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Date Interpretation Mixed Chart Questions Quiz for SBI PO Pre, IBPS PO Pre, SBI Clerk Mains and IBPS Clerk Mains Exams.

Data Interpretation Mixed Chart Quiz 32

Direction: Study the following pie chart and table chart carefully and answer the questions based on it.

A survey was conducted on 14500 people to find out various professionals in a town and the percentage of female professionals amongst them.
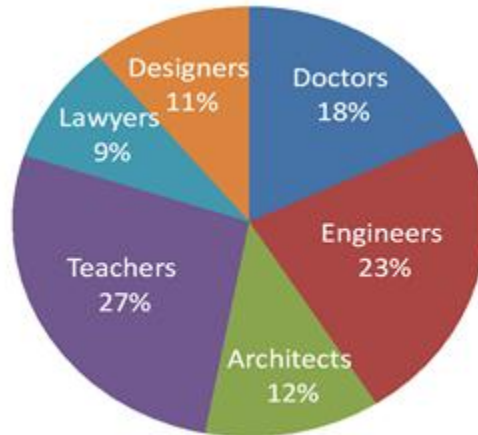
Percentage of Female professionals

Doctors	16%
Engineers	45%
Architects	38%
Teachers	65%
Lawyers	32%
Designers	53%

1. What is the ratio of male Engineers and Designers to the females of the same profession in the town?

A. 891 : 809   B. 783 : 717   C. 1325 : 1281   D. 372 : 305   E. None of these

2. The total number of Lawyers in the town is approximately what per cent of the total number of Doctors in the town?

A. 45%   B. 43%   C. 47%   D. 41%   E. 50%

3. What is the difference between the total number of male professionals and that of female professionals in the town?

A. 1726   B. 6387   C. 1645   D. 6464   E. 2492

4. Female Doctors are what per cent of the female Teachers in the town?

A. 16.41%   B. 13.86%   C. 19.32%   D. 17.53%   E. None of these

5. If the percentage of female Lawyers is further increased by 50% and the percentage of female Teachers is decreased by 20%, what is the current ratio between the female Lawyers to the male Teachers?

A. 3 : 7   B. 1 : 3   C. 5 : 3   D. 2 : 3   E. None of these

Correct Answers:

1	2	3	4	5
A	E	A	A	B

Explanations:

1.   As per the given data, we get

In the Engineers category, there are 45% females therefore, 55% must be males of the total percentage of Engineers which is 23%.

Similary, In the Designers category, there are 53% females therefore, 47% must be males of the total percentage of designers which is 11%.

$$\text{Reqd. ratio} = \frac{55\% \text{ of } 23\% \text{ of total} + 47\% \text{ of } 11\% \text{ of total}}{45\% \text{ of } 23\% \text{ of total} + 53\% \text{ of } 11\% \text{ of total}}$$

$$= \frac{55 \times 23 + 47 \times 11}{45 \times 23 + 53 \times 11} = \frac{1265 + 517}{1035 + 583}$$

$$= \frac{1782}{1618} = \frac{891}{809} = 891 : 809$$

Hence, option A is correct.

2.   The total number of lawyers in the town = 9%
And, the total number of Doctors in the town = 18%

$$\text{Reqd.\%} = \frac{9}{18} \times 100 = 50\%$$

Hence, option E is correct.

3. **Approach I:**

As per the given data, we get

In the Doctors category, there are 16% females therefore, 84% must be males and hence the difference between them would be = (84 − 16)% of total Doctors = 68% of 18% of total

Similarly,

In the Engineers category, there are 45% females therefore, 55% must be males and hence the difference between them would be = (55 − 45)% of total Engineers = 10% of 23% of total

In the Architects category, there are 38% females therefore, 62% must be males and hence the difference between them would be = (62 − 38)% of total artists = 24% of 12% of total

In the Teachers category, there are 65% females therefore, 35% must be males and hence the difference between them would be = (35 − 65)% of total dentists = − 30% of 27% of total

In the Lawyers category, there are 32% females therefore, 68% must be males and hence the difference between them would be = (68 − 32)% of total lawyers = 36% of 9% of total

In the Designers category, there are 53% females therefore, 47% must be males and hence the difference between them would be = (47 − 53)% of total dancers = − 6% of 11% of total

∴ The reqd. difference = (68% of 18% − 10% of 23% + 24% of 12% − 30% of 27% + 36% of 9% − 6% of 11%) of total

$$= \frac{14500}{10000}(1224 + 230 + 288 − 810 + 324 − 66)$$

$$= \frac{145}{100} \times 1190 = 1725.5 \approx 1726$$

Approach II: Total number of male professionals = (84% of 18% + 55% of 23% + 62% of 12% + 35% of 27% + 68% of 9% + 47% of 11%) of 14500

$$= \frac{(1512 + 1265 + 744 + 945 + 612 + 517)}{10000} \times 14500$$

$$= \frac{5595}{10000} \times 14500 \approx 8113$$

Total no. of female professionals = 14500 − 8113 = 6387

∴ Reqd. difference = 8113 − 6387 = 1726.
Hence, option A is correct.

4. Total no. of female Doctors = 16% of 18% of total

And, the total no. of female Teachers = 65% of 27% of Total

$$\therefore \text{ Reqd. diff.} = \frac{16\% \text{ of } 18\% \text{ of total}}{65\% \text{ of } 27\% \text{ of total}} \times 100\%$$

$$= \frac{18 \times 16}{27 \times 65} \times 100\% = 16.41\%$$

Hence, option A is correct

5. As per the question,

Total percentage of female Lawyers is increased by 50% = 150% of 32 = 48%

Total percentage of female Teachers is decreased by 20% = 80% of 65 = 52%

Now,

The total number of female Lawyers = 48% of 9% of total

And the total number of male Teachers = (100 – 52)% of 27% of total

$$\text{Reqd. ratio} = \frac{48\% \text{ of } 9\% \text{ of total}}{48\% \text{ of } 27\% \text{ of total}} = 1 : 3$$

Hence, option B is correct.