

## CDC 14 2022 DILR

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

Geeta is playing Light Up which is played on a square grid. The grid has both black cells and white cells in it. The objective is to place light bulbs on the grid so that every white square is lit.

The  $7 \times 7$  grid is as shown below:

7							
6			0				
5			2		1	1	
4							
3		1	0		1		
2					1		
1						0	
	A	B	C	D	E	F	G

The rules of the game are:

- (i) A white cell is illuminated by a light bulb placed in a cell that is in the same row or column, if there are no black cells between them.
- (ii) Between any two light bulbs placed in the same row or in the same column, there has to be atleast one black cell.
- (iii) Some of the black cells have numbers in them and in some the numbers have been erased. A number in a black cell indicates how many cells having the light bulbs share an edge with that cell.
- (iv) The cell in which a light bulb cannot be placed is marked with 'X'.

**Q 1.** Total how many light bulbs are placed in the grid?

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**Q 2.** Which of the following column has the minimum number of cells marked with 'X'?

- 1) B
- 2) C
- 3) E
- 4) G

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**Q 3.** If all black cells had a number in them, then what is the sum of the numbers in all the black cells?

- 1) 7
- 2) 8
- 3) 9
- 4) Either (2) or (3)

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**Q 4.** Which of the following is/are true about cell F4?

- I. The cell shares an edge with exactly one light bulb.
- II. The cell shares an edge with exactly two light bulbs.
- III. The cell is in the column with only one light bulb.

- 1) II only
- 2) II & III only
- 3) III only
- 4) I & III only

**Directions for questions 5 to 10:** Answer the questions on the basis of the information given below.

Jaldiram has 3 sweet outlets in Sector 31, Sector 35 and Sector 70 of Gurgaon. He specializes in 4 types of sweets - Ladoos, Barfi, Rasgulla and Rasmalai. The following table gives partial information about the sales (in integral multiples of Rs. 1,000) of each outlet for the 4 consecutive days (from October 23 to October 26) during Diwali.

Outlet Day	Sector 31	Sector 35	Sector 70
October 23	3, 6, _ , _	4, _ , _ , _	6, 9, _ , _
October 24	4, 6, _ , _	_ , _ , 10, 14	3, _ , 9, _
October 25	6, _ , _ , 12	_ , 7, _ , 15	3, _ , _ , 15
October 26	_ , _ , 12, 15	6, 9, _ , _	_ , _ , 11, 14
<b>Total</b>	<b>144</b>	<b>148</b>	<b>144</b>

**Note:** In the above table, the sales figures are in the order - Ladoos, Barfi, Rasgulla, Rasmalai.

**For example:** The sales of Rasgulla and Rasmalai in Sector 35 outlet on October 24 were Rs. 10,000 and Rs. 14,000 respectively.

The sales of various sweets are in the range (in Rs. '000s) as per the table below:

Type of Sweets	Range
Ladoos	From 3 to 6
Barfi	From 6 to 9
Rasgulla	From 9 to 12
Rasmalai	From 12 to 15

For example: The sales of Ladoos in any outlet on any day can be equal to or more than Rs. 3,000 but less than or equal to Rs. 6,000. The other known information are as below:

- (i) The average of the sales of all the sweets is an integer (in integral multiples of Rs. 1,000), for each of the outlets on all the 4 days.
- (ii) On each day exactly two of the outlets had the same total sales turnover. Each outlet had the same total turnover on exactly two out of the 4 days.
- (iii) On October 25, each of the three outlets had the same sales turnover for exactly one of the sweets.
- (iv) In Sector 35 outlet, On October 23rd, 24th and 25th the sales turnover of exactly one of the sweets was the same for all the three days.
- (v) The total sales of Rasmalai on all the 4 days together, was an odd number for each of the three outlets.
- (vi) The sales turnover of Barfi in Sector 70 on the 4 days was in an Arithmetic Progression.

(vii) The sales of the 4 types of sweets was not all even or all odd in any of the outlets on all the 4 days. There was only one exception to this rule on a particular day at one of the outlets.

**Q 5.** The sales of Rasgulla at Sector 31 on October 24 was (in Rs. '000)

- 1) 13
  - 2) 12
  - 3) 11
  - 4) Either (1) or (3)
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**Q 6.** The total sales turnover of all outlets on October 25 was (in Rs. '000)

- 1) 100
  - 2) 104
  - 3) 112
  - 4) 116
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**Q 7.** The sales of Barfi at Sector 31 on October 26th cannot be (in Rs. '000)

- 1) 6
  - 2) 7
  - 3) 9
  - 4) 8
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**Q 8.** The total sales of Rasmalai at Sector 35 on these 4 days was equal to (in Rs. '000)

**Q 9.** Which of the following statements are correct? ( All in Rs. '000)

- I. Total sales of Rasmalai on all the 4 days was the same for all the 3 outlets.
- II. The total sales in all the 3 outlets together was the same on October 23 and October 24.
- III. The total sales turnover in all the 3 outlets put together was maximum on October 25.

- 1) I & II only
  - 2) II & III only
  - 3) I & III only
  - 4) All I, II & III
- 

**Q 10.** In which of the Outlet – Day combination was the sales of all the types of sweets either all odd numbers or all even numbers?

- 1) Sector 31 – October 25
- 2) Sector 31 – October 24

3) Sector 70 – October 24

4) Sector 70 – October 25

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**Directions for questions 11 to 14:** Answer the questions on the basis of the information given below.

Mr. Mehta, an investor, had invested in 8 companies in 4 sectors – Consumer Services, Finance, Retail and Technology. The table given below shows the change in share prices of 8 companies disguised as A to H in no particular order. Mr. Mehta had bought shares in multiples of 10 on 1st November 2021 at the price mentioned in the table.

Company	Share Prices (in Rs.) as on 1st November 2021	Share Prices (in Rs.) as on 1st November 2022
A	160	220
B	400	475
C	200	320
D	350	420
E	420	560
F	250	300
G	180	240
H	480	540

**Q 11.** If Mr. Mehta had bought a total of 90 shares of 3 of the mentioned companies, then the maximum possible return on investment (in Rs.) as on 1st November 2022 based on the shares of those 3 companies could be

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**Q 12.** If Mr. Mehta had invested Rs. 16,200 in companies whose share prices appreciated by the same amount, then what could be the maximum number of shares of these companies he bought?

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**Q 13.** If one of the two Retail companies showed the highest percentage variation in the share price while the other Retail company showed the lowest percentage variation, then the two Retail companies were

- 1) C & F
- 2) A & D
- 3) C & H
- 4) E & H

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**Q 14.** Mr. Mehta had invested money in the ratio 3 : 2 in companies C and D while the number of shares of C and D bought by his friend Mr. Gupta was in the ratio 3 : 2. Both these purchases were made on November 1, 2021. If they both of them did not sell any part of this investment, then which of the following statements is true as on November 1, 2022?

- 1) The return on this investment was the same for both.
- 2) The return on investment for Mr. Gupta was about 39%.
- 3) The return on investment for Mr. Mehta was 36%.
- 4) The return on investment for Mr. Gupta was 44%.

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**Directions for questions 15 to 20:** Answer the questions on the basis of the information given below.

The ZED-Detective Group has seven secret agents - DHRUV, JAZEL, PARAG, SALIM, TAPAK, VIREN and ZAMIR. The organization does not use their names under any circumstances.

The names are coded and their secret duties are assigned at seven different airports - Delhi, Mumbai, Kolkata, Chennai, Hyderabad, Bangalore and Lucknow - not necessarily in this order. The coding for the names is based on a unique code that is assigned to every

alphabet in English. The consonants are coded as their respective position in the order of the English alphabets, while each of the vowels is given a code that represents its position in the alphabetical order of the vowels. Once their codes are assigned, the agents are addressed by their codes and never by their names. In the organization, there are two sniffer dogs, namely RAVLO and ZIBRA and it is known that the codes for their names are 18-1-22-12-4 and 26-3-2-18-1 respectively. The rules for coding the agents' names are the same as those for the dogs' names. Each of these agents intercepted exactly one illegal item among - Gold, Weapons, Explosives and Drugs.

Further, it is also known that:

- (i) The code with the smallest sum of digits is assigned duty at Delhi airport, where Weapons were intercepted.
- (ii) The agent having a code in which the digits add up to the same number as the sum of digits in a dog's code takes the dog along. It is known that the dog with an even number of digits in its code goes to Mumbai whereas the other dog does not go to Lucknow.
- (iii) The agent with a code that is an even number but has an odd number of digits is assigned duty at Hyderabad. The agent with a code that has some of the digits in the given order \*\*1133\*\* is assigned Bangalore.
- (iv) The agent with a code having an odd number of digits with the sum of digits divisible by 5 is assigned duty at Kolkata, where Drugs were intercepted. The other agent who intercepted Drugs had a code starting with 48 and ending with 22.
- (v) Gold was intercepted by agents having codes with last two digits as 14 and 18 whereas Explosives were intercepted by an agent with a sniffer dog and also, by the agent at Lucknow.

**Q 15.** How many agents have codes that are divisible by 3?

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**Q 16.** What are the codes of the agents who are assigned duties at Kolkata and Lucknow respectively?

- 1) 19112313 - 26113318
- 2) 20116111 - 10126212
- 3) 1611817 - 10126212
- 4) 1611817 - 22318214

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**Q 17.** What is the name of the agent with whom ZIBRA goes on duty?

- 1) PARAG
- 2) VIREN
- 3) JAZEL
- 4) SALIM

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**Q 18.** Duty at which airport is assigned to the agent having a code ending in 18?

- 1) Kolkata
- 2) Lucknow
- 3) Chennai
- 4) Bangalore

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**Q 19.** What was the item intercepted by the team of which RAVLO is a part?

- 1) Explosives
  - 2) Weapons
  - 3) Gold
  - 4) Drugs
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**Q 20.** Which of these agents intercepted Drugs at their location?

- I. DHRUV
- II. PARAG
- III. TAPAK

- 1) I only
  - 2) II & III only
  - 3) All I, II & III
  - 4) I & II only
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