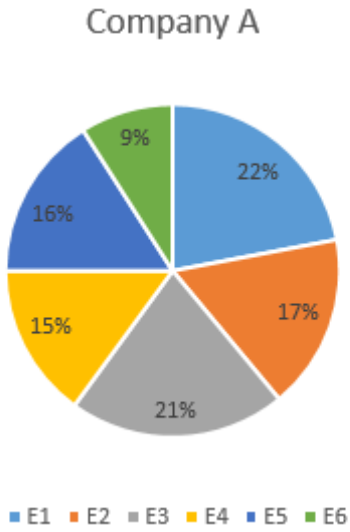
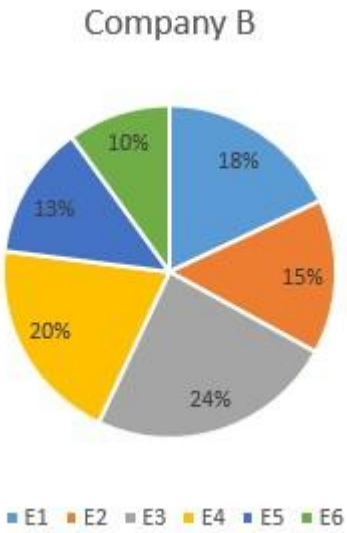
Surprise Quant sectional Test 2

Directions (Q. 1-5): In the following pie-charts the percentage of different categories of employees of two companies A and B are given and the table shows the percentage of Male employees among them. The total employees in Company A is 6500 and that in Company B is 9000.





Employee	%Male in A	%Male in B
E1	40%	45%
E2	60%	48%
E3	40%	55%
E4	48%	52%
E5	55%	60%
E6	60%	57%

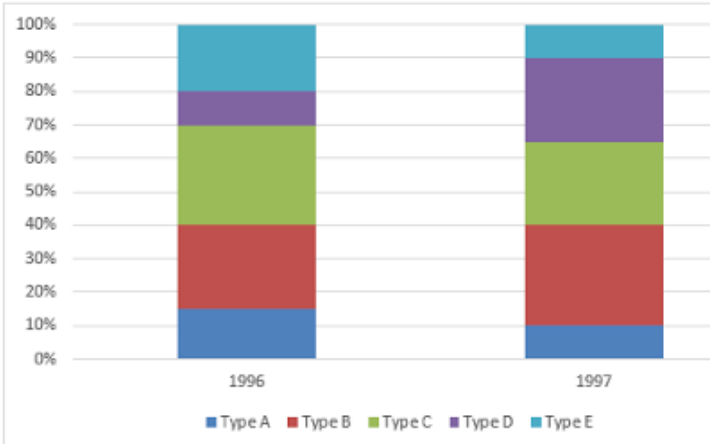
1. What is the total number of female employees of category E4 in Company A?
(a) 975
(b) 468
(c) 507
(d) 864
(e) None of these

2. What is the average number of male employees of all categories in Company B?
(a) 722
(b) 756
(c) 764
(d) 775
(e) 786

3. What is the difference between the total number of male and female employees in Company A?
(a) 156
(b) 160
(c) 162
(d) 168
(e) 172

4. The total number of female employees in categories E1, E2 and E3 together in Company B is what percentage of the total employees in Company B?
(a) 24%
(b) 26.5%
(c) 27.5%
(d) 28.5%
(e) 32.5%

5. The total male employees of category E5 and E6 in Company B is approximately what percentage more than the total male employees of category E4 and E5 in Company A?
(a) 11%
(b) 13%
(c) 15%
(d) 17%
(e) 19%



Total Production of Cars in 1996 was 450000
Total Production of Cars in 1997 was 520000

Q6. What was the difference in the production of C type cars between 1996 and 1997?
(a) 5000
(b) 7500
(c) 10000
(d) 2500
(e) None of these

Q7. If 85% of E type cars produced during 1996 and 1997 are being sold by the company, then how many E type cars are left unsold by the company?
(a) 142800
(b) 21825
(c) 29100
(d) 25200
(e) None of these

Q8. If the number of A type cars manufactured in 1997 was the same as that of 1996, what would have been its approximate percentage share in the total production of 1997?
(a) 11
(b) 13

(c) 15
(d) 9
(e) None of these

Q9. In the case of which of the following types of cars was the percentage increase from 1996 to 1997 the maximum?
(a) A
(b) E
(c) D
(d) B
(e) C

Q10. If the percentage production of B type cars in 1997 was the same as that of 1996, what would have been the number of cars produced in 1997?
(a) 112500
(b) 120000
(c) 130000
(d) Data inadequate
(e) None of these

Q11. 5 9 25 91 414 2282.5
3 (a) (b) (c) (d) (e)
What will come in place of (c)?
(a) 63.25
(b) 63.75
(c) 64.25
(d) 64.75
(e) None of these

Q12. 15 9 8 12 36 170
19 (a) (b) (c) (d) (e)
What will come in place of (b)?
(a) 18
(b) 16
(c) 22
(d) 24
(e) None of these

Q13. A can finish a piece of work in 24 days. B is 20% more efficient than A. C is 25% more efficient that B. In how many days B and C together can finish the same piece of work?
(a) $8\frac{8}{9}$
(b) $9\frac{1}{3}$
(c) $8\frac{5}{8}$
(d) $10\frac{2}{9}$
(e) $9\frac{1}{6}$

Q14. 12 pumps working 6 h a day can empty a completely filled reservoir in 15 days. How many such pumps working 9h a day will empty the same reservoir in 12 days?
(a) 15
(b) 9
(c) 10
(d) 2
(e) 8

Q15. How many litres of fresh water should be mixed with 30 litres of 50% milk solution so that resultant solution is a 10% milk solution?
(a) 120 litres
(b) 25 litres
(c) 150 litres
(d) 60 litres
(e) 160 litres

Surprise Quant sectional Test 2

Solutions:

1. (C)

Females E4 = $6500 * \frac{15}{100} * \frac{100-48}{100}$

= 6500 x 0.15 x 0.52 = 507

2. (e)

The required average

$$\frac{9000}{100*100} * \frac{18*45+15*48+24*55+20*52+13*60+10*57}{6}$$

$$= \frac{9000*5240}{100*100*6} = \frac{5240*9}{6} = \frac{4716}{6} = 786$$

3. (a)

Total males = 6500(0.22 × 0.4 + 0.17 × 0.6 + 0.21 × 0.4 + 0.15 × 0.48 + 0.16 × 0.55 + 0.09 × 0.6) = 6500 × 0.488 = 3172

Females = 6500 - 3172 = 3328

Difference = 3328 - 3172 = 156

4. (d)

Females (E1 + E2 + E3) = 9000(0.18 × 0.55 + 0.15 × 0.52 + 0.24 × 0.45) = 9000 × 0.285 = 2565

Required% = $\frac{2565}{9000} * 100 = 28.5\%$

5. (d)

Total Males $(E5 + E6)_B$ = 702 + 513 = 1215

Total Males $(E4 + E5)_A$ = 468 + 572 = 1040

Required per cent

$$\frac{1215-1040}{1040} * 100 = \frac{175}{1040} * 100$$
$$= 16.826\%$$
$$= 17\% \ (approx.)$$

S6. Ans.(a)
Sol. Production of C type cars in 1996
= (70 – 40)% of 450000
= 30% of 450000 = 135000
Production of C type cars in 1997
= (65 – 40)% of 520000
= 25% of 520000 = 130000

∴ Required difference = 5000.

S7. Ans.(e)
Sol. Production of E type cars in 1996
= (100 – 80)% of 450000
= 20% of 450000 = 90000
And in 1997 = 10% of 520000 = 52000
∴ Total production = 90000 + 52000 = 142000.

∴ Required number of cars = 15% of 142000 = 21300

S8. Ans.(b)
Sol. Production of A type cars in 1997 = production of A type cars in 1996 (given)
= (100 – 85)% of 450000 = 67500

∴ Required percentage = 67500/520000× 100 ≈ 13.

S9. Ans.(c)
Sol. Clearly, by visual inspection D is the desired option.

S10. Ans.(c)
Sol. Percentage production of B type cars in 1997 = that in 1996 (given)
= (40 – 15) 25% of 520000 = 130000.

S11. Ans.(d)
Sol. As
5 × 1.5 + 1.5 = 7.5 + 1.5 = 9
9 × 2.5 + 2.5 = 22.5 + 2.5 = 25
25 × 3.5 + 3.5 = 87.5 + 3.5 = 91
91 × 4.5 + 4.5 = 409.5 + 4.5 = 414
Similarly,
414 × 5.5 + 5.5
⇒ 2277 + 5.5
⇒ 2282.5
(a) ⇒ 3 × 1.5 + 1.5 = 4.5 + 1.5 = 6
(b) ⇒ 6 × 2.5 + 2.5 = 15 + 2.5 = 17.5
(c) ⇒ 17.5 + 3.5 + 3.5

⇒ 61.25 + 3.5 = 64.75

S12. Ans.(b)
Sol.
15 × 1- 1 × 6 = 15 - 6 = 9
9 × 2 - 2 × 5 = 18 - 10 = 8
8 × 3 - 3 × 4 = 24 -12 = 12
12 × 4 - 4 × 3 = 48 - 12 = 36
36 × 5 - 5 × 2 = 180 - 10 = 170
Similarly,
(a) ⇒ 19 × 1 - 1 × 6 = 19 - 6 = 13

(b) ⇒ 13 × 2 - 2 × 5 = 26 - 10 = 16
S:13

S . Ans.(a)
Sol. Here, A can finish the work in 24 days
Again, efficiency and days are inversely proportional to each other.
∴ B can complete the same work
$= \frac{24}{120} \times 100 = 20$ days
Again, C can complete the same work
$= \frac{20}{125} \times 100 = 16$ days
B and C can finish this work
$= \frac{20 \times 16}{20+16} = \frac{320}{36}$
$= \frac{80}{9} = 8\frac{8}{9}$ days

S14. Ans.(c)

Sol. Given, $M_1 = 12, H_1 = 6, D_1 = 15$

And $M_2 = ?, H_2 = 9, D_2 = 12$

By the formula,

$M_1D_1H_1 = M_2D_2H_2$

$\Rightarrow 12\times6\times15 = M_2\times9\times12$

$\Rightarrow M_2 = \frac{6 \times 15}{9}$

$\Rightarrow M_2 = 2\times5$

$\therefore M_2 = 10$

S:15

S . Ans.(a)

Sol. Using Alligation

So, ratio of fresh water added : milk solution = 4 : 1

Hence, 120 litres of fresh water should be added.