CAT based DI - Caselets

Questions 1 to 3 (1990) : Ghosh Babu has a certain amount of property consisting of cash, gold coins and silver bars. The cost of a gold coin is Rs. 4000 and the cost of a silver bar is Rs. 1000. Ghosh Babu distributed his property among his daughters equally. He gave to his eldest daughter gold coins worth 20% of the total property and Rs. 25000 in cash. The second daughter was given silver bars worth 20% of the remaining property and Rs. 50000 cash. He then gave each of the third and fourth daughters equal number of gold coins and silver bars both together accounting each for 20% of the property remaining after the previous distribution and Rs. 25000 more than what the second daughter had received in cash.

Q1. The amount of property in gold and silver possessed by Ghosh Babu is
(a) 2,25,000
(b) 2,75,000
(c) Rs. 4,25,000
d.None of these

Q2. Total property of Ghosh Babu (in Rs.lakh) is
(a) 5.0
(b) 7.5
(c) 10.0
(b) 60
(d) 12.5.

Q3. If Ghosh Babu had equal number of gold and silver bars, the number of silver bars he has is
(a) 90
(b) 60
(c) 75
(d) 55

Questions 4 to 8 (1991) : Read the following information and answer the questions that follows:
Ghosh Babu deposited a certain sum of money in a bank in 1986. The bank calculated interest on the principal at 10 percent simple interest, and credited it to the account once a year. After the 1st year, Ghosh Babu withdrew the entire interest and 20% of the initial amount. After the 2nd year, he withdrew the interest and 50% of the remaining amount. After the 3rd year, he withdrew the interest and 50% of the remaining amount. Finally after the 4th year, Ghosh Babu closed the account and collected the entire balance of Rs. 11,000.

Q4. The initial amount in rupees, deposited by Ghosh Babu was:
(a) 25,000
(b) 75,000
(c) 50,000
(d) None of these

Q5. The year, at the end of which, Ghosh Babu withdrew the smallest amount was:
(a) First
(b) Second
(c) Third
(d) Fourth

Q6. The year, at the end of which, Ghosh Babu collected the maximum interest was:
(a) First
(b) Second
(c) Third
(d) Fourth

Q7. The year, at the end of which, Ghosh Babu withdrew the maximum amount was:
(a) First
(b) Second
(c) Third
(d) Fourth

Q8.The total interest, in rupees, collected by Ghosh Babu was:
(a) 12,000
(b) 20,000
(c) 4,000
(d) 11,000

Q9 to 13 (1991) :Use the following information::
Prakash has to decide whether or not to test a batch of 1000 widgets before sending them to the buyer. In case he decides to test, he has two options: (a) Use test I ; (b) Use test II. Test I cost Rs. 2 per widget. However, the test is not perfect. It sends 20% of the bad ones to the buyer as good. Test II costs Rs. 3 per widget. It brings out all the bad ones. A defective widget identified before sending can be corrected at a cost of Rs. 25 per widget. All defective widgets are identified at the buyer's end and penalty of Rs. 50 per defective widget has to be paid by Prakash.

Q9. Prakash should not test if the number of bad widgets in the lot is:
(a) less than 100
(b) more than 200
(c) between 120 & 190
(d) Cannot be found out.

Q10. If there are 120 defective widgets in the lot, Prakash:
(a) should either use Test I or not test.
(b) should either use Test II or not test.
(c) should use Test I or Test II.
(d) should use Test I only.

Q11. If the number of defective widgets in the lot is between 200 and 400, Prakash:
(a) may use Test I or Test II
(b) should use Test I only.
(c) should use Test II only
(d) cannot decide.

Q12. If Prakash is told that the lot has 160 defective widgets, he should:
(a) use Test I only
(b) use Test II only.
(c) do no testing.
(d) either use Test I or do not test.

Q13. If there are 200 defective widgets in the lot, Prakash:
(a) may use either Test I or Test II
(b) should use Test I or not use any test
(c) should use Test II or not use any test.
(d) cannot decide.

Q14 to 17 (1993) :

Ghosh Babu has recently acquired four companies namely Arc – Net Technologies (ANT), Babu Anta Transport (BAT), Charles Anter Tailor (CAT) and Daud Akbar Transistors (DAT). When the results of the companies for the year 1992 – 93 were placed before him. He found a few interesting things about them. While the profits of CAT and DAT were the same, the sales of CAT were the same as those of BAT . Profits of ANT were 10% of its sales, where as the profits of BAT were 20% of its sales. While the total expenses of CAT were 5 times its profits, sales of DAT were 3 times its profits. The total expenses of CAT were Rs. 10,00,000, the total expenses of ANT were 10% less than those of CAT. Profits are defined as the difference between sales and total expenses.

Q14. Which company had the lowest sales?
(a) ANT
(b) BAT
(c) CAT
(d) DAT

Q15. Which company had the highest total expenses?
(a) ANT
(b) BAT
(c) CAT
(d) DAT

Q16. Which company had the lowest profits?
(a) ANT
(b) BAT
(c) CAT
(d) DAT

Q17. Which company had the highest profits.
(a) ANT
(b) BAT
(c) CAT
(d) DAT

Q18 TO 21 (1994): are based on the table and information given below. Answer the questions based on it.

Bankatlal works x hours a day and rests y hours a day. This pattern continues for 1 week, with an exactly opposite pattern next week, and so on for four weeks. Every fifth week he has a different pattern. When he works longer than he rests, his wage per hour is twice what he earns per hour when he rests longer than he works. The following are his daily working hours for the weeks numbered 1 to 13.

	1st week	5th week	9th week	13th week
Rest	2	3	4	-
Work	5	7	6	8

A week consists of six days and a month consists of 4 weeks.

Q18. If Bankatlal is paid Rs. 20 per working hour in the 1st week. What is his salary for the 1st month?
(a) Rs.1760
(b) Rs.1440
(c) Rs.1320
(d) Rs.1680

Q19. Referring to the data given in Q.187, Bankatlal's average monthly salary at the end of the first four months will be
(a) Rs.1780
(b) Rs.2040
(c) Rs.1830
(d) Rs.1680

Q20. The new manager Khushaldas stipulated that Rs.5 be deducted for every hour of rest and Rs. 25 be paid per hour starting 9th week, then what will be the change in Bankatlal's salary for the 3rd month? (Hourly deductions are constant for all weeks starting 9th week)
(a) Rs.540
(b) Rs.480
(c) Rs.240
(d) Rs.120

Q21. Using the data in the previous questions, what will be the total earning of Bankatlal at the end of sixteen weeks.
(a) Rs.7320
(b) Rs.7800
(c) Rs.8400
(d) Rs.9600

Direction for questions 22 to 26 (1998): Answer the questions based on the following information.
Krishna distributed 10-acre land to Gopal and Ram who paid him the total amount in the ratio 2 : 3. Gopalinvested a further Rs. 2 lakh in the land and planted coconut and lemon trees in the ratio 5 : 1 on equalareas of land. There were a total of 100 lemon trees. The cost of one coconut was Rs. 5. The crop took7 years to mature and when the crop was reaped in 1997, the total revenue generated was 25% of the totalamount put in by Gopal and Ram together. The revenue generated from the coconut and lemon trees wasin the ratio 3 : 2 and it was shared equally by Gopal and Ram as the initial amount spent by them were equal.

Q22. What was the total output of coconuts?
a. 24,000 b. 36,000 c. 18,000 d. 48,000

Q23. What was the value of output per acre of lemon trees planted?
a. 0.24 lakh per acre b. 2.4 lakh per acre c. 24 lakh per acre d. Cannot be determined

Q24. What was the amount received by Gopal in 1997?
a. Rs. 1.5 lakh b. Rs. 3 lakh c. Rs. 6 lakh d. None of these

Q25. What was the value of output per tree for coconuts?
a. Rs. 36 b. Rs. 360 c. Rs. 3,600 d. Rs. 240

Q26. What was the ratio of yields per acre of land for coconuts and lemons (in terms of number of lemons and coconuts)?
a. 3 : 2 b. 2 : 3 c. 1 : 1 d. Cannot be det

Directions for questions 27 to 29 (2003): Answer the questions on the basis of the information given below.
Rang Barsey Paint Company (RBPC) is in the business of manufacturing paints. RBPC buys RED, YELLOW, WHITE, ORANGE, and PINK paints. ORANGE paint can be also produced by mixing RED and YELLOW paints in equal proportions. Similarly, PINK paint can also be produced by mixing equal amounts of RED and WHITE paints. Among other paints, RBPC sells CREAM paint, (formed by mixing WHITE and YELLOW in the ratio 70:30) AVOCADO paint (formed by mixing equal amounts of ORANGE and PINK paint) and WASHEDORANGE paint (formed by mixing equal amounts of ORANGE and WHITE paint). The following table provides the price at which RBPC buys paints.

Colour	Rs./litre
RED	20
YELLOW	25
WHITE	15
ORANGE	22
PINK	18

Q27. The cheapest way to manufacture AVOCADO paint would cost ?
(1) Rs.19.50 per litre.
(2) Rs.19.75 per litre.
(3) Rs.20.00 per litre.
(4) Rs. 20.25 per litre.

Q28. WASHEDORANGE can be manufactured by mixing ?
(1) CREAM and RED in the ratio 14:10.
(2) CREAM and RED in the ratio 3:1.
(3) YELLOW and PINK in the ratio 1:1.
(4) RED, YELLOW, and WHITE in the ratio 1:1:2.

Q29. Assume that AVOCADO, CREAM, and WASHEDORANGE each sells for the same price. Which of the three is the most profitable to manufacture?
(1) AVOCADO. (2) CREAM.
(3) WASHEDORANGE. (4) Sufficient data is not available.

Directions for questions 30 and 31 (2003): Answer the questions on the basis of the information given below.
A certain perfume is available at a duty-free shop at the Bangkok international airport. It is priced in the Thai currency Baht but other currencies are also acceptable. In particular, the shop accepts Euro and US Dollar at the following rates of exchange: US $1 = 41 Bahts and 1Euro = 46 Bahts . The perfume is priced at 520 Bahts per bottle. After one bottle is purchased, subsequent bottles are available at a discount of 30%. Three friends S, R and M together purchase three bottles of the perfume . agreeing to share the cost equally. R pays 2 Euros. M pays 4 Euros and 27 Thai Bahts and S pays the remaining amount in US Dollars.

Q30 How much does R owe to S in Thai Baht?
(1) 428 (2) 416 (3) 334 (4) 324

Q31.How much does M owe to S in US Dollars?
(1) 3 (2) 4 (3) 5 (4) 6

Directions for questions 32 and 33 (2003): Answer the questions on the basis of the information given below.
New Age Consultants have three consultants Gyani, Medha and Buddhi. The sum of the number of projects handled by Gyani and Buddhi individually is equal to the number of projects in which Medha is involved. All three consultants are involved together in 6 projects. Gyani

works with Medha in 14 projects. Buddhi has 2 projects with Medha but without Gyani, and 3 projects with Gyani but without Medha. The total number of projects for New Age Consultants is one less than twice the number of projects in which more than one consultant is involved.

Q32.What is the number of projects in which Gyani alone is involved?
(1) Uniquely equal to zero. (2) Uniquely equal to 1.
(3) Uniquely equal to 4. (4) Cannot be determined uniquely.

Q33. What is the number of projects in which Medha alone is involved?
(1) Uniquely equal to zero. (2) Uniquely equal to 1.
(3) Uniquely equal to 4. (4) Cannot be determined uniquely.

DIRECTIONS for Questions 34 to 37 (2004): Answer the questions on the basis of the information given below.
Twenty one participants from four continents (Africa, Americas, Australasia, and Europe) attended a United Nations conference. Each participant was an expert in one of four fields, labour, health, population studies, and refugee relocation. The following five facts about the participants are given.
(a) The number of labour experts in the camp was exactly half the number of experts in each of the three other categories.
(b) Africa did not send any labour expert. Otherwise, every continent, including Africa, sent at least one expert for each category.
(c) None of the continents sent more than three experts in any category.
(d) If there had been one less Australasian expert, then the Americas would have had twice as many experts as each of the other continents.
(e) Mike and Alfanso are leading experts of population studies who attended the conference. They are from Australasia.

Q34. Which of the following numbers cannot be determined from the information given?
(1) Number of labour experts from the Americas.
(2) Number of health experts from Europe.
(3) Number of health experts from Australasia.
(4) Number of experts in refugee relocation from Africa.

Q35. Which of the following combinations is NOT possible?
(1) 2 experts in population studies from the Americas and 2 health experts from Africa attended the conference.
(2) 2 experts in population studies from the Americas and 1 health expert from Africa attended the conference.
(3) 3 experts in refugee relocation from the Americas and 1 health expert from Africa attended the conference.
(4) Africa and America each had 1 expert in population studies attending the conference.

Q36. If Ramos is the lone American expert in population studies, which of the following is NOT true about the numbers of experts in the conference from the four continents?
(1) There is one expert in health from Africa.
(2) There is one expert in refugee relocation from Africa.
(3) There are two experts in health from the Americas.
(4) There are three experts in refugee relocation from the Americas.

Q37. Alex, an American expert in refugee relocation, was the first keynote speaker in the conference. What can be inferred about the number of American experts in refugee relocation in the conference, excluding Alex?
i. At least one ii At most two
(1) Only i and not ii (2) Only ii and not i
(3) Both i and ii (4) Neither i nor ii

Answer questions 38 to 42 (2006): on the basis of the information given below.
Mathematicians are assigned a number called Erdös number, (named after the famous mathematician, Paul Erdös). Only Paul Erdös himself has an Erdös number of zero. Any mathematician who has written a research paper with Erdös has an Erdös number of 1. For other mathematicians, the calculation of his/her Erdös number is illustrated below:
Suppose that a mathematician X has co-authored papers with several other mathematicians. From among them, mathematician Y has the smallest Erdös number. Let the Erdös number of Y be y. Then X has an Erdös number of y + 1. Hence any mathematician with no co-authorship chain connected to Erdös has an Erdös number of infinity.

- In a seven day long mini-conference organized in memory of Paul Erdös, a close group of eight mathematicians, call them A, B, C, D, E, F, G and H, discussed some research problems. At the beginning of the conference, A was the only participant who had an infinite Erdös number. Nobody had an Erdös number less than that of F.

- On the third day of the conference F co-authored a paper jointly with A and C. This reduced the average Erdös number of the group of eight mathematicians to 3. The Erdös

numbers of B, D, E, G and H remained unchanged with the writing of this paper. Further, no other co-authorship among any three members would have reduced the average Erdös number of the group of eight to as low as 3.

- At the end of the third day, five members of this group had identical Erdös numbers while the other three had Erdös numbers distinct from each other.

- On the fifth day, E co-authored a paper with F which reduced the group's average Erdös number by 0.5. The Erdös numbers of the remaining six were unchanged with the writing of this paper.

- No other paper was written during the conference.

Q38.The person having the largest Erdös number at the end of the conference must have had Erdös number (at that time):
(1) 5
(2) 7
(3) 9
(4) 14
(5) 15

Q39.How many participants in the conference did not change their Erdös number during the conference?
(1) 2
(2) 3
(3) 4
(4) 5
(5) Cannot be determined

Q40. The Erdös number of C at the end of the conference was:
(1) 1
(2) 2
(3) 3
(4) 4
(5) 5

Q41. The Erdös number of E at the beginning of the conference was:
(1) 2
(2) 5
(3) 6
(4) 7
(5) 8

Q42. How many participants had the same Erdös number at the beginning of the conference?
(1) 2
(2) 3
(3) 4
(4) 5
(5) Cannot be determined