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What are CATKing Bible LOD 2 Books?

CATKing Bible LOD 2 Books are specially designed books which are useful in getting students Boosted Up and Ready for All Management Entrance Tests (CAT / CET / NMAT / CMAT / SNAP / TISSNET / MICAT / IIFT). They are recommended for all students who wish to solve advanced-level questions in any section for any Management Entrance Test.

How to make the best use of CATKing Bible LOD 2 Books?

i. Attend the CATKing Concept Builder Classes to gain an idea of what all are the basic pointers of the chapters.

ii. Go through that chapter in the CATKing Bible LOD 1 Books and read all the Theory and Formulae provided in the Introduction of the chapter.

iii. After studying for the theory, clear your basics from CATKing Bible LOD 1 by solving basic questions and then solve advanced-level questions from CATKing Bible LOD 2 books.

iv. Solve all the Questions provided on your own and then refer to the solutions at the end so as to verify if you have solved the questions correctly or is there a better smarter approach for the same question.

v. If you are able to solve the majority of questions correctly, then move to the next step of preparation by taking the Topic-wise Tests.

vi. Once you are done with a good set of 4 - 5 Topics, give the Sectional and Full-length Mocks and see where you stand.

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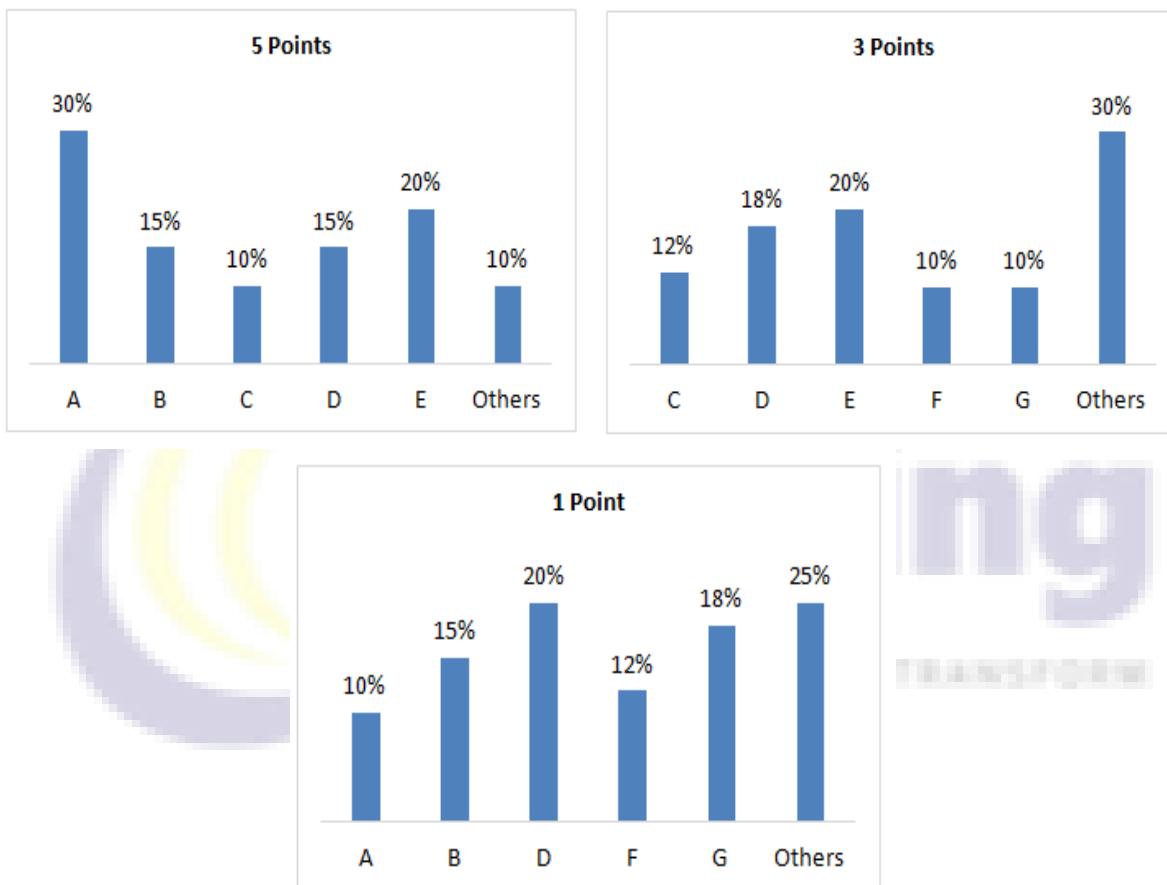
Let's get started...

Questions

S.1-4) Read the given information and answer the following questions.

7 B-schools named A, B, C, D, E, F, and G participated in inter-college competition. In the competition, several quizzes were arranged and in each quiz, the top 3 ranked B-schools were awarded 5, 3, and 1 points, respectively. The following bar graphs show the B school-wise distribution of the quizzes in which the B-school received 5 points, 3 points, or 1 point, respectively.

Q.1) Which of the following could be the sum of the number of quizzes in which B-school F was awarded 3 points and 1 point?
a) 207
b) 363
c) 374
d) 538
e) None of these

Q.2) The total points received by B-school D was at least what percentage of total points received by B-school A?

a) 93.125%

b) 67.25%

c) 59.6%

d) Cannot be determined

e) None of these

Q.3) A total of 500 quizzes were offered in the competition. Given that in each graph, the "Others" category belonged to exactly one B-school, what could be maximum possible difference between points scored by B-schools A and G?

a) 1000

b) 770

c) 990

d) 1010

e) None of these

Q.4) A total of 500 quizzes were offered in the competition. Which of the following cannot be the points received by B-school E?

a) 800

b) 925

c) 1000

d) Cannot be determined

e) None of these

S.5-8) Read the given information and answer the following questions.

The quantities of certain edible items are taken and the Calories and the Proteins in them are calculated using a 'Nutrition Calculating scale'. The values obtained can be seen below.

Item	Measure	Calories	Proteins
Low-Fat Milk	½ cup	40	10
Milk	1 cup	60	28
Ice cream	16 ounces	35	10
Biscuits	8 ounces	42	6
Butter	8 ounces	50	15
Cheese	16 ounces	60	12
Sugar	8 ounces	48	2
Butter milk	½ cup	32	6
Cake	16 ounces	48	10
Egg	12 ounces	30	15

Note: Multiply the number of millilitres by *0.0338* to find the number of ounces.

Q.5) Which one of the following has the largest number of calories per ounce?
a) Low-Fat Milk
b) Butter
c) Biscuits
d) Milk
e) None of the above

Q.6) The edible item containing the largest quantity of proteins per ounce is:
a) Sugar
b) Cake
c) Milk
d) Egg
e) None of these

Q.7) How many ounces of cheese is equivalent to 1 cup of skimmed milk in terms of calories?
a) 16
b) 21.33
c) 16.3
d) 24
e) Cannot be determined

Q.8) Which of the following combinations has the highest protein content?
a) 1 cup skimmed milk, 8 ounces Biscuits
b) 1 cup milk, 2 cups butter milk
c) 32 ounces cake, 16 ounces cheese
d) 16 ounces butter, 16 ounces sugar
e) None of these

S.9-12) Read the given information and answer the following questions.
A larger Rubik's cube is formed by placing 216 identical Rubik's cubes, which are labelled 1 to 216, by placing them in ascending order such that:
- In each layer, the left-most column is laid first from front to back and then, the Rubik's cubes are laid in a similar fashion in the second column, and so on.
- The bottom layer is laid first and then, the Rubik's cube is built upwards.

Q.9) What is the sum of the serial numbers of the Rubik's cube in the vertical column which has its base in the fourth Rubik's cube from left in the row just behind the front row?
a) 650
b) 660
c) 670
d) 680
e) None of these

Q.10) What is the sum of the serial numbers of the Rubik's cube forming the diagonal from the bottom-left corner to the top-right corner of the front face of the larger Rubik's cube?

a) 630

b) 636

c) 642

d) 648

e) Cannot be determined

Q.11) What is the sum of the serial numbers of the Rubik's cubes forming the diagonal from the bottom-right corner of the front face of the larger Rubik's cube to the top-right corner of the back face of the larger Rubik's cube?
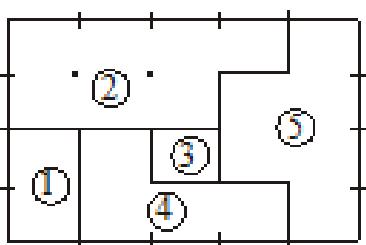
a) 740

b) 741

c) 640

d) 641

e) None of these

Q.12) What is the sum of the serial numbers of the Rubik's cubes forming the diagonal from the bottom-left corner of the front face of the larger Rubik's cube to the top-right corner of the back face of the larger Rubik's cube?
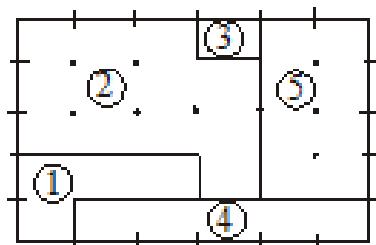
a) 654

b) 652

c) 653

d) 651

e) None of these

S.13-16) Read the given information and answer the following questions.

A rectangular agricultural land of 60 acres is divided into 5 parts - 1, 2, 3, 4, and 5 to grow 5 types of crops - A, B, C, D, and E respectively. The crops grown in the farm for the two year timespan is shown below.

2012-2013   2013-2014

The following table gives information on the quantity of the crops grown per acre (in quintals) and pricing of the crops per quintal in 2012-13.

Crop	No. of quintals produced per acre in 2012-13	Price per quintal in 2012-13
A	15	800
B	18	750
C	20	600
D	12	1100
E	10	1400

Between 2012-2013 and 2013-2014, the prices of all crops rose by 10%.
Similarly, between 2012-2013 and 2013-2014, the production per acre of A, C, and E decreased by 20% while that of B and D increased by 10%.
The value coefficient of the crop is defined as the price of the total crop produced in one acre of the agricultural plot.
The value-wise yield of the crop is defined as the price of the total crop produced in the mentioned year.

Q.13) How many quintals per acre can be produced on an average in 2013-2014?
a) 12.42 quintals
b) 14.39 quintals
c) 17.32 quintals
d) 18.62 quintals
e) None of these

Q.14) What was the value-wise yield of the crops during 2012-2013?

a) ₹801900

b) ₹567891

c) ₹611110

d) ₹983200

e) None of these

Q.15) Which crop has the lowest value coefficient during the tenure 2012-2013?

a) B

b) D

c) E

d) Insufficient data

e) None of these

Q.16) How many crops had the value coefficient greater than 15000 during the tenure 2013-2014?

a) 7

b) 8

c) 2

d) 3

e) None of these

S.17-20) Read the given information and answer the following questions.

16 empty blocks are to be filled by eight numbers 1, 2, 3, 4, 5, 6, 7, and 8, using each number exactly once.

	C1	C2	C3	C4
R1				
R2				
R3				
R4				

Further, it is known that:

i. No number can be filled in the blocks R1C1, R2C2, R4C3, or R3C4.

ii. None of the numbers 1, 2, 3, or 4 are in the same row or the same column

iii. None of the numbers 5, 6, 7, or 8 are in the same row or the same column

iv. The numbers 2, 3, 4, and 1 are to be filled in columns R1, R2, R3, and R4 respectively

v. The numbers 5, 6, 7, and 8 are to be filled in columns C4, C1, C3, and C2 respectively.

vi. The numbers 1 and 8 are to be filled such that they are neither in the same row nor the same column.

vii. The numbers 2 and 7 are to be filled such that they are neither in the same row nor the same column.

Q.17) Which of the following blocks must be empty?

a) R3C1

b) R2C4

c) Both (a) and (b)

d) Neither (a) and (b)

e) None of these

Q.18) Which of the following pairs of numbers must be placed in adjacent blocks?

a) 4 and 8

b) 4 and 7

c) 3 and 7

d) Cannot be determined

e) None of these

Q.19) If the 5 is not filled in R1, then

a) 4 is filled in C3.

b) 4 is filled in C2.

c) 8 is filled in R3.

d) 6 is filled in R3.

e) None of these

Q.20) Which of the following must be true?

a) The sum of digits filled in C2 is more than that in each of the other 3 columns.

b) The sum of digits filled in R4 is less than that in each of the other 3 rows.

c) The sum of digits filled in C4 is less than that in each of the other 3 columns.

d) The sum of digits filled in R3 is more than that in each of the other 3 rows.

e) None of these

S.21-24) Read the given information and answer the following questions.

46 mangoes were distributed among a group of friends. There were 10 members in the group - Rakhi, Tanya, Adyasha, Ayesha, Aarushi, Anjali, Nishtha, Mansi, Kriti, and Shinjini. They were seated in the same order given just above. After the seating arrangement, no one knew how many mangoes were received by any other member of the group. The only information they had was that not a single person was empty-handed and everyone received a different number of mangoes except those who didn't ask a question. (Those who didn't ask question might have got same number of mangoes) Starting from Shinjini, every person except Rakhi and Tanya asked one and only one question to their immediate left neighbour.

Shinjini asked one question to Kriti, Kriti asked one question to Mansi, and so on and at last Adyasha asked one question to Tanya. The question asked by them was the same for all the 8 persons who asked question. The question was "Do you have more number of mangoes than what I have?" to which everyone replied the same, "I am not sure". But, Tanya replied, "Yes!"

After this conversation, the exact number of mangoes with each and every one is known to everyone. Each of these 10 girls study psychology and logic and they are

in the final year of the course. So, all of them are great logicians. If a question is asked by them, this means that they couldn't find the answer from the given information and additional information is strictly required.

If the question is not asked by them and logically, any of them follows something means that the answer to the question could be found out with the information available and not a single piece of additional information is required to come to conclusion.

Q.21) Which of the following 2 persons share the same number of mangoes?
a) Rakhi & Tanya
b) Rakhi & Shinjini
c) Tanya & Adyasha
d) Cannot be determined
e) None of these

Q.22) If every person square the number of mangoes that they had initially, then how many of them have number (of mangoes) such that the next number in the number series is a distinct prime number?
a) 4
b) 6
c) 7
d) Insufficient data
e) None of these

Q.23) If all the girls whose name starts with letter 'A' forms one group (Group 1) and all the remaining girls forms another group (Group 2), then what percentage of the mangoes received by Group 1 is more than mangoes received by Group 2?
a) 30%
b) 50%
c) 20%
d) Insufficient data
e) None of these

Q.24) What is the maximum difference in the number of mangoes received by any 2 girls who asked the question?
(Condition: Either the highest or the lowest number of mangoes received by any girl must be a unique number.)
a) 9
b) 8
c) 6
d) 4
e) None of these

S.25-28) Read the given information and answer the following questions.
In a factory, there are 5 caretakers - Kabir, Mohan, Deepak, Rahul, and Atul.
The factory runs in 3 shifts: Morning (6 am to 2 pm), Afternoon (2 pm to 10 pm), and Night (10 pm to 6 am).
There are 15 employees - A to O, employed in the factory. Each of these 5 mentioned caretakers selected 1 worker for every shift. The following table provides information about the workers selected for each of the three shifts:

Morning	A	B	C	D	E
Afternoon	F	G	H	I	J
Night	K	L	M	N	O

Further, it is given that:
i. The only workers that are above 45 years of age are B, G, K, and F. Further none of Kabir, Mohan, and Deepak selected workers above 45 years of age.
ii. Mohan selected C for the morning shift.
iii. Deepak selected one pair of workers out of (A, F); (J, N); (G, L); and (G, K). This holds true for the caretakers Rahul and Atul as well.
iv. Atul selected exactly 2 workers above 45 years of age but did not select K.
v. One caretaker selected both H and O.
vi. The caretaker who selected E also selected I.

Q.25) Who selected H?
a) Kabir
b) Mohan
c) Deepak
d) Rahul
e) None of these

Q.26) Who was also selected by the caretaker who selected I?
a) J
b) N
c) A
d) M
e) None of these

Q.27) Who among the following selected D?
a) Atul
b) Rahul
c) Mohan
d) Insufficient data
e) None of these

Q.28) Which of the following statement/s is/are true?
I: D was selected by the supervisor who selected N.
II: J was selected by the supervisor who selected N.
a) Only I
b) Only II
c) Both I and II
d) Cannot be determined
e) None of these

S.29-32) Read the given information and answer the following questions.

A group of 6 colleagues Rahul, Hardik, Rakesh, Sultan, Umendra, and Nikhil, planned to meet at the office space in the evening. Each of them arrived at different times and the following information is known about the order in which they arrived:

1) Rahul arrived at the office space and found that two of his friends had already arrived.

2) Rakesh was the last to arrive, while Umendra was not the first.

3) Sultan arrived after Hardik but before Nikhil.

4) Umendra arrived after Nikhil.

Q.29) Who was the first person to arrive at the office space?
a) Rakesh
b) Hardik
c) Umendra
d) Cannot be determined
e) None of these

Q.30) How many of Nikhil's colleagues were at the co-working space by the time he arrived?
a) 2
b) 3
c) 1
d) Either A or B
e) None of these

Q.31) In how many ways could the colleagues have arrived if it is known that Sultan arrived before Rahul?
a) 2
b) 3
c) 1
d) Either A or B
e) None of these

Q.32) If each person arrived half an hour after the previous person came to the co-working space, how long did Hardik have to wait until Umendra arrived?
a) 2 hours
b) 3 hours
c) 2.5 hours
d) Cannot be determined
e) None of the above

S.33-36) Read the given information and answer the following questions.

Raju, who was preparing for an end-term examination, had 72 days remaining for studying 9 subjects. For this purpose, he approached his mentor for help. The mentor prepared a schedule for Raju in which he specified the total time (in hours) that Raju needs to spend studying each subject in the 72 days.

Further, the mentor divided the 72 days into four equal quarters and at the end of every quarter, he assessed the total amount of time (in hours) Raju had spent studying each subject in that quarter.

The following table gives the number of hrs that was given as a target by the mentor and the number of hours Raju spent studying during the first 3 quarters.

Subject	Total Targeted Time (in hours)	Time Studied (in hours)		
		1st Quarter	2nd Quarter	3rd Quarter
Accounts	37	8	10	7
Mathematics	68	24	14	10
Statistics	81	9	24	17
Analytics	47	8	11	15
Digital Marketing	54	3	8	11
Trade Finance	18	1	3	1
Geography	28	8	5	7
Economics	46	7	6	9
Ethics	53	4	11	7

Q.33) In the 2ⁿᵈ quarter, the average amount of time (in hours) spent per day by Raju studying any of the subjects was

a) 6.33

b) 10.22

c) 5.11

d) 7.14

e) None of these

Q.34) If in the last quarter, the maximum time Raju can study a subject in a day is 1.5 hours; then how many subjects will Raju be able to finish studying in the targeted time?

a) 5

b) 10

c) 6

d) 7

e) None of these

Q.35) What is the average time (in hours) for which Raju must study per day during the last quarter to finish studying all the subjects for the targeted time?

a) 10.22

b) 9.11

c) 13.33

d) Cannot be determined

e) None of these

Q.36) The amount of time that Raju has to study in the 4ᵗʰ quarter as a percentage of the total targeted time is the maximum for:

a) Ethics

b) Economics

c) Digital Marketing

d) Trade Finance

e) None of these

S.37-40) Read the given information and answer the following questions.

Shaanu, a finance professional in an investment bank, was calculating the Enterprise Value of 7 companies. The Enterprise Value of an organization is the sum of the Equity Value and the Debt Value of that organization. The Equity Value of an organization is calculated as the product of the number of shares of the organization and the share price of each share of the organization. The following table presents the number of shares, share price and the ratio of Debt Value to Equity Value i.e. D/E ratio) of the organization at the beginning and the end of a particular quarter:

Organization	Shares (in Millions)	Beginning of the quarter		End of the quarter	
		Share price (in ₹)	D/E Ratio	Share price (in ₹)	D/E Ratio
IBM	1.667	15.60	1.20	17.50	1.13
BMW	2.540	10.20	0.80	8.80	0.74
Accenture	5.420	5.70	2.50	7.70	1.20
Cognizant	0.587	25.20	1.20	30.20	1.50
KPMG	4.570	10.40	2.40	7.40	2.10
Future Group	1.245	9.70	1.25	15.70	0.90
GE	15.247	3.10	1.40	3.30	0.90

Q.37) The percentage decrease in the Debt Value at the end of the quarter as compared to the beginning of the quarter was the maximum for

a) Accenture

b) KPMG

c) BMW

d) GE

e) None of these

Q.38) Among the 7 companies, what is the second-highest value of the ratio of the Debt Value to the Enterprise Value at the end of the quarter?

a) 11.78

b) 12.45

c) 15.67

d) Cannot be determined

e) None of these

Q.39) What was the difference (in Millions) between the Enterprise Value of Cognizant at the beginning of the quarter and that at the end of the quarter?

a) 0.6

b) 0.1

c) 0.4

d) 2

e) None of these

Q.40) Which of the following organizations has the highest Enterprise Value at the end of the quarter?

a) Accenture

b) GE

c) IBM

d) KPMG

e) None of these

S.41-44) Read the given information and answer the following questions.

3 players, Ankush, Arvind, and Sameer, play 3 different sports among Cricket, Kho Kho, and Football. Further, each player plays at a different college among; WIMWI, WIMSI, and WIMEI. Each of them made 3 statements about the sports that they play and the colleges they play at. It is also known that each of them told at least 2 correct statements.

Ankush:
I play Football.
I play at WIMEI.
Sameer plays at WIMSI.

Arvind:
I play at WIMSI.
I play Cricket.
Ankush plays Football.

Sameer:
Arvind doesn't play at WIMWI.
I don't play at WIMWI.
Ankush doesn't fetch Kho Kho.

Q.41) Which player plays Kho Kho?
a) Ankush
b) Arvind
c) Sameer
d) Cannot be determined
e) None of these

Q.42) The Player who plays at WIMEW plays
a) Cricket
b) Kho Kho
c) Football
d) Cannot be determined
e) None of these

Q.43) Which sport does Arvind play?
a) Cricket
b) Kho Kho
c) Football
d) Cannot be determined
e) None of these

Q.44) What is the total number of false statements made by the 3 players together?
a) 0
b) 1
c) 2
d) 3
e) Either A or B

S.45-48) Read the given information and answer the following questions.
There is a cube in which one pair of adjacent faces is painted red, the second pair of adjacent faces is painted blue and a third pair of adjacent faces is painted green. This cube is now cut into 216 smaller but identical cubes.

Q.45) How many small cubes are there with no red paint at all ?
a) 144
b) 150
c) 125
d) 130
e) None of these

Q.46) How many small cubes are there with at least two different colours on their faces ?
a) 64
b) 54
c) 33
d) 44
e) 76

Q.47) How many small cubes are there with one face painted red?
a) 64
b) 81
c) 60
d) 100
e) 120

Q.48) How many small cubes are there showing only green or only blue on their faces?
a) 64
b) 72
c) 81
d) 90
e) 96

S.49-52) Read the given information and answer the following questions.

Ashu has 4 friends. The eldest is 16 years old, and the difference between their ages who are born consecutively is two years. Ashu who is suffering from Kidney Ailment wants to divide his gifts equally among his friends. However, he has planned to give each one of them their share when they become adult, i.e., when they attain the age of 18 years.

One day Ashu met a moneylender who had a scheme. The scheme was that if Ashu deposited a certain sum with the moneylender, he would get double the amount in two years. Ashu was interested and decided to invest in the scheme.

Q.49) If Ashu has ₹75 lakhs initially, what is the maximum amount (in thousands) he can give to each of his friends?
a) ₹2000
b) ₹8000
c) ₹5200
d) ₹4500
e) None of these

Q.50) If Ashu would be able to give ₹64 lakhs to each of his friends, what is the minimum amount (in lakhs) with Ashu initially?
a) ₹55
b) ₹28
c) ₹60
d) ₹62
e) None of these

Q.51) All the friends came to know about the scheme. So, they decided to invest the amount that they would receive from Ashu to maximize the amount. When the fourth friend will receive his share money, the total money with all of them combined would be ₹240 lakhs. What is the minimum initial amount (in lakhs) with Ashu?
a) ₹50
b) ₹65
c) ₹15
d) ₹20
e) None of the above

Q.52) It is known that Ashu has ₹250 lakhs initially and he keeps 40% with him and divides the rest amount among his friends in the way explained earlier. What could be the maximum difference (in thousands) between the amount with Ashu and the amount received by all his friends combined at the time when the youngest friend gets his share?
a) ₹8000
b) ₹80000
c) ₹96000
d) ₹9600
e) None of the above

S.53-56) Read the below information and answer the questions that follow.

Mr. Singh is the owner of a plant which manufactures sandals. He has two machines in his plant for manufacturing sandals:

Machine 1 can manufacture sandals only in lots of 10,000 and the manufacturing cost per sandal is ₹7 for this machine.

Machine 2 can manufacture sandals only in lots of 1,000 and the manufacturing cost per sandal is ₹12 for this machine.

Mr. Singh sells each sandal that he manufactures at a price of ₹15. For each order that Mr. Singh receives, he decides to use exactly one of the two machines for manufacturing the sandals, depending on which machine will maximize his profit.

After catering to each order, all the remaining sandals that were manufactured for that order have to be disposed of, incurring a cost of disposal of ₹3 per sandal.

Net profit for Mr. Singh for any order = (Total Revenue) - (Total Manufacturing Cost) - (Total Cost of Disposal)

Q.53) If Mr. Singh received an order for 16,438 sandals, what is his maximum possible net profit for that order?
a) 88,574
b) 92,564
c) 95,884
d) 1,03,572
e) None of the above

Q.54) Mr. Singh received an order of more than 10,000 sandals from a sports team. If he decided to use Machine 2 for manufacturing the sandals, what is the minimum number of sandals that the sports team could have ordered?
a) 10,001
b) 11,119
c) 10,119
d) 11,001
e) None of the above

Q.55) Mr. Singh received an order from a bottling plant. If he used machine 2 for manufacturing the sandals, what is the maximum number of sandals that the bottling plant could have ordered?
a) 12000
b) 12500
c) 13000
d) 11,500
e) 11000

Q.56) If the cost of disposing a sandal increased to ₹5 per sandal, and, for a particular order, Mr. Singh decided to use Machine 1 for manufacturing the sandals, what is the minimum number of sandals that could have been ordered?
a) 8008
b) 7007
c) 8001
d) 7001
e) None of the above

S.57-60) Read the below information and answer the questions that follow.

In a college, each of 7 professors - Ankit, Billu, Chetri, Dixit, Ram, Gaurav, and Sunny - taught a different subject among Marketing, Accounts, Corporate strategy, Political Sciences, Corporate Ethics, B2B Sales, and Geography. Rajiv, a student in the same college, submitted assignments in each of these seven subjects to the seven professors according to the subject each professor taught However, since all the seven-assignment books looked alike, Rajiv later realized that he did not necessarily submit the assignments to the respective professors for which they were intended. The following information is known about the assignments the professors received and the subjects they taught:

1) Chetri, who received the Accounts assignment, was supposed to receive the Marketing assignment, while Sunny received the assignment in the subject that he taught

2) Dixit, who did not teach Corporate Ethics, received the Corporate Ethics assignment, while Billu, who was a Geography professor, received the Geography assignment.

3) Ram, who did not teach B2B Sales, received B2B Sales assignment, while Gaurav received Corporate strategy assignment.

4) At least 3 professors received the assignments in the respective subjects that they taught.

Q.57) Who were the professors who received the assignments in the respective subjects that they taught?
a) Ankit, Billu, Gaurav, and Sunny
b) Ankit, Chetri, and Gaurav
c) Ankit, Billu, and Sunny
d) Billu, Gaurav, and Sunny
e) None of the above

Q.58) If Ram is not an Accounts professor, who receive the assignment in the subject taught by Ram?
a) Chaand
b) Dixit
c) Ram
d) Ankit
e) None of the above

Q.59) Which of the following statements will be sufficient to determine the subjects taught by each professor
a) Gaurav is a Corporate strategy Professor.
b) Dixit is a B2B Sales Professor.
c) Ram is a Accounts Professor.
d) Ram is Corporate Ethics paper.
e) None of the above

Q.60) If Ankit and Dixit exchanged their assignments, what is the maximum possible number of professors who would have the assignments in the respective subjects that they taught?

a) 3

b) 4

c) 2

d) 1

e) None of the above

S.61-64) Read the below information and answer the questions that follow.

Raja an employee at an IT Organization, has to select the courses that he will complete during the on-job training period. He has to select at least four courses and each course has a different schedule for classes. The classes for the courses are scheduled between Monday and Saturday every week and between 9 am to 1:30 pm every day Further, each day can have a maximum of three classes the first class starts at 9 am. The second class at 10:30 am and the third class at 12 pm. Raja has to select his courses such that he has only one class scheduled at any particular time on any day. The following table provides the days of the week and the time at which classes will start for each course:

Course	Day	Time
Comp TIA	Monday, Wednesday, Friday	9 am
ACA	Monday, Tuesday	10:30 am
ACE	Tuesday, Thursday	12 pm
JEE	Tuesday, Friday	10:30 am
ASA	Thursday, Saturday	9 am
AIS	Monday, Saturday	12 pm
ACSP	Wednesday, Thursday	10:30 am
ACCX	Friday, Saturday	10:30 am

NYTU	Tuesday, Saturday	9 am
CCE	Monday, Thursday	10:30 am
CTT	Wednesday, Friday	12 pm
CTET	Wednesday, Thursday	9 am

Q.61) What is the maximum number of courses that Raja can select?
a) 9
b) 8
c) 7
d) 6
e) 5

Q.62) If Raja has selected his courses so as to attend the maximum possible number of classes in a week, during which of the following time slots can he possibly not have any class?
a) Thursday 9 am
b) Saturday 9 am
c) Friday 10:30 am
d) Wednesday 9 pm
e) None of the above

Q.63) If Raja does not want to attend any class at 9 am, what is the maximum number of classes that he can attend in a week?
a) 12
b) 10
c) 8
d) 6
e) None of the above

Q.64) If Raja wants to attend the maximum number of classes, which of the following courses must he not select?

a) ACA

b) ACE

c) JEE

d) ACSP

e) None of the above

S.65-68) Read the below information and answer the questions that follow.

A Nutritional Requirement Expert provides the recommended quantity for each of five nutritional components - Calories, Carbs, Protein, Fat, and Fibre - comprising one's food intake. Abhijeet, an aspiring gymnast, wanted to follow a diet to ensure that he meets the recommended Daily Nutritional Requirement. In order to achieve this, Abhijeet first noted the amount of each of the five nutritional components present in the various types of foods that he plans to consume. The table provides the Daily Nutritional Requirement of Calories (in kCal), Carbs (in gm), Protein (in gm), Fat (in gm), and Fibre (in gm) and also provides the amount of each of these present in 100 gm of various types of foods.

Daily Nutritional Requirement	Calories (kCal)	Carbs (gm)	Protein (gm)	Fat (gm)	Fibre (gm)
	2080.0	310.0	500	70.0	300
Type of Food	Calories (kCal)	Carbs (gm)	Protein (gm)	Fat (gm)	Fibre (gm)
Oats	240.0	49.5	7.8	1.2	3.4
Soya Paneer	24.0	4.2	1.0	0.3	2.0
Fish	78.5	0.1	12.0	3.3	0.1
Brown Bread	62 5	11.6	2.3	0.8	0.9

Chocolate	530.0	565	7.5	30.5	0.7
Muesli	44.0	9.9	0.6	0.0	0.0
Butter	200.7	14.1	9.9	11.7	0.0
Wheat	63.3	14.0	0.8	0.2	2.8
Dry Fruits	584.5	188	15.7	48.9	3.4
Fries	231.0	25.2	4.8	12.4	3.4

Q.65) If Abhijeet plans to consume only one type of food to meet his daily requirement for all the 5 components, which food must he consume so that the quantity of food he needs to consume is the minimum?
a) Chocolate
b) Oats
c) Dry Fruits
d) Fries
e) None of the above

Q.66) If Abhijeet plans to eat only 1000 gm of a single type of food, then by consuming which of the following types of food can he meet the daily requirement for the maximum number of components?
a) Butter
b) Wheat
c) Chocolate
d) Fries
e) None of the above

Q.67) If Abhijeet wants to consume equal quantities of all the foods given in the table, ensuring that he meets the daily requirements for all the 5 components, what is the minimum quantity of fat that he will end up consuming?
a) 196.3 gm
b) 109.3 gm
c) 70 gm
d) 85.3 gm
e) None of the above

Q.68) If Abhijeet plans to consume exactly 2 types of food in equal quantities so as to meet his daily requirements for all the 5 components, while definitely including Wheat as one of them, then for which of the following types of food, that he consumes along with Wheat, is the total quantity of food that he needs to consume the maximum?
a) Chocolate
b) Fish
c) Butter
d) Soya Paneer
e) None of the above
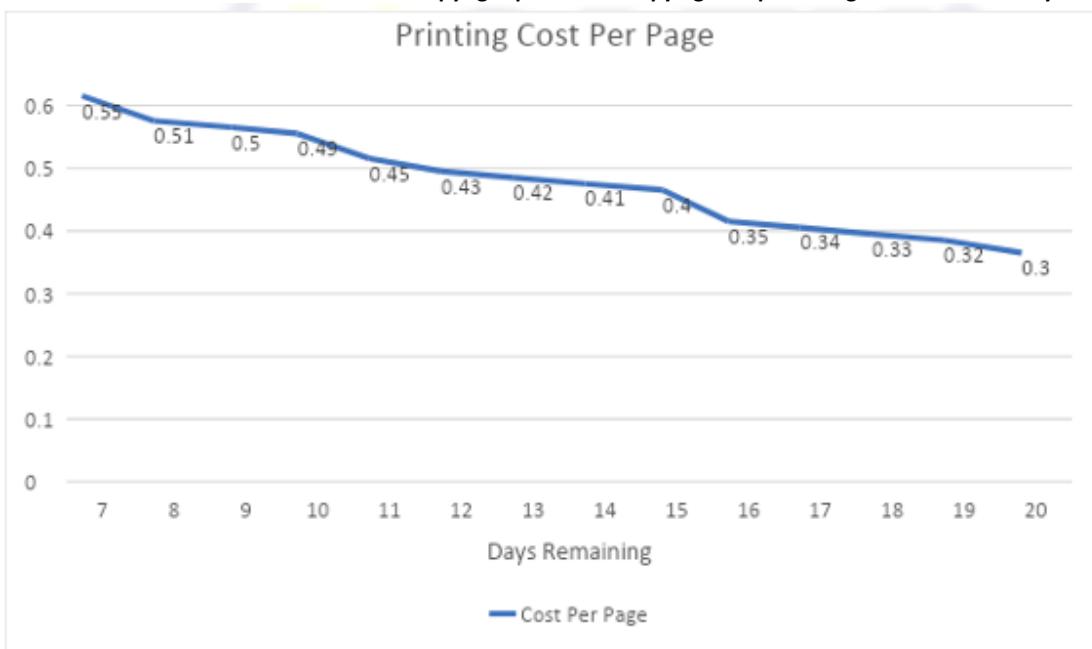
S.69-72) Read the below information and answer the questions that follow.
Ratna Sagar Press publish paper jacketed-bound books of different authors and for each book sold, they pay a part of the selling price of the book to the respective author as royalty. The publishers outsource the printing of the books to a printing press.

For each book that they send to the printing press, they also provide a target date to the printing press to finish printing the book. The cost of printing a book depends on the number of pages in the book and also on the number of days remaining from the date on which the book is sent to the printing press to target date provided (inclusive of both days). Also, Ratna Sagar Press sets the selling price per copy of each book such that the royalty and the printing cost per copy of the book together comprise exactly half the selling price per copy of the book.

The following table provides the relevant data for different books and the line graph below it gives the price charged per page by the printing press:

Book Title	Number of Pages	Date on which the Book was sent to Printing	Target Date Provided	Royalty as a percentage of Selling Price
Kira Kira	1250	18/12/2010	30/12/2010	25%
The Art of Racing in the Rain	1050	14/02/2005	02/03/2005	30%
Gita	850	08/04/2003	21/04/2003	45%
A Servant's Tale	1100	31/03/2010	08/04/2010	40%
The Virgin Suicides	950	24/09/2009	01/10/2009	20%
The Fuhrer	1050	16/02/2008	04/03/2008	35%

Printing Cost Per Page

Q.69) For which book is the printing cost per copy of the book the lowest?

a) Gita

b) The Fuhrer

c) The Art of Racing in the Rain

d) The Virgin Suicides

e) None of the above

Q.70) The maximum royalty earned by any author per copy of a book sold is?

a) ₹3136.50

b) ₹3200.50

c) ₹2246.00

d) ₹2854.50

e) None of the above

Q.71) The printing cost per copy not less than the royalty paid per copy for how many books?

a) 0

b) 1

c) 2

d) 3

e) None of the above

Q.72) The printing cost per copy as a percentage of the selling price per copy of the book is the highest for?
a) The Virgin Suicides
b) The Art of Racing in the Rain 36
c) Voyage to the Centre of Sublunary World
d) Kira Kira
e) None of the above

S.73-76) Read the below information and answer the questions that follow.
5 acting professionals named Irfan Khan, Manoj Vajpayee, Saif Ali Khan, Ranbir Kapoor, and Shahrukh Khan of Bollywood went to 5 locations in India, Puri, Uttarakhand, Goa, Jaipur, and Chennai (not necessarily in that order), on different movie sets for two consecutive months (not necessarily to the same location in both the months). It is also known that:
I) One of the acting professionals went to the same location, which is not Jaipur, for both the months. Saif Ali Khan did not go to Puri in the first month.
II) Shahrukh Khan went to two different locations, but the name of both the locations start with the same alphabet.
III) The actor with the highest income went to Chennai in the first month and to Puri in the second month.
IV) The actor with the least income went to Goa in the first month, but not in the second month.
V) Irfan Khan did not go to either Uttarakhand or Chennai. Manoj Vajpayee earns less than Saif Ali Khan, who earns less than Shahrukh Khan.

Q.73) Who went to Chennai in the second month?
a) Ranbir Kapoor
b) Manoj Vajpayee
c) Saif Ali Khan
d) Shahrukh Khan
e) None

Q.74) How many of the following is/are possible for any actor?
a) Goa in the first month and Chennai in the second month.
b) Puri in the first month and Jaipur in the second month.
c) Goa in the first month and Puri in the second month.
d) Uttarakhand in the first month and Puri in the second month.
e) Jaipur in the first month and Chennai in the second month.

Q.75) Who went to the same location for both the months?
a) Irfan Khan
b) Balaram
c) Saif Ali Khan
d) Ranbir Kapoor
e) None of the above

Q.76) How many people earn less than Shahrukh Khan?
a) 1
b) Cannot be determined
c) 2
d) 4
e) 3

S.77-80) Read the below information and answer the questions that follow.
Nadiam had 7 tennis racquets, each of a different brand among Wilson, Donnay, Prince, Head, Dunlop, Gamma, and Asics. During March, each day he used one of the 7 tennis racquets that he had.
Further, on each day of the week across all the weeks in the month, he used the same tennis racquet, i.e. on all Mondays, he used the same branded tennis racquet and on all Tuesdays, he used the same branded tennis racquet, and so on
Further, the following information is known about the brand of the tennis racquets that he used on some of the days in March:
i. On 8th March, Nadiam did not use a Donnay Tennis racquet, while on 23rd March. Nadiam used a Prince tennis racquet.

ii. On Mondays, Nadiam did not use either a Donnay tennis racquet or a Dunlop tennis racquet and on 17th March, Nadiam used a Dunlop tennis racquet

iii. There were at least 2 days between the day that he used a Donnay tennis racquet and the day that he used a Gamma tennis racquet

iv. There were 5 Saturdays and 5 Sundays in the month.

v. He used a Head tennis racquet and a Asics tennis racquet on consecutive days but he used neither on a Thursday.

Q.77) On which of the following days of the week did Nadiam use a Dunlop Tennis racquet?
a) Sunday
b) Monday
c) Saturday
d) Friday
e) Thursday

Q.78) On which of the following dates did Nadiam use a Gamma tennis racquet?
a) 10th March
b) 11th March
c) 12th March
d) 13th March
e) 15th March

Q.79) Which of the following tennis racquets did Nadiam use for the maximum number of days?
a) Wilson Tennis racquet
b) Head Tennis racquet
c) Asics Tennis racquet
d) Donnay Tennis racquet
e) None of the above

Q.80) Which of the following statements is definitely true?
a) Nadiam used a Head tennis racquet the day after he used a Asics tennis racquet.
b) Nadiam used a Donnay tennis racquet the day after he used a Dunlop tennis racquet.
c) Nadiam used a Gamma tennis racquet the day after he used a Dunlop tennis racquet.
d) Nadiam used a Asics tennis racquet the day after he used a Gamma tennis racquet.
e) None of the above

S.81-84) Read the below information and answer the questions that follow.
Keeping in mind the current COVID situation, 5 persons A, B, C, D, and E ordered 5 items - a Hand Sanitizer, a Hand wash, a Liquid Soap, a pair of Gloves, and a Three-Ply Mask - from a website called Practo.com. The items were shipped at different times and arrived at different times. Further, it is also known that:
i. The Hand Sanitizer ordered by A was not the last to arrive.
ii. The Gloves were the first to be shipped and not the last to arrive while the Liquid Soap was the first to arrive.
iii. Exactly 2 items arrived before B's item arrived and the Hand wash was not the last item to be shipped.
iv. The Three-Ply Mask ordered by C arrived before the Hand Sanitizer but was shipped after it and was not the last to be shipped.

Q.81) For which item was the duration between its shipping and arriving the minimum?
a) Liquid Soap
b) Gloves
c) Three-Ply Mask
d) Hand wash
e) Cannot be determined

Q.82) If D's item was the second to be shipped, what was the fourth item to be shipped?

a) Three-Ply Mask

b) Hand wash

c) Hand Sanitizer

d) Gloves

e) None of the above

Q.83) Which of the following statements will be sufficient to determine the correct order of shipping and the item ordered by each person?

a) D's item was shipped last.

b) E ordered a hand wash while D ordered a Liquid Soap.

c) The item ordered by C was shipped fourth.

d) The item ordered by E was shipped third.

e) None of the above

Q.84) If all the items were shipped on consecutive days and also arrived on consecutive days, with the first item arriving on the day after the final item was shipped, what can be the maximum number of days taken for the hand wash to arrive after it was shipped?

a) 7 days

b) 8 days

c) 9 days

d) 10 days

e) None of the above

S.85-88) Read the below information and answer the questions that follow.

The given list gives the runs scored by the players in a cricket match. The batsmen are given in the order in which they came to bat. The score of the team is given at which the wickets fell.

Sehwag - 15 | Ram - 26 | Sahil - 31 | Harbhajan - 8 | Atul - 52

Dhoni - 23 | Agarkar - 37 | Karan - 10 | Arun - 5 | Kamal - 2 | Naman - 4

Total - 220

The score of the team at which the wickets fell are as follows 1 - 25, 2 - 52, 3 - 70, 4 - 100, 5 - 130, 6 - 165, 7 - 190, 8 - 200, 9 - 205, and 10 - 220. India's total score is the sum of the scores made by the batsmen and extras if any. The extras are not in the name of any batsman.

Q.85) What was India's score when Sahil got out?
a) 80
b) 90
c) 10
d) 100
e) None of the above

Q.86) What was the score when Atul was out?
a) 185
b) 165
c) 100
d) 160
e) None of the above

Q.87) Who was the other batsman when Agarkar got out?
a) Naman
b) Arun
c) Kamal
d) Karan
e) Cannot be determined
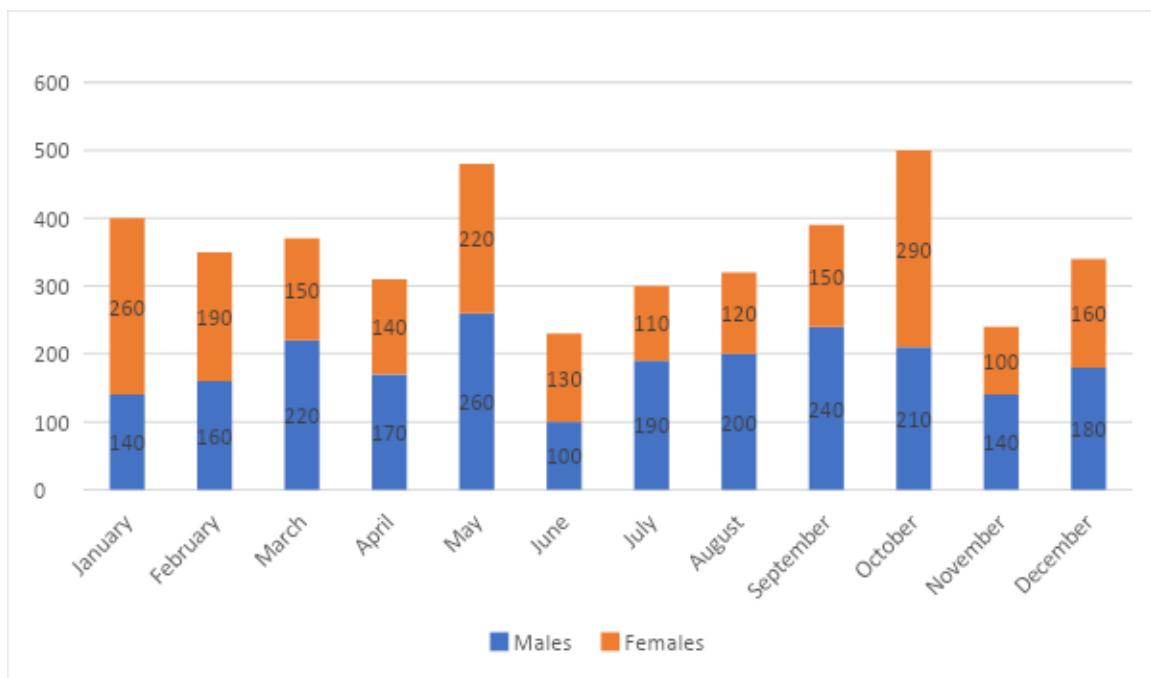
Q.88) Which player was out when India's score was 70?
a) Sehwag
b) Ram
c) Sahil
d) Harbhajan
e) None of the above

S.89-92) Read the below information and answer the questions that follow.

In a country, the number of men and women employed during each month in a particular year was calculated. Each month was ranked from 1 to 12, in the descending order of the total number of graduates employed during that month, such that a numerically lower rank indicates that a higher number of graduates were employed during that month. This rank is called Employment Rank. Further, each month was also ranked by the number of men employed during the month, called Men Rank, and the number of women that were employed during the month, called women Rank, in a similar manner. The following graph provides the number of men and women employed during each month of that year.

Q.89) The number of graduates employed in October as a percentage of the total number of graduates employed during the year is

a) 10.43%

b) 11.55%

c) 12.23%

d) 5.54%

e) None of the above

Q.90) For which month is the sum of Employment Rank, Men Rank, and Women Rank the highest?

a) 12

b) 10

c) 11

d) 9

e) None of the above

Q.91) For how many months are at least 2 of the 3 ranks the same?

a) 5

b) 6

c) 4

d) 7

e) None of the above

Q.92) For how many months was the number of women employed as a percentage of the number of men employed greater than 120%?

a) 3

b) 4

c) 5

d) 6

e) None of the above

S.93-96) Read the below information and answer the questions that follow.

5 males Karthik, Rahul, Raman, Mohit, and Rohan working in the same company but are earning a different salary. They are married to 5 ladies - Irene, Shipra, Shruti, Savitri, and Anisha not necessarily in that order. These 5 couples are from different cities namely C1, C2, C3, C4, and C5.

1) The person who is married to Shipra is neither earning maximum nor minimum salary but the couple is from C1.

2) The husband of Shruti is earning ₹15 lakhs/annum and couple is neither from C2 nor from C3.

3) Rohan earns ₹16 lakhs/annum and Mohit earns more than Raman and Rahul but less than Rohan and salary of these three (Rahul, Raman, and Mohit) are in arithmetic progression.

4) Rahul, the husband of Anisha is earning ₹1 lakhs/annum more than Raman, who earns less than Rohan.

5) Kartik, who is not married to Shruti is earning ₹4 lakhs/annum more than husband of Shruti.

6) Each of the 5 males earns at least ₹11 lakh/annum, while Rahul earns 'z' lakhs/annum, where 'z' is a natural number and Rahul is from C4.

Q.93) Who earns ₹15 lakhs per annum?
a) Kartik
b) Rahul
c) Raman
d) Mohit
e) None of these

Q.94) If a person who is earning least salary among these 5 is from C2 then who among the options is his wife?
a) Savitri
b) Irene
c) Anisha
d) Shipra
e) Cannot be determined

Q.95) If Savitri is married to Kartik then whose husband is earning the minimum salary?
a) Savitri
b) Irene
c) Shipra
d) Anisha
e) Cannot be determined

Q.96) If the names of the person are arranged in the increasing order of the salary earned, then which of the following is true?
a) Kartik - Rahul - Raman - Mohit - Rohan
b) Raman - Rahul - Mohit - Rohan - Kartik
c) Rahul - Mohit - Rohan - Kartik - Raman
d) Cannot be determined
e) None of the above

S.96-100) Read the below information and answer the questions that follow.
Sahil, Dravid, and Raghuvansh participate in a six hitting match. They try to hit a six one after another in that order without any breaks. In every round, every player gets exactly 1 chance to hit the six. The match has 'n' rounds. For any player 'M' - the player who takes the shot just before him (not necessarily in the same round) is called the preceding player for that particular round.
The following data was observed: -
1. If Player M hits the six in the previous round and the preceding player also hits the six, then Player M will miss the six in the current round.
2. If Player M hits the six in the previous round and the preceding player misses the six, then Player M will hit the six in the current round.
3. If Player M misses the six in the previous round and the preceding player also misses the six, then Player M will miss the six in the current round.
4. If Player M misses the six in the previous round and the preceding player hits the six, then Player M will hit the six in the current round.
5. At least 1 player hits the six in every round.
Q.97) What is the number of sixes that Raghuvansh hits in the first 21 rounds if Sahil is the only player to hit the six in Round 1?
a) 15
b) 12
c) 9
d) 10
e) None of the above

Q.98) What is the maximum number of sixes hit in any 8 consecutive rounds?

a) 12

b) 14

c) 15

d) 16

e) None of the above

Q.99) If Dravid missed the six in Round 1 then what is the minimum number of sixes he can hit in the first 13 rounds?

a) 5

b) 6

c) 7

d) 8

e) None of the above

Q.100) All the 3 players hit the sixes in a round. What is the total number of sixes hit in the next 51 rounds?

a) 63

b) 78

c) 87

d) 92

e) None of the above

Solutions

Q.1) Answer- C

Let there be a total of 'x' quizzes. In each of these x quizzes, one or the other of the B-schools were awarded 5 points, 3 points or 1 point.

Number of quizzes in which B-school F was awarded with points 3 and 1 put together = (10% of x) + (12% of x) = 22% of x.

22% of x = 11x/50 must be an integer. The possible values could be 11, 22, 33, 44, 55…

For 11x/50 = 207 or 538, X is not an integer.

If 11x/50 = 363, x = 1650, but 15% of 1650 is not an integer.

For 11x/50 = 374, x = 1700.

It can be checked that all other values are integers.

Q.2) Answer- C

Let there be a total of X quizzes. In each of these X quizzes, one or the other of the B-schools were awarded 5 points, 3 points, or 1 point.

Points received by B-school D = (0.15X x 5) + (0.18X x 3) + (0.2X x 1) = 0.75X + 0.54X + 0.2X = 1.49X

If B-school A accounts for entire 30% in Others Category of quizzes, points received by B-school A = 0.30X x 5 + 0.30X x 3 + 0.10X x 1 = 1.5X + 0.9X + 0.1X = 2.5X

Q.3) Answer- D

It is given that 500 quizzes were offered.

B-school A received 5 points in 30% quizzes and 1 point in 10% quizzes. Among the B-schools receiving 3 points, B-school A might be a part of "Others" category.

The maximum possible points scored by A (i.e., if A accounts for this entire 30% in "Others") = 0.30X x 5 + 0.30X x 3 + 0.10X x 1 = 1.5X + 0.9X + 0.1X = 2.5X = 1250

The minimum possible points scored by A (i.e., if B accounts for this entire 30% in "Others") = 0.30X x 5 + 0.10X x 1 = 1.5X + 0.1X = 1.6X = 800

B-school G might be a part of 10% B-schools counted in 'others' those received 5 points. Also, B-schools G received 3 points in 10% quizzes and 1 point in 18% quizzes.

The maximum possible points scored by G (i.e., if G accounts for this entire 10% in "Others") = 0.10X x 5 + 0.1X x 3 + 0.18X x 1 = 0.5X + 0.3X + 0.18X = 0.98X = 490

The minimum possible points scored by A (i.e., if F accounts for this entire 10% in "Others") = 0.1X x 3 + 0.18X x 1 = 0.3X + 0.18X = 0.48X = 240

∴ The required maximum possible difference = 1250 - 240 = 1010

Q.4) Answer- C

It is given that 500 quizzes were offered.

B-school E might be a part of 25% B-schools counted in 'others' those received 1 point. Also, B-school E received 5 points in 20% quizzes and 3 points in 20% quizzes.

The maximum possible points scored by E (i.e., if G accounts for this entire 25% in "Others") = $0.20X \times 5 + 0.20X \times 3 + 0.25X \times 1 = X + 0.6X + 0.25X = 1.85X = 925$

The minimum possible points scored by E (i.e., if C accounts for this entire 25% in "Others")

= $0.20X \times 5 + 0.20X \times 3 = X + 0.6X = 1.6X = 800$

Points received by B-school E has to be between 800 and 925 (both inclusive). Option (c) does not lie in this range.

Q.5) Answer- A

Let us calculate the calories per ounce for all the given items:

Milk = 60/8

Butter = 50/8

Biscuits = 42/8

Low-Fat Milk = 40/4 = 80/8

So, from the above values, skimmed milk(Low Fat Milk) has the largest number of calories per ounce.

Q.6) Answer- C

Let us calculate the quantities of proteins per ounce:

Sugar = 2/8 = 0.25

Cake = 10/16 = 0.625

Egg = 15/12 = 1.25

Milk = 28/8 = 3.5

From the above values, we find that milk has the highest protein content per ounce.

Q.7) Answer- B

1 cup of skimmed milk has = 40 x 2 = 80 calories.

1 ounce of cheese has 60/16 calories.

So, (80/60) x 16 = 21.33 ounces of cheese equivalent to 1 cup of skimmed milk.

Q.8) Answer- B

Protein content of the combination:

1 cup skimmed milk, 8 ounces Biscuits = 10 × 2 + 6 = 26

1 cup milk, 2 cups butter milk = 28 + 24 = 52

32 ounces cake, 16 ounces cheese = 10 × 2 + 12 = 32

16 ounces butter 16 ounces sugar = 15 × 2 + 2 × 2 = 30 + 4 = 34
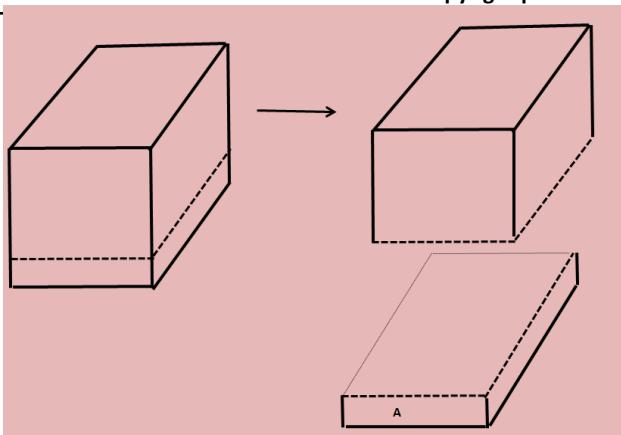
Thus, among the given options, '1 cup milk, 2 cups butter milk' has the highest protein content.

Q.9) Answer- B

It is given that a larger Rubik's cube is formed by placing 216 identical Rubik's cubes, which are labelled 1 to 216, by placing them in ascending order.

Additionally, in each layer, the left-most column is laid first from front to back and then the Rubik's cubes are laid in a similar fashion in the second column, and so on.

Consider the Rubik's cube,

So, the bottom-most layer of the Rubik's cube will be made by smaller Rubik's cubes numbered from 1 to 36 as shown in the table.

6	12	18	24	30	36
5	11	17	23	29	35
4	10	16	22	28	34
3	9	15	21	27	33
2	8	14	20	26	32
1	7	13	19	25	31

Each of the next layers will be made by 36 smaller Rubik's cubes each.

Now, in this question, we are asked to find the sum of the serial numbers of the Rubik's cubes in the vertical column which has its base in the fourth Rubik's cube from left in the row just behind the front row.

Let's consider the bottom-most layer.

In this the front row is the row formed by the Rubik's cubes numbered 1, 7, 13, 19, 25, and 31.

The row just behind the front row is made of Rubik's cubes numbered 2, 8, 14, 20, 26, and 32.

The Rubik's cube which is fourth from left is the one which is numbered 20.

We have to calculate the sum of the serial numbers of the Rubik's cubes which form the vertical column whose base is the Rubik's cube numbered 20.

The next Rubik's cube after 20 in this column will have a number 36 more than 20, which is 56.

So, the six Rubik's cubes in this column will be numbered 20, 56, … which form an Arithmetic Progression with common difference 36.

The sum of these Rubik's cube = (6/2) x [2 x 20 + 5 x 36] = 660.
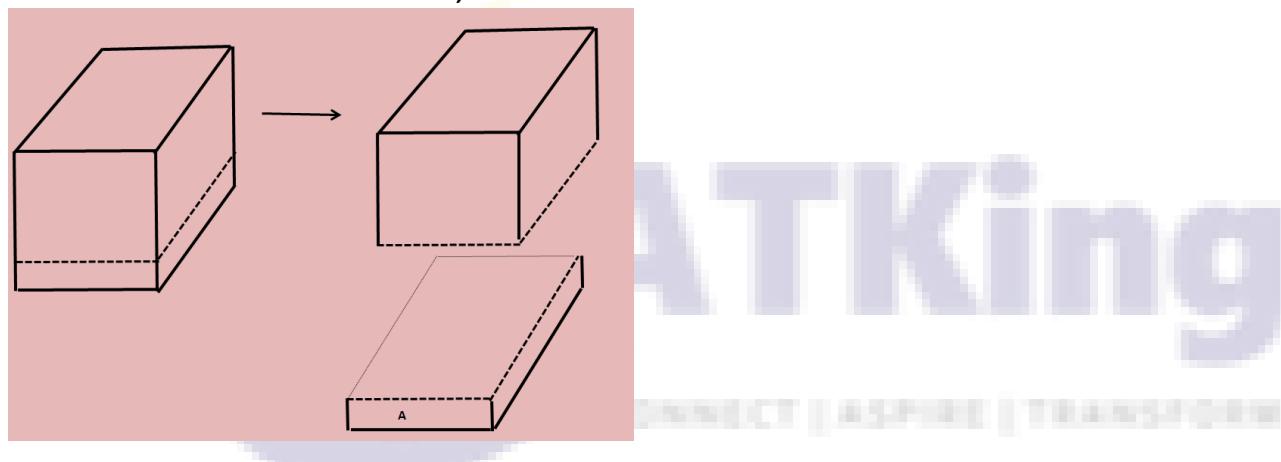
[Sum of AP= n/2*(2a+(n-1)d)]

Q.10) Answer- B

It is given that a larger Rubik's cube is formed by placing 216 identical Rubik's cubes, which are labelled 1 to 216, by placing them in ascending order.

Additionally, in each layer, the left-most column is laid first from front to back and then the Rubik's cubes are laid in a similar fashion in the second column, and so on.

Consider the Rubik's cube,

So, the bottom-most layer of the Rubik's cube will be made by smaller Rubik's cubes numbered from 1 to 36 as shown in the table.

6	12	18	24	30	36
5	11	17	23	29	35
4	10	16	22	28	34
3	9	15	21	27	33
2	8	14	20	26	32
1	7	13	19	25	31

Each of the next layers will be made by 36 smaller Rubik's cubes each.

Now, in this question, we are asked to find the sum of the serial numbers of the Rubik's cubes forming the diagonal from the bottom-left corner to the top-right corner of the front face of the larger Rubik's cube.

This diagonal has 6 smaller Rubik's cubes.

The first Rubik's cube is the cube-numbered 1.

The next Rubik's cube will be the cube which is just above the cube numbered 7.

So, it will be the cube numbered 7 + 36 = 43.

The next Rubik's cube will be the cube which two above the cube numbered 13.

So, it will be the cube numbered 13 + 36 + 36 = 85.

Similarly, the next cubes in this diagonal will be numbered:

(19 + 3 x 36) = 127,

(25 + 4 x 36) = 169,

(31 + 5 x 36) = 211.
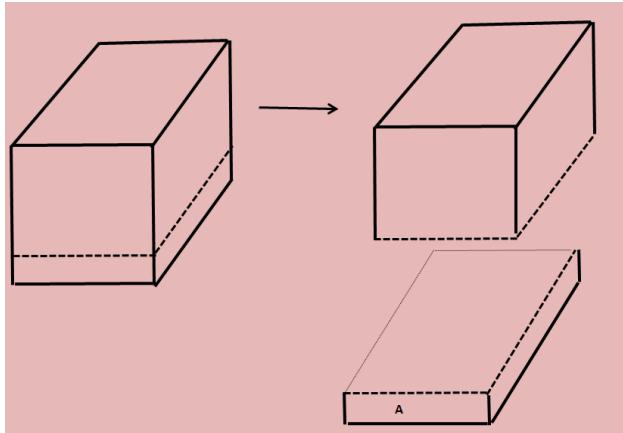
Thus, the sum of numbers on these cubes = 1 + 43 + 85 + 127 + 169 + 211 = 636.

Q.11) Answer- B

It is given that a larger Rubik's cube is formed by placing 216 identical Rubik's cubes, which are labelled 1 to 216, by placing them in ascending order.

Additionally, in each layer, the left-most column is laid first from front to back and then the Rubik's cubes are laid in a similar fashion in the second column, and so on.

Consider the Rubik's cube,

So, the bottom-most layer of the Rubik's cube will be made by smaller Rubik's cubes numbered from 1 to 36 as shown in the table.

6	12	18	24	30	36
5	11	17	23	29	35
4	10	16	22	28	34
3	9	15	21	27	33
2	8	14	20	26	32
1	7	13	19	25	31

Each of the next layers will be made by 36 smaller Rubik's cubes each.

Now in this question we are asked to find the sum of the serial numbers of the Rubik's cubes forming the diagonal from the bottom-right corner of the front face of the large Rubik's cube to the top-right corner of the back face of the large Rubik's cube.

This diagonal has 6 smaller Rubik's cubes.
The first Rubik's cube is the cube numbered 31.
The next Rubik's cube will be the cube which is just above the cube numbered 32. So, it will be the cube numbered 32 + 36 = 68.
The next Rubik's cube will be the cube which two above the cube numbered 33. So, it will be the cube numbered 33 + 36 + 36 = 105.
Similarly, the next Rubik's cubes in this diagonal will be numbered
(34 + 3 x 36) = 142,
(35 + 4 x 36) = 179,
(36 + 5 x 36) = 216.
Thus, the sum of numbers on these Rubik's cubes = 31 + 68 + 105 + 142 + 179 + 216 = 741.
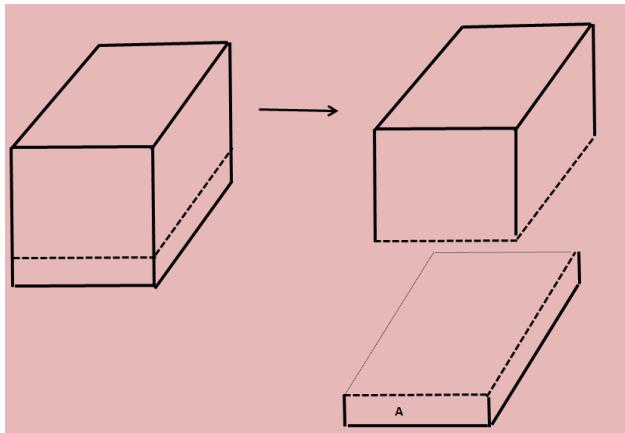
Q.12) Answer- D

It is given that a larger Rubik's cube is formed by placing 216 identical Rubik's cubes, which are labelled 1 to 216, by placing them in ascending order.

Additionally, in each layer, the left-most column is laid first from front to back and then the Rubik's cubes are laid in a similar fashion in the second column, and so on.

Consider the Rubik's cube,

So, the bottom-most layer of the Rubik's cube will be made by smaller Rubik's cubes numbered from 1 to 36 as shown in the table.

6	12	18	24	30	36
5	11	17	23	29	35
4	10	16	22	28	34
3	9	15	21	27	33
2	8	14	20	26	32
1	7	13	19	25	31

Each of the next layers will be made by 36 smaller Rubik's cubes each.

Now, in this question, we are asked to find the sum of the serial numbers of the Rubik's cubes forming the diagonal from the bottom-left corner of the front face of the large Rubik's cube to the top-right corner of the back face of the large Rubik's cube.

This body diagonal has 6 smaller Rubik's cubes.

The first Rubik's cube is the cube numbered 1.

The next Rubik's cube will be the cube which is just above the cube numbered 8. So, it will be the cube numbered 8 + 36 = 44.

The next Rubik's cube will be the cube which two above the cube numbered 15. So it will be the cube numbered 15 + 36 + 36 = 87.

Similarly the next Rubik's cubes in this diagonal will be numbered

(22 + 3 x 36) = 130,

(29 + 4 x 36) = 173,

(36 + 5 x 36) = 216.

Thus, the sum of numbers on these Rubik's cubes = 1 + 44 + 87 + 130 + 173 + 216 = 651.

Q.13) Answer- B

The table showing value-wise yield for 2012-13:

Year 2012 -2013				
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield (Rs.)
A	15	2 × 3 = 6	15 × 6 = 90	800	90 × 800 = 72000
B	18	7 × 3 = 21	18 × 21 = 378	750	378 × 750 = 283500
C	20	1 × 3 = 3	20 × 3 = 60	600	60 × 600 = 36000
D	12	4 × 3 = 12	12 × 12 = 144	1100	144 × 1100 = 158400
E	10	6 × 3 = 18	10 × 18 = 180	1400	180 × 1400 = 252000
Total		60	852		801900

The table showing value-wise yield for 2013-14:

			Year 2013 -2014		
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield
A	15 × 0.8 = 12	4 × 2 = 8	12 × 8 = 96	800 × 1.1 = 880	96 × 880 = 84480
B	18 × 1.1 = 19.8	12 × 2 = 24	19.8 × 24 = 475.2	750 × 1.1 = 825	475.2 × 825 = 392040
C	20 × 0.8 = 16	1 × 2 = 2	16 × 2 = 32	600 × 1.1 = 660	32 × 660 = 21120
D	12 × 1.1 = 13.2	5 × 2 = 10	13.2 × 10 = 132	1100 × 1.1 = 1210	132 × 1210 = 159720
E	10 × 0.80 = 8	8 × 2 = 16	8 × 16 = 128	1400 × 1.1 = 1540	128 × 1540 = 197120
Total		60	863.2		854480

The required answer is 863.2/60 = 14.39.

Q.14) Answer- A
The table showing value-wise yield for 2012-13:

			Year 2012 -2013		
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield (Rs.)
A	15	2 × 3 = 6	15 × 6 = 90	800	90 × 800 = 72000
B	18	7 × 3 = 21	18 × 21 = 378	750	378 × 750 = 283500
C	20	1 × 3 = 3	20 × 3 = 60	600	60 × 600 = 36000
D	12	4 × 3 = 12	12 × 12 = 144	1100	144 × 1100 = 158400
E	10	6 × 3 = 18	10 × 18 = 180	1400	180 × 1400 = 252000
Total		60	852		801900

The table showing value-wise yield for 2013-14:

Year 2013 -2014				
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield
A	15 × 0.8 = 12	4 × 2 = 8	12 × 8 = 96	800 × 1.1 = 880	96 × 880 = 84480
B	18 × 1.1 = 19.8	12 × 2 = 24	19.8 × 24 = 475.2	750 × 1.1 = 825	475.2 × 825 = 392040
C	20 × 0.8 = 16	1 × 2 = 2	16 × 2 = 32	600 × 1.1 = 660	32 × 660 = 21120
D	12 × 1.1 = 13.2	5 × 2 = 10	13.2 × 10 = 132	1100 × 1.1 = 1210	132 × 1210 = 159720
E	10 × 0.80 = 8	8 × 2 = 16	8 × 16 = 128	1400 × 1.1 = 1540	128 × 1540 = 197120
Total		60	863.2		854480

The 'value-wise yield' of the crop during 2012-2013 = ₹801900.

Q.15) Answer- E
The table showing value-wise yield for 2012-13:

Year 2012 -2013				
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield (Rs.)
A	15	2 × 3 = 6	15 × 6 = 90	800	90 × 800 = 72000
B	18	7 × 3 = 21	18 × 21 = 378	750	378 × 750 = 283500
C	20	1 × 3 = 3	20 × 3 = 60	600	60 × 600 = 36000
D	12	4 × 3 = 12	12 × 12 = 144	1100	144 × 1100 = 158400
E	10	6 × 3 = 18	10 × 18 = 180	1400	180 × 1400 = 252000
Total		60	852		801900

The table showing value-wise yield for 2013-14:

Year 2013 -2014				
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield
A	15 × 0.8 = 12	4 × 2 = 8	12 × 8 = 96	800 × 1.1 = 880	96 × 880 = 84480
B	18 × 1.1 = 19.8	12 × 2 = 24	19.8 × 24 = 475.2	750 × 1.1 = 825	475.2 × 825 = 392040
C	20 × 0.8 = 16	1 × 2 = 2	16 × 2 = 32	600 × 1.1 = 660	32 × 660 = 21120
D	12 × 1.1 = 13.2	5 × 2 = 10	13.2 × 10 = 132	1100 × 1.1 = 1210	132 × 1210 = 159720
E	10 × 0.80 = 8	8 × 2 = 16	8 × 16 = 128	1400 × 1.1 = 1540	128 × 1540 = 197120
Total		60	863.2		854480

The Value coefficient of the crop is defined as the price of the total crop produced in one acre of the agricultural plot.

Value coefficient of various crops during 2012-2013 is as given below:

Crop A: 12000, Crop B: 13500, Crop C: 12000, Crop D: 14000, Crop E: 14000

So, both crops A and C have the lowest value coefficient, i.e. 12000.

None of the options have A and C.

Q.16) Answer- C

The table showing value-wise yield for 2012-13:

Year 2012 -2013				
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield (Rs.)
A	15	2 × 3 = 6	15 × 6 = 90	800	90 × 800 = 72000
B	18	7 × 3 = 21	18 × 21 = 378	750	378 × 750 = 283500
C	20	1 × 3 = 3	20 × 3 = 60	600	60 × 600 = 36000
D	12	4 × 3 = 12	12 × 12 = 144	1100	144 × 1100 = 158400
E	10	6 × 3 = 18	10 × 18 = 180	1400	180 × 1400 = 252000
Total		60	852		801900

The table showing value-wise yield for 2013-14:

Year 2013 -2014					
Crop	Production per acre in quintals	Area under cultivation in acres	Total production in quintals	Price per quintal	Value wise yield
A	15 × 0.8 = 12	4 × 2 = 8	12 × 8 = 96	800 × 1.1 = 880	96 × 880 = 84480
B	18 × 1.1 = 19.8	12 × 2 = 24	19.8 × 24 = 475.2	750 × 1.1 = 825	475.2 × 825 = 392040
C	20 × 0.8 = 16	1 × 2 = 2	16 × 2 = 32	600 × 1.1 = 660	32 × 660 = 21120
D	12 × 1.1 = 13.2	5 × 2 = 10	13.2 × 10 = 132	1100 × 1.1 = 1210	132 × 1210 = 159720
E	10 × 0.80 = 8	8 × 2 = 16	8 × 16 = 128	1400 × 1.1 = 1540	128 × 1540 = 197120
Total		60	863.2		854480

The Value coefficient of the crop is defined as the price of the total crop produced in one acre of the agricultural plot.

Value coefficient of various crops during 2013-2014is as given below:

Crop A: 10560, Crop B: 16335, Crop C: 10560, Crop D: 15972, Crop E: 12320

So, crops B and D have the value coefficient greater than 15000.

Q.17) Answer- C

From conditions (i), (iv), and (v), we can deduce the following table:

	6	8	7	5	
	C1	C2	C3	C4	
R1	x				2
R2		x			3
R3				x	4
R4			x		1

From conditions (vi) and (vii), the numbers 1 and 8 are to be filled such that they are neither in the same row nor the same column while the digits 2 and 7 are to be filled such that they are neither in the same row nor the same column.

Thus, 1 cannot be in C2 i.e. 1 is in either C1 or C4. Also, 8 cannot be in R4. So, 8 is in either R1 or R3. Similarly, 2 cannot be in C3 i.e. 2 is in either C2 or C4. Also, 7 cannot be in R1. So, 7 is in either R2 or R3. Note that 1 and 2 cannot be in C4 at the same time.

Thus, we get the following cases:

Case 1: When 1 is in C1 and 2 is in C4.

Using conditions (ii) and (iii), 3 must be in C3 and 4 must be in C2. Also, 8 must be in R1 and 7 must be in R3. Therefore, 6 must be in R2 and 5 must be in R4.

	C1	C2	C3	C4
R1	x	8		2
R2	6	X	3	
R3		4	7	X
R4	1		x	5

This is a valid case.

Case 2: When 1 is in C1 and 2 is in C2.

8 must be in R3 and 7 must be in R2. Using condition (iii), none of the numbers 5, 6, 7 or 8 are in the same row or the same column.

	C1	C2	C3	C4
R1	X	2		
R2		X	7	
R3		8		X
R4	1		x	

Now, since we do not have an empty place for the digit 6 in C1 that does not coincide with the same row as 7 and 8, this case is ruled out.

Case 3: When 1 is in C4 and 2 is in C2.

8 must be in R3 and 7 must be in R2. From condition (iii), it can be deduced that, 6 must be in R4 and thus 5 must be in R1. Similarly using condition (ii), 3 must be in C1 and thus 4 must be in C3.

	C1	C2	C3	C4
R1	x	2		5
R2	3	x	7	
R3		8	4	x
R4	6		x	1

This is a valid case.

Thus, the possibilities are,

	C1	C2	C3	C4
R1		8		2
R2	6		3	
R3		4	7	
R4	1			5

	C1	C2	C3	C4
R1		2		5
R2	3		7	
R3		8	4	
R4	6			1

Both the blocks R3C1 and R2C4 must be empty. Hence, (c) is the correct option.

Q.18) Answer- B

From conditions (i), (iv), and (v), we can deduce the following table:

	6	8	7	5	
	C1	C2	C3	C4	
R1	x				2
R2		x			3
R3				x	4
R4			x		1

From conditions (vi) and (vii), the numbers 1 and 8 are to be filled such that they are neither in the same row nor the same column while the digits 2 and 7 are to be filled such that they are neither in the same row nor the same column.

Thus, 1 cannot be in C2 i.e. 1 is in either C1 or C4. Also, 8 cannot be in R4. So, 8 is in either R1 or R3. Similarly, 2 cannot be in C3 i.e. 2 is in either C2 or C4. Also, 7 cannot be in R1. So, 7 is in either R2 or R3. Note that 1 and 2 cannot be in C4 at the same time.

Thus, we get the following cases:

Case 1: When 1 is in C1 and 2 is in C4.

Using conditions (ii) and (iii), 3 must be in C3 and 4 must be in C2. Also, 8 must be in R1 and 7 must be in R3. Therefore, 6 must be in R2 and 5 must be in R4.

	C1	C2	C3	C4
R1	x	8		2
R2	6	X	3	
R3		4	7	X
R4	1		x	5

This is a valid case.

Case 2: When 1 is in C1 and 2 is in C2.

8 must be in R3 and 7 must be in R2. Using condition (iii), none of the numbers 5, 6, 7 or 8 are in the same row or the same column.

	C1	C2	C3	C4
R1	X	2		
R2		X	7	
R3		8		X
R4	1		x	

Now, since we do not have an empty place for the digit 6 in C1 that does not coincide with the same row as 7 and 8, this case is ruled out.

Case 3: When 1 is in C4 and 2 is in C2.

8 must be in R3 and 7 must be in R2. From condition (iii), it can be deduced that, 6 must be in R4 and thus 5 must be in R1. Similarly using condition (ii), 3 must be in C1 and thus 4 must be in C3.

	C1	C2	C3	C4
R1	x	2		5
R2	3	x	7	
R3		8	4	x
R4	6		x	1

This is a valid case.

Thus, the possibilities are,

	C1	C2	C3	C4
R1		8		2
R2	6		3	
R3		4	7	
R4	1			5

	C1	C2	C3	C4
R1		2		5
R2	3		7	
R3		8	4	
R4	6			1

In both cases, the numbers 4 and 7 must be placed in adjacent blocks. Hence, (c) is the correct option.

Q.19) Answer- B
From conditions (i), (iv), and (v), we can deduce the following table:

	6	8	7	5	
	C1	C2	C3	C4	
R1	x				2
R2		x			3
R3				x	4
R4			x		1

From conditions (vi) and (vii), the numbers 1 and 8 are to be filled such that they are neither in the same row nor the same column while the digits 2 and 7 are to be filled such that they are neither in the same row nor the same column.

Thus, 1 cannot be in C2 i.e. 1 is in either C1 or C4. Also, 8 cannot be in R4. So, 8 is in either R1 or R3. Similarly, 2 cannot be in C3 i.e. 2 is in either C2 or C4. Also, 7 cannot be in R1. So, 7 is in either R2 or R3. Note that 1 and 2 cannot be in C4 at the same time.

Thus, we get the following cases:

Case 1: When 1 is in C1 and 2 is in C4.

Using conditions (ii) and (iii), 3 must be in C3 and 4 must be in C2. Also, 8 must be in R1 and 7 must be in R3. Therefore, 6 must be in R2 and 5 must be in R4.

	C1	C2	C3	C4
R1	x	8		2
R2	6	X	3	
R3		4	7	X
R4	1		x	5

This is a valid case.

Case 2: When 1 is in C1 and 2 is in C2.

8 must be in R3 and 7 must be in R2. Using condition (iii), none of the numbers 5, 6, 7 or 8 are in the same row or the same column.

	C1	C2	C3	C4
R1	X	2		
R2		X	7	
R3		8		X
R4	1		x	

Now, since we do not have an empty place for the digit 6 in C1 that does not coincide with the same row as 7 and 8, this case is ruled out.

Case 3: When 1 is in C4 and 2 is in C2.

8 must be in R3 and 7 must be in R2. From condition (iii), it can be deduced that, 6 must be in R4 and thus 5 must be in R1. Similarly using condition (ii), 3 must be in C1 and thus 4 must be in C3.

	C1	C2	C3	C4
R1	x	2		5
R2	3	x	7	
R3		8	4	x
R4	6		x	1

This is a valid case.
Thus, the possibilities are,

	C1	C2	C3	C4
R1		8		2
R2	6		3	
R3		4	7	
R4	1			5

	C1	C2	C3	C4
R1		2		5
R2	3		7	
R3		8	4	
R4	6			1

If 5 is not in R1, it is filled in R4. 4 is filled in C2. 8 is in R1 and 6 is in R2. Option (b) is the only correct statement.

Q.20) Answer- D
From conditions (i), (iv), and (v), we can deduce the following table:

	6	8	7	5	
	C1	C2	C3	C4	
R1	x				2
R2		x			3
R3				x	4
R4			x		1

From conditions (vi) and (vii), the numbers 1 and 8 are to be filled such that they are neither in the same row nor the same column while the digits 2 and 7 are to be filled such that they are neither in the same row nor the same column.
Thus, 1 cannot be in C2 i.e. 1 is in either C1 or C4. Also, 8 cannot be in R4. So, 8 is in either R1 or R3. Similarly, 2 cannot be in C3 i.e. 2 is in either C2 or C4. Also, 7

cannot be in R1. So, 7 is in either R2 or R3. Note that 1 and 2 cannot be in C4 at the same time.

Thus, we get the following cases:

Case 1: When 1 is in C1 and 2 is in C4.

Using conditions (ii) and (iii), 3 must be in C3 and 4 must be in C2. Also, 8 must be in R1 and 7 must be in R3. Therefore, 6 must be in R2 and 5 must be in R4.

	C1	C2	C3	C4
R1	x	8		2
R2	6	X	3	
R3		4	7	X
R4	1		x	5

This is a valid case.

Case 2: When 1 is in C1 and 2 is in C2.

8 must be in R3 and 7 must be in R2. Using condition (iii), none of the numbers 5, 6, 7 or 8 are in the same row or the same column.

	C1	C2	C3	C4
R1	X	2		
R2		X	7	
R3		8		X
R4	1		x	

Now, since we do not have an empty place for the digit 6 in C1 that does not coincide with the same row as 7 and 8, this case is ruled out.

Case 3: When 1 is in C4 and 2 is in C2.

8 must be in R3 and 7 must be in R2. From condition (iii), it can be deduced that, 6 must be in R4 and thus 5 must be in R1. Similarly using condition (ii), 3 must be in C1 and thus 4 must be in C3.

	C1	C2	C3	C4
R1	x	2		5
R2	3	x	7	
R3		8	4	x
R4	6		x	1

This is a valid case.

Thus, the possibilities are,

	C1	C2	C3	C4
R1		8		2
R2	6		3	
R3		4	7	
R4	1			5

	C1	C2	C3	C4
R1		2		5
R2	3		7	
R3		8	4	
R4	6			1

Only option (d) is definitely true for both cases I and II.

Q.21) Answer- D

If Shinjini had 11 mangoes, then she would not have asked the question because no one else could have more than 11 mangoes. (Only those who didn't ask question can have same number of mangoes to anyone so there will be 8 different number of mangoes and even if we go to reverse order from 11 to 10 to …… 4 the total would be 60 which is more than total number of mangoes hence it is not possible)

Thus, Shinjini had 1 or 2 or 3 or ... 10 mangoes (any number in the range of 1 to 10 both included)

If Kriti had 1 mango, then she would have replied, "No". But her answer was not "No".

Hence, she had mangoes in the range of 2 to 10.

Similarly, it can be concluded that Mansi had 3 to 10 mangoes and for everyone in the range accordingly.

Person	Range of Numbers
Shinjini	1 to 10
Kriti	2 to 10
Mansi	3 to 10
Nishtha	4 to 10
Anjali	5 to 10
Aarushi	6 to 10

Ayesha	7 to 10
Adyasha	8 to 10
Tanya	9 or 10

Minimum number of mangoes from Shinjini to Tanya

Person	Number
Shinjini	1
Kriti	2
Mansi	3
Nishtha	4
Anjali	5
Aarushi	6
Ayesha	7
Adyasha	8
Tanya	9

The total adds up to 45 and, thus Rakhi had only one Mango.

Q.22) Answer- C

If everyone squares the number of mangoes that she has, then new table will be:

Person	Number	Square number	Next number
Shinjini	1	1	2
Kriti	2	4	5
Mansi	3	9	10
Nishtha	4	16	17
Anjali	5	25	26
Aarushi	6	36	37
Ayesha	7	49	50
Adyasha	8	64	65
Tanya	9	81	82
Rakhi	1	1	2

So, out of possible next numbers 2, 5, 17, 37, and 2 are prime numbers but question is of distinct prime numbers, so there are 4 such numbers.

Q.23) Answer- B

If Shinjini had 11 mangoes, then she would not have asked the question because no one else could have more than 11 mangoes. (Only those who didn't ask question can have same number of mangoes to anyone so there will be 8 different number of mangoes and even if we go to reverse order from 11 to 10 to …… 4 the total would be 60 which is more than total number of mangoes hence it is not possible)

Thus, Shinjini had 1 or 2 or 3 or ... 10 mangoes (any number in the range of 1 to 10 both included)

If Kriti had 1 mango, then she would have replied, "No". But her answer was not "No".

Hence, she had mangoes in the range of 2 to 10.

Similarly, it can be concluded that Mansi had 3 to 10 mangoes and for everyone in the range accordingly.

Person	Range of Numbers
Shinjini	1 to 10
Kriti	2 to 10
Mansi	3 to 10
Nishtha	4 to 10
Anjali	5 to 10
Aarushi	6 to 10
Ayesha	7 to 10
Adyasha	8 to 10
Tanya	9 or 10

Minimum number of mangoes from Shinjini to Tanya

Person	Number
Shinjini	1
Kriti	2
Mansi	3
Nishtha	4
Anjali	5
Aarushi	6
Ayesha	7
Adyasha	8
Tanya	9

Total number of mangoes of group 1 = 5 + 6 + 7 + 8 = 26
Total number of mangoes of group 2 = 1 + 2 + 3 + 4 + 9 + 1 = 20
Percentage = [(26 - 20)/20] x 100 = 30%
Hence, 30% is the answer.

Q.24) Answer- C

If Shinjini had 11 mangoes, then she would not have asked the question because no one else could have more than 11 mangoes. (Only those who didn't ask question can have same number of mangoes to anyone so there will be 8 different number of mangoes and even if we go to reverse order from 11 to 10 to ...... 4 the total would be 60 which is more than total number of mangoes hence it is not possible)

Thus, Shinjini had 1 or 2 or 3 or ... 10 mangoes (any number in the range of 1 to 10 both included)

If Kriti had 1 mango, then she would have replied, "No". But her answer was not "No".

Hence, she had mangoes in the range of 2 to 10.

Similarly, it can be concluded that Mansi had 3 to 10 mangoes and for everyone in the range accordingly.

Person	Range of Numbers
Shinjini	1 to 10
Kriti	2 to 10
Mansi	3 to 10
Nishtha	4 to 10
Anjali	5 to 10
Aarushi	6 to 10
Ayesha	7 to 10
Adyasha	8 to 10
Tanya	9 or 10

Minimum number of mangoes from Shinjini to Tanya

Person	Number
Shinjini	1
Kriti	2
Mansi	3
Nishtha	4
Anjali	5
Aarushi	6
Ayesha	7
Adyasha	8
Tanya	9

Rakhi and Tanya didn't ask the question.

From the other eight girls, the biggest difference is (Adyasha) 8 - 1 (Shinjini) = 7.

But the question's condition is that the highest or the smallest number must be unique one which is not with the case with 1 (Rakhi and Shinjini both received one mango).

So, the final answer is 8 of Adyasha - 2 of Kriti = 6.

Q.25) Answer- B

From statement I, Rahul and Atul are the persons who selected B, G, K, and F. Therefore, from statement III, the pair (J, N) has to be selected by Deepak as that is the only pair that does not have workers above 45 years of age.

From statement IV, it can be concluded that both Rahul and Atul chose exactly two workers out of B, G, K and F. If pair (G, K) is selected by one of Rahul and Atul, then the other would have chosen B and F i.e., A, B, and F. But both A and B are morning shift workers. So, no one selected both G and K. Thus, one chose (A, F) and the other chose (G, L). As Atul did not select K, K should have been selected by Rahul. Therefore, Atul chose B, G, and L while B and Rahul chose A, F, and K.

E works in morning shift. From II and VI, Mohan did not choose E and I. I works in the afternoon shift. As Deepak selected J, he did not choose E and I. So, E and I are selected by Kabir and now H and O have to be selected by Mohan only. Thus, it can be concluded that M was chosen by Kabir and D was selected by Deepak. Thus, we have:

	Morning	Afternoon	Night
Kabir	E	I	M
Mohan	C	H	O
Deepak	D	J	N
Rahul	A	F	K
Atul	B	G	L

Mohan selected H.

Q.26) Answer- D

From statement I, Rahul and Atul are the persons who selected B, G, K, and F. Therefore, from statement III, the pair (J, N) has to be selected by Deepak as that is the only pair that does not have workers above 45 years of age.

From statement IV, it can be concluded that both Rahul and Atul chose exactly two workers out of B, G, K and F. If pair (G, K) is selected by one of Rahul and Atul, then the other would have chosen B and F i.e., A, B, and F. But both A and B are morning shift workers. So, no one selected both G and K. Thus, one chose (A, F) and the other chose (G, L). As Atul did not select K, K should have been selected by Rahul. Therefore, Atul chose B, G, and L while B and Rahul chose A, F, and K.

E works in morning shift. From II and VI, Mohan did not choose E and I. I works in the afternoon shift. As Deepak selected J, he did not choose E and I. So, E and I are selected by Kabir and now H and O have to be selected by Mohan only. Thus, it can be concluded that M was chosen by Kabir and D was selected by Deepak. Thus, we have:

	Morning	Afternoon	Night
Kabir	E	I	M
Mohan	C	H	O
Deepak	D	J	N
Rahul	A	F	K
Atul	B	G	L

So, the caretaker who selected I also selected E and M.

Q.27) Answer- E

From statement I, Rahul and Atul are the persons who selected B, G, K, and F. Therefore, from statement III, the pair (J, N) has to be selected by Deepak as that is the only pair that does not have workers above 45 years of age.

From statement IV, it can be concluded that both Rahul and Atul chose exactly two workers out of B, G, K, and F. If pair (G, K) is selected by one of Rahul and Atul, then the other would have chosen B and F i.e., A, B, and F. But both A and B are morning shift workers.

So, no one selected both G and K. Thus, one chose (A, F) and the other chose (G, L). As Atul did not select K, K should have been selected by Rahul. Therefore, Atul chose B, G, and L while B and Rahul chose A, F, and K.

E works in morning shift. From II and VI, Mohan did not choose E and I. I works in the afternoon shift. As Deepak selected J, he did not choose E and I. So, E and I are selected by Kabir and now H and O have to be selected by Mohan only. Thus, it can be concluded that M was chosen by Kabir and D was selected by Deepak. Thus, we have:

	Morning	Afternoon	Night
Kabir	E	I	M
Mohan	C	H	O
Deepak	D	J	N
Rahul	A	F	K
Atul	B	G	L

D was Selected by Deepak. No options have Deepak.

Q.28) Answer- C

From statement I, Rahul and Atul are the persons who selected B, G, K, and F. Therefore, from statement III, the pair (J, N) has to be selected by Deepak as that is the only pair that does not have workers above 45 years of age.

From statement IV, it can be concluded that both Rahul and Atul chose exactly two workers out of B, G, K, and F. If pair (G, K) is selected by one of Rahul and Atul, then the other would have chosen B and F i.e., A, B, and F. But both A and B are morning shift workers.

So, no one selected both G and K. Thus, one chose (A, F) and the other chose (G, L). As Atul did not select K, K should have been selected by Rahul. Therefore, Atul chose B, G, and L while B and Rahul chose A, F, and K.

E works in morning shift. From II and VI, Mohan did not choose E and I. I works in the afternoon shift. As Deepak selected J, he did not choose E and I. So, E and I are

selected by Kabir and now H and O have to be selected by Mohan only. Thus, it can be concluded that M was chosen by Kabir and D was selected by Deepak. Thus, we have:

	Morning	Afternoon	Night
Kabir	E	I	M
Mohan	C	H	O
Deepak	D	J	N
Rahul	A	F	K
Atul	B	G	L

We find that the caretaker who selected N also selected D and J.

Q.29) Answer- B

From statement 1 among the 6 Rahul was the third to arrive.

Rakesh arrived at 6th.

From statement 3 the order is Hardik, Sultan and Nikhil but not continuously.

From statement 4 Umendra arrived after Nikkil, so the correct order is

Arrival Order	Person
1	Hardik
2	Sultan
3	Rahul
4	Nikkil
5	Umendra
6	Rakesh

Hardik Arrived the first.

Q.30) Answer- B

From statement 1 among the 6 Rahul was the third to arrive.

Rakesh arrived at 6th.

From statement 3 the order is Hardik, Sultan and Nikhil but not continuously.

From statement 4 Umendra arrived after Nikkil, so the correct order is

Arrival Order	Person
1	Hardik
2	Sultan
3	Rahul
4	Nikkil
5	Umendra
6	Rakesh

3 person were already present before Nikkil arrived.

Q.31) Answer- C

From statement 1 among the 6 Rahul was the third to arrive.

Rakesh arrived at 6th.

From statement 3 the order is Hardik, Sultan and Nikhil but not continuously.

From statement 4 Umendra arrived after Nikkil, so the correct order is

Arrival Order	Person
1	Hardik
2	Sultan
3	Rahul
4	Nikkil
5	Umendra
6	Rakesh

There is only one possibility.

Q.32) Answer- A
From statement 1 among the 6 Rahul was the third to arrive.
Rakesh arrived at 6th.
From statement 3 the order is Hardik, Sultan and Nikhil but not continuously.
From statement 4 Umendra arrived after Nikkil, so the correct order is

Arrival Order	Person
1	Hardik
2	Sultan
3	Rahul
4	Nikkil
5	Umendra
6	Rakesh

Hardik has to wait 4* 0.5 hours= 2 hour before Umendra arrives.

Q.33) Answer- C
Number of hours Raju spent studying any subject = 92
Average time per day = 92 x (4/72) = 5.11 hours

Q.34) Answer- C
Since Raju can spend at most 1.5 hours per day on any one subject, the maximum time he can study a subject during the last quarter is 1.5 x 18 = 27 hours.
Therefore, any subject which has more than 27 hours of preparation remaining (after the first three quarters) cannot be studied completely. By a quick observation, Statistics, Digital Marketing, and Ethics have more than 27 hours remaining. Hence, the answer is 9 - 3 = 6.

Q.35) Answer- A
The total time left for all the subjects combined = 184
Time to be spent per day = 184/18 = 10.22 hours

Q.36) Answer- D
For Ethics, required percentage = (31/53) x 100 = 58.49%
For Economics, required percentage = (24/46) x 100 = 52.17%
For Digital Marketing, required percentage = (32/54) x 100 = 59.26%
For Trade Finance, required percentage = (13/18) x 100 = 72.22%
Since the percentage is highest in Trade Finance answer is D

Q.37) Answer- B

Organization	Equity at the beginning	Equity at the end	Debt value at the beginning	Debt value at the end	Percentage Change
KPMG	47.5	33.8	114.1	71.0	-37.8%
BMW	25.9	22.3	20.7	16.5	-20%
Accenture	30.9	41.7	77.2	50.1	-35.1%
GE	47.3	50.3	66.2	45.3	-31.6

As we observe, the highest percentage decrease is for Organization KPMG.

Q.38) Answer- B

Organization	Equity at the beginning	Equity at the end	Debt value at the beginning	Debt value at the end	Percentage Change
KPMG	47.5	33.8	114.1	71.0	-37.8%
BMW	25.9	22.3	20.7	16.5	-20%
Accenture	30.9	41.7	77.2	50.1	-35.1%
GE	47.3	50.3	66.2	45.3	-31.6

At the beginning of the quarter, (all are in Rs. mn)

Enterprise value = 0.587 x 25 x 2 x (1.2 x 1)

At the end of the quarter, Enterprise value = 0.587 x 30.2 x (1.5 x 1)

Difference in Enterprise value - 0.587 x (30.2 x 2.5 - 25.2 x 2.2) = 0.587 x 20.06.

& 11.7752 = 11.78 (rounded-off to two decimal places).

Q.39) Answer- A

Organization	Equity at the beginning	Equity at the end	Debt value at the beginning	Debt value at the end	Percentage Change
KPMG	47.5	33.8	114.1	71.0	-37.8%
BMW	25.9	22.3	20.7	16.5	-20%
Accenture	30.9	41.7	77.2	50.1	-35.1%
GE	47.3	50.3	66.2	45.3	-31.6

Ratio of Debt value to Enterprise value = (D/E)/(1 + D/E)

The ratio is high if (D + E)/D is low. This ratio can be further rewritten as 1 + E/D i.e. 1 + [1/(D/E)]. If D/E is high 1 + [1/(D/E)] is low. The second highest D/E ratio is for organization Cognizant. Therefore this Organization will have the second highest (D + E)/E = 1 + 1/1.5 = 5/3

(D/D + E) = 3/5 = 0.60

Q.40) Answer- D

Organization	Equity at the beginning	Equity at the end	Debt value at the beginning	Debt value at the end	Percentage Change
KPMG	47.5	33.8	114.1	71.0	-37.8%
BMW	25.9	22.3	20.7	16.5	-20%
Accenture	30.9	41.7	77.2	50.1	-35.1%
GE	47.3	50.3	66.2	45.3	-31.6

The Enterprise value can be calculated as Number of Shares x Share Price(1 + D/E).

For organization Accenture, enterprise value = 91.8 (from the previous questions)

For organization GE, Enterprise value = 95.6

For organization KPMG, Enterprise value = 101.8

For organization IBM, Enterprise value is approximately 60.

Hence, the highest Enterprise Value is for organization KPM.

Q.41) Answer- C

It is known that each player made at least two true statements. The last statement of Ankush and the first statement of Arvind are contradictory and only one among the two has to be true. If Sameer plays at WIMSI, the first statement of Arvind has to be false and the other two statements are definitely true. Therefore, Arvind plays Cricket and Sameer plays Football. Therefore, Ankush plays Kho Kho.

From this we can say that the first statement of Ankush is false. Hence, the other two statements must be true. Hence, Ankush plays at WIMEI and Arvind plays at WIMWI. However, in this case, the second and third statements of Sameer will be false. Hence, this case is not possible.

If Arvind plays at WIMSI, the last statement of Ankush is false. Hence, his first two statements have to be true. Hence. Ankush plays Football at WIMEI. From this, we can say that the final statement of Arvind is false. Hence, his second statement must be true. Therefore. Arvind plays Cricket at WIMSI. Sameer plays Kho Kho at

WIMWI. In this case, Sameer's second statement is false and the remaining statements are true. There is no inconsistency in this case.

Hence, Ankush plays Football at WIMEI; Arvind plays Cricket at WIMSI, and Sameer plays Kho Kho at WIMWI.

Hence, C is the correct option.

Q.42) Answer- B

It is known that each player made at least two true statements. The last statement of Ankush and the first statement of Arvind are contradictory and only one among the two has to be true. If Sameer plays at WIMSI, the first statement of Arvind has to be false and the other two statements are definitely true. Therefore, Arvind plays Cricket and Sameer plays Football. Therefore, Ankush plays Kho Kho.

From this we can say that the first statement of Ankush is false. Hence, the other two statements must be true. Hence, Ankush plays at WIMEI and Arvind plays at WIMWI. However, in this case, the second and third statements of Sameer will be false. Hence, this case is not possible.

If Arvind plays at WIMSI, the last statement of Ankush is false. Hence, his first two statements have to be true. Hence, Ankush plays Football at WIMEI. From this, we can say that the final statement of Arvind is false.

Hence, his second statement must be true. Therefore. Arvind plays Cricket at WIMSI. Sameer plays Kho Kho at WIMWI. In this case, Sameer's second statement is false and the remaining statements are true. There is no inconsistency in this case.

Hence, Ankush plays Football at WIMEI; Arvind plays Cricket at WIMSI, and Sameer plays Kho Kho at WMWI.

Hence, B is the correct option.

Q.43) Answer- A

It is known that each player made at least two true statements. The last statement of Ankush and the first statement of Arvind are contradictory and only one among the two has to be true. If Sameer plays at WIMSI, the first statement of Arvind has

to be false and the other two statements are definitely true. Therefore, Arvind plays Cricket and Sameer plays Football. Therefore, Ankush plays Kho Kho.

From this we can say that the first statement of Ankush is false. Hence, the other two statements must be true. Hence, Ankush plays at WIMEI and Arvind plays at WIMWI. However, in this case, the second and third statements of Sameer will be false. Hence, this case is not possible.

If Arvind plays at WIMSI, the last statement of Ankush is false. Hence, his first two statements have to be true. Hence. Ankush plays Football at WIMEI. From this, we can say that the final statement of Arvind is false. Hence, his second statement must be true. Therefore. Arvind plays Cricket at WIMSI. Sameer plays Kho Kho at WIMWI. In this case, Sameer's second statement is false and the remaining statements are true. There is no inconsistency in this case.

Hence, Ankush plays Football at WIMEI; Arvind plays Cricket at WIMSI, and Sameer plays Kho Kho at WMWI.

Hence, the correct option is A.

Q.44) Answer- D

It is known that each player made at least two true statements. The last statement of Ankush and the first statement of Arvind are contradictory and only one among the two has to be true. If Sameer plays at WIMSI, the first statement of Arvind has to be false and the other two statements are definitely true. Therefore, Arvind plays Cricket and Sameer plays Football. Therefore, Ankush plays Kho Kho.

From this we can say that the first statement of Ankush is false. Hence, the other two statements must be true. Hence, Ankush plays at WIMEI and Arvind plays at WIMWI. However, in this case, the second and third statements of Sameer will be false. Hence, this case is not possible.

If Arvind plays at WIMSI, the last statement of Ankush is false. Hence, his first two statements have to be true. Hence. Ankush plays Football at WIMEI. From this, we can say that the final statement of Arvind is false. Hence, his second statement must be true. Therefore. Arvind plays Cricket at WIMSI. Sameer plays Kho Kho at WIMWI. In this case, Sameer's second statement is false and the remaining statements are true. There is no inconsistency in this case.

Hence, Ankush plays Football at WIMEI; Arvind plays Cricket at WIMSI, and Sameer plays Kho Kho at WMWI.

There are three statements from each found to be false.

Hence, D is the correct option.

Q.45) Answer- B
216 cubes implies 6 x 6 x 6.

2 adjacent sides are painted red so count out one surface one pane and another in its adjacent pane, so the ans is 5 x 5 x 6 = 150.

Q.46) Answer- D
First, check out all the cubes at the edges and corners, so we get 56 cubes and all the 8 corners satisfy the condition.

And the cubes which don't satisfy are at the similar coloured edges and three of them are there 4 cubes of two same coloured faces in 3 edges, so 3 x 4 = 12, so 48 - 12 = 36.

So, the total is 36 + 8 = 44.

Q.47) Answer- C
Only one side painted red are the surfaces with red colour = 6 x 6 x 2 but we shouldn't count the squares at the intersection edge where 2 faces will be painted red.

So, 72 - 12 = 60.

Q.48) Answer- B
Only green or only blue lie at the centre of the respective sides and at the common colour edges excluding the corners.

So 4 x 4 cubes in each of four sides plus 2 edges with 4 cubes each excluding corners , we have 4 x 4 x 4 + 2 x 4 = 72.

Q.49) Answer- B

Let us find a general solution of this question which can be used in other questions too.

Let the amount with man be x.

Since, each friend get the same amount, let us assume it to be y.

At the end of two years, amount = 2x

After giving y to his oldest friend, the amount remaining with Ashu = 2x - y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(2x - y) = 4x - 2y

After giving y to the second friend, the amount remaining with Ashu = 4x - 3y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(4x - 3y) = 8x - 6y

After giving y to the third friend, the amount remaining with Ashu = 8x - 7y

After 2 years, amount = 2(8x - 7y) = 16x - 14y

The fourth friend will receive 16x - 14y

Since, each friend gets the same amount,

16x - 14y = y

or, 16x = 15y

In this question, x = 75 lakhs

So, y = 80 lakhs = 8000 thousands

Hence, 8000 is the correct answer.

Q.50) Answer- C

Let us find a general solution of this question which can be used in other questions too.

Let the amount with man be x.

Since, each friend get the same amount, let us assume it to be y.

At the end of two years, amount = 2x

After giving y to his oldest friend, the amount remaining with Ashu = 2x - y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(2x - y) = 4x - 2y

After giving y to the second friend, the amount remaining with Ashu = 4x - 3y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(4x - 3y) = 8x - 6y

After giving y to the third friend, the amount remaining with Ashu = 8x - 7y

After 2 years, amount = 2(8x - 7y) = 16x - 14y

The fourth friend will receive 16x - 14y

Since, each friend gets the same amount,

16x - 14y = y

or, 16x = 15y

16x = 15y and here y = 64 lakhs

So, x = 60 lakhs

Hence, 60 is the correct answer.

Q.51) Answer- C

Let us find a general solution of this question which can be used in other questions too.

Let the amount with man be x.

Since, each friend get the same amount, let us assume it to be y.

At the end of two years, amount = 2x

After giving y to his oldest friend, the amount remaining with Ashu = 2x - y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(2x - y) = 4x - 2y

After giving y to the second friend, the amount remaining with Ashu = 4x - 3y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(4x - 3y) = 8x - 6y

After giving y to the third friend, the amount remaining with Ashu = 8x - 7y

After 2 years, amount = 2(8x - 7y) = 16x - 14y

The fourth friend will receive 16x - 14y

Since, each friend gets the same amount,

16x - 14y = y

or, 16x = 15y

The eldest friend would invest his amount and it will be multiplied 8 times. So, it would be 8y.

Similarly, the second eldest friend's amount would be multiplied 4 times, the third eldest friend's amount would be multiplied 2 times.

Total amount = 8y + 4y + 2y + y = 240 lakhs

So, y = 16 lakhs

Therefore, x = 15 lakhs.

Q.52) Answer- C

Let us find a general solution of this question which can be used in other questions too.

Let the amount with man be x.

Since, each friend get the same amount, let us assume it to be y.

At the end of two years, amount = 2x

After giving y to his oldest friend, the amount remaining with Ashu = 2x - y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(2x - y) = 4x - 2y

After giving y to the second friend, the amount remaining with Ashu = 4x - 3y

He would again invest the remaining amount in the scheme.

After 2 years, amount = 2(4x - 3y) = 8x - 6y

After giving y to the third friend, the amount remaining with Ashu = 8x - 7y

After 2 years, amount = 2(8x - 7y) = 16x - 14y

The fourth friend will receive 16x - 14y

Since, each friend gets the same amount,

16x - 14y = y

or, 16x = 15y

Ashu has 250 lakhs and he keeps 40% i.e. 100 lakhs with himself and distribute 150 lakhs among his friends.

Hence, x = 150. This means that y = 160.

So, each friend will get 160 lakhs and thus, they will get 640 lakhs combined.

Ashu invests the rest of the money i.e. 100 lakhs for the period of 8 years in the same scheme. Then, at the end of the period, his money would have doubled 4 times.

Hence, money with Ashu = 100 x 2 x 2 x 2 x 2 = 1600 lakhs.

The maximum difference = (1600 - 640) lakhs = 960 lakhs = 96000 thousand.

Q.53) Answer- C

Based on the formula, we try both machine 1 and machine 2.

For Machine 1: To produce 16,438 sandals, the machine produces 20000 units in 2 lots of 10000. Profit = (15 x 16438) - [(7 x 20000) + ((20000 - 16438) x 3)] = 95,884

For Machine 2: To produce 16,438 sandals the machine produces 17000 units in 17 lots of 1000. Profit = (15 x 16438) - [(12 x 17000) + ((17000 - 16438) x 3)] = 40,884

So, the maximum profit is 95,884.

Q.54) Answer- A

We know that Mr. Singh is using Machine 2. From the options, if we see, the closest to 10,000 is 10,001. Manufacturing 10,001 with Machine 1 would mean he has to dispose of 9999 sandals but with Machine 2 only 999 sandals need to be disposed. Since disposal costs are minimum, this means profits are maximum. 10,001 is most feasible minimum order.

Q.55) Answer- C

From the options again we try the maximum order size that is 13000 units.

Using machine 1, the cost incurred is (7 x 20000) + ((20000 - 13000) x 3) = 161000

Using machine 2, the cost incurred is (12 x 13000) = 156000

Using machine 2 is advisable till 13000 units as the cost incurred is less. Revenue would anyways be the same since they are sold at the same price irrespective of the machine they are made from.

If 1 unit is increased on this the scenario changes.

Machine 1(7 x 20000) + ((20000 - 13001) x 3) = 160997

Machine 2(12 x 14000) + ((14000 - 13001) x 3) = 170997

Hence, 13000 is the maximum point until which using machine 2 is profitable.

Q.56) Answer- D

Checking from the options

Since it is asked minimum number starting from 7000.

Machine 1 (7 x 10000) + ((10000 - 7000) x 5) = 85000

Machine 2 (12 x 7000) = 84000

If one unit is increased i.e. 7001

Machine 1 (7 x 10000) + ((10000 - 7001) x 5) = 84995

Machine 2 (12 x 8000) + ((8000 - 7001) x 5) = 100,995

So, anything more than 7000 and machine 2 would be giving a loss. So, 7001 is the minimum order.

Q.57) Answer- D

Since at least three professors received the assignments in subjects that they taught, and from statement 1 and 2. Sunny and Billu were two. There has to be at least one more professor who received the assignment in the subject that he taught. This professor cannot be Chetri, Dixit, or Ram It also cannot be Ankit because both Ankit and Sunny could not have received the assignment in the subject that they taught. Hence, the only other professor who received the assignment in the subject that he taught has to be Gaurav.

Also, Sunny has to be a Political Sciences professor and he must have received the Political Sciences assignment Hence, Ankit must have received the Marketing assignment.

The following table presents this information and also the possible subjects taught by the professors:

Professor	Assignment Received	Subject Taught
Ankit	Marketing	Corporate ethics / B2B sales/ Accounts
Billu	Geography	Geography
Chetri	Accounts	Marketing
Dixit	Corporate ethics	B2B sales/ Accounts
Ram	B2B sales	Corporate ethics/ Accounts
Gaurav	Corporate strategy	Corporate strategy
Sunny	Political Sciences	Political Sciences

Q.58) Answer- B

Since at least three professors received the assignments in subjects that they taught, and from statement 1 and 2. Sunny and Billu were two. There has to be at least one more professor who received the assignment in the subject that he taught.

This professor cannot be Chetri, Dixit, or Ram It also cannot be Ankit because both Ankit and Sunny could not have received the assignment in the subject that they taught. Hence, the only other professor who received the assignment in the subject that he taught has to be Gaurav.

Also, Sunny has to be a Political Sciences professor and he must have received the Political Sciences assignment Hence, Ankit must have received the Marketing assignment.

The following table presents this information and also the possible subjects taught by the professors:

Professor	Assignment Received	Subject Taught
Ankit	Marketing	Corporate ethics / B2B sales/ Accounts
Billu	Geography	Geography
Chetri	Accounts	Marketing
Dixit	Corporate ethics	B2B sales/ Accounts
Ram	B2B sales	Corporate ethics/ Accounts
Gaurav	Corporate strategy	Corporate strategy
Sunny	Political Sciences	Political Sciences

In this case, Ram is a Corporate Ethics professor, so Dixit receives the corporate ethics assignment.

Q.59) Answer- C

Since at least three professors received the assignments in subjects that they taught, and from statement 1 and 2. Sunny and Billu were two. There has to be at least one more professor who received the assignment in the subject that he taught.

This professor cannot be Chetri, Dixit, or Ram It also cannot be Ankit because both Ankit and Sunny could not have received the assignment in the subject that they taught. Hence, the only other professor who received the assignment in the subject that he taught has to be Gaurav.

Also, Sunny has to be a Political Sciences professor and he must have received the Political Sciences assignment Hence, Ankit must have received the Marketing assignment.

The following table presents this information and also the possible subjects taught by the professors:

Professor	Assignment Received	Subject Taught
Ankit	Marketing	Corporate ethics / B2B sales/ Accounts
Billu	Geography	Geography
Chetri	Accounts	Marketing
Dixit	Corporate ethics	B2B sales/ Accounts
Ram	B2B sales	Corporate ethics/ Accounts
Gaurav	Corporate strategy	Corporate strategy
Sunny	Political Sciences	Political Sciences

Hence, C is the correct option.

Q.60) Answer- B

Since at least three professors received the assignments in subjects that they taught, and from statement 1 and 2. Sunny and Billu were two. There has to be at least one more professor who received the assignment in the subject that he taught.

This professor cannot be Chetri, Dixit, or Ram It also cannot be Ankit because both Ankit and Sunny could not have received the assignment in the subject that they taught. Hence, the only other professor who received the assignment in the subject that he taught has to be Gaurav.

Also, Sunny has to be a Political Sciences professor and he must have received the Political Sciences assignment Hence, Ankit must have received the Marketing assignment.

The following table presents this information and also the possible subjects taught by the professors:

Professor	Assignment Received	Subject Taught
Ankit	Marketing	Corporate ethics / B2B sales/ Accounts
Billu	Geography	Geography

Chetri	Accounts	Marketing
Dixit	Corporate ethics	B2B sales / Accounts
Ram	B2B sales	Corporate ethics / Accounts
Gaurav	Corporate strategy	Corporate strategy
Sunny	Political Sciences	Political Sciences

If Ankit and Dixit exchange their assignments a maximum of 4 professors can have assignments in the subjects they taught. Hence B is the answer.

Q.61) Answer- B
The maximum number of courses that Raja can select is 8 - ACA, ACSP, ACCX, AIS, ACE, CTT and 2 among Comp TIA, NYTU, ASA, and CTET.

Q.62) Answer- A
From the previous question, if he wants to attend the maximum number of classes, he must select Comp TIA (since it has three classes in a week). Hence, he cannot select CTET. He has to select one course among ASA and NYTU. In either of the cases, he will have classes on Saturday 9 am, Friday 10:30 am, and Wednesday 9:00 am. Hence, he need not have any class on Thursday 9 am.

Q.63) Answer- A
Raja can attend 12 classes in a week. 6 courses x 2 classes each (ACA, ACSP, ACCX, AIS, ACE, and CTT).

Q.64) Answer- C
If Raja wants to attend the maximum number of classes, he must select ACA, ACSP, and ACCX. If he selects CCE or JEE, he will have a lower number of classes at 10:30 am. From the options, the answer is JEE.

Q.65) Answer- D

For any food to meet any component of the daily nutritional requirement (DNR), we need to find the ratio of the value of that component in daily requirement to that in the food.

For example, for chocolate to meet the daily requirement of calories, Abhijeet has to consume (2080/530) x 100 gm of chocolate. We need to estimate these ratios for each of the five components (for each type of food given in the choices) and for each type of food, Abhijeet has to consume a quantity of:

(100 gm) x (the maximum of these ratios) of that type of food.

For chocolate, maximum ratio is for Fibre = 30/0.7 = 42.86

For Fries the maximum ratio is for Carbs x 310/25.2 = 12

For Dry Fruits, the maximum ratio is for Carbs = (310/18.8) x 16.5 (all other values are greater than 10% of DNR)

For Oats, the maximum ratio is for Fat = 70/1.2 = 58.335 (all other values are greater than 10% of DNR)

If Abhijeet is to consume the minimum quantity of food, he has to consume approximately 12 x 100 gm i.e., 1.2 kg of Fries.

Q.66) Answer- C

If he consumes 1000 gm of Butter, he will meet the daily requirement for only Protein and Fat.

If he consumes 1000 gm of Wheat, he will meet the daily requirement for none of the components.

If he consumes 1000 gm of Chocolate, he will meet the daily requirement for Calories, Carbs, Proteins, and Fats.

If he consumes 1000 gm of Fries, he will meet the daily requirement for Calories, Fat, and Fibre.

Hence, the answer is Chocolate.

Q.67) Answer- A

Adding all the components across the foods, we get that for 1000 gm Abhijeet will consume 2058.5 kCal, 203.9 gm of Carbs, 62.4 gm of Protein, 109.3 gm of Fat, and 16.7 gm of Fibre.

Since the proportion (as a percentage of requirement) of Fibre consumed is the least, he must consume (30/16.7) times the food.

Hence, the total fat consumed by him will be 30

(30/16.7) x (109.3) gm = 200 gm

From the options, 196.3gm is the closest.

Q.68) Answer- D

If Abhijeet is to consume only Wheats, he will have to consume (70/0.2) x 100 gm i.e. (350 x 100) gm of Wheats (to meet the requirement of Fat - this is the highest ratio among all components for Wheats)

Now, the quantity of food that he needs to consume will be the maximum if he selects a food which has low quantity of Fat. From the options, Soya Paneer has the lowest among all the options. Hence, the answer is Soya Paneer.

Q.69) Answer- B

We need to calculate the printing cost per copy for each book presented in the table below:

Book Title	Days Left	Printing Cost Per Page	Printing Cost Per Copy
Kira - Kira	13	0.42	525.00
The Art of Racing in the Rain	17	0.34	357.00
Gita	14	0.41	348.50
Voyage to the Center of	9	0.5	550.00

Sublunary World			
The Virgin Suicides	8	0.51	484.50
The Fuhrer	18	0.33	346.50

(February in 2008 has 29 days.)

The lowest printing cost per copy is for 'The Fuhrer' - (₹346.50)

Q.70) Answer- A

We need to calculate the printing cost per copy for each book presented in the table below:

Book Title	Days Left	Printing Cost Per Page	Printing Cost Per Copy
Kira - Kira	13	0.42	525.00
The Art of Racing in the Rain	17	0.34	357.00
Gita	14	0.41	348.50
Voyage to the Center of Sublunary World	9	0.5	550.00
The Virgin Suicides	8	0.51	484.50
The Fuhrer	18	0.33	346.50

Let the Royalty (R) as a percentage of Selling Price be x%.

Let the Printing Cost (PC) of the book a percentage of Selling Price be p%.

We know that x + p = 50, i.e., p = 50 - x

Hence, the royalty earned by an author per copy of his book sold is Royalty = x/(x-50) x PC.

The value of x/(x - 50) = 9 is the highest for 'Gita'. While the next highest value is 4, the difference in PC is not that high. Hence, the royalty will be the highest for 'Gita'.

Royalty = [40/(40 - 35)] x 348.5 = 3136.5

Q.71) Answer- C

We need to calculate the printing cost per copy for each book presented in the table below:

Book Title	Days Left	Printing Cost Per Page	Printing Cost Per Copy
Kira - Kira	13	0.42	525.00
The Art of Racing in the Rain	17	0.34	357.00
Gita	14	0.41	348.50
Voyage to the Center of Sublunary World	9	0.5	550.00
The Virgin Suicides	8	0.51	484.50
The Fuhrer	18	0.33	346.50

PC will be not less than the royalty paid if $x \leq 25\%$. Only two books satisfy this condition.

Q.72) Answer- A

We need to calculate the printing cost per copy for each book presented in the table below:

Book Title	Days Left	Printing Cost Per Page	Printing Cost Per Copy
Kira - Kira	13	0.42	525.00
The Art of Racing in the Rain	17	0.34	357.00
Gita	14	0.41	348.50
Voyage to the Center of Sublunary World	9	0.5	550.00
The Virgin Suicides	8	0.51	484.50
The Fuhrer	18	0.33	346.50

Printing Cost as a percentage of Selling Price = 50 - x. This value is the highest for The Virgin Suicides.

Q.73) Answer- B

Shahrukh Khan went to two different locations, but the name of both the locations start with the same alphabet. So, the locations can be Goa and Jaipur or Puri and Uttarakhand, in any order. Manoj Vajpayee earns less than Saif Ali Khan, who earns less than Shahrukh Khan. Also, the actor with the highest income went to Chennai in the first month and to Puri in the second month. So, Shahrukh Khan's income cannot be the highest. Also, Irfan Khan did not go to Chennai. So, Ranbir Kapoor's income must be the highest and he must have gone to Chennai and Puri in the first and the second month respectively. Let us assume Shahrukh Khan went to Puri and Uttarakhand in any order. The location in which the same actor went for both the months can be either Goa or Jaipur.

It cannot be Jaipur as given in statement I. Also, from statement IV, the actor who went to Goa in the first month did not go to Goa in the second month. So, Goa is also not possible. Therefore, we can reject this case. Thus, Shahrukh Khan went to Goa and Jaipur in any order.

He must have gone to Goa in the second month as the actor with the least income went to Goa in the first month and Shahrukh Khan is definitely not the least earner as his income is higher than Saif Ali Khan and Manoj Vajpayee.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri			
	Highest Income	Least Income		

The location in which same actor went for both the months cannot be Puri as Ranbir Kapoor went to Puri in the second month. So, that location must be Uttarakhand.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

Saif Ali Khan did not go to Puri in the first month. Also, Saif Ali Khan is not the least earner as she earns more than Manoj Vajpayee. So, Saif Ali Khan must have went to Uttarakhand for both the months.

Shahrukh Khan	Ranbir Kapoor	Irfan Khan /Manoj Vajpayee	Saif Ali Khan	Manoj Vajpayee/ Irfan Khan
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

It is given that Irfan Khan did not go to Chennai. Thus, Manoj Vajpayee must have gone to Chennai in the second month.

Q.74) Answer- B

Shahrukh Khan went to two different locations, but the name of both the locations start with the same alphabet. So, the locations can be Goa and Jaipur or Puri and Uttarakhand, in any order. Manoj Vajpayee earns less than Saif Ali Khan, who earns less than Shahrukh Khan. Also, the actor with the highest income went to Chennai in the first month and to Puri in the second month. So, Shahrukh Khan's income cannot be the highest. Also, Irfan Khan did not go to Chennai. So, Ranbir Kapoor's income must be the highest and she must have gone to Chennai and Puri in the first and the second month respectively. Let us assume Shahrukh Khan went to Puri and Uttarakhand in any order. The location in which the same actor went for both the months can be either Goa or Jaipur.

It cannot be Jaipur as given in statement I. Also, from statement IV, the actor who went to Goa in the first month did not go to Goa in the second month. So, Goa is also not possible. Therefore, we can reject this case. Thus, Shahrukh Khan went to Goa and Jaipur in any order.

She must have gone to Goa in the second month as the actor with the least income went to Goa in the first month and Shahrukh Khan is definitely not the least earner as her income is higher than Saif Ali Khan and Manoj Vajpayee.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri			
	Highest Income	Least Income		

The location in which same actor went for both the months cannot be Puri as Ranbir Kapoor went to Puri in the second month. So, that location must be Uttarakhand.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

Saif Ali Khan did not go to Puri in the first month. Also, Saif Ali Khan is not the least earner as she earns more than Manoj Vajpayee. So, Saif Ali Khan must have went to Uttarakhand for both the months.

Shahrukh Khan	Ranbir Kapoor	Irfan Khan /Manoj Vajpayee	Saif Ali Khan	Manoj Vajpayee/ Irfan Khan
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

It is given that Irfan Khan did not go to Chennai. Thus, Manoj Vajpayee must have gone to Chennai in the second month.

From the table, we can see that only statement I and II are possible.

Q.75) Answer- C

Shahrukh Khan went to two different locations, but the name of both the locations start with the same alphabet. So, the locations can be Goa and Jaipur or Puri and Uttarakhand, in any order. Manoj Vajpayee earns less than Saif Ali Khan, who earns less than Shahrukh Khan. Also, the actor with the highest income went to Chennai in the first month and to Puri in the second month. So, Shahrukh Khan's income cannot be the highest. Also, Irfan Khan did not go to Chennai. So, Ranbir Kapoor's income must be the highest and she must have gone to Chennai and Puri in the first and the second month respectively. Let us assume Shahrukh Khan went to Puri and Uttarakhand in any order. The location in which the same actor went for both the months can be either Goa or Jaipur.

It cannot be Jaipur as given in statement I. Also, from statement IV, the actor who went to Goa in the first month did not go to Goa in the second month. So, Goa is also not possible. Therefore, we can reject this case. Thus, Shahrukh Khan went to Goa and Jaipur in any order.

She must have gone to Goa in the second month as the actor with the least income went to Goa in the first month and Shahrukh Khan is definitely not the least earner as her income is higher than Saif Ali Khan and Manoj Vajpayee.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri			
	Highest Income	Least Income		

The location in which same actor went for both the months cannot be Puri as Ranbir Kapoor went to Puri in the second month. So, that location must be Uttarakhand.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

Saif Ali Khan did not go to Puri in the first month. Also, Saif Ali Khan is not the least earner as she earns more than Manoj Vajpayee. So, Saif Ali Khan must have went to Uttarakhand for both the months.

Shahrukh Khan	Ranbir Kapoor	Irfan Khan /Manoj Vajpayee	Saif Ali Khan	Manoj Vajpayee/ Irfan Khan
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

It is given that Irfan Khan did not go to Chennai. Thus, Manoj Vajpayee must have gone to Chennai in the second month.

From the table, we can see that only statement I and II are possible.

From the table, we can see that Saif Ali Khan went to the same location for both the months.

Q.76) Answer-B

Shahrukh Khan went to two different locations, but the name of both the locations start with the same alphabet. So, the locations can be Goa and Jaipur or Puri and Uttarakhand, in any order. Manoj Vajpayee earns less than Saif Ali Khan, who earns less than Shahrukh Khan. Also, the actor with the highest income went to Chennai in the first month and to Puri in the second month. So, Shahrukh Khan's income cannot be the highest. Also, Irfan Khan did not go to Chennai. So, Ranbir Kapoor's income must be the highest and she must have gone to Chennai and Puri in the first and the second month respectively. Let us assume Shahrukh Khan went to Puri and Uttarakhand in any order. The location in which the same actor went for both the months can be either Goa or Jaipur.

It cannot be Jaipur as given in statement I. Also, from statement IV, the actor who went to Goa in the first month did not go to Goa in the second month. So, Goa is also not possible. Therefore, we can reject this case. Thus, Shahrukh Khan went to Goa and Jaipur in any order.

She must have gone to Goa in the second month as the actor with the least income went to Goa in the first month and Shahrukh Khan is definitely not the least earner as her income is higher than Saif Ali Khan and Manoj Vajpayee.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri			
	Highest Income	Least Income		

The location in which same actor went for both the months cannot be Puri as Ranbir Kapoor went to Puri in the second month. So, that location must be Uttarakhand.

Shahrukh Khan	Ranbir Kapoor			
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

Saif Ali Khan did not go to Puri in the first month. Also, Saif Ali Khan is not the least earner as she earns more than Manoj Vajpayee. So, Saif Ali Khan must have went to Uttarakhand for both the months.

Shahrukh Khan	Ranbir Kapoor	Irfan Khan /Manoj Vajpayee	Saif Ali Khan	Manoj Vajpayee/ Irfan Khan
Jaipur	Chennai	Goa	Uttarakhand	Puri
Goa	Puri	Jaipur /Chennai	Uttarakhand	Chennai/ Jaipur
	Highest Income	Least Income	Same Location	

It is given that Irfan Khan did not go to Chennai. Thus, Manoj Vajpayee must have gone to Chennai in the second month.

From the table, we can see that only statement I and II are possible.

From the table, we can see that Saif Ali Khan went to the same location for both the months.

One of Irfan Khan or Manoj Vajpayee would be the least earner, but we do not know the other's income with respect to Shahrukh Khan. Thus, the answer cannot be determined.

Hence, 0 is the correct answer.

Q.77) Answer- A

Given that Nadiam used the same tennis racquet on all Mondays, the same tennis racquet on all Tuesdays etc. Hence, we need to determine the tennis racquets that Nadiam used on the first week i.e., from 1st March to 7th March and we will know the tennis racquet that he used on each day during the month

From (i), since Nadiam used a Prince Tennis racquet on 23rd March, he must have worn a Prince Tennis racquet on 2nd March.

Similarly, from (ii), he must have worn a Dunlop tennis racquet on 3rd March, from (iv). Sunday could only be on 2nd March or 3rd March (since there must be 5 Saturdays and 5 Sundays).

If Sunday is on 2nd March. Monday will be on 3rd March. Since he used a Dunlop tennis racquet on 3rd March, this violates condition (ii).

Hence, Sunday must be on 3rd March. The remaining days will be 4 - Monday, 5 - Tuesday, 6 - Wednesday, 7 - Thursday, 1 - Friday, 2 - Saturday.

From (iii), he could have worn a Donnay tennis racquet and a Gamma tennis racquet on 4th and 7th or 1st and 4th or 1st and 5th.

From (v), He must have used Head and Asics tennis racquets on 4th and 5th or 5th and 6th or 6th and 7th or 7th and 1st. He could not have used these tennis racquets on 4th and 5th as it will not leave any possible case for using Donnay tennis racquet and Gamma tennis racquet (from (iii)). He could not have used Head and Asics on 1st and 7th for the same reason. He could not have used Head and Asics on 6th and 7th because 7th is a Thursday. Hence, he could have used Head and Asics only on 5th and 6th.

He could have used Donnay and Gamma only 4th and 7th. He could not have used Donnay and Gamma on 1st and 4th because from (i), he did not use Donnay on 1st and he did not use Donnay on 4th, which is a Monday. Hence, on 4th, he must have used Gamma and on 7th, he must have used Donnay. On 1st, he must have used Wilson.

The following table provides this information:

Date	Day	Brand
1,8,15,22,29	Friday	Wilson

2,9,1623,30	Saturday	Prince
3,10,17,24,31	Sunday	Dunlop
4,11,18,25	Monday	Gamma
5,12,19,26	Tuesday	Head/Asics
6,13,20,27	Wednesday	Asics/Head
7,14,21,28	Thursday	Donnay

Nadiam used a Dunlop tennis racquet on Sundays.

Q.78) Answer- B

Given that Nadiam used the same tennis racquet on all Mondays, the same tennis racquet on all Tuesdays etc. Hence, we need to determine the tennis racquets that Nadiam used on the first week i.e., from 1st March to 7th March and we will know the tennis racquet that he used on each day during the month

From (i), since Nadiam used a Prince Tennis racquet on 23rd March, he must have worn a Prince Tennis racquet on 2nd March.

Similarly, from (ii), he must have worn a Dunlop tennis racquet on 3rd March, from (iv). Sunday could only be on 2nd March or 3rd March (since there must be 5 Saturdays and 5 Sundays).

If Sunday is on 2nd March. Monday will be on 3rd March. Since he used a Dunlop tennis racquet on 3rd March, this violates condition (ii).

Hence, Sunday must be on 3rd March. The remaining days will be 4 - Monday, 5 - Tuesday, 6 - Wednesday, 7 - Thursday, 1 - Friday, 2 - Saturday.

From (iii), he could have worn a Donnay tennis racquet and a Gamma tennis racquet on 4th and 7th or 1st and 4th or 1st and 5th.

From (v), He must have used Head and Asics tennis racquets on 4th and 5th or 5th and 6th or 6th and 7th or 7th and 1st. He could not have used these tennis racquets on 4th and 5th as it will not leave any possible case for using Donnay tennis racquet and Gamma tennis racquet (from (iii)). He could not have used Head and Asics on 1st and 7th for the same reason. He could not have used Head and Asics on 6th and

7th because 7th is a Thursday. Hence, he could have used Head and Asics only on 5th and 6th.

He could have used Donnay and Gamma only 4th and 7th. He could not have used Donnay and Gamma on 1st and 4th because from (i), he did not use Donnay on 1st and he did not use Donnay on 4th, which is a Monday. Hence, on 4th, he must have used Gamma and on 7th, he must have used Donnay. On 1st, he must have used Wilson.

The following table provides this information:

Date	Day	Brand
1,8,15,22,29	Friday	Wilson
2,9,16,23,30	Saturday	Prince
3,10,17,24,31	Sunday	Dunlop
4,11,18,25	Monday	Gamma
5,12,19,26	Tuesday	Head/Asics
6,13,20,27	Wednesday	Asics/Head
7,14,21,28	Thursday	Donnay

Nadiam used a Dunlop tennis racquet on Sundays.
Nadiam used a Gamma tennis racquet on 11th March.

Q.79) Answer- A
Given that Nadiam used the same tennis racquet on all Mondays, the same tennis racquet on all Tuesdays etc. Hence, we need to determine the tennis racquets that

Nadiam used on the first week i.e., from 1st March to 7th March and we will know the tennis racquet that he used on each day during the month

From (i), since Nadiam used a Prince Tennis racquet on 23rd March, he must have worn a Prince Tennis racquet on 2nd March.

Similarly, from (ii), he must have worn a Dunlop tennis racquet on 3rd March, from (iv). Sunday could only be on 2nd March or 3rd March (since there must be 5 Saturdays and 5 Sundays).

If Sunday is on 2nd March. Monday will be on 3rd March. Since he used a Dunlop tennis racquet on 3rd March, this violates condition (ii).

Hence, Sunday must be on 3rd March. The remaining days will be 4 - Monday, 5 - Tuesday, 6 - Wednesday, 7 - Thursday, 1 - Friday, 2 - Saturday.

From (iii), he could have worn a Donnay tennis racquet and a Gamma tennis racquet on 4th and 7th or 1st and 4th or 1st and 5th.

From (v), He must have used Head and Asics tennis racquets on 4th and 5th or 5th and 6th or 6th and 7th or 7th and 1st. He could not have used these tennis racquets on 4th and 5th as it will not leave any possible case for using Donnay tennis racquet and Gamma tennis racquet (from (iii)). He could not have used Head and Asics on 1st and 7th for the same reason. He could not have used Head and Asics on 6th and 7th because 7th is a Thursday. Hence, he could have used Head and Asics only on 5th and 6th.

He could have used Donnay and Gamma only 4th and 7th. He could not have used Donnay and Gamma on 1st and 4th because from (i), he did not use Donnay on 1st and he did not use Donnay on 4th, which is a Monday. Hence, on 4th, he must have used Gamma and on 7th, he must have used Donnay. On 1st, he must have used Wilson.

The following table provides this information:

Date	Day	Brand
1,8,15,22,29	Friday	Wilson
2,9,16,23,30	Saturday	Prince
3,10,17,24,31	Sunday	Dunlop
4,11,18,25	Monday	Gamma

5,12,19,26	Tuesday	Head/Asics
6,13,20,27	Wednesday	Asics/Head
7,14,21,28	Thursday	Donnay

Nadia used a Wilson tennis racquet for 5 days.

Q.80) Answer- C

Given that Nadiam used the same tennis racquet on all Mondays, the same tennis racquet on all Tuesdays etc. Hence, we need to determine the tennis racquets that Nadiam used on the first week i.e., from 1st March to 7th March and we will know the tennis racquet that he used on each day during the month

From (i), since Nadiam used a Prince Tennis racquet on 23rd March, he must have worn a Prince Tennis racquet on 2nd March.

Similarly, from (ii), he must have worn a Dunlop tennis racquet on 3rd March, from (iv). Sunday could only be on 2nd March or 3rd March (since there must be 5 Saturdays and 5 Sundays).

If Sunday is on 2nd March. Monday will be on 3rd March. Since he used a Dunlop tennis racquet on 3rd March, this violates condition (ii).

Hence, Sunday must be on 3rd March. The remaining days will be 4 - Monday, 5 - Tuesday, 6 - Wednesday, 7 - Thursday, 1 - Friday, 2 - Saturday.

From (iii), he could have worn a Donnay tennis racquet and a Gamma tennis racquet on 4th and 7th or 1st and 4th or 1st and 5th.

From (v), He must have used Head and Asics tennis racquets on 4th and 5th or 5th and 6th or 6th and 7th or 7th and 1st. He could not have used these tennis racquets on 4th and 5th as it will not leave any possible case for using Donnay tennis racquet and Gamma tennis racquet (from (iii)). He could not have used Head and Asics on 1st and 7th for the same reason. He could not have used Head and Asics on 6th and 7th because 7th is a Thursday. Hence, he could have used Head and Asics only on 5th and 6th.

He could have used Donnay and Gamma only 4th and 7th. He could not have used Donnay and Gamma on 1st and 4th because from (i), he did not use Donnay on 1st and he did not use Donnay on 4th, which is a Monday. Hence, on 4th, he must have used Gamma and on 7th, he must have used Donnay. On 1st, he must have used Wilson.

The following table provides this information:

Date	Day	Brand
1,8,15,22,29	Friday	Wilson
2,9,16,23,30	Saturday	Prince
3,10,17,24,31	Sunday	Dunlop
4,11,18,25	Monday	Gamma
5,12,19,26	Tuesday	Head/Asics
6,13,20,27	Wednesday	Asics/Head
7,14,21,28	Thursday	Donnay

Only the statement in Option C is definitely true.

Q.81) Answer- A

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A		
Glove		1	
Liquid Soap			1

Three-Ply Mask	C		
Hand wash			

The Three-Ply Mask arrived before the Hand Sanitizer and the Hand Sanitizer was not the last to arrive therefore, the Hand Sanitizer could have arrived 3rd or 4th and the Three-Ply Mask could have arrived 2nd or 3rd. The Glove was also not the last item to arrive. This means that the hand wash must be the last item to arrive.

Exactly 2 items arrived before B's item.

This means that B's item cannot be the Liquid Soap and it also cannot be the hand wash. Hence, B's item must be the Glove and the Glove must be the 3rd to arrive. If the Glove is the 3rd to arrive, the Hand Sanitizer must be the 4th and the Three-Ply Mask must be the 2nd to arrive.

The Three-Ply Mask was shipped after the Hand Sanitizer and was not the last to be shipped. Therefore, the Three-Ply Mask could have been shipped either 3rd or 4th and the Hand Sanitizer would have been shipped either 2nd or 3rd. Since the hand wash was not the last item to be shipped, the last item to be shipped must be Liquid Soap. The table looks something like this after considering all the conditions:

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A	2/3	4
Glove	B	1	3
Liquid Soap	D/E	5	1
Three-Ply Mask	C	3/4	2
Hand wash	E/D	2/3/4	5

The Liquid Soap would have arrived quickest because it was shipped last and arrived first.

Q.82) Answer- A

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A		
Glove		1	
Liquid Soap			1
Three-Ply Mask	C		
Hand wash			

The Three-Ply Mask arrived before the Hand Sanitizer and the Hand Sanitizer was not the last to arrive therefore, the Hand Sanitizer could have arrived 3rd or 4th and the Three-Ply Mask could have arrived 2nd or 3rd. The Glove was also not the last item to arrive. This means that the hand wash must be the last item to arrive.

Exactly 2 items arrived before B's item.

This means that B's item cannot be the Liquid Soap and it also cannot be the hand wash. Hence, B's item must be the Glove and the Glove must be the 3rd to arrive. If the Glove is the 3rd to arrive, the Hand Sanitizer must be the 4th and the Three-Ply Mask must be the 2nd to arrive.

The Three-Ply Mask was shipped after the Hand Sanitizer and was not the last to be shipped. Therefore, the Three-Ply Mask could have been shipped either 3rd or 4th and the Hand Sanitizer would have been shipped either 2nd or 3rd. Since the hand wash was not the last item to be shipped, the last item to be shipped must be Liquid Soap.

The table looks something like this after considering all the conditions:

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A	2/3	4
Glove	B	1	3
Liquid Soap	D/E	5	1
Three-Ply Mask	C	3/4	2
Hand wash	E/D	2/3/4	5

If D's item was second, A's item would be 3rd and C's item, the Three-Ply Mask, would be 4th to be shipped.

Q.83) Answer- D

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A		
Glove		1	
Liquid Soap			1
Three-Ply Mask	C		
Hand wash			

The Three-Ply Mask arrived before the Hand Sanitizer and the Hand Sanitizer was not the last to arrive therefore, the Hand Sanitizer could have arrived 3rd or 4th and the Three-Ply Mask could have arrived 2nd or 3rd. The Glove was also not the last item to arrive. This means that the hand wash must be the last item to arrive.
Exactly 2 items arrived before B's item.
This means that B's item cannot be the Liquid Soap and it also cannot be the hand wash.

Hence, B's item must be the Glove and the Glove must be the 3rd to arrive. If the Glove is the 3rd to arrive, the Hand Sanitizer must be the 4th and the Three-Ply Mask must be the 2nd to arrive.

The Three-Ply Mask was shipped after the Hand Sanitizer and was not the last to be shipped. Therefore, the Three-Ply Mask could have been shipped either 3rd or 4th and the Hand Sanitizer would have been shipped either 2nd or 3rd. Since the hand wash was not the last item to be shipped, the last item to be shipped must be Liquid Soap.

The table looks something like this after considering all the conditions:

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A	2/3	4
Glove	B	1	3
Liquid Soap	D/E	5	1
Three-Ply Mask	C	3/4	2
Hand wash	E/D	2/3/4	5

Only the last statement will give information about E's item i.e., the hand wash and that it was shipped 3rd. Hence, D's item will be Liquid Soap. A's item would be shipped 2nd and C's 4th.

Q.84) Answer- B

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A		
Glove		1	
Liquid Soap			1
Three-Ply Mask	C		
Hand wash			

The Three-Ply Mask arrived before the Hand Sanitizer and the Hand Sanitizer was not the last to arrive therefore, the Hand Sanitizer could have arrived 3rd or 4th and the Three-Ply Mask could have arrived 2nd or 3rd. The Glove was also not the last item to arrive. This means that the hand wash must be the last item to arrive.

Exactly 2 items arrived before B's item.

This means that B's item cannot be the Liquid Soap and it also cannot be the hand wash.

Hence, B's item must be the Glove and the Glove must be the 3rd to arrive. If the Glove is the 3rd to arrive, the Hand Sanitizer must be the 4th and the Three-Ply Mask must be the 2nd to arrive.

The Three-Ply Mask was shipped after the Hand Sanitizer and was not the last to be shipped. Therefore, the Three-Ply Mask could have been shipped either 3rd or 4th and the Hand Sanitizer would have been shipped either 2nd or 3rd. Since the hand wash was not the last item to be shipped, the last item to be shipped must be Liquid Soap.

The table looks something like this after considering all the conditions:

Item	Person	Order of Shipping	Order of Arrival
Hand Sanitizer	A	2/3	4
Glove	B	1	3
Liquid Soap	D/E	5	1
Three-Ply Mask	C	3/4	2
Hand wash	E/D	2/3/4	5

The earliest the hand wash can be shipped is in 2nd position and it arrives last. With the conditions given in the question, it would take the hand wash 8 days to arrive after it was shipped.

Q.85) Answer- D
Let us try to find out the order and scores at which the different batsmen were out.
1st wicket - As India's score was 25 when the first wicket fell and Ram himself scored 26 runs, the first batsmen out was Sehwag.
2nd wicket - As the runs scored between the fall of the first and the second wicket was 27 runs and Sahil himself scored 31 runs, the second batsman to get out was Ram.
3rd wicket - When the second wicket fell, the total runs scored by the two batsmen who were out was 15 + 26 = 41. As the third wicket fell at 70 and if we add Sahil's score to 41, we get 72, which means Sahil was still batting when the third wicket fell and Harbhajan was the third batsmen to be out.
4th wicket - The fourth wicket to fall was that of Sahil as the runs scored between the time the wickets fell is only 30 and Atul himself scored 52 runs.
5th wicket - The fifth wicket to fall was that of Dhoni as had Atul had been out, the total score of India should have been at least 15 + 26 + 31 + 8 + 52 = 132.

6th wicket - The sixth wicket to fall was that of Atul as the batsmen who came to bat at the fall of the fifth wicket, i.e., Agarkar himself scored 37 runs and only 35 runs were scored between the fall of the wickets.

7th wicket - The seventh wicket that fell is that of Karan as if Agarkar had been out, the score of India should have been at least 15 + 26 + 31 + 8 + 52 + 23 + 37 = 192.

8th wicket - The eight wicket to fall was that of Arun, for the same reason as that of above.

9th wicket - Kamal, for the same reason as above

10th wicket - cannot be determined, as it can be Agarkar or Naman.

Hence, India's score was 100 when Sahil was out.

Q.86) Answer- B

Let us try to find out the order and scores at which the different batsmen were out.

1st wicket - As India's score was 25 when the first wicket fell and Ram himself scored 26 runs, the first batsmen out was Sehwag.

2nd wicket - As the runs scored between the fall of the first and the second wicket was 27 runs and Sahil himself scored 31 runs, the second batsmen to get out was Ram.

3rd wicket - When the second wicket fell, the total runs scored by the two batsmen who were out was 15 + 26 = 41. As the third wicket fell at 70 and if we add Sahil's score to 41, we get 72, which means Sahil was still batting when the third wicket fell and Harbhajan was the third batsmen to be out.

4th wicket - The fourth wicket to fall was that of Sahil as the runs scored between the time the wickets fell is only 30 and Atul himself scored 52 runs.

5th wicket - The fifth wicket to fall was that of Dhoni as had Atul had been out, the total score of India should have been at least 15 + 26 + 31 + 8 + 52 = 132.

6th wicket - The sixth wicket to fall was that of Atul as the batsmen who came to bat at the fall of the fifth wicket, i.e., Agarkar himself scored 37 runs and only 35 runs were scored between the fall of the wickets.

7th wicket - The seventh wicket that fell is that of Karan as if Agarkar had been out, the score of India should have been at least 15 + 26 + 31 + 8 + 52 + 23 + 37 = 192.

8ᵗʰ wicket - The eight wicket to fall was that of Arun, for the same reason as that of above.

9ᵗʰ wicket - Kamal, for the same reason as above

10ᵗʰ wicket - cannot be determined, as it can be Agarkar or Naman.

Hence, B is the correct option.

Q.87) Answer- A

Let us try to find out the order and scores at which the different batsmen were out.

1ˢᵗ wicket - As India's score was 25 when the first wicket fell and Ram himself scored 26 runs, the first batsmen out was Sehwag.

2ⁿᵈ wicket - As the runs scored between the fall of the first and the second wicket was 27 runs and Sahil himself scored 31 runs, the second batsmen to get out was Ram.

3ʳᵈ wicket - When the second wicket fell, the total runs scored by the two batsmen who were out was 15 + 26 = 41. As the third wicket fell at 70 and if we add Sahil's score to 41, we get 72, which means Sahil was still batting when the third wicket fell and Harbhajan was the third batsmen to be out.

4ᵗʰ wicket - The fourth wicket to fall was that of Sahil as the runs scored between the time the wickets fell is only 30 and Atul himself scored 52 runs.

5ᵗʰ wicket - The fifth wicket to fall was that of Dhoni as had Atul had been out, the total score of India should have been at least 15 + 26 + 31 + 8 + 52 = 132.

6ᵗʰ wicket - The sixth wicket to fall was that of Atul as the batsmen who came to bat at the fall of the fifth wicket, i.e., Agarkar himself scored 37 runs and only 35 runs were scored between the fall of the wickets.

7ᵗʰ wicket - The seventh wicket that fell is that of Karan as if Agarkar had been out, the score of India should have been at least 15 + 26 + 31 + 8 + 52 + 23 + 37 = 192.

8ᵗʰ wicket - The eight wicket to fall was that of Arun, for the same reason as that of above.

9ᵗʰ wicket - Kamal, for the same reason as above

10ᵗʰ wicket - cannot be determined, as it can be Agarkar or Naman.

As it is given that Agarkar got out, the other batsman has to be Naman.

Q.88) Answer- D

Let us try to find out the order and scores at which the different batsmen were out.

1st wicket - As India's score was 25 when the first wicket fell and Ram himself scored 26 runs, the first batsmen out was Sehwag.

2nd wicket - As the runs scored between the fall of the first and the second wicket was 27 runs and Sahil himself scored 31 runs, the second batsmen to get out was Ram.

3rd wicket - When the second wicket fell, the total runs scored by the two batsmen who were out was 15 + 26 = 41. As the third wicket fell at 70 and if we add Sahil's score to 41, we get 72, which means Sahil was still batting when the third wicket fell and Harbhajan was the third batsmen to be out.

4th wicket - The fourth wicket to fall was that of Sahil as the runs scored between the time the wickets fell is only 30 and Atul himself scored 52 runs.

5th wicket - The fifth wicket to fall was that of Dhoni as had Atul had been out, the total score of India should have been at least 15 + 26 + 31 + 8 + 52 = 132.

6th wicket - The sixth wicket to fall was that of Atul as the batsmen who came to bat at the fall of the fifth wicket, i.e., Agarkar himself scored 37 runs and only 35 runs were scored between the fall of the wickets.

7th wicket - The seventh wicket that fell is that of Karan as if Agarkar had been out, the score of India should have been at least 15 + 26 + 31 + 8 + 52 + 23 + 37 = 192.

8th wicket - The eight wicket to fall was that of Arun, for the same reason as that of above.

9th wicket - Kamal, for the same reason as above

10th wicket - cannot be determined, as it can be Agarkar or Naman.

As it is given that Agarkar got out, the other batsman has to be Naman.

The 3rd wicket to fall was that of Harbhajan.

Q.89) Answer- B
Number of graduates employed in October = 500
Number of graduates employed during the year = 400 + 350 + 370 + 310 + 480 + 230 + 300 + 320 + 490 + 500 + 240 + 340 = 4330
Required percentage = 500/4330 = 11.55%

Q.90) Answer- C
We need to calculate the ranks for all the months for solving this question:

Month	Employment Rank	Men Rank	Women Rank
January	4	10	2
February	6	9	5
March	5	3	7
April	9	8	8
May	3	1	4
June	12	12	9
July	10	6	11
August	8	5	10
September	2	2	3
October	1	4	1
November	11	11	12
December	7	7	6

We can see that the sum of the three ranks is the highest for November. Therefore, the answer is 11 since November is the 11th month.

Q.91) Answer- B

We need to calculate the ranks for all the months for solving this question:

Month	Employment Rank	Men Rank	Women Rank
January	4	10	2
February	6	9	5
March	5	3	7
April	9	8	8
May	3	1	4
June	12	12	9
July	10	6	11
August	8	5	10
September	2	2	3
October	1	4	1
November	11	11	12
December	7	7	6

At least two ranks are same for April, June, September, October, November, and December, i.e. six months.

Q.92) Answer- A

The percentage is greater than 120% for January, June, and October. (3 months)

For January = 250/150 = 1.67

For June = 130/100 = 1.3

For October = 290/210 = 1.38

Q.93) Answer- D

Males	Females	Salary (lakhs/annum)	City
Kartik		19	
Rahul	Anisha	X + 1	C4
Raman		X	
Mohit		Y	
Rohan		16	

From the information provided, above table is formed.

Here X and Y both are natural numbers and X,Y ≥ 11 and also from (4) X < 16 and value of Y is X + 2, then and only then it satisfies the condition 3.

Now, if X = 15, then salary of Rahul will be equal to Rohan which is not possible

If X = 14, then salary of husband of Shruti will be equal to husband of Anisha (Rahul) hence this is not possible.

If X = 12 and X = 11, then the value of the salaries of Raman, Rahul, and Mohit will be 11, 12, and 13 or 12, 13, and 14 but these will violate the condition 2. The husband of Shruti is earning 15 lakhs/annum is not satisfied with this.

So, the value of X is 13.

The new table is:

Males	Females	Salary (lakhs/annum)	City
Kartik	Savitri/Irene	19	C3/C2
Rahul	Anisha	X + 1	C4
Raman	Irene/Savitri	X	C2/C3
Mohit	Shruti	Y	C5
Rohan	Shipra	16	C2

So, D is the correct option.

Q.94) Answer- D

Males	Females	Salary (lakhs/annum)	City
Kartik		19	
Rahul	Anisha	X + 1	C4
Raman		X	
Mohit		Y	
Rohan		16	

From the information provided, above table is formed.

Here X and Y both are natural numbers and X,Y ≥ 11 and also from (4) X < 16 and value of Y is X + 2, then and only then it satisfies the condition 3.

Now, if X = 15, then salary of Rahul will be equal to Rohan which is not possible

If X = 14, then salary of husband of Shruti will be equal to husband of Anisha (Rahul) hence this is not possible.

If X = 12 and X = 11, then the value of the salaries of Raman, Rahul, and Mohit will be 11, 12, and 13 or 12, 13, and 14 but these will violate the condition 2. The husband of Shruti is earning 15 lakhs/annum is not satisfied with this.

So, the value of X is 13.

The new table is:

Males	Females	Salary (lakhs/annum)	City
Kartik	Savitri/Irene	19	C3/C2
Rahul	Anisha	X + 1	C4
Raman	Irene/Savitri	X	C2/C3
Mohit	Shruti	Y	C5
Rohan	Shipra	16	C2

From the solution and the above arrangement did in the above question, So, D is the correct option.

Q.95) Answer- B

Males	Females	Salary (lakhs/annum)	City
Kartik		19	
Rahul	Anisha	X + 1	C4
Raman		X	
Mohit		Y	
Rohan		16	

From the information provided, above table is formed.

Here X and Y both are natural numbers and X,Y ≥ 11 and also from (4) X < 16 and value of Y is X + 2, then and only then it satisfies the condition 3.

Now, if X = 15, then salary of Rahul will be equal to Rohan which is not possible

If X = 14, then salary of husband of Shruti will be equal to husband of Anisha (Rahul) hence this is not possible.

If X = 12 and X = 11, then the value of the salaries of Raman, Rahul, and Mohit will be 11, 12, and 13 or 12, 13, and 14 but these will violate the condition 2. The husband of Shruti is earning 15 lakhs/annum is not satisfied with this.

So, the value of X is 13.

The new table is:

Males	Females	Salary (lakhs/annum)	City
Kartik	Savitri/Irene	19	C3/C2
Rahul	Anisha	X + 1	C4
Raman	Irene/Savitri	X	C2/C3
Mohit	Shruti	Y	C5
Rohan	Shipra	16	C2

From the solution and the above arrangement, B is the correct option.

Q.96) Answer- B

Males	Females	Salary (lakhs/annum)	City
Kartik		19	
Rahul	Anisha	X + 1	C4
Raman		X	
Mohit		Y	
Rohan		16	

From the information provided, above table is formed.

Here X and Y both are natural numbers and X,Y ≥ 11 and also from (4) X < 16 and value of Y is X + 2, then and only then it satisfies the condition 3.

Now, if X = 15, then salary of Rahul will be equal to Rohan which is not possible

If X = 14, then salary of husband of Shruti will be equal to husband of Anisha (Rahul) hence this is not possible.

If X = 12 and X = 11, then the value of the salaries of Raman, Rahul, and Mohit will be 11, 12, and 13 or 12, 13, and 14 but these will violate the condition 2. The husband of Shruti is earning 15 lakhs/annum is not satisfied with this.

So, the value of X is 13.

The new table is:

Males	Females	Salary (lakhs/annum)	City
Kartik	Savitri/Irene	19	C3/C2
Rahul	Anisha	X + 1	C4
Raman	Irene/Savitri	X	C2/C3
Mohit	Shruti	Y	C5
Rohan	Shipra	16	C2

From the solution and the above arrangement, B is the correct option.

Q.97) Answer- B

Let 1 denote six hit and 0 denote six missed.

Let only Sahil hits the six in Round 1 thus, in round 1 the table will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0

In round 2, Sahil will hit the six as he hit the six in round 1 and Raghuvansh (preceding player) missed the six in round 1.

Dravid will hit the six as he missed the six in round 1 and Sahil (preceding player) hit the six in round 2.

Raghuvansh will hit the six as he missed the six in round 1 and Dravid (preceding player) hit the six in round 2.

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1

Let A represents the six missed or hit by a Player in the previous round, B represents the six missed or hit by the preceding player and C represents the six missed or hit by the Player in the next round.

Thus, as per the given conditions, we get:

A	B	C
1	1	0
1	0	1
0	0	0
0	1	1

From this, the table for the first 9 rounds will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1
3	0	1	0
4	0	1	1
5	1	0	1

6	0	0	1
7	1	1	0
8	1	0	0
9	1	1	1

As we can see, the pattern repeats after every 7 rounds.

In the first 7 rounds, Raghuvansh will hit the six 4 times.

Thus, in the first 21 rounds, Raghuvansh will hit the six 12 times.

Hence, option B is the correct answer.

Q.98) Answer- C

Let 1 denote six hit and 0 denote six missed.

Let only Sahil hits the six in Round 1 thus, in round 1 the table will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0

In round 2, Sahil will hit the six as he hit the six in round 1 and Raghuvansh (preceding player) missed the six in round 1.

Dravid will hit the six as he missed the six in round 1 and Sahil (preceding player) hit the six in round 2.

Raghuvansh will hit the six as he missed the six in round 1 and Dravid (preceding player) hit the six in round 2.

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1

Let A represents the six missed or hit by a Player in the previous round, B represents the six missed or hit by the preceding player and C represents the six missed or hit by the Player in the next round.

Thus, as per the given conditions, we get:

A	B	C
1	1	0
1	0	1
0	0	0
0	1	1

From this, the table for the first 9 rounds will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1
3	0	1	0
4	0	1	1
5	1	0	1
6	0	0	1
7	1	1	0
8	1	0	0
9	1	1	1

As we can see, the pattern repeats after every 7 rounds.

Thus, the maximum number of sixes hit in any 8 consecutive rounds will be when, in the first and last round, all the 3 players hit the six.

In any 7 consecutive rounds, a total of 12 sixes are hit.

If in the 8th round, all the 3 hits, then the total number of sixes will be 12 + 3 = 15.

Q.99) Answer- C

Let 1 denote six hit and 0 denote six missed.

Let only Sahil hits the six in Round 1 thus, in round 1 the table will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0

In round 2, Sahil will hit the six as he hit the six in round 1 and Raghuvansh (preceding player) missed the six in round 1.

Dravid will hit the six as he missed the six in round 1 and Sahil (preceding player) hit the six in round 2.

Raghuvansh will hit the six as he missed the six in round 1 and Dravid (preceding player) hit the six in round 2.

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1

Let A represents the six missed or hit by a Player in the previous round, B represents the six missed or hit by the preceding player and C represents the six missed or hit by the Player in the next round.

Thus, as per the given conditions, we get:

A	B	C
1	1	0
1	0	1
0	0	0
0	1	1

From this, the table for the first 9 rounds will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1
3	0	1	0
4	0	1	1
5	1	0	1

6	0	0	1
7	1	1	0
8	1	0	0
9	1	1	1

As we can see, the pattern repeats after every 7 rounds.

In any 7 consecutive rounds Dravid will hit 4 sixes. In next 6 rounds, he will hit a minimum of 3 goals. Thus, if Dravid missed the six in Round 1, then 7 is the minimum number of sixes he can hit in the next 13 rounds.

Q.100) Answer- C

Let 1 denote six hit and 0 denote six missed.

Let only Sahil hits the six in Round 1 thus, in round 1 the table will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0

In round 2, Sahil will hit the six as he hit the six in round 1 and Raghuvansh (preceding player) missed the six in round 1.

Dravid will hit the six as he missed the six in round 1 and Sahil (preceding player) hit the six in round 2.

Raghuvansh will hit the six as he missed the six in round 1 and Dravid (preceding player) hit the six in round 2.

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Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1

Let A represents the six missed or hit by a Player in the previous round, B represents the six missed or hit by the preceding player and C represents the six missed or hit by the Player in the next round.

Thus, as per the given conditions, we get:

A	B	C
1	1	0
1	0	1
0	0	0
0	1	1

From this, the table for the first 9 rounds will be:

Round	Sahil	Dravid	Raghuvansh
1	1	0	0
2	1	1	1
3	0	1	0
4	0	1	1
5	1	0	1
6	0	0	1
7	1	1	0
8	1	0	0
9	1	1	1

In any 7 consecutive rounds, a total of 12 sixes are hit.

Thus, in the first 49 rounds, the total number of sixes hit will be 7 x 12 = 84.

In the 50th and 51st rounds, they would have hit 1 and 2 sixes respectively.

Thus, the required sum = 84 + 3 = 87.