:

    A = 3, B = 0 and C = 2.

    Since, the third instruction is again FILL(C,A) we first need to make space in C by emptying it. From the options, Option (b) fits the requirements.

4. There is a total of 5 liters in the three vessels at the start. Drain A, would result in the draining off of 1 liter of water from this. This leaves 4 liters of water in the system. If after 6 instructions, A contains 4 liters (as mentioned in the question) it is obvious that neither B nor C can contain any water. Thus the amount of water in C would be 0. Option (c) is correct.

Solutions for Questions 5–9:

5. The number of matches would be $8C_2$ (group 1) + $8C_2$ (group 2) + 4(quarter finals) + 2 (semi finals) + 1 (final) = 63

6. Given that there are 8 teams in a group and a total of 28 matches. Since every match has a winner, it follows that there would be 28 wins and 28 losses in the group stage. Further 4 teams advance from every group—even if a team wins 5 matches it can still be eliminated, as it is possible that 5 teams win 5 matches each and a team winning 5 matches cannot be sure of advancement. However, if a team wins 6 of it's matches in the first round, it is not possible

for more than 4 teams in the group to win 6 matches; and hence the team would be assured of advancement.

7. For this question we are looking for the highest number of wins for a team to get definitely eliminated in the tournament. It is possible for a team to advance even if it has only 2 wins. The scenario that would lead to this would be—7 wins for 1 team, 6 wins for 2nd team, 5 wins for third team and 2 wins each for each of the other 5 teams. In such a case, a team with even 2 wins can move to the second round. Thus, the highest number of wins for definite elimination is 1.

8. The quarter finals, the semi finals and finals would be the three rounds in the second stage of the tournament.

9. Option (a) can be eliminated, as it is not necessary that the winner would have more wins than all other teams in the tournament. For example, as seen above, a team with 2 wins in the group stage + 3 wins in the second stage of the tournament would have a total of 5 wins in the tournament (and would also be the winner of the tournament). On the other hand, a team with 7 wins in the first stage could be eliminated in the first round of the second stage and would not be the winner of the tournament.

Option (b) is also eliminated because it might be possible that in one group a team with just two wins qualifies (wins are distributed as 7, 6, 5, 2, 2, 2, 2, 2) while in the other group wins are distributed as 5, 5, 5, 5, 5, 1, 1, 1—and a team with 5 wins does not qualify.

Option (c) is correct in the scenario—a team with 2 wins in the group stage ends up winning the tournament (so a total of 5 wins for this team), while a team in the other group gets eliminated with 5 wins in the first stage.

Option (d) is also eliminated as the number of teams with exactly 1 win in the second stage would be the 2 losing semi finalists.

10. It would require four moves to get the desired result. First shift the entire stack from the first table to the second; then shift the top two books (2 and 3) from Table B to Table A. Next, Shift the top Book (Book 3) from Table A to Table B. The fourth and final move is to shift Book 2 from Table A to Table B. Thus the number of moves required would be 4.

11. For solving this question, we can take the weight of the heaviest box from the options. There are 3 options which we are given in this regard—64, 62 and 60. Since the highest weight total for any two boxes is given as 121 kgs, it is not possible for the heaviest box to be only 60 kgs in weight. Thus we can eliminate option (a).

Trying option 2 the following thought structure would follow:

Total 121 kgs—If the heaviest box is 62 kgs, the second heaviest would be 59.

Total 120 kgs—62 + 58 = 120 Æ one box of 58 kgs Æ 117 kgs total gets explained by (59 + 58).

Total 118 kgs—(62 + 56) Æ one box of 56 kgs Æ 115 kgs gets explained by (59 + 56) and 114 kgs gets explained by the combination (58 + 56)

Total 116 kgs—(62 + 54) Æ one box of 54 kgs Æ 113 kgs gets explained by (59 + 54), 112 kgs gets explained by the combination (58 + 54) and 110 kgs gets explained by the combination (56 + 54).

Thus, 5 boxes of weights 62, 59, 58 56 and 54 kgs explains each of the 10 weight values which are given in the problem. Hence, the heaviest box is 62 kgs.

12. We need to go through the options and use the MNP rule tool relating to Permutations and Combinations.

If the first option is true, i.e., there are 6 routes between A to C:

We can draw up the following possibilities table for the number of routes between each of the three towns.

A–C	Possibilities for C–B	Possibilities for total routes A–C–B (Say X)	Possibilities for Total routes A–B (Y)
6	5, 4, 3, 2, 1	30, 24, 18, 12, 6	3, 9, 15, 21, 27
			Note: these values are derived based on the logic that $X + Y = 33$

We further know that there are 23 routes between B to C.

From the above combinations the possibilities for the routes between B to C are:

B–A (X in the table above)	A–C	B–A–C	B–C	Total
3	6	18	5	23
9	6	54 not possible	4	
15	6	90 not possible	3	
21	6	126 not possible	2	
27	6	162 not possible	1	

It is obvious that the first possibility in the table above satisfies all conditions of the given situation.

13. The question talks about exaggerated enrolment ratios—something that is clearly supported by both the first and the third option. Both these options talk about an exaggeration in the value of the numerator which naturally exaggerates the value of the ratio. However, Option (c) supports the argument better since it defines the quantum of this exaggeration (22%).

14. The conclusion Szymanski is getting to is that clubs achieved less due to not hiring black players. Obviously, clubs which invested only in the costlier white players and did not show proportionately good performance (as expected based on their investments) would be explained by the fact that relatively less costly (but equal ability wise) black players would be creating better performance for their clubs; and consequently if clubs which hired white players did not show proportionately good performance—that would tend to support the argument Szymanski is making.

15. It is very clear that we are looking for a reason which would have influenced the decision of the minister in charge of prisons and prompted him to recommend an amnesty policy to the

government. The paragraph clearly tells us that this decision has been made due to his fear that tensions may snap. Obviously, the fourth option is the best explanation for his fear and hence is the correct option.

None of the other options is in anyway related to the fear in the minister's mind of tensions snapping in the overcrowded jails of Italy.

16. The author is doubting the government's ability to implement the offer on the basis that they would not be able to implement their three new experimental methods. So any option which gives information to the contrary about the possible implementation of these methods by the government would be the best refutation of the author's contention.

17. The paragraph clearly states that the 4% of the moths who do not have ears and are hence deaf have higher maneuverability. Consequently, we can infer that these moths would try to avoid bats by frequent changes in flight direction—something that option (b) clearly states.

18. The advertisement campaign is based on enticing Argentine's by reminding them of the 'Juicy rotund plate filling' nature of the steaks. If there has been a change in consumer preferences towards eating leaner meats as stated in option (a), then obviously people would not be interested in buying 'juicy rotund plate filling' meats and this would lead the campaign to fail.

19. Each of the three options mentioned in the question is a way to circumvent the moves of the government to reduce traffic congestion. The first option will nullify any effect of the government's regulation of the mid 1990s. Also, the second and third options would nullify the benefits the town planners would expect to derive out of their 'clean cars' regulation of 1993. Thus, we should choose all of these as the correct option.

20. The monetisation of debt is the best example of the interference of the government in monetary policy; hence option (b) is the correct answer.

21. Option (b) looks close and is confusing. But a focused reading of the same shows that it is just using words from the paragraph and constructing a sentence, which does not really end up summarising the idea of the paragraph. The fourth option is a much better summary of the idea contained in the paragraph.

22. The definition of 'game' as defined in the paragraph has to be interpreted as one in which:

   (a) There is a win-loss situation, and

   (b) Players try to guess the reaction of the opponent to their actions.

   Both these features would be present in a 'decisive' war between India and Pakistan. The other options do not have both these features.

23. There are two possible placements for the 4 houses as illustrated below:

Possibility 1	Red	Yellow	Green	Blue
		Z		X
Possibility 2	Blue	Green	Yellow	Red
	X		Z	

In both the cases, X can be seen to be living in the blue house. Thus we get a definite answer

for where X lives.

24. Use the following thought process to solve this question:

First the minimum requirements need to be met— Every subject should have at least 1 book.

	Management (4 points)	Mathematics (3 points)	Physics (2 points)	Fiction (1 point)	Total (Books/points)
First Step—Minimum requirements	1	1	2	2	6 books
Second Step		+1	+2		+3 books
Third Step			+1		+1 book
Total numbers of each category	1	2	5	2	10 books
Points earned	4	6	10	2	22 points

After the mandatory first step you should realise that you have a slack of 4 books to be put into the bag. We have two options: 1 management + 2 fiction books (6 points using 3 books)

OR 1 Mathematics + 2 Physics Books (7 points using 3 books)

Obviously, the use of 1 mathematics + 2 Physics books is a better point generator than 1 management and 2 fiction books. Thus, the second step in the table gets explained by this logic.

After this, we still have to put 1 more book. We need to ensure that we get maximum points added when we add the last book, at the same time we should not break any of the rules while doing so. It is obvious that we cannot add a management or a mathematics book by itself since it has other constraints attached to it. Thus, we should add a physics book as it gives 1 point more than a fiction book.

Thus the third step in the table above gets explained; and we have a total of 22 points.

25. The use of all the clues will yield the following table:

Person	P	M	U	T	X
Colors liked	Red and Blue	Yellow + _____	Red and Blue	Black + _____	____ + ____
Stays At	Hut/Fort/House		Hut/Fort/House	Hut/Fort/House	Hotel

From the above table, it is clear that the hut, fort and house would be shared in any order between P, U and T. Thus, M must be living in a palace.

26. On putting the basic information in a tabular format we would reach the following position:

Enclosures	X	Y	Z	P	Q
Attendants	Mohan	Jack	Rita	Suman	Shalini
Animals	Lion, Panther	Bear, Panther	Deer, Bison	Deer, Bison	Lion,Bear

From the table, we can see that option (c) is correct.

Note: While solving this question, you have to keep track of the number of each animal since we are given that each animal is used exactly twice. That X and Q share 1 animal in common is a key point to be used in the solution. Since, the two panthers have already been used in X and Y—the only possible animal which can be common between X and Q is the Lion. Also, another key point is the information that the animal pairs in Z and P are the same. At this stage of the solution we just have deers and bisons which have 2 animals left. Panthers and Lions have been used fully, while 1 bear has also been used.

27. If we are to give the courier 10 kg packs, we need to send 8 such packs—a total transportation time of 16 hours @ 5kmph. One courier would require 2 hours to reach the destination.

   If we are to use 20 kg packs, we need to send 4 such packs and each pack would require 5 hours (@ 2kmph). The total time required would be 20 hours.

   Similarly, for 40 kg packs, 2 packs would require a total transportation time of 20 hours (since the courier would travel @ 1kmph). Each pack would require 10 hours.

   Thus, the minimum courier cost is for 10 kg packs—16 hours ¥ ` 10/hour = ` 160.

28. This is a conventional Venn diagram (set theory) problem. Only from statement 1 or only from statement 2 we cannot answer the question about how many people are watching P. But if we use both, we have all the information we need to solve this question.

29. We have no information, in either of the two statements about the time difference between Mumbai and No mans land. Thus, option (d) is correct.

30. There could be multiple answers satisfying the two conditions, thus we cannot find the ages of x and y based on the information provided. Option (d) is correct.