

**Directions for questions 1 to 6:** Answer the questions on the basis of the information given below.

On 7th April, WORLD HEALTH DAY, the health department of Gautam Buddha Nagar Government Hospital sends two teams - P and Q to two housing societies - Tata Steel and ATS respectively for a checkup of the citizens. Each team has to visit 5 houses from 1 to 5 and come back to the hospital with the findings. In general, it takes 5 minutes to complete the health checkup of a kid, 3 minutes for an old person, and 1 minute for a young person. It is very important to check each and every person present in the house. It is known that the team Q took 2 hours 32 minutes to cover their respective 5 houses.

**Details of Team P's visit at Tata Steel:**

- (i) Overall we met 19 old people, 15 kids and 18 young ones.
- (ii) Except the 1st and the 4th house, all houses had more young people than old people. The 4th house has a total of 11 members. Also, the 4th and the 3rd house had the same number of kids.
- (iii) The 1st house had less than 13 members in the house. The 5th house had half as many old people as the 2nd house. Overall there were 12 members in the 2nd house, including 1 kid.
- (iv) Every house had at least 1 kid, 1 old, and 1 young person. The 1st house had 2 kids same as 5th house. The 1st, 5th and 3rd house had 3 young people each.

**Details of Team Q's visit at ATS:**

- (A) The 1st and the 5th house took the same amount of time.
- (B) The 4th house had the same number of members as the 2nd house but needed 18 more minutes. The 5th house had 3 kids. Their father had 5 young siblings and two old parents. The mother of the kids was not present when we went. No one else lived there.
- (C) The 3rd, 4th and 1st house had 4 kids each. The 2nd house had 15 members including 2 kids, 1 old person and 12 young ones. The 3rd and the 1st house had a total of 8 young people. The 3rd house had 2 old people.

**Q 1.** What was the total time (in minutes) taken by Team P in Tata Steel to complete the health checkup of kids in 1st house, old persons in 3rd house and young persons in 5th house?

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**Q 2.** If all the young people would have not been present or would not have been covered, how much combined time (in minutes) would have been saved by both the teams P and Q?

- 1) 44
- 2) 47
- 3) 49
- 4) 50

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**Q 3.** How much time (in minutes) did it take for the Team Q to cover their 3rd house in ATS?

- 1) 30
  - 2) 37
  - 3) 43
  - 4) 45
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**Q 4.** If each team ignored two houses each that took the minimum amount of time, then the difference in the time taken by the two Teams P and Q, in minutes, would be \_\_\_\_\_.

- 1) 16
  - 2) 7
  - 3) 18
  - 4) 22
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**Q 5.** How many young people did Team Q check from 3rd and 4th houses combined?

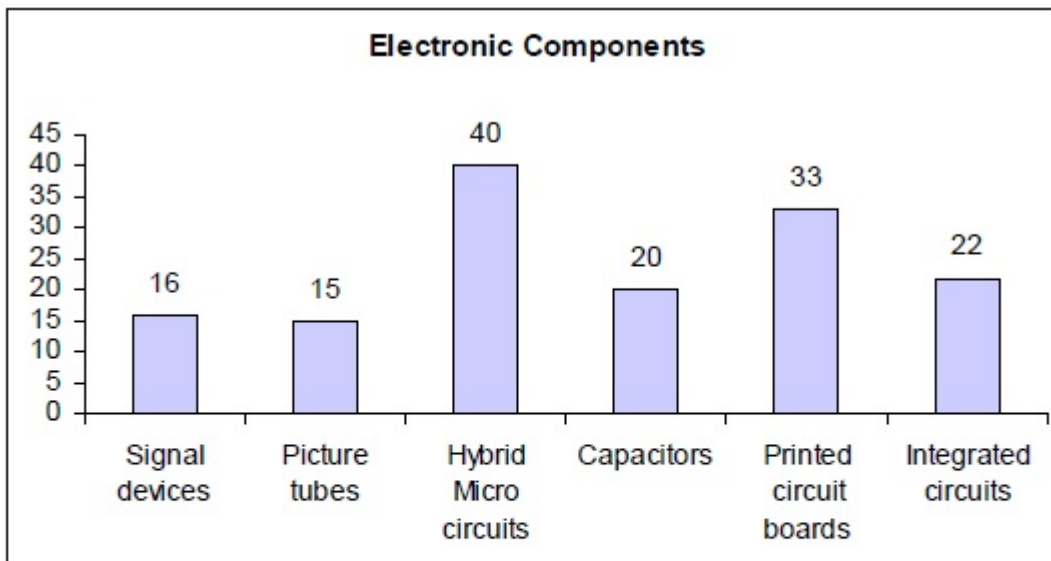
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**Q 6.** For which of the following houses was the absolute difference between total times taken by Team P and Team Q to complete the health check-up of all the persons in the house the largest?

- 1) 1st House
  - 2) 3rd House
  - 3) 4th House
  - 4) 5th House
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**Directions for questions 7 to 10:** Answer the questions on the basis of the information given below.

Tinu, an electrician, repairs the certain electronic components. The bar graph given below shows the various electronic components he repaired in last 4 weeks. The table given below shows the repair cost (in Rs.) per component charged by Tinu.



| Electronic Components              | Signal Devices | Picture Tubes | Hybrid Micro Circuits | Capacitors | Printed Circuit Boards | Integrated Circuits |
|------------------------------------|----------------|---------------|-----------------------|------------|------------------------|---------------------|
| Repair cost (in Rs.) per component | 2,000          | 1,200         | 4,500                 | 1,500      | 1,000                  | 500                 |

Further, it is also known that:

- (i) In the 1st week, he repairs at most 5 of each type of electronic components.
- (ii) In the 2nd week, he repairs at least 8 and at most 10 of each type of electronic components.
- (iii) In the 3rd week, he repairs at least 7 and at most 8 of each type of electronic components.
- (iv) In the 4th week, he repaired the minimum possible remaining number of electronic components of each type.

**Q 7.** What is the amount earned (in Rs.) by Tinu in 4th week?

**Q 8.** Maximum what amount (in Rs.) did Tinu earn in 2nd week?

- 1) 96,800
- 2) 1,02,600
- 3) 1,00,240
- 4) 98,040

**Q 9.** In 1st week, Tinu repaired 25 less electronic components than what he did in 3rd week. Also, he repaired exactly 3 capacitors in 1st week, then what is the difference between the amount (in Rs.) earned by Tinu in 1st and 3rd week?

- 1) 43,900
- 2) 39,260
- 3) 40,210
- 4) 44,250

**Q 10.** In 2nd week, Tinu repaired atleast 2 more electronic components of exactly 5 types than what he did in respective type of electronic components in 3rd week. Then for maximum how many types of electronic components in 2nd week did Tinu earn atleast 25% more than what he earned in 3rd week?

**Directions for questions 11 to 16:** Answer the questions on the basis of the information given below.

The eight children wearing jerseys numbered 1 to 8 were from three teams A, B and C, such that each team had at least 2 children. All of them were playing a game in which they had to draw a total of 20 balls from each of the 5 baskets. Each basket contains balls of exactly one color i.e., red, yellow, white, black and orange. Each child had drawn balls of at least three colors, and balls of each color were drawn by exactly six children. The total number of balls drawn by 8 children was 100. The table given below shows partial information regarding the number of balls of each color each child has drawn.

| Jersey No. | Red balls | Yellow balls | White balls | Black balls | Orange balls |
|------------|-----------|--------------|-------------|-------------|--------------|
| 1          | 1         | 2            |             |             |              |
| 2          |           | x            | 4           |             | x            |
| 3          | x         |              |             | 5           | 6            |
| 4          | 2         |              |             |             | 3            |
| 5          | 6         |              | 7           |             |              |
| 6          | 3         | 1            |             |             | 2            |
| 7          |           | 10           | 1           | 1           |              |
| 8          | 4         |              | x           | 4           |              |

- In the above table "x" indicates that the concerned child did not draw the ball of the respective color. Additional information is also given below.
- (i) Only one child, wearing Team C's jersey number 5, had drawn balls of all colors, out of which an even number of balls of only one color was drawn.
  - (ii) The total number of balls drawn was an even number of exactly 4 children.
  - (iii) The children wearing jersey number 3 and jersey number 1, who must draw the black balls, were from team A.
  - (iv) Total balls drawn by each child in team B was 8 and each child drew white balls. Exactly two children of team C had drawn the same number of balls in total. No other pair of children had drawn the same number of balls in total.
  - (v) Each child who drew an odd number of total balls had drawn more than 10 balls.
  - (vi) A total of 11 balls were drawn by the child wearing the jersey number 8.
  - (vii) No two children had the same combination of the number of balls drawn, regardless of colors.
  - (viii) The child wearing jersey number 3 had drawn the largest number of black and orange balls among all the children. Also, he draws 2 yellow balls and no white balls.

**Q 11.** The number of black balls drawn by the child wearing jersey number 5 was \_\_\_\_\_.

- 1) 1
- 2) 3

- 3) 5
- 4) Either (2) or (3)
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**Q 12.** The child, wearing the jersey number 8, drew 1 ball of color\_\_\_\_\_.

- 1) Yellow
- 2) Orange
- 3) Either (1) or (2)
- 4) None of these
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**Q 13.** Which of the following statements are necessarily correct?

- I. A total of 22 balls were drawn by the child wearing the number 5 jersey.
- II. Children wearing jersey numbers 2 and 8 had drawn the same number of balls in total.
- III. The child wearing the number 8 jersey was from team C.
- IV. Team A had 3 children.

- 1) II & III only
- 2) II, III & IV only
- 3) I, III & IV only
- 4) I & II only
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**Q 14.** How many children had drawn the balls of exactly four colors?

- 1) 2
- 2) 3
- 3) 4
- 4) Either (2) or (3)
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**Q 15.** Orange colored balls were not drawn by children wearing jersey number \_\_\_\_\_.

- 1) 1 & 7
- 2) 7 & 8
- 3) 1 & 8
- 4) 1 & 2
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**Q 16.** The maximum possible difference between the total number of balls drawn by the children in teams A and C is equal to \_\_\_\_\_.

- 1) 42
- 2) 36
- 3) 38
- 4) 40

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

Rasiklal is a jeweler who specializes in designing diamond pendants. Diamonds that are used by Rasiklal are of different types - A, B, C, D, E, F and G - which are weighed in carats and the table given below shows the value of the diamonds that the jeweler uses in his designs. His latest wedding collection of signature pendants have diamonds set in concentric circles.

Further, it is also known that:

- (i) At the center of the pendant is placed a single diamond of Type A, which is followed by concentric circles having diamonds of Type B, followed by Type C and so on.
- (ii) Starting from the center, the number of diamonds in each concentric circle is equal to or more than double the number of diamonds in the previous circle.
- (iii) The number of concentric circles may vary according to the customer's requirement but each signature pendant in his wedding collection always has a total of 130 diamonds.

| Diamond weight (in carat) | Type | Value (in Rs. lakh) |
|---------------------------|------|---------------------|
| 1.50                      | A    | 4                   |
| 1.25                      | B    | 2.50                |
| 1                         | C    | 1.50                |
| 0.75                      | D    | 1.25                |
| 0.50                      | E    | 1                   |
| 0.25                      | F    | 0.75                |
| 0.15                      | G    | 0.50                |

**Q 17.** What is the difference between the maximum and minimum number of Type C diamonds used in a pendant with three concentric circles?

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**Q 18.** If a pendant has five types of diamonds, then which of the following statements can be true?

- I. There are 18 Type C diamonds.
- II. The value of Type B diamonds is Rs.22.5 lakh.
- III. The number of Type C diamonds is five times the number of Type B diamonds.

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

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**Q 19.** What is the difference between the maximum and minimum value of a pendant designed with the above specifications?

- 1) Rs. 64 lakh
- 2) Rs. 98.5 lakh
- 3) Rs. 1.22 crore

4) Rs. 2.28 crore

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**Q 20.** Which of the following is not possible for a signature pendant of Rasiklal?

- 1) There are exactly 43 diamonds of Type B.
  - 2) There are exactly 75 diamonds of Type E.
  - 3) There are exactly 60 diamonds of Type D.
  - 4) There are exactly 35 diamonds of Type C.
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