

Quantitative Aptitude

Directions (01 - 05): Study the following information carefully and answer the questions given below. The given table shows data of male and female employees working in five different companies namely A, B, C, D and E and also those working employees in each company are three different graduates i.e. Science, Arts and Commerce (percentage of each category is given). Some data is missing.

COMPANY	Total number of male and female employee	Difference of male and female employee	Male			Female		
			Percnt age of scienc e gradua te	Perce ntage of Arts gradu ate	Percen tage of Comm erce gradu ate	Percent age of science graduat e	Percen tage of Arts gradua te	Perc enta ge of Com mere grad uate
A	200	40	40%					30%
B	180	20		30%			50%	
C	260	20			60%			20%
D	210	30	40%		30%			
E	260	40				30%		30%

Note – Number of female employees is more only in company B and D.

1) Total number of commerce graduates working in company A is 60 and the total number of arts graduates working is 76 in same company. Find the difference between the total number of science and arts graduates working in company A?

- a) 22
- b) 14
- c) 12
- d) 18
- e) 16

2) Ratio of arts female and commerce female graduates working in company B is 5:3. Number of male science graduates working in company B is 20% less than the number of female science graduates working in company B. Find the total number of commerce graduates working in company B?

- a) 70
- b) 55
- c) 60
- d) 90



e) 80

3) Number of male arts graduates working in company C is 4 more than the number of male arts graduates working in company B. Number of female science graduates working in company C is double of the number of male science graduates working in the same company. Find the difference between the number of male and female Arts graduates working in C?

- a) 14
- b) 12
- c) 16
- d) 18
- e) None of these

4) Number of female science graduates working in company D is 25% more than the number of male science graduates working in company D and the ratio of male and female arts graduates working in company D is 3:5. Find the number of male commerce graduates working in company

D is what percent more or less than the number of female commerce graduates working in company D?

- a) 10%
- b) 12%
- c) 15%
- d) 16%
- e) None of these

5) Number of male arts graduates working in company E is 6 more than the number of female arts graduates working in company E. Number of male science graduates working in company E is X more than the number of female science graduates working in company E. Find the value of X if equal number of male science, arts and commerce graduates are working in company E?

- a) 17
- b) 15
- c) 16
- d) 12
- e) None of these

Directions (6 - 10): Study the following data carefully and answer the questions:

A gym is inaugurated in the month of January of a particular year. Both fitness classes and dance classes are run in the gym. Every month some people joined the gym, some of them joined only fitness classes, some joined only dance classes and the remaining joined both fitness and dance classes. No person left the gym on Feb and Mar.

Funnel DI given below shows the number of persons attending only fitness classes, those attending only dance classes and those attending both fitness and dance classes on Jan, Feb and Mar.

	No. of persons attended only fitness classes	No. of persons attended only dance classes	No. of persons attended both classes
In Jan	$x + 3$	x	$x - 6$
In Feb	$y + 3$	y	$y - 11$
In Mar	$z + 2$	z	$z - 14$

Note:

- 1: Ratio of the number of persons, who attended both fitness and dance classes on Jan to those on Mar, is 1: 2.
 - 2: Number of persons, who attended only dance classes on Jan, is equal to those, who attended both fitness and dance classes on Mar.
 - 3: Number of persons who attended fitness classes only on Mar is 4 more than those on Feb.
 - 4: Number of persons in the gym = Number of persons attended only fitness classes + Number of persons attended only dance classes + Number of persons attended both fitness and dance classes
 - 5: Number of persons joined the gym in a month = Total number of persons in the gym in that month – Total number of persons in the gym in previous month
- | | |
|---|--|
| <ol style="list-style-type: none"> 6) By what percent the number of persons in the gym increased from Feb to Mar? <ol style="list-style-type: none"> a) 40% b) 25% c) 37.5% d) 20% e) 33.33% | <ol style="list-style-type: none"> 7) Find the ratio of the total number of persons, who attended dance classes in Jan to those, who attended fitness classes on Mar. <ol style="list-style-type: none"> a) 9: 20 b) 1: 2 c) 9: 19 d) 4: 9 |
|---|--|



e) 10: 19

8) In Feb, 60% of total persons in the gym were females. If 8 females attended fitness classes only, 60% of remaining females attended dance classes only, then find the number of males attended both fitness and dance classes in Feb.

- a) 10
- b) 0
- c) 6
- d) 2
- e) 4

9) From Jan to Feb, number of persons attended fitness classes only increased by P%, number of persons attended dance classes only increased by Q% and number of persons attended both

fitness and dance classes increased by R%, then find the ratio between P, Q and R respectively.

- a) 30: 33: 50
- b) 36: 45: 50
- c) 30: 33: 40
- d) 33: 40: 45
- e) 36: 45: 40

10) Find the difference between total number of persons, who attended any 1 class on Mar to those, who attended both fitness and dance classes on Mar.

- a) 36
- b) 30
- c) 42
- d) 35
- e) 28

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Answer Key with Explanation

Directions (01 - 05):

Total number of employees in A = 200.

Difference of male and female employees in A = 40.

So, number of males in A = $240/2 = 120$

Total number of females in A = $160/2=80$

Total number of employees in B = 180.

Difference of male and female employees in B = 20.

So, Number of females in B = $200/2 = 100$



Number of males in B = $160/2 = 80$

Similarly, we can calculate the other value also.

Company	Number of males	Number of females
A	120	80
B	80	100
C	140	120
D	90	120
E	150	110

1) Answer: C

In Company A,

Number of female commerce graduate = $80 * 30/100 = 24$

Number of male commerce graduate = $60 - 24 = 36$

Number of male science graduate = $120 * 40/100 = 48$

Number of male arts graduate = $120 - 48 - 36 = 36$

Number of female arts graduates = $76 - 36 = 40$

Number of females science graduate = $80 - 40 - 24 = 16$

Required difference = $76 - 48 - 16 = 12$

2) Answer: A

Number of female science graduate working in company B = $100 - 50 - [50 * 3/5] = 20$

Number of male science graduate working in company B = $20 * 80/100 = 16$

Number of male commerce graduate working in company B = $80 - 16 - 30 * 80/100 = 40$

Total number of commerce graduate working in company B = $40 + (50 * 3/5) = 70$

3) Answer: B

Number of male arts graduates working in company C = $80 * 30/100 + 4 = 28$

Number of male science graduate working in company C = $140 - 60 * 140/100 - 28 = 28$

Number of female Science graduate working in company C = $28 * 2 = 56$

Number of female Arts graduates working in company C = $120 - 56 - 120 * 20/100 = 40$

Required difference = $40 - 28 = 12$

4) Answer: A

Number of female science graduate working in company D = $90 * [40/100] * 125/100 = 45$

Number of male commerce graduate working in company D = $90 * 30/100 = 27 =$ number of male

Arts graduates working in company D

Number of female arts graduates working in company D = $27 * 5/3 = 45$

Number of female commerce graduates working in company D = $120 - 45 - 45 = 30$

Required percentage = $[(30 - 27)/30] * 100 = 10\%$

5) Answer: A

Number of female science graduate working in E = $110 * 30/100 = 33$

Number of female arts graduates working in E = $110 - (33 * 2) = 44$

Number of male arts graduates working in E = $44 + 6 = 50$

So, $33 + X = 50$

Or, $X = 17$



Directions (6 - 10):

Since, ratio of the number of persons, who attended both fitness and dance classes in Jan to those on Mar, is 1: 2.

$$\text{So, } (x - 6) / (z - 14) = 1/2$$

$$2x - 12 = z - 14$$

$$z = 2x + 2 \text{ -----(1)}$$

Since, the number of persons, who attended only dance classes in Jan, is equal to those, who attend both fitness and dance classes on Mar.

$$\text{So, } x = z - 14$$

$$z = x + 14 \text{ -----(2)}$$

From (1) and (2):

$$2x + 2 = x + 14$$

$$x = 12, z = 26$$

Since, number of persons attended fitness classes only on Mar is 4 more than those in Feb.

$$\text{So, } z + 2 - y - 3 = 4$$

$$z - y = 5$$

$$y = 21$$

Month	No. of persons attended only fitness classes	No. of persons attended only dance classes	No. of persons attended both fitness and dance classes
Jan	12 + 3 = 15	12	12 - 6 = 6
Feb	21 + 3 = 24	21	21 - 11 = 10
Mar	26 + 2 = 28	26	26 - 14 = 12

6) Answer: D

Number of persons in the gym in Feb = 24 + 21 + 10 = 55

Number of persons in the gym on Mar = 28 + 26 + 12 = 66

Required percentage = $[(66 - 55)/55] * 100 = 20\%$

7) Answer: A

Total number of persons, who attended dance classes in Jan = 12 + 6 = 18

Total number of persons, who attended fitness classes on Mar = 28 + 12 = 40

Required ratio = 18: 40 = 9: 20

8) Answer: B

In Feb:

Total number of persons in the gym = 24 + 21 + 10 = 55

Number of females in the gym = 60% of 55 = 33

Number of females attended fitness classes only = 8

Number of females attended dance classes only = 60% of (33 - 8) = 15

Number of females attended both fitness and dance classes = 33 - 8 - 15 = 10

Since, number of persons attended both fitness and dance classes = 10

So, there was no male, who attended both fitness and dance classes in Feb.

9) Answer: E

Number of persons attended only fitness classes in Jan = 15

Number of persons attended only fitness classes in Feb = 24

So, P = $[(24 - 15)/15] * 100 = 60\%$

Number of persons attended only dance classes in Jan = 12



Number of persons attended only dance classes in Feb = 21

$$\text{So, } Q = [(21 - 12)/12] * 100 = 75\%$$

Number of persons attended both fitness and dance classes in Jan = 6

Number of persons attended both fitness and dance classes in Feb = 10

$$\text{So, } R = [(10 - 6)/6] * 100 = 66(2/3) \%$$

$$\begin{aligned} \text{Required ratio} &= 60: 75: (200/3) = 180: 225: 200 \\ &= 36: 45: 40 \end{aligned}$$

10) Answer: C

Total number of persons, who attended any 1 class on Mar = $28 + 26 = 54$

Number of persons, who attended both fitness and dance classes on Mar = 12

$$\text{Required difference} = 54 - 12 = 42$$



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