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Date Interpretation Set Theory Questions Quiz for Bank PO Exams

Set theory Quiz 2

Directions: Study the given information carefully to answer the questions.

In a college, 150 students of MBA are enrolled. The ratio of boys to girls is 7 : 8. There are three disciplines, namely Marketing, HR and Finance, in the college. In Marketing discipline there are 50% girls of their total number and the boys are 40% of their total number. In HR discipline, girls are 30% of their total number while boys are 30% of their total number. Finance discipline has girls 20% of their total number and the boys are 30% of their total number. 7 boys and 9 girls are in HR and Marketing both. 6 boys and 7 girls are in HR and Finance both. 5 boys and 8 girls are in Marketing and Finance both. 2 boys and 3 girls are enrolled in all three disciplines.

1. What percentage of students are enrolled in all three disciplines?

- A. 3.3% B. 7.2% C. 8.5% D. 9.32% E. None of these

2. What is the ratio of boys to girls only in Marketing discipline?

- A. 13 : 9 B. 9 : 13 C. 9 : 11 D. 11 : 9 E. None of these

3. The ratio of the number of boys in Marketing and Finance both to that of girls only in Finance is

- A. 5 : 3 B. 3 : 5 C. 5 : 4 D. 4 : 7 E. None of these

4. By what per cent is the number of boys in Marketing discipline more than the number of girls in HR discipline?

- A. $13\frac{1}{3}\%$ B. $33\frac{1}{3}\%$ C. $14\frac{2}{3}\%$ D. $16\frac{2}{3}\%$ E. None of these

5. The ratio of boys to girls enrolled only in HR discipline is

- A. 10 : 11 B. 9 : 10 C. 7 : 5 D. 5 : 7 E. None of these

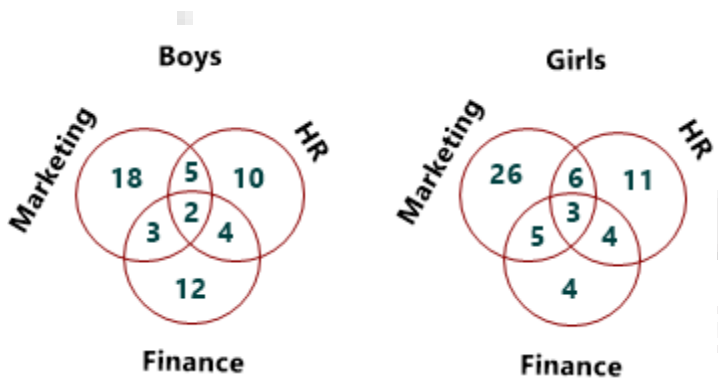
Correct Answers:

1	2	3	4	5
A	B	C	D	A

Explanations:

1. Boys = $\frac{7}{15} \times 150 = 70$; Girls = $\frac{8}{15} \times 150 = 80$

Disciplines	Boy	Girl
Marketing, n (M)	28	40
HR, n (M)	21	24
Finance, n(F)	21	16
HR + Marketing, n (H ∩ M)	7	9
HR + Finance, n (H ∩ F)	6	7
Marketing + Finance, n (M ∩ F)	5	8
Marketing + Finance + HR, n (M ∩ F ∩ H)	2	3



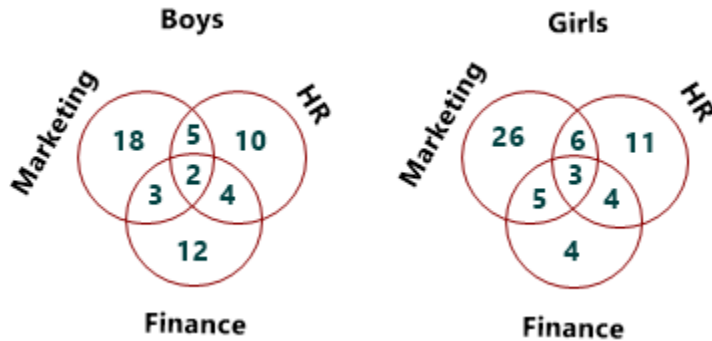
Reqd. % = $\frac{5}{150} \times 100 = 3.33\%$

Hence, option A is correct.

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2. Boys = $\frac{7}{15} \times 150 = 70$; Girls = $\frac{8}{15} \times 150 = 80$

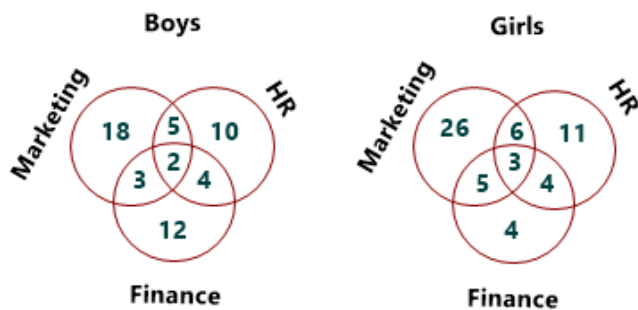
Disciplines	Boy	Girl
Marketing, n(M)	28	40
HR, n(M)	21	24
Finance, n(F)	21	16
HR + Marketing, n(H ∩ M)	7	9
HR + Finance, n(H ∩ F)	6	7
Marketing + Finance, n(M ∩ F)	5	8
Marketing + Finance + HR, n(M ∩ F ∩ H)	2	3



Reqd. ratio = 18 : 26 = 9 : 13
Hence, option B is correct.

3. Boys = $\frac{7}{15} \times 150 = 70$; Girls = $\frac{8}{15} \times 150 = 80$

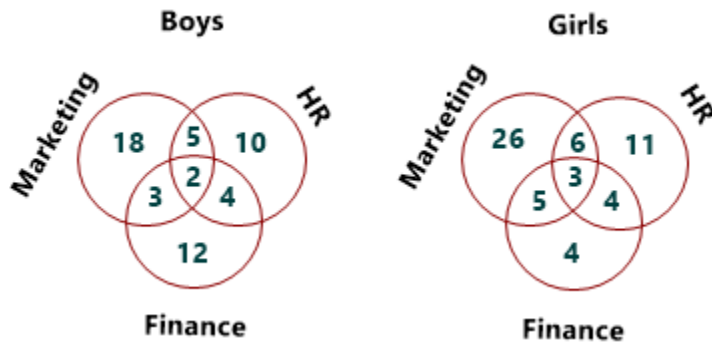
Disciplines	Boy	Girl
Marketing, n(M)	28	40
HR, n(M)	21	24
Finance, n(F)	21	16
HR + Marketing, n(H ∩ M)	7	9
HR + Finance, n(H ∩ F)	6	7
Marketing + Finance, n(M ∩ F)	5	8
Marketing + Finance + HR, n(M ∩ F ∩ H)	2	3



Reqd. ratio = 5 : 4
Hence, option C is correct.

4. Boys = $\frac{7}{15} \times 150 = 70$; Girls = $\frac{8}{15} \times 150 = 80$

Disciplines	Boy	Girl
Marketing, n(M)	28	40
HR, n(M)	21	24
Finance, n(F)	21	16
HR + Marketing, n(H ∩ M)	7	9
HR + Finance, n(H ∩ F)	6	7
Marketing + Finance, n(M ∩ F)	5	8
Marketing + Finance + HR, n(M ∩ F ∩ H)	2	3

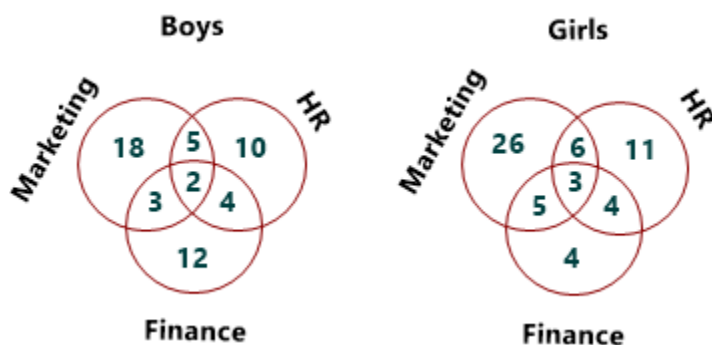


Reqd. % = $\frac{28 - 24}{24} \times 100 = \frac{4}{24} \times 100 = 16\frac{2}{3}\%$

Hence, option E is correct.

5. Boys = $\frac{7}{15} \times 150 = 70$; Girls = $\frac{8}{15} \times 150 = 80$

Disciplines	Boy	Girl
Marketing, n(M)	28	40
HR, n(M)	21	24
Finance, n(F)	21	16
HR + Marketing, n(H ∩ M)	7	9
HR + Finance, n(H ∩ F)	6	7
Marketing + Finance, n(M ∩ F)	5	8
Marketing + Finance + HR, n(M ∩ F ∩ H)	2	3



Reqd. ratio = 10 : 11

Hence, option E is correct.



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