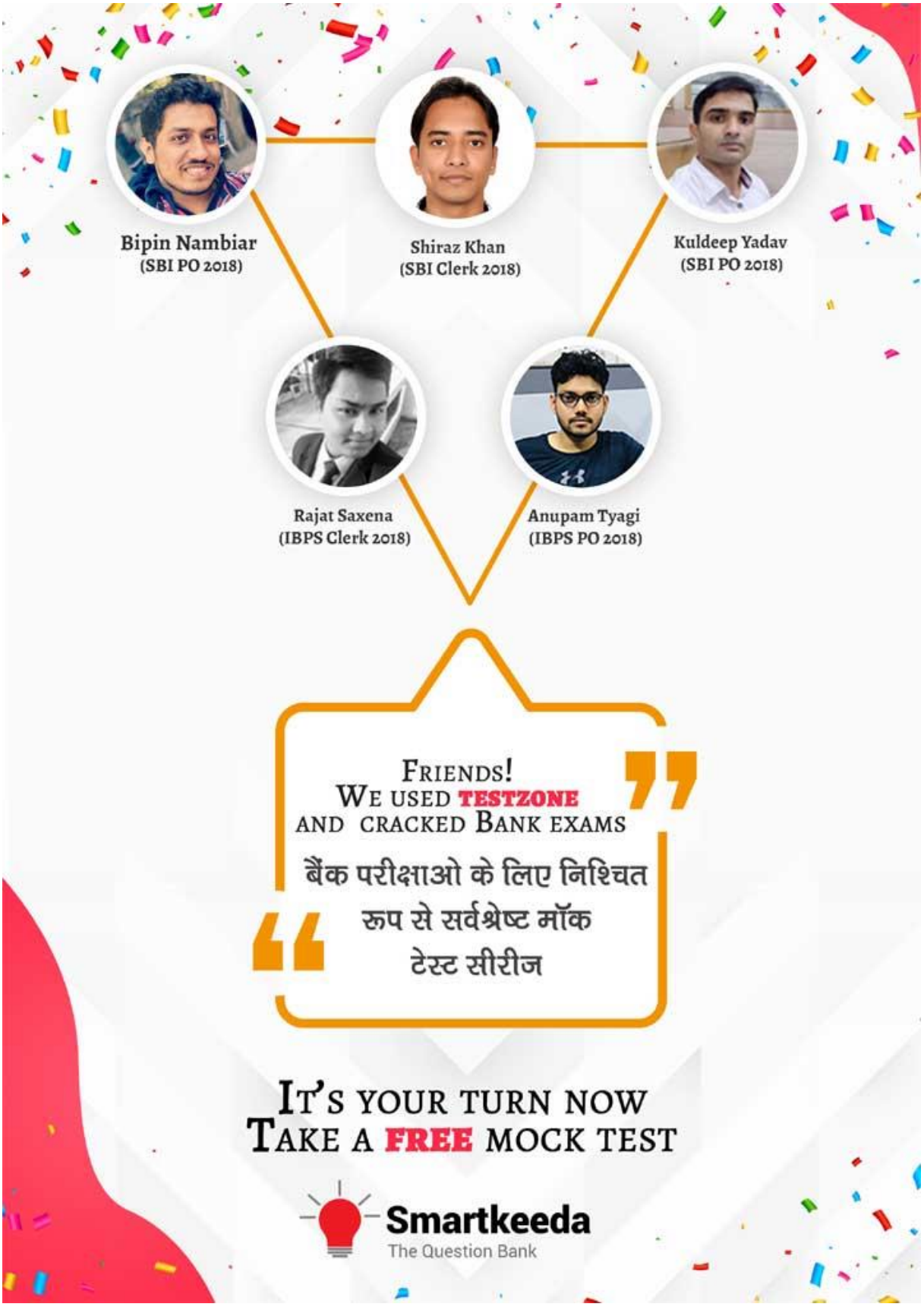
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# DI Info Chart Questions for SBI PO Mains, IBPS PO Mains and RBI Grade B Exams.

## DI Info Chart No 34

**Directions: Study the following information carefully and answer the questions given beside.**

In a carpenter workshop, there work five carpenters namely A, B, C, D, and E. They use to manufacture chairs, tables, and beds.

Carpenter A can make 4 chairs, 2 tables and 1 bed in 84 days. Carpenter B can make 4 tables and 2 beds in 100 days.

A, C and E together can make one table in 4(92/157) days.
Carpenter A, B and C can make one table together in 4(4/11) days.

For D, the ratio of number of days to manufacture 4 chairs, 3 tables, and 5 beds respectively is 1:1:1.

E and D can make one bed together in 6(6/7) days. E needs 9 more days for manufacturing a chair than D needs for manufacturing a chair.

Carpenter C and D can make two beds in 14.4 days.

**Note:** All the chairs, tables, and beds that they make are identical.

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**1. If carpenter A can make 2 chairs and 2 tables in 52 days, then find the sum of number of days for A to make 2 chairs and 1 bed, and number of days for B to make 2 tables and 1 bed.**

A. 76 B. 80 C. 82 D. 84 E. Can't be determined

**2. For constructing a table, all the carpenters except D are given the work to do together. Carpenter A and C work at double their efficiency while B and E work at normal efficiency. Find in how many days the table will be constructed.**

A. $2\frac{38}{111}$ days B. $1\frac{28}{161}$ days C. $2\frac{39}{116}$ days D. $2\frac{38}{161}$ days E. $1\frac{33}{149}$ days

**3. If D constructs table at 66.67% more efficiency, he can construct it in 12 days. Find in how many days E can construct one chair and one bed.**

A. 36 days B. 40 days C. 48 days D. 50 days E. 56 days

**4. Carpenter E needs six more days in the construction of a chair than C needs in the construction of a bed. Find the ratio of number of days for D in constructing a table to the number of days for C in constructing a bed.**

A. 1 : 1 B. 1 : 2 C. 5 : 9 D. 10 : 9 E. Can't be determined

**Correct Answers:**

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| C | D | B | D |

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## Common Explanations :

We assume the number of days needed by each carpenter for each of the product as given in the table below.

| | Number of Days for | | |
|---|---|---|---|
| | **Chair** | **Table** | **Bed** |
| **A** | $A_C$ | $A_T$ | $A_B$ |
| **B** | $B_C$ | $B_T$ | $B_B$ |
| **C** | $C_C$ | $C_T$ | $C_B$ |
| **D** | $D_C$ | $D_T$ | $D_B$ |
| **E** | $E_C$ | $E_T$ | $E_B$ |

Carpenter A can make 4 chairs, 2 tables and 1 bed in 84 days.

$4A_C + 2A_T + 1A_B = 84$ ----(i)

Carpenter B can make 4 tables and 2 beds in 100 days.

$4B_T + 2B_B = 100$ ------(ii)

A, C and E together can make one table in 4(92/157) days.

$\frac{1}{A_T} + \frac{1}{C_T} + \frac{1}{E_T} = \frac{1}{[4(92/157)]} = \frac{157}{720}$ ------(iii)

Carpenter A, B and C can make one table together in 4(4/11) days.

$\frac{1}{A_T} + \frac{1}{B_T} + \frac{1}{C_T} = \frac{1}{[4(4/11)]} = \frac{11}{48}$ ------(iv)

For D, the ratio of number of days to manufacture 4 chairs, 3 tables, and 5 beds respectively is 1 : 1 : 1.

$4D_C : 3D_T : 5D_B = 1 : 1 : 1$ ------(v)

E and D can make one bed together in 6(6/7) days.

$\frac{1}{D_B} + \frac{1}{E_B} = \frac{7}{48}$ ------(vi)

E needs 9 more days for manufacturing a chair than D needs for manufacturing a chair.

$E_C = D_C + 9$ ------(vii)

Carpenter C and D together can make two beds in 14.4 days.

Means, they can make one bed in 7.2 days, so

$\frac{1}{C_B} + \frac{1}{D_B} = \frac{5}{36}$ ------(viii)

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## Answers :

**1.** From common explanation, we have

$4A_C + 2A_T + 1A_B = 84$ ----(i)

$4B_T + 2B_B = 100$ ------(ii)

From the question, we have

$2A_C + 2A_T = 52$ ----(iii)

Subtracting (iii) from (i), we get

$2A_C + 1A_B = 32$

From (ii), we have

The number of days for B to make 2 tables and 1 bed

$= 2B_T + 1B_B = \frac{1}{2} \times (4B_T + 2B_B) = \frac{1}{2} \times 100 = 50$

Total number of days = 32 + 50 = 82

Hence, option C is correct.

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**2.** From common explanation, we have

$\frac{1}{A_T} + \frac{1}{C_T} + \frac{1}{E_T} = \frac{1}{[4(92/157)]} = \frac{157}{720}$ ------(iii)

$\frac{1}{A_T} + \frac{1}{B_T} + \frac{1}{C_T} = \frac{1}{[4(4/11)]} = \frac{11}{48}$ ------(iv)

Adding these two, we get

$\frac{2}{A_T} + \frac{1}{B_T} + \frac{2}{C_T} + \frac{1}{E_T} = \frac{157}{720} + \frac{11}{48} = \frac{322}{720}$

Number of days $= \frac{720}{322} = 2\frac{38}{161}$ days

Hence, option D is correct.

**3.** From common explanation, we have

$4D_C : 3D_T : 5D_B = 1 : 1 : 1$ ------(v)

$\frac{1}{D_B} + \frac{1}{E_B} = \frac{7}{48}$ ------(vi)

$E_C = D_C + 9$ ------(vii)

Now, (1/DT) + 66.67% of (1/DT)

$= \frac{1}{12} \rightarrow \frac{5}{3}(\frac{1}{D_T}) = \frac{1}{12} \rightarrow \frac{1}{D_T} = \frac{1}{20} \rightarrow D_T = 20$

From (v), we have

$4D_C : 3 \times 20 : 5D_B = 1 : 1 : 1$

$D_B = 12$ and $D_C = 15$

From (vi), we get

$\frac{1}{12} + \frac{1}{E_B} - \frac{7}{48} \rightarrow E_B = 16$

From (vii), we get

$E_C = D_C + 9 = 15 + 9 = 24$

Number of days in which E construct one chair and one bed = 16 + 24 = 40 days

Hence, option B is correct.

**4.** From question, we have

$E_C = C_B + 6$ ------(a)

From common explanation, we get from (v) and (vii)

$4D_C : 5D_B = 1 : 1 \rightarrow DC = 1.25D_B$

$E_C = D_C + 9 \rightarrow D_C = E_C - 9 \rightarrow 1.25D_B = E_C - 9 \rightarrow D_B = 0.8(E_C - 9)$

$\frac{1}{C_B} + \frac{1}{D_B} = \frac{5}{36} \rightarrow \frac{1}{(E_C - 6)} + \frac{1}{0.8\,(E_C - 9)} = \frac{5}{36} \rightarrow E_C = 24$

So, from (a), we get CB = 18

$D_T = \frac{5}{3} D_B = \frac{5}{3} \times 0.8\,(E_C - 9) = 20$

$D_T : C_B = 20 : 18 = 10 : 9$

Hence, option D is correct.

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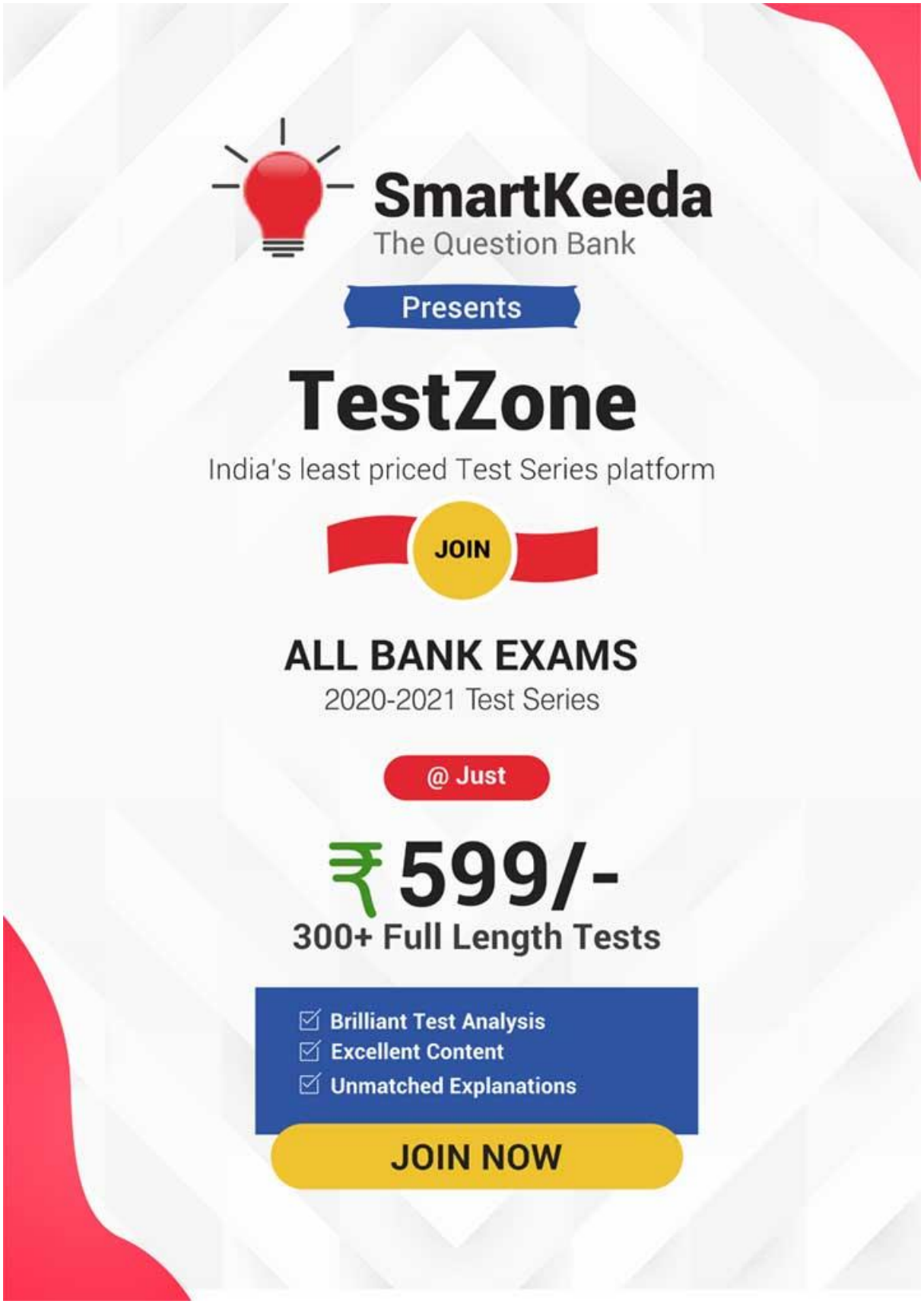
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