

Practice Exercise – 1

LRDI - 17

CEX-D-0289/18**Number of questions :** 32

Direction for questions 1 to 4: Answer the questions on the basis of the information given below.

Healthy Bites is a fast food joint serving three items: burgers, fries and ice cream. It has two employees Anish and Bani who prepare the items ordered by the clients. Preparation time is 10 minutes for a burger and 2 minutes for an order of ice cream. An employee can prepare only one of these items at a time. The fries are prepared in an automatic fryer which can prepare up to 3 portions of fries at a time, and takes 5 minutes irrespective of the number of portions. The fryer does not need an employee to constantly attend to it, and we can ignore the time taken by an employee to start and stop the fryer; thus, an employee can be engaged in preparing other items while the frying is on. However fries cannot be prepared in anticipation of future orders.

Healthy Bites wishes to serve the orders as early as possible. The individual items in any order are served as and when ready; however, the order is considered to be completely served only when all the items of that order are served.

The table below gives the orders of three clients and the times at which they placed their orders:

Client no.	Time	Order
1	10:00	1 burger, 3 portions of fries, 1 order of ice cream
2	10:05	2 portions of fries, 1 order of ice cream
3	10:07	1 burger, 1 portion of fries

(CAT 2017)

1. Assume that only one client's order can be processed at any given point of time. So, Anish or Bani cannot start preparing a new order while a previous order is being prepared.

At what time is the order placed by Client 1 completely served?

- (1) 10:17 (2) 10:10 (3) 10:15 (4) 10:20

2. Assume that only one client's order can be processed at any given point of time. So, Anish or Bani cannot start preparing a new order while a previous order is being prepared.

At what time is the order placed by Client 3 completely served?

- (1) 10:35 (2) 10:22 (3) 10:25 (4) 10:17

3. Suppose the employees are allowed to process multiple orders at a time, but the preference would be to finish orders of clients who placed their orders earlier.

At what time is the order placed by Client 2 completely served?

- (1) 10:10 (2) 10:12 (3) 10:15 (4) 10:17

4. Suppose the employees are allowed to process multiple orders at a time, but the preference would be to finish orders of clients who placed their orders earlier.

Also assume that the fourth client came in only at 10:35. Between 10:00 and 10:30, for how many minutes is exactly one of the employees idle?

- (1) 7 (2) 10 (3) 15 (4) 23

Direction for questions 5 to 8: Answer the questions on the basis of the information given below.

Applicants for the doctoral programmes of Ambi Institute of Engineering (AIE) and Bambi Institute of Engineering (BIE) have to appear for a Common Entrance Test (CET). The test has three sections: Physics (P), Chemistry (C), and Maths (M). Among those appearing for CET, those at or above the 80th percentile in at least two sections, and at or above the 90th percentile overall, are selected for Advanced Entrance Test (AET) conducted by AIE. AET is used by AIE for final selection.

For the 200 candidates who are at or above the 90th percentile overall based on CET, the following are known about their performance in CET:

1. No one is below the 80th percentile in all 3 sections.
2. 150 are at or above the 80th percentile in exactly two sections.
3. The number of candidates at or above the 80th percentile only in P is the same as the number of candidates at or above the 80th percentile only in C. The same is the number of candidates at or above the 80th percentile only in M.
4. Number of candidates below 80th percentile in P: Number of candidates below 80th percentile in C: Number of candidates below 80th percentile in M = 4 : 2 : 1.

BIE uses a different process for selection. If any candidate is appearing in the AET by AIE, BIE considers their AET score for final selection provided the candidate is at or above the 80th percentile in P. Any other candidate at or above the 80th percentile in P in CET, but who is not eligible for the AET, is required to appear in a separate test to be conducted by BIE for being considered for final selection. Altogether, there are 400 candidates this year who are at or above the 80th percentile in P.

(CAT 2017)

5. What best can be concluded about the number of candidates sitting for the separate test for BIE who were at or above the 90th percentile overall in GET?
(1) 3 or 10 (2) 10 (3) 5 (4) 7 or 10
6. If the number of candidates who are at or above the 90th percentile overall and also at or above the 80th percentile in all three sections in GET is actually a multiple of 5, what is the number of candidates who are at or above the 90th percentile overall and at or above the 80th percentile in both P and M in GET?
7. If the number of candidates who are at or above the 90th percentile overall and also at or above the 80th percentile in all three sections in GET is actually a multiple of 5, then how many candidates were shortlisted for the AET for AIE?

8. If the number of candidates who are at or above the 90th percentile overall and also are at or above the 80th percentile in P in CET, is more than 100, how many candidates had to sit for the separate test for BIE?
- (1) 299 (2) 310 (3) 321 (4) 330

Direction for questions 9 to 12: Answer the questions on the basis of the information given below.

A new airlines company is planning to start operations in a country. The company has identified ten different cities which they plan to connect through their network to start with. The flight duration between any pair of cities will be less than one hour. To start operations, the company has to decide on a daily schedule.

(CAT 2017)

The underlying principle that they are working on is the following:

Any person staying in any of these 10 cities should be able to make a trip to any other city in the morning and should be able to return by the evening of the same day.

9. If the underlying principle is to be satisfied in such a way that the journey between any two cities can be performed using only direct (non-stop) flights, then the minimum number of direct flights to be scheduled is
- (1) 45 (2) 90 (3) 180 (4) 135
10. Suppose three of the ten cities are to be developed as hubs. A hub is a city which is connected with every other city by direct flights each way, both in the morning as well as in the evening. The only direct flights which will be scheduled are originating and/or terminating in one of the hubs. Then the minimum number of direct flights that need to be scheduled so that the underlying principle of the airline to serve all the ten cities is met without visiting more than one hub during one trip is:
- (1) 54 (2) 120 (3) 96 (4) 60
11. Suppose the 10 cities are divided into 4 distinct groups G1, G2, G3, G4 having 3, 3, 2 and 2 cities respectively and that G1 consists of cities named A, B and C. Further, suppose that direct flights are allowed only between two cities satisfying one of the following:
- (1) Both cities are in G1 (2) Between A and any city in G2
(3) Between B and any city in G3 (4) Between C and any city in G4

Then the minimum number of direct flights that satisfies the underlying principle of the airline is:

12. Suppose the 10 cities are divided into 4 distinct groups G1, G2, G3, G4 having 3, 3, 2 and 2 cities respectively and that G1 consists of cities named A, B and C. Further, suppose that direct flights are allowed only between two cities satisfying one of the following:
- (1) Both cities are in G1
(2) Between A and any city in G2
(3) Between B and any city in G3
(4) Between C and any city in G4

However, due to operational difficulties at A, it was later decided that the only flights that would operate at A would be those to and from B. Cities in G2 would have to be assigned to G3 or to G4.

What would be the maximum reduction in the number of direct flights as compared to the situation before the operational difficulties arose?

Direction for questions 13 to 16: Answer the questions on the basis of the information given below.

Eight friends: Ajit, Byomkesh, Gargi, Jayanta, Kikira, Manik, Prodosh and Tapesesh are going to Delhi from Kolkata by a flight operated by Cheap Air. In the flight, sitting is arranged in 30 rows, numbered 1 to 30, each consisting of 6 seats, marked by letters A to F from left to right, respectively. Seats A to C are to the left of the aisle (the passage running from the front of the aircraft to the back), and seats D to F are to the right of the aisle. Seats A and F are by the windows and referred to as Window seats, C and D are by the aisle and are referred to as Aisle seats while B and E are referred to as Middle seats. Seats marked by consecutive letters are called consecutive seats (or seats next to each other). A seat number is a combination of the row number, followed by the letter indicating the position in the row; e.g., 1A is the left window seat in the first row, while 12E is the right middle seat in the 12th row.

Cheap Air charges Rs.1000 extra for any seats in Rows 1, 12 and 13 as those have extra legroom. For Rows 210, it charges Rs.500 extra for Window seats and Rs.300 extra for Aisle seats. For Rows 11 and 14 to 20, it charges Rs.200 extra for Window seats and Rs.400 extra for Aisle seats. All other seats are available at no extra charge.

(CAT 2017)

The following are known:

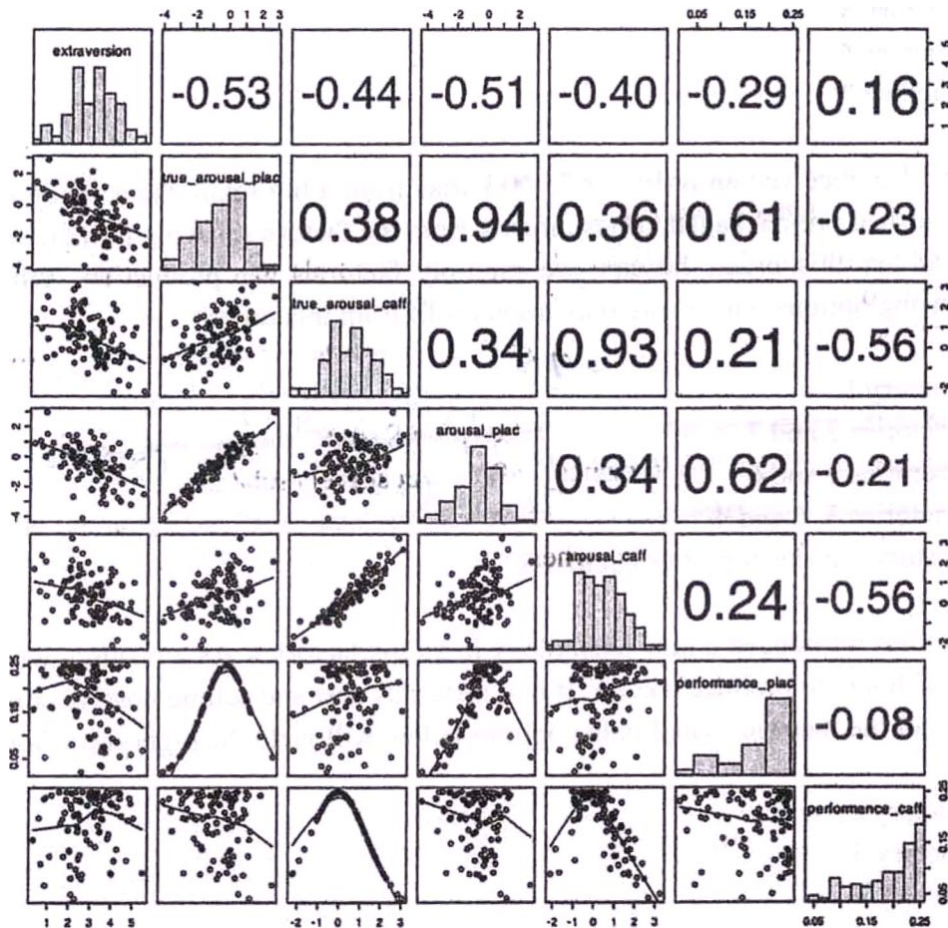
- (a) The eight friends were seated in six different rows.
- (b) They occupied 3 Window seats, 4 Aisle seats and 1 Middle seat.
- (c) Seven of them had to pay extra amounts, totaling to Rs. 4600, for their choices of seat. One of them did not pay any additional amount for his/her choice of seat.
- (d) Jayanta, Ajit and Byomkesh were sitting in seats marked by the same letter, in consecutive rows in increasing order of row numbers; but all of them paid different amounts for their choices of seat. One of these amounts may be zero.
- (e) Gargi was sitting next to Kikira, and Manik was sitting next to Jayanta.
- (f) Prodosh and Tapesesh were sitting in seats marked by the same letter, in consecutive rows in increasing order of row numbers; but they paid different amounts for their choices of seat. One of these amounts may be zero.

13. In which row was Manik sitting?
(1) 10 (2) 11 (3) 12 (4) 13
14. How much extra did Jayanta pay for his choice of seat?
(1) Rs. 300 (2) RS. 400 (3) Rs. 500 (4) RS. 1000
15. How much extra did Gargi pay for her choice of seat?
(1) 0 (2) Rs. 300 (3) Rs. 400 (4) Rs. 1000
16. Who among the following did not pay any extra amount for his/her choice of seat?
(1) Kikira (2) Manik (3) Gargi (4) Tapesesh

Direction for questions 17 to 20: Answer the questions on the basis of the information given below.

The grid below captures relationships among seven personality dimensions: "extraversion", "true_arousal_plac", "true_arousal_caff", "arousal_plac", "arousal_caff", "performance_plac", and "performance_caff". The diagonal represents histograms of the seven dimensions. Left of the diagonal represents scatterplots between the dimensions while the right of the diagonal represents quantitative relationships between the dimensions. The lines in the scatterplots are closest approximation of the points. The value of the relationships to the right of the diagonal can vary from -1 to +1, with -1 being the

extreme linear negative relation and +1 extreme linear positive relation. (Axes of the graph are conventionally drawn).



(XAT 2017)

17. Which of the following is true?
 - (1) "Extraversion" has two modes.
 - (2) Median for "arousal_plac" is definitely the same as its average.
 - (3) Median for "arousal_caff" is definitely higher than its average.
 - (4) Median for "performance_plac" is definitely lower than its average.
 - (5) Median for "performance_caff" is definitely lower than its average.

18. Which of the scatterplots shows the weakest relationship?
 - (1) Between "extraversion" and "performance_caff".
 - (2) Between "true_arousal_plac" and "arousal_plac".
 - (3) Between "true_arousal_plac" and "performance_plac".
 - (4) Between "true_arousal_caff" and "performance_caff".
 - (5) Between "arousal_caff" and "performance_caff".

19. In which of the following scatterplots, the value of one dimension can be used to predict the value of another, as accurately as possible?
- (1) "extraversion" and "true_arousal_caff"
 - (2) "true_arousal_plac" and "arousal_plac"
 - (3) "true_arousal_plac" and "performance_plac"
 - (4) "true_arousal_plac" and "performance_caff"
 - (5) All the above are irrelevant relations.
20. Which of the following options is correct?
- (1) 0.93 on the right side of the diagonal corresponds to the third scatterplot in the fourth row.
 - (2) 0.94 on the right side of the diagonal corresponds to the second scatterplot in the fourth row.
 - (3) 0.38 is the relationship between "extraversion" and "true arousal_plac".
 - (4) "arousal_caff" and "performance_caff" are positively related.
 - (5) The line that captures relationship between "arousal_caff" and "arousal_plac" can be denoted by equation: $y = a - bx$, where $b > 0$.

Directions for questions 21 to 24: Answer the questions on the basis of the information given below.

Given an input, a coding machine generates pass codes everyday as follows:

Input : my bag carries no more than ten books

Pass codes :

Batch I : more my than bag ten carries books no

Batch II : bag ten than carries my books more no

Batch III : my bag books ten more than no carries

Batch IV : ten more books than bag no my carries

and so on.

The first batch timing is 9.30 AM and each batch is of one hour's duration. There is a rest period of one hour after the work for the fourth batch is over.

(IIFT 2018)

21. If the pass code on a particular day for the second batch is 'if winter comes can spring be far behind', what will be the pass code for the batch at 2.30 PM on that day?
- (1) if winter behind far comes can spring be
 - (2) behind winter if spring comes can far be
 - (3) behind winter if spring comes far be can
 - (4) if winter behind far spring be can comes
22. On a particular day, Rahul was to begin the work in the batch at 10.30 AM with a pass code 'I like tea and biscuit but not together'. However, he came late on that day and hence joined the next batch. What was his new pass code?
- (1) together but like not biscuit I tea and
 - (2) together but like I tea and biscuit not
 - (3) biscuit I but like not tea together and
 - (4) biscuit I but tea together like and not

23. On a particular day, the pass code for the batch immediately before the rest hour was 'bah bah black sheep have you any wool'. What was the input for the pass code on that day?
- (1) any have wool bah sheep you black bah
 - (2) any have wool you bah sheep bah black
 - (3) any have wool you bah black bah sheep
 - (4) None of the above
24. On a particular day, the pass code for the second batch was 'India's core strength lies in unity in diversity'. What was the input on that day in the reverse order of its words?
- (1) in in India's lies diversity strength core unity
 - (2) unity core strength in diversity lies India's in
 - (3) in in strength India's core diversity unity lies
 - (4) None of the above

Direction for questions 25 to 28: Answer the questions on the basis of the information given below.

In 1984 – 85 value of exports of manufactured articles exceeds over the value of exports of raw materials by 100%.

In 1985 – 86 the ratio of percentage of exports of raw material to that of exports of manufactured articles is 3 : 4.

Exports of food in 1985 – 86 exceeds the 1984 – 85 figures by Rs. 1006 crore.

Item	1984-85	1985-86
Food		23%
Manufactured Articles		
Raw Material		
Total Value of Exports in Crore of Rs.	22400	25800

25. In 1984 – 85 what percentage of total values of exports accounts for items related to food
- (1) 23%
 - (2) 29.2%
 - (3) 32%
 - (4) 22%
26. During 1984 – 85, how much more raw material than food was exported?
- (1) Rs. 2580 crore
 - (2) Rs. 896 crore
 - (3) Rs. 1986 crore
 - (4) Rs. 1852 crore
27. Value of exports of raw materials during 1984 – 85 was how much percent less than that for 1985 – 86?
- (1) 39
 - (2) 46.18
 - (3) 7
 - (4) 31.6
28. The change in value of exports of manufactured articles from 1984 – 85 to 1985 – 86 is
- (1) 296 crore
 - (2) 629 crore
 - (3) 2064 crore
 - (4) 1792 crore

Direction for questions 29 to 32: Answer the questions on the basis of the information given below.

A company produces five types of shirts — A, B, C, D and E — using cloth of three qualities — high, medium and low -, using dyes of three qualities — high, medium and low. One shirt requires 1.5 m of cloth. The following table gives respectively:

1. The number of shirts (of each category) produced, in thousands
2. The percentage distribution of cloth quality in each type of shirt, and
3. The percentage distribution of dye quality in each type of shirt.

Shirt type	Number in thousands	Distribution of cloth (%)				Distribution of dye (%)			
		Shirt type	High	Medium	Low	Shirt type	High	Medium	Low
A	20	A	80	20	—	A	70	15	15
B	30	B	30	40	30	B	20	50	30
C	30	C	—	70	30	C	—	60	40
D	10	D	—	60	40	D	—	40	60
E	10	E	—	10	90	E	—	20	80

29. How many metres of low-quality cloth is consumed?
(1) 22,500 m (2) 46,500 m (3) 60,000 m (4) 40,000 m
30. How many metres of high quality cloth is consumed by A-type shirts?
(1) 8,000 m (2) 112,000 m (3) 24,000 m (4) 30,000 m
31. What is the ratio of the three qualities of dyes in high-quality cloth?
(1) 2 : 3 : 5 (2) 1 : 2 : 5 (3) 7 : 9 : 10 (4) Cannot be determined
32. What is the ratio of low-quality dye used for C-type shirts to that used for D- type shirts?
(1) 3 : 2 (2) 2 : 1 (3) 1 : 2 (4) 2 : 3

Visit “Test Gym” for taking Topic Tests / Section Tests on a regular basis.

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Answers and Explanations

CEX-D-0289/18

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

1. 2 Items ordered by client 1 at 10:00 are 1 burger, 3 portion of fries and 1 ice cream, out of which preparation time of burger is maximum. So, while one of the employees is preparing burger starting at 10:00, the other one can start preparing ice-cream which will take only 2 minutes and also the fries will get prepared in the meantime in fryer.

Hence maximum time required to completely serve client 1's order is 10 minutes.

Therefore, the order placed by client 1 can be served completely at 10:10.

2. 3 Following the same process as we have done in above question, client 1 will be served completely at 10:10.

After that, both the employees will start working on client 2's order and get it prepared by 10:15 as the fries will take 5 minutes in the fryer and they can't work for two different clients at the same time. Hence, preparation of client 3's order will get started at 10:15 and as he/she has ordered for 1 burger along with fries it will take 10 minutes for preparation.

Therefore, client 3 will be served completely at 10:25.

3. 1 Since the employees are allowed to process multiple orders, the one who is preparing ice-cream for order placed by client 1, will be free before 10:05, the time at which client 2 placed his order.

Now as per his order, preparation of fries will take more time than that of ice-cream. So, time taken by fryer of 5 minutes for fries and simultaneously 2 minutes by an employee for ice-cream. Order of client 2 will be served completely at 10:10.

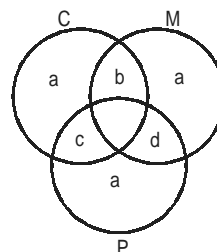
4. 2 Since the employees are allowed to process multiple orders at a time, the following table shows the idle time for employees before client 4 ordered at 10:35.

Time	No. of employees	Idle minutes
10:03 - 10:05	1	3
10:11 - 10:17	1	7
10:18 - 10:30	2	17

So, the required number = 3 + 7 = 10 minutes

For questions 5 to 8:

For the 200 candidates who are at or above the 90th percentile:



Total: 200 in the set

$$2a + b : 2a + d : 2a + c :: 4 : 2 : 1$$

$$\frac{2a + d}{2a + c} = \frac{2}{1} \Rightarrow 2a + d = 4a + 2c$$

$$d = 2a + 2c$$

$$\frac{2a + b}{2a + d} = \frac{2}{1} \Rightarrow 2a + b = 4a + 2d$$

$$b = 2a + 2d = 2a + 2[2a + 2c] = 6a + 4c$$

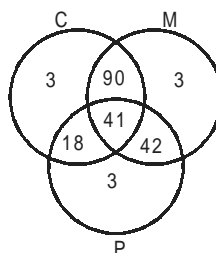
$$\text{Also } b + c + d = 150 \quad \dots \text{by (2)}$$

$$\Rightarrow 6a + 4d + 2a + 2d + d = 150$$

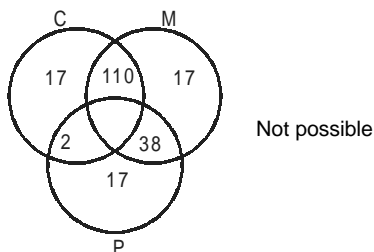
$$8a + 7c = 150.$$

Number of integral solutions,

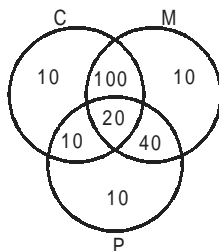
Case I: $a = 10, c = 10;$



Case II: $a = 17, c = 2$;



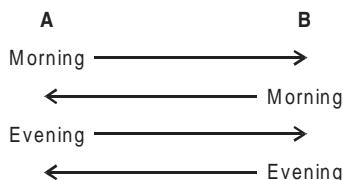
Case III: $a = 3, c = 18$



5. 1 Since 3 or 10 are only possible number of those students who are at or above the 80th percentile only in P, they are not eligible for AET. Hence they have to sit for separate test for BIE.
6. 60 In case 1 only, number of candidates who are at or above the 80th percentile in all three sections is a multiple of 5.
Hence, required number = $20 + 40 = 60$
7. 170 This is possible for case 1 only.
∴ Shortlisted candidates for the AET for AIE
= $200 - (\text{only P} + \text{only C} + \text{only M})$
= $200 - (10 + 10 + 10) = 170$
8. 1 This is possible in case 1.
Since $18 + 41 + 42 = 101$ are the candidates who are in P and got selected for AET, only $400 - 101 = 299$ candidates left who had to sit for the separate test for BIE.

For questions 9 to 12:

From any city 'A' to city 'B', there would be 4 direct flights required.



9. 3 10 cities have to be connected to each other
Any 2 cities can be selected in $^{10}C_2$ ways = 45 ways
4 flights for every pair of cities
∴ Total minimum direct flights required = $45 \times 4 = 180$

10. 3 Let's say A, B, C are the hubs
From each hub direct flights to other 7 cities are required

$$\text{So number of flights} = \frac{3}{\text{hubs}} \times \frac{7}{\text{cities}} \times 4 = 84$$

$$\text{In between the hubs, no. of direct flights required} = {}^3C_2 \times 4 = 12$$

$$\text{Total} = 96$$

11. 40 No. of flights among $G_1 = {}^3C_2 \times 4 = 12$
No. of flights between A & $G_2 = 3 \times 4 = 12$
No. of flights between B & $G_3 = 2 \times 4 = 8$
No. of flights between C & $G_4 = 2 \times 4 = 8$
Total = 40
12. 4 Flights reduced would only be for 'A'. Since all other cities that 'A' was connected to will be serviced by either 'B' or 'C', so no reduction in them.
Also since 'A' & 'B' are still connected, so only reduction is of flights between A & C, which is 4 flights.

For questions 13 to 16:

Since Jayanta, Ajit and Byomkesh are sitting in rows 10, 11, 12 respectively since only this combination of rows have 3 different consecutive amount for their choices of seat.
Possible combination

Aisle	Jayanta, 10 500	Ajit, 11 400	Byomkesh, 12 1000
Window	300	200	1000

Since, Manik is sitting next to Jayanta, so possible combinations for Manik is

Jayanta	Manik	Amount
Aisle, C	Auskem, D	500
Aisle, D	E, Middle	0
Window, A	Middle, B	0

Total amount = 4600

∴ Jayanta, Ajim, Byomkesh and Manik sits at Aisle seat, which costs them total of 24000.

Information gathered by details given:-

	Seat	Row	Extra amount paid
Ajit	Aisle	10	400
Byomkesh	Aisle	12	1000
Gargi	Middle	1/13	1000
Jayanta	Aisle	10	500
Kikira	Window	1/13	1000
Manik	Aisle	10	500
Prodosh	Window	20	200
Tapes	Window	21	0
Total			4600

13. 1 Since Jayanta is sitting in row 10, and Manik is next to Jayanta, therefore he is sitting in row 10.
14. 3 Jayanta is sitting in row 10, seat C which is an Aisle seat, therefore she paid 500 extra.
15. 4 Gargi was sitting at middle seat in either row 1 or 13, therefore she paid 1000 extra.
16. 4 Tapesh sat in row 21, for which there extra amount.
17. 1 We need to look at histogram to interpret the answer. The histogram for performance_caff and performance_plac is left skewed (most of data are on right side), which will shift median to right side compared to the mean. The situation is opposite in case of arousal_caff. Furthermore, arousal_plac's histogram is not symmetric and hence, there is no guarantee of its mean and median being equal. Hence, options B, C, D and E are incorrect and Option A is right
18. 1 The weakest relationship should be away from "extreme values", i.e. it should be the closest to zero. The closest relationship to zero, among the five options, is .16, which is between "extraverion" and "performance_caff". Therefore, A is the right option.
19. 3 The question can be answered by looking at the scatterplot, which is on the left hand side of the diagonal. Option A is weak as the scatter is dispersed all over. Option B is very close, but some dispersion can be seen away from the "trend line". The scatterplot in the option D is dispersed as well and hence it cannot be right answer. The scatterplot in the option C is the closest to the trend line and hence it should be the answer, though the relationship is weaker as compared to that in the option B (This is because it is curvilinear in shape, while relationship value assumes linearity).
20. 2 Comparison between the visual pattern in the left side and the numbers in the right hand side indicates Option B is the correct answer.

For questions 21 to 24:

To understand the logic, first number the words in the input

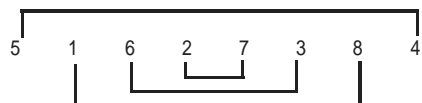
	1	2	3	4	5	6	7	8
Input	My	Bag	Carries	No	More	Than	Ten	books

To write the Batch I, write the second half numbers 5, 6, 7, 8 in front to the 1st half as follows.

	5	1	6	2	7	3	8	4
Batch I:	More	My	Than	Bag	Ten	Carries	Books	no

Now to go from Batch I to Batch II, start from the middle and more towards outside as follows.

Batch I:



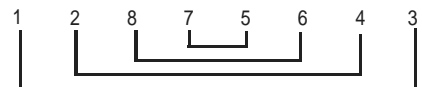
	2	7	6	3	1	8	5	4
Batch II:	Bag	ten	than	carries	my	books	more	no

To write batch III: repeat the process done to write batch I i.e., put the

2nd half numbers before the 1st half

	1	2	8	7	5	6	4	3
Batch III:	My	bag	books	ten	more	than	no	carries

To write the batch IV: repeat the process done to write Batch II i.e. start from the middle and more towards outside



	7	5	8	6	2	4	1	3
Batch IV:	Ten	More	Books	Than	Bag	No	My	carries

This process will go on.

Final process is as follows:

	Input	1 my	2 bag	3 carries	4 no	5 more	6 than	7 ten	8 books
9:30 - 10:30	Batch I:	5	1	6	2	7	3	8	4
10:30 - 11:30	Batch II:	2	7	6	3	1	8	5	4
11:30 - 12:30	Batch III:	1	2	8	7	5	6	4	3
12:30 - 1:30	Batch IV:	7	5	8	6	2	4	1	3
1:30 - 2:30	Break								
2:30 - 3:30		2	7	4	5	1	8	3	6

21. 4 The code of second batch is given and compare it with the above arrangement for second batch.

	2	7	6	3	1	8	5	4
Batch II:	if	w inter	comes	can	spring	be	for	behind

The order of pass code batch at 2:30 pm is

	2	7	4	5	1	8	3	6
If	w inter	behind	for	spring	be	can	comes	

22. 3 The 10:30 am pairs code is

2	7	6	3	1	8	5	4
I	like	tea	and	biscuit	but	not	together

The code for the next batch has the order

1	2	8	7	5	6	4	3
Biscuit	I	But	Like	Not	Tea	Together	and

23. 2 The batch immediately before rest hour was

7	5	8	6	2	4	1	3
bah	bah	black	sheep	have	you	any	wool

Hence the input is

1	2	3	4	5	6	7	8
any	have	wool	you	bah	sheep	bah	black

24. 2 The second batch is

2	7	6	3	1	8	5	4
India's	core	strength	lies	in	unity	in	diversity

The reverse of the input is

8	7	6	5	4	3	2	1
Unity	core	strength	in	diversity	lies	India's	in

For questions 25 to 28:

From the data that is given we can find the following data: (the explanation of how the following values were arrived, is given after the table).

Item	1984-85	1985-86
Food (Percentage)	22%	23%
Food (Value)	4928	5934
Manufactured Articles	11648	11352
Raw Material	5824	8514
Total Value of Exports in Crore of Rs.	22400	25800

25. 4 Food related exports in 1985-86 = $0.23 \times 25800 = 5934$.
So food related exports in 1984-95 = $(5934 - 1006) = 4928$.

Hence, percentage of food related exports in 1984-85

$$= \frac{4928}{22400} \times 100 = 22\%.$$

26. 2 In 1984-85, Value of Manufactured articles & Raw materials exports = $(22400 - 4928) = \text{Rs.}17472$ crores. Since Export of manufactured goods is twice that of raw materials, Rs.17472 has to be divided in the ratio 2:1.

Therefore, export of manufactured goods = Rs.11648 crores and Raw materials = Rs.5824 crores.

Hence, the difference between raw material and food = $(5824 - 4928) = \text{Rs.}896$ crores.

27. 4 In 1985-86, the combined percentage of Manufactured articles and Raw materials = 77% and this is in the ratio 4 : 3.

Hence, percentage of Manufactured articles export is 44% and that of Raw materials export is 33%.

Hence, value of manufactured = 0.44×25800

= Rs.11352 crores

and the value of Raw materials = Rs.8514 crores.

Hence, percentage difference between the value of Raw materials between 1984-85 and 1985-86

$$= \left[\frac{(8514 - 5824)}{8514} \right] \times 100 = 31.6\%.$$

28. 1 The change in the value of exports from 1984-85 to 1985-86 = $(11648 - 11352) = \text{Rs.}296$ crores.

29. 2 Total low quality cloth consumed = 1.5 (30% of 30000 + 30% of 30000 + 40% of 10000 + 90% of 10000) = 46,500 m.

30. 3 Total quantity of high quality cloth consumed by A-type shirts = $(80\% \text{ of } 20000) \times 1.5 = 24,000$ m.

31. 4 We only know the relationship between the type of shirt and cloth used and type of shirt and dye used. We cannot find any relationship between type of cloth and dye used.

32. 2 Amount of low quality die used for C-type shirts = $(40\% \text{ of } 30000) = 12,000$ units.
Amount of low quality die used for D-type shirts = $(60\% \text{ of } 10000) = 6,000$ units.

$$\text{Hence, required ratio} = \left(\frac{12000}{6000} \right) = 2 : 1.$$