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The Question Bank

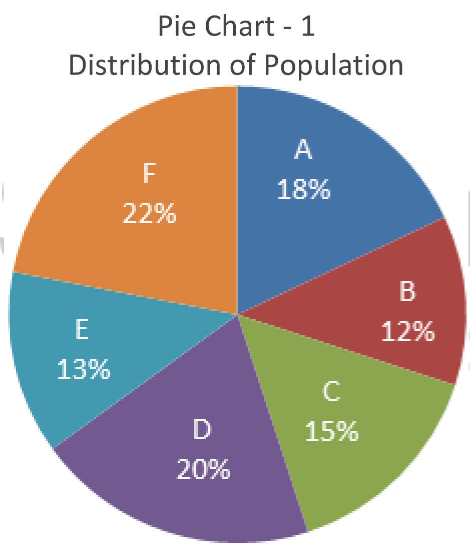
DI Pie Chart Questions for SBI PO Mains, IBPS PO Mains and RBI Grade B Exams.

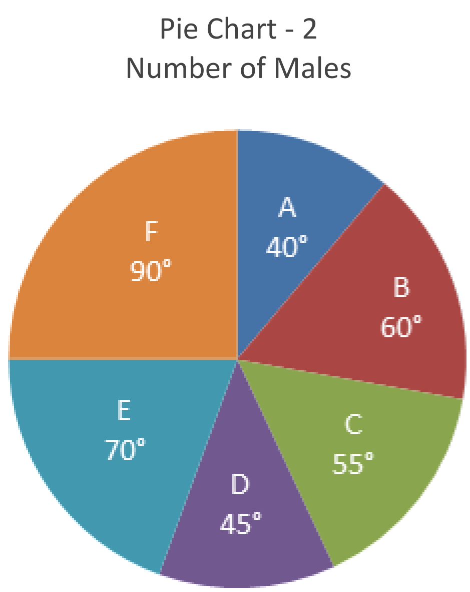
DI Pie Chart No 56

Directions: Study the following pie chart carefully and answer the questions given beside.

Number of soldiers in army of a country is 10,00,000. Total females in the army are 2,80,000. There are 6 divisions within the army namely A, B, C, D, E and F. In the meeting of Defence Minister with Chief of Army staff, number of soldier and their status within each division in terms of male and female population were discussed. Chief of Army Staff gave the following pie charts to Defence Minister.

Population of each division in terms of percentage has been given in pie chart-1, and pie chart-2 gives the number of males in those divisions in terms of degrees within pie chart of total male population in the army.





1. **In pie chart-2, secretary of Chief of Army staff made a discrepancy. Which division has a discrepancy in terms of number of males and female soldiers in each division.**

A. F   B. E   C. D   D. B   E. C

2. **Find the average number of males in divisions B, D and F together are what % of total population of division B?**

A. 110.33%   B. 108.66%   C. 110.66%   D. 108.33%   E. None of these

3. **Half of females from division A, one-fourth from division C and one-fifth from D were sent for special training. If the number of females on this training are represented on a pie chart then what corresponding angle the females of division C will make? (approximately)**

A. 40°   B. 42°   C. 44°   D. 46°   E. None of these

4. **After a year from this meeting, in division A 20,000 more soldiers were admitted and in B 80,000 more were admitted and number of soldiers in all other divisions were not changed. If the pie chart-1 is again prepared, what percentage would division D get in the pie chart-1?**

A. 18.18%   B. 12.5%   C. 16.66%
D. For D, the percentage on the pie chart will remain same.   E. None of these

5. **It is known that 15%, 10% and 5% of males in division A, C, and F respectively are married, while 10% and 20 % from B and D respectively are married. In B and D how many more/less men are married with respect to A, C, and F?**

A. 5%   B. 5.25%   C. 6%   D. 6.25%   E. None of these

Correct Answers:

1	**2**	**3**	**4**	**5**
B	D	C	A	D

Common Explanation:

Since population of the city is 10,00,000 we first calculate what population different divisions of the city has.

A = 18% of 10,00,000 = 1,80,000
B = 12% of 10,00,000 = 1,20,000

C = 15% of 10,00,000 = 1,50,000

D = 20% of 10,00,000 = 2,00,000

E = 13% of 10,00,000 = 1,30,000

F = 22% of 10,00,000 = 2,20,000

Total Male-Female population in each of divisions:

A: Male = $7{,}20{,}000 \times \frac{400}{3600}$

$= 7{,}20{,}000 \times \frac{1}{9} = 80{,}000$

A: Female = total population in A – total males in A = 1,80,000 – 80,000 = 1,00,000

B: Male = $7{,}20{,}000 \times \frac{600}{3600}$

$= 7{,}20{,}000 \times \frac{1}{6} = 120{,}000$

B: Female = total population in B – total males in B = 1,20,000 – 1,20,000 = 0

C: Male = $7{,}20{,}000 \times \frac{550}{3600}$

$= 7{,}20{,}000 \times \frac{11}{72} = 1{,}10{,}000$

C: Female = total population in C – total males in C = 1,50,000 – 1,10,000 = 40,000

D: Male = $7{,}20{,}000 \times \frac{450}{3600}$

$= 7{,}20{,}000 \times \frac{1}{8} = 90{,}000$

D: Female = total population in D – total males in D = 2,00,000 – 90,000 = 1,10,000

E: Male = $7{,}20{,}000 \times \frac{700}{3600}$

$= 7{,}20{,}000 \times \frac{7}{36} = 1{,}40{,}000$

E: Female = total population in E – total males in E = 1,30,000 – 1,40,000 = –10,000 (it has discrepancy)

F: Male = $7{,}20{,}000 \times \frac{900}{3600}$

$= 7{,}20{,}000 \times \frac{1}{4} = 1{,}80{,}000$

F: Female = total population in F – total males in F = 2,20,000 – 1,80,000 = 40,000

Answers :

1. For the solution of this question, we need to find the number of male and female soldiers in each division.

In common explanation below we see that division E has discrepancy that the number of female soldiers is in negative.

Hence, option B is correct.

2. From the common explanation, we have

Total males would be M = 10,00,000 – 2,80,000 = 7,20,000

Number of males in division B would be $= \frac{60°}{360°} \times M = \frac{M}{6}$

Number of males in division D would be $= \frac{45°}{360°} \times M = \frac{M}{8}$

Number of males in division F would be $= \frac{90°}{360°} \times M = \frac{M}{4}$

Total males in these three divisions $= \frac{M}{M6} + \frac{M}{8} + \frac{M}{4} = \frac{13M}{24}$

Average of this $= \frac{(M/6 + M/8 + M/4)}{3}$

$= \frac{(13M/24)}{3} = \frac{13M}{24 \times 3}$

$\frac{13M}{24 \times 3} = \frac{13 \times 7{,}20{,}000}{24 \times 3} = 1{,}30{,}000$

Now, population of B = 120,000

Total males in B, D, and F as a % of total population of division B

$\frac{1{,}30{,}000}{1{,}20{,}000} \times 100 = 108.33\%$

Hence, option D is correct.

3. From the common explanation, we have

Females in division A = 1,00,000

Half of it = $\frac{1}{2} \times 1{,}00{,}000 = 50{,}000$

Females in division C = 40,000

one-fourth of it = $\frac{1}{4} \times 40{,}000 = 10{,}000$

Females in division D = 1,10,000

one-fourth of it = $\frac{1}{5} \times 1{,}10{,}000 = 22{,}000$

Total females on training = 82,000

On a pie chart we should have,
82,000 = 360°

In division C has 10,000 on training,

10,000 on pie chart = $\frac{10{,}000 \times 360^\circ}{82{,}000}$

= 43.9 = 44° (approximately)

Hence, option C is correct.

4. From the common explanation, we have

In A, initially there were 1,80,000 soldiers, but now 1,80,000 + 20,000 = 2,00,000

In B, initially there were 1,20,000 soldiers, but now 1,20,000 + 80,000 = 2,00,000

Other divisions have same number of soldiers. Increase in overall soldiers in the country = 10,00,000 + (20,000 + 80,000) = 11,00,000

D division still has 2,00,000 soldiers as we calculated in common explanation.

So, the percentage that D would get = $\frac{2{,}00{,}000}{11{,}00{,}000} \times 100 = 18.18\%$

Hence, option A is correct.

5. From common explanation, we have

Males in A = 80,000, 15% are married, thus 15% of 80,000

$= \frac{15 \times 80,000}{100} = 12,000$

Males in C = 1,10,000, 10% are married, thus 10% of 1,10,000

$= \frac{10 \times 1,10,000}{100} = 11,000$

Males in F = 1,80,000, 5% are married, thus 5% of 1,80,000

$= \frac{5 \times 1,80,000}{100} = 9,000$

Total married male in A, C and F = 12,000 + 11,000 + 9,000 = 32,000

Males in B = 1,20,000, 10% are married, thus 10% of 1,20,000

$= \frac{12 \times 1,20,000}{100} = 12,000$

Males in D = 90,000, 20% are married, thus 20% of 90,000

$= \frac{20 \times 90,000}{100} = 18,000$

Total married male in B and D = 12,000 + 18,000 = 30,000

Difference = 32,000 – 30,000 = 2,000

In B and D how many more/less men are married with respect to A, C, and F

$= \frac{2000}{32000} \times 100 = 6.25\%$

Hence, option D is correct.