MBA PIONEER 2024

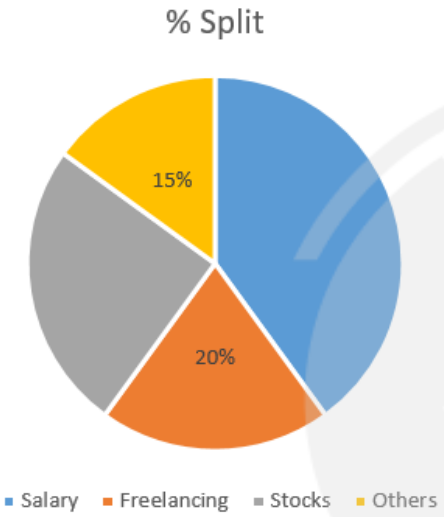
Data Interpretation & Logical Reasoning

DPP: 10

Pie Charts

Directions (1-5) Read the following passage and answer the given questions.

Raghav has 4 income sources- salary, freelancing, stocks & other sources. The split is given as below. The ratio of income from Salary & Stocks is 8 : 5.



Q1 If his total income is 1 Lakh INR, then what is his earning from stocks?

(A) 20,000 INR (B) 25,000 INR
(C) 30,000 INR (D) 40,000 INR

Q2 If his total income is 1 Lakh INR, then what is his earning from Salary & Freelancing combined?

(A) 40,000 INR (B) 75,000 INR
(C) 50,000 INR (D) 60,000 INR

Q3 If it is known that the difference between earning from stocks and other sources is 20,000 INR, then what is the total amount earned by him?

(A) 100,000 INR (B) 160,000 INR
(C) 120,000 INR (D) 200,000 INR

Q4 If it is known that the difference between earning from stocks and other sources is 20,000 INR, what is the difference between earning from Salary & Stocks?

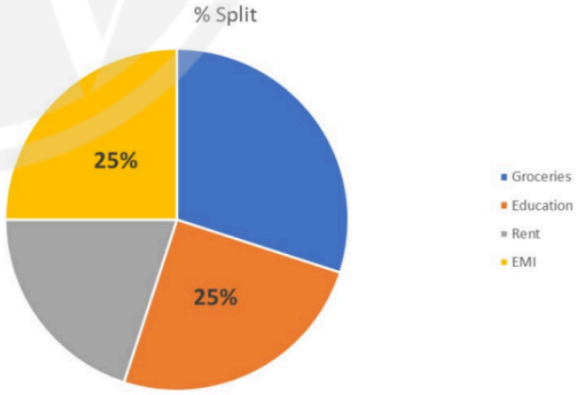
(A) 20,000 INR (B) 25,000 INR
(C) 30,000 INR (D) 40,000 INR

Q5 If it is known that the difference between earning from stocks and other sources is 20,000 INR, then what is the income from others?

(A) 30,000 INR (B) 20,000 INR
(C) 40,000 INR (D) 50,000 INR

Directions (6-10) Read the following passage and answer the given questions.

Raghav has 4 expense points- Groceries, Child Education, Rent & EMI. The split is given as below. The ratio of expenses from Groceries & Rent is 3 : 2.



Q6 If the total expenditure is 60,000 INR then find the rent he paid?

(A) 10,000 INR (B) 15,000 INR
(C) 18,000 INR (D) 12,000 INR

Q7 If the expenditure in EMI is 10,000 INR, then how much does he spend on Groceries?

(A) 10,000 INR (B) 12,000 INR

(C) 15,000 INR (D) 18,000 INR

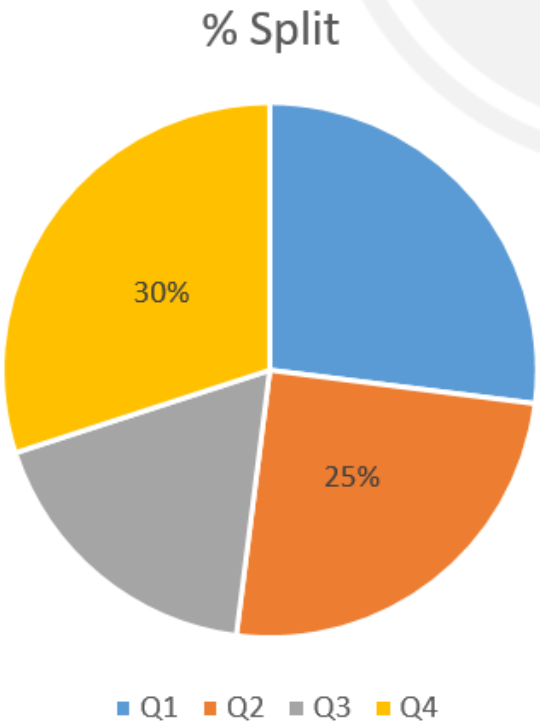
Q8 If the condition in the above question is to be true, then what is the expenditure in rent?
(A) 8,000 INR (B) 10,000 INR
(C) 12,000 INR (D) 15,000 INR

Q9 If in one month, the combined expenditure from EMI & Rent is 45,000, then what is the groceries expenditure in that month (in INR)?
(A) 30,000 (B) 60,000
(C) 45,000 (D) 48,000

Q10 If Raghav paid 15,000 INR for groceries, then what is the least expenditure he had out of the 4 expenditure sources (in INR)?
(A) 10,000 (B) 12,000
(C) 8,000 (D) 6,000

Directions (11-15) Read the following passage and answer the given questions.

The profit of a company XYZ across 4 quarters are as shown in the pie chart below. It is also known that the ratio of the Q1 and Q3 profits are in the ratio of 3 : 2.



Q11 If the profit in Q1 is 108Cr, what is the profit in Q4 (in Cr)?
(A) 120 (B) 100
(C) 108 (D) 132

Q12 If the profit in Q1 is 108Cr, What is the difference between the profit in Q2 & Q3?
(A) 4 Cr (B) 28 Cr
(C) 12 Cr (D) 20 Cr

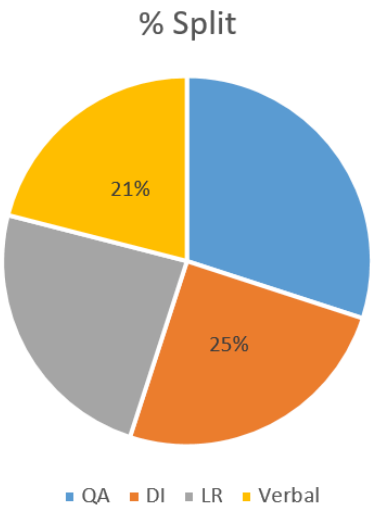
Q13 What is the average profit across all the quarters if it is given that the profit earned in Q1 is 27 Cr?
(A) 22 Cr (B) 30 Cr
(C) 25 Cr (D) 35 Cr

Q14 If the difference between the profits of Q1 & Q2 is 10 Cr, then what is the least profit generated by the company across the 4 quarters?
(A) 80 Cr (B) 90 Cr
(C) 100 Cr (D) 120Cr

Q15 If the minimum profit generated across the 4 quarters is 54 Cr, then what is the maximum profit out of the 4 quarters?
(A) 75 Cr (B) 81 Cr
(C) 90 Cr (D) 96 Cr

Directions (16-20) Read the following passage and answer the given questions.

Sahev appeared in a test where there are 4 sections- Quant, DI, LR, Verbal. Each section has equal full marks. The chart below shows the marks scored by Sahev in a section as a percentage of his total score across the 4 subjects. It is known that the score in QA : LR is 5 : 4.



Q16 If Sahev scores 48% of the full marks in the LR section, then find what is the % of the full marks was scored by him in the DI section?

(A) 40% (B) 50%
(C) 36% (D) 45%

Q17 If Sahev scores 48% of the full marks in the LR section, what is Sahev's total score as a % of Total full marks?

(A) 48% (B) 60%
(C) 50% (D) 75%

Q18 If Sahev scores 48% of the full marks in the LR section, what is Sahev's total score in the Verbal section given that the exam has a total full marks of 600?

(A) 60 (B) 61
(C) 62 (D) 63

Q19 If Sahev scored full marks in one of the sections, then what is his total approximate score as a % of full marks?

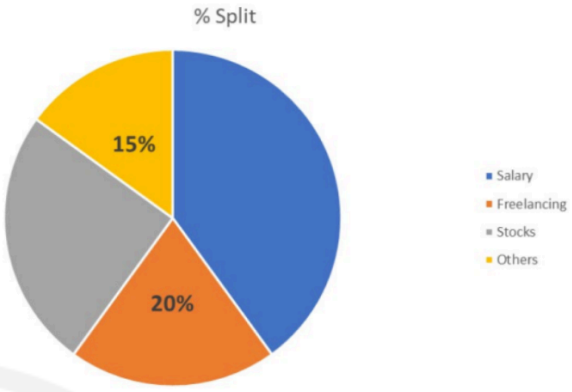
(A) 80% (B) 75%
(C) 83% (D) 60%

Q20 If Sahev scored full marks in one of the sections, what is Sahev's score in Verbal as a % of sectional full marks?

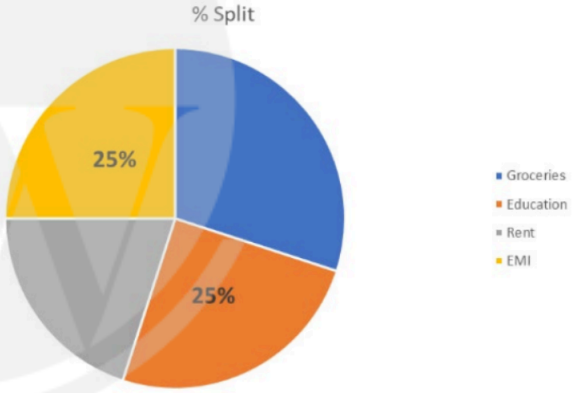
(A) 60% (B) 70%
(C) 75% (D) 63%

Directions (21-25) Read the following passage and answer the given questions.

Raghav has 4 income sources- salary, freelancing, stocks & other sources. The split is given as below. The ratio of income from Salary & Stocks is 8 : 5.



He also has 4 expenditure sources- Groceries, Child Education, Rent & EMI. The split is given as below. The ratio of expenses from Groceries & Rent is 3 : 2.



It is also given that his monthly savings is 40% of his total income.

Note :

Total income = Income from (Salary + Freelancing + Stocks + Others)

Total Expenditure = Expenses due to (Groceries + Education + Rent + EMI)

Q21 The rent cost is what percentage of the total income?

(A) 8% (B) 10%
(C) 15% (D) 12%

Q22 If the EMI cost is 15,000 INR, then what is the salary of Raghav?

(A) 1,00,000 INR (B) 40,000 INR
(C) 20,000 INR (D) 50,000 INR

Q23 If the EMI cost is 15,000 INR, then what is the total savings of Raghav?
(A) 80,000 INR (B) 40,000 INR
(C) 20,000 INR (D) 50,000 INR

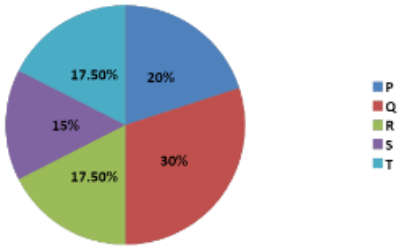
Q24 If the total savings is 20,000 INR, then find the groceries expenditure (in INR).
(A) 18,000 (B) 9,000
(C) 12,000 (D) 6,000

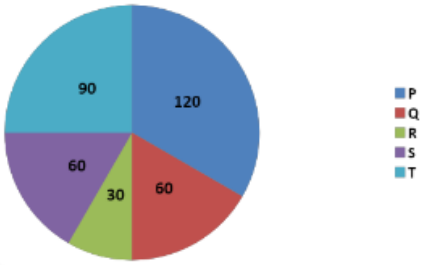
Q25 The savings is :
(A) Equal to the Stocks
(B) Same as the Freelancing Income
(C) Same as Groceries
(D) Same as the Salary

Directions (26-30) Read the following passage and answer the given questions.

First Pie chart given below shows the percent distribution of total number of students (Boys + Girls) in five different classes and second pie chart shows the degree distribution of difference between the number of boys and that of girls for all those five classes. All the data is given for 2017.

Total number of students in all the classes together is 400 and the sum of differences between the number of boys and that of girls for all the classes is 120.





Note: Number of boys is more than that of girls for classes P and R only.

Q26 What is the ratio of the total number of boys in classes P and T together to the total number of girls in classes P and Q together?
(A) 6 : 7 (B) 7 : 8
(C) 8 : 9 (D) 9 : 10

Q27 If in the year 2018, 60 new students took admission in class P after which the number of boys and the number of girls in that class in 2018 becomes same, then what is the ratio of number of new boys to that of new girls who took admission in class P in 2018? (All the other data remains the same.)
(A) 3 : 8 (B) 2 : 7
(C) 1 : 5 (D) 4 : 9

Q28 Ratio of number of boys to that of girls in class R in 2018 was 6: 7 and some new students joined class R in 2018. If a total of 60 new students joined class R in 2018, then what is the difference between the number of new boys who joined class R in 2018 and the number of new girls who

joined class R in 2018? (Assume all the other data remains the same).

(A) 30 (B) 20

(C) 25 (D) 15

Q29 If in other class U, the number of boys is 20% more than that in class T and the number of girls in class U is 14 less than that in class T, then the number of boys in class U is what percent of total number of girls in that class?

(A) 72.67% (B) 78.33%

(C) 55.55% (D) 66.67%

Q30 Total number of boys in Class P is what percent more than the total number of girls in Class T? (only numerical value)

Answer Key

Q1	(B)	Q16	(B)
Q2	(D)	Q17	(C)
Q3	(D)	Q18	(D)
Q4	(C)	Q19	(C)
Q5	(A)	Q20	(B)
Q6	(D)	Q21	(D)
Q7	(B)	Q22	(B)
Q8	(A)	Q23	(B)
Q9	(A)	Q24	(B)
Q10	(A)	Q25	(D)
Q11	(A)	Q26	(C)
Q12	(B)	Q27	(C)
Q13	(C)	Q28	(B)
Q14	(B)	Q29	(D)
Q15	(C)	Q30	20

Hints & Solutions

Q1. Text Solution:

Let's assume that % split in salary is 8x % and that for Stocks is 5x%.

So,

100% – (20 + 15)% = 8x% + 5x%

=> 65% = 13x%

=> x% = 5%

=> 8x% = 40%

=> 5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

So, out of his total earning of 1 Lakh INR, his earning from stocks is 100,000 25% = **25,000** INR

Option B

Q2. Text Solution:

Let's assume that % split in salary is 8x % and that for Stocks is 5x%.

So,

100% – (20 + 15)% = 8x% + 5x%

⇒ 65% = 13x%

⇒ x% = 5%

⇒ 8x% = 40%

⇒ 5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

So, out of his total earning of 1 Lakh INR, his earning from salary is :

1,00,000 × 40% = 40,000 INR.

His earning from Freelancing is

1,00,000 × 20% = 20,000 INR.

Total earning is (40,000 + 20,000) INR = **60,000** INR.

Option D

Q3. Text Solution:

Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.

So,

100% – (20 + 15)% = 8x% + 5x%

=> 65% = 13x%

=> x% = 5%

=> 8x% = 40%

=> 5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

If 20,000 INR is (25% - 15%) = 10% of the total income, then the total income is 20,00010% INR = **200,000** INR

Option D

Q4. Text Solution:

Let's assume that % split in salary is 8x % and that for Stocks is 5x%.

So,

100% – (20 + 15)% = 8x% + 5x%

=> 65% = 13x%

=> x% = 5%

=> 8x% = 40%

=> 5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

If 20,000 INR is (25% - 15%) = 10% of the total income, then the total income is $\frac{20,000}{10\%}$ INR = 200,000 INR.

Thus, the difference between earning from Salary & Stocks is 200,000 (40% - 25%) = **30,000** INR.

Option C

Q5. Text Solution:

Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.

So,

100% – (20 + 15)% = 8x% + 5x%

=> 65% = 13x%

=> x% = 5%

=> 8x% = 40%

=> 5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

If 20,000 INR is (25% - 15%) = 10% of the total income, then the total income is $\frac{20,000}{10\%}$ INR = 200,000 INR.

Thus the income from others is 15% 200,000 INR = **30,000** INR.
Option A

Q6. Text Solution:
Let's assume that the % split in Groceries is 3x% and that in Rent is 2x%.
So,
(3x% + 2x%) = 100 – (25 + 25)
⇒ 5x% = 50%
⇒ x = 10
⇒ 3x% = 30%
⇒ 2x% = 20
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
If the total expenditure is 60,000 INR, then he paid a rent of 20% × 60,000 INR = 12,000 INR.
Option D

Q7. Text Solution:
Let's assume that the % split in Groceries is 3x% and that in Rent is 2x%.
So,
(3x% + 2x%) = 100 – (25 + 25)
⇒ 5x% = 50%
⇒ x = 10
⇒ 3x% = 30%
⇒ 2x% = 20
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Given, total expenditure in EMI is 25% of monthly expenditure.
So,
25% × Total Expenditure = 10,000
Total Expenditure = 40,000
30% Total Expenditure = 40,000 × 30% = 12,000 .
Thus, the answer is 12,000 INR.
Option B

Q8. Text Solution:
Let's assume that the % split in Groceries is 3x% and that in Rent is 2x%.
So,
(3x% + 2x%) = 100 – (25 + 25)
⇒ 5x% = 50%
⇒ x = 10
⇒ 3x% = 30%
⇒ 2x% = 20
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Given, total expenditure in EMI is 25% of monthly expenditure.
So,
25% × Total Expenditure = 10,000
Total Expenditure = 40,000
Amount spend on rent = 20% × Total Expenditure
= 40,000 × 20% = 8,000.
Option A

Q9. Text Solution:
Let's assume that the % split in Groceries is 3x% and that in Rent is 2x%.
So,
(3x% + 2x%) = 100 – (25 + 25)
⇒ 5x% = 50%
⇒ x = 10
⇒ 3x% = 30%
⇒ 2x% = 20
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
According to the question,
(20% + 25%) of Total Expenditure = 45,000
Total Expenditure = 100,000
Groceries Expenditure = 30% of Total Expenditure
= 30,000.
Option A

Q10. Text Solution:
Let's assume that the % split in Groceries is 3x% and that in Rent is 2x%.
So,
(3x% + 2x%) = 100 – (25 + 25)
⇒ 5x% = 50%
⇒ x = 10
⇒ 3x% = 30%
⇒ 2x% = 20
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
30% of Total Expenditure = 15,000

Total Expenditure = 50,000
20% of Total Expenditure = 50,000 × 20% = 10,000
Thus, the answer is 10,000 INR.
Option A

Q11. Text Solution:
Let's assume the % split for Q1 profit is 3x% and that for Q3 is 2x%
So,
5x% = 100 – (30 + 25)
=> 5x% = 45%
=> x% = 9%
Thus, the split for Q1 and Q3 are 27% and 18% respectively.
Let's assume that the total profit is 100P.
So,
27P = 108
=> P = 4
=> 30P = 120
So, the profit of Q4 is **120** Cr.
The answer is option A.

Q12. Text Solution:
Let's assume the % split for Q1 profit is 3x% and that for Q3 is 2x%
So,
5x% = 100 – (30 + 25)
=> 5x% = 45%
=> x% = 9%
Thus, the split for Q1 and Q3 are 27% and 18% respectively.
Let's assume that the total profit is 100P.
So,
27P = 108
=> P = 4
=> (25P – 18P)
=> 7P = 7 × 4 = 28 cr
So, the answer is **28 Cr**.
The answer is option B.

Q13. Text Solution:
Let's assume the % split for Q1 profit is 3x% and that for Q3 is 2x%
So,
5x% = 100 – (30 + 25)
=> 5x% = 45%
=> x% = 9%
Thus, the split for Q1 and Q3 are 27% and 18% respectively.
Let's assume that the total profit is 100P.
So,
27P = 27
P = 1 Cr.
Average profit across all the quarters = $\frac{100P}{4}$ = 25P
Thus, the answer is 25 x 1 Cr = **25 Cr**.
The answer is option C.

Q14. Text Solution:
Let's assume the % split for Q1 profit is 3x% and that for Q3 is 2x%
So,
5x% = 100 – (30 + 25)
=> 5x% = 45%
=> x% = 9%
Thus, the split for Q1 and Q3 are 27% and 18% respectively.
Let's assume that the total profit is 100P.
So,
(27P – 25P) = 10
=> P = 5
=> 18P = 90
Thus, the minimum profit generated is **90 Cr**.
The answer is option B.

Q15. Text Solution:
Let's assume the % split for Q1 profit is 3x% and that for Q3 is 2x%
So,
5x% = 100 – (30 + 25)
=> 5x% = 45%
=> x% = 9%
Thus, the split for Q1 and Q3 are 27% and 18% respectively.
Let's assume that the total profit is 100P.
So,
18P = 54
=> P = 3
=> 30P = 90
Thus, the maximum profit is **90 Cr**.

The answer is option C.

Q16. Text Solution:

Let's assume that the % split of total marks scored by Sahev in QA is 5x% and that in LR is 4x%

So,

100 - (21 + 25) = (4x% + 5x%)

=> 54% = 9x%

=> x% = 6%

=> 4x% = 24%

=> 5x% = 30%

Thus, he scored 24% of the total score in LR and 30% of the total score in QA.

Let's assume that he scored 100P marks. So, his score in LR is 24P

24P is the 48% of total marks in LR Section. Thus, LR section has a full mark of $\frac{24P}{48\%}$ = 50P

As each section has the same full marks, the full marks for DI is also 50P.

Marks scored in DI = 25% of 100P = 25P

Thus, the % of the full marks scored by Sahev in DI is

25P x $\frac{100}{50P}$ % = 50%

Option B

Q17. Text Solution:

Let's assume that the % split of total marks scored by Sahev in QA is 5x% and that in LR is 4x%

So,

100 - (21 + 25) = (4x% + 5x%)

=> 54% = 9x%

=> x% = 6%

=> 4x% = 24%

=> 5x% = 30%

Thus, he scored 24% of the total score in LR and 30% of the total score in QA.

Let's assume that he scored 100P marks. So, his score in LR is 24P

24P is the 48% of total marks in LR Section. Thus, LR section has a full mark of $\frac{24P}{48\%}$ = 50P

As each section has the same full marks, the full marks for all the section is also 50P x 4 = 200P.

Thus, Sahev scored 100P x $\frac{100}{200P}$ % = 50%

Option C

Q18. Text Solution:

Let's assume that the % split of total marks scored by Sahev in QA is 5x% and that in LR is 4x%

So,

100 - (21 + 25) = (4x% + 5x%)

=> 54% = 9x%

=> x% = 6%

=> 4x% = 24%

=> 5x% = 30%

Thus, he scored 24% of the total score in LR and 30% of the total score in QA.

Let's assume that he scored 100P marks. So, his score in LR is 24P

24P is the 48% of total marks in LR Section. Thus, LR section has a full mark of $\frac{24P}{48\%}$ = 50P

As each section has the same full marks, the full marks for all the section is also 50P x 4 = 200P.

200P = 600

=> P = 3

=> 21P = 63

Thus, Sahev scored 63 marks in Verbal.

Option D

Q19. Text Solution:

Let's assume that the % split of total marks scored by Sahev in QA is 5x% and that in LR is 4x%

So,

100 - (21 + 25) = (4x% + 5x%)

=> 54% = 9x%

=> x% = 6%

=> 4x% = 24%

=> 5x% = 30%

Thus, he scored 24% of the total score in LR and 30% of the total score in QA.

In QA he scored the highest. So, **QA score = Full marks of the section**. As in DI, LR & Verbal he scored less than QA, in those sections he can not score the full marks as that will lead to scoring more than 100% in QA section which is impossible.

Example- If we consider DI score as the full marks, then the full marks for each of the sections is 25P. This means that Sahev has scored more than the full marks in QA as his score in QA is 30P. This scenario is not possible.
Similarly for LR & Verbal as he scored even less than that of DI, they can not be the full marks of the section. Thus, in QA Sahev scored the full marks.
Let's assume that the total score scored by Sahev is 100P.
Then in QA he scored 30P which is also equal to the sectional full marks.
Thus, the total full marks = 30P x 4 = 120P
Thus, the % scored by Sahev is 100P x $\frac{100}{120P}\%$ = 83.33%
Option C

Q20. Text Solution:
Let's assume that the % split of total marks scored by Sahev in QA is 5x% and that in LR is 4x%
So,
100 - (21 + 25) = (4x% + 5x%)
=> 54% = 9x%
=> x% = 6%
=> 4x% = 24%
=> 5x% = 30%
Thus, he scored 24% of the total score in LR and 30% of the total score in QA.
In QA he scored the highest. So, **QA score = Full marks of the section**. As in DI, LR & Verbal he scored less than QA, in those sections he can not score the full marks as that will lead to scoring more than 100% in QA section which is impossible.
Example- If we consider DI score as the full marks, then the full marks for each of the sections is 25P. This means that Sahev has scored more than the full marks in QA as his score in QA is 30P. This scenario is not possible.
Similarly for LR & Verbal as he scored even less than that of DI, they can not be the full marks of the section. Thus, in QA Sahev scored the full marks.
Let's assume that the total score scored by Sahev is 100P.
Then in QA he scored 30P which is also equal to the sectional full marks.
Thus, Sahev's score in Verbal is 21P x $\frac{100}{30P}\%$ = 70%
Option B

Q21. Text Solution:
Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.
So,
100 – (20 + 15) = 8x + 5x
65% = 13x%
x% = 5%
8x% = 40%
5x% = 25%
So, income from salary is 40% and income from stocks is 25% of the total monthly income.
Let's assume that the % split in Groceries is 3y% and that in Rent is 2y%.
So,
(3y% + 2y%) = 100 – (25 + 25)
5y% = 50%
y% = 10%
3y% = 30%
2y% = 20%
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Let's assume that the income is 100P.
The savings is 40% x 100P = 40P
Expenditure = 100P – 40P = 60P
Thus, the rent cost is 20% x 60P = 12P
Required % = $\frac{12P}{100P} \times 100$ = **12%** of total income.
Option D

Q22. Text Solution:
Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.
So,
100 – (20 + 15) = 8x + 5x
65% = 13x%

x% = 5%
8x% = 40%
5x% = 25%
So, income from salary is 40% and income from stocks is 25% of the total monthly income.
Let's assume that the % split in Groceries is 3y% and that in Rent is 2y%.
So,
(3y% + 2y%) = 100 – (25 + 25)
5y% = 50%
y% = 10%
3y% = 30%
2y% = 20%
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Let's assume that the income is 100P.
The savings is 40% × 100P = 40P
Expenditure = 100P – 40P = 60P
EMI Cost = 60P × 25%
⇒ 15P = 15,000
100P = 100,000
Thus, the Income is 1,00,000 INR.
Salary is 40% of the Income = 40% of 1,00,000
= 40,000 INR

Q23. Text Solution:
Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.
So,
100 – (20 + 15) = 8x + 5x
65% = 13x%
x% = 5%
8x% = 40%
5x% = 25%
So, income from salary is 40% and income from stocks is 25% of the total monthly income.
Let's assume that the % split in Groceries is 3y% and that in Rent is 2y%.
So,
(3y% + 2y%) = 100 – (25 + 25)
5y% = 50%
y% = 10%
3y% = 30%
2y% = 20%
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Let's assume that the income is 100P.
The savings is 40% × 100P = 40P
Expenditure = 100P – 40P = 60P
EMI Cost = 60P × 25%
⇒ 15P = 15,000
100P = 100,000
40P = 40,000
Thus, the savings is **40,000** INR.
Option B

Q24. Text Solution:
Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.
So,
100 – (20 + 15) = 8x + 5x
65% = 13x%
x% = 5%
8x% = 40%
5x% = 25%
So, income from salary is 40% and income from stocks is 25% of the total monthly income.
Let's assume that the % split in Groceries is 3y% and that in Rent is 2y%.
So,
(3y% + 2y%) = 100 – (25 + 25)
5y% = 50%
y% = 10%
3y% = 30%
2y% = 20%
Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.
Let's assume that the income is 100P. Then the savings is
40% × 100P = 40P
Then,
40P = 20,000
P = 500
60P = 30,000
60P × 30% = 30,000 × 30%
18P = 9,000
⇒ Groceries Expenditure = **9000**.
Option B

Q25. Text Solution:

Let's assume that the% split in salary is 8x % and that for Stocks is 5x%.

So,

100 – (20 + 15) = 8x + 5x

65% = 13x%

x% = 5%

8x% = 40%

5x% = 25%

So, income from salary is 40% and income from stocks is 25% of the total monthly income.

Let's assume that the % split in Groceries is 3y% and that in Rent is 2y%.

So,

(3y% + 2y%) = 100 – (25 + 25)

5y% = 50%

y% = 10%

3y% = 30%

2y% = 20%

Thus, the expenditure % split in Groceries is 30% and that in Rent is 20%.

Let's assume that the income is 100P. Then the savings is

40% × 100P = 40P

Salary = 100P × 40% = 40P

Thus, the right answer is option "D"

Q26. Text Solution:

Classes	Total	Difference	Boys	Girls
P	20% of 400 = 80	120 x $\frac{120}{360}$ = 40	$\frac{80+40}{2} = 60$	$\frac{80-40}{2} = 20$
Q	30% of 400 =120	120 x $\frac{60}{360}$ = 20	$\frac{120-20}{2} = 50$	$\frac{120+20}{2} = 70$
R	17.5% of 400 =70	120 x $\frac{30}{360}$ = 10	$\frac{70+10}{2} = 40$	$\frac{70-10}{2} = 30$
S	15% of 400 = 60	120 x $\frac{60}{360}$ = 20	$\frac{60-20}{2} = 20$	$\frac{60+20}{2} = 40$
T	17.5%of 400 =70	120 x $\frac{90}{360}$ =30	$\frac{70-30}{2} = 20$	$\frac{70+30}{2} = 50$

Total number of boys in classes P and T together = 60 + 20 = 80

Total number of girls in classes P and Q together = 20 + 70 = 90

Required ratio = 80: 90 = **8: 9**

Answer: -C

Q27. Text Solution:

Let the number of new boys and the number of new girls who took admission in class P in 2018 be 'x' and '60 - x' respectively.

According to the question:

(60 + x) = 20 + (60 - x)

x = 20 – x

x = 10

Required ratio = x: (60 - x) = 10: 50 = **1: 5**.

Answer: -C

Q28. Text Solution:

Let the number of boys and that of girls in class R in 2018 be '6x' and '7x' respectively.

According to the question:

(6x – 40) + (7x – 30) = 60

13x = 130

x = 10

Total new boys who joined class R in 2018 = (6x – 40) = 20

Total new girls who joined class R in 2018 = (7x – 30) = 40

Required difference = 40 – 20 = **20**

Answer: -B

Q29. Text Solution:

Total boys in class U = 120% of 20 = 24

Total girls in class U = 50 - 14 = 36

Required percent = $\frac{24}{36}$ × 100 = 66.67%

Answer: -D

Q30. Text Solution:

Total number of boys in Class P = 60

Total number of girls in Class T = 50

Required answer = $\frac{60-50}{50}$ x 100 = **20%**