

30 Most Important DI (All Type) Questions PDF



Direction (1-5): Study the following information and answer the related questions.

P, Q, R, S, T, A, B, C, D and E are employees of a company. A table shows the average age of any two employees of the company. The average age of A and B is 27.5.

Employees	P	Q	R	S	T
A	39.5				27
B	42		25.5		
C		42			
D			36.5	42.5	
E		44.5			36

i.e. average age of A & P is given as $(A+P)/2=39.5$

1. What is the age of T?

- A. 27
- B. 29
- C. 33
- D. 39
- E. None of these

2. What is the average age of D, R and S?

- A. 25
- B. 31
- C. 32
- D. 35.6
- E. None of these

3. What is the ratio of ages of Q and E?

- A. 46: 43
- B. 43: 46
- C. 23: 25
- D. 25: 23
- E. None of these

4. What will be the average of sum of ages of A, B, C, D and E together after five years?

- A. 39.8
- B. 40
- C. 42.6
- D. 45.5
- E. None of these

5. If age of P and Q is decreased by 50% and age of A and B is increased by 20%, what will be the ratio of ages of P, Q, R, S and T together to the ages of A, B, C, D and E together?

- A. 51: 50
- B. 50: 51
- C. 199: 133
- D. 133: 199
- E. None of these

Direction(6-10): Study the following information to answer the questions.

Days	HOTEL --→ A		HOTEL --→ B	
	Number of customers (male+female)	% male customers	Number of customers (male+female)	% male customers
Monday	190	30%	480	40%
Tuesday	280	40%	188	50%
Wednesday	350	60%	200	60%
Thursday	400	35%	120	75%

6. On Wednesday, in hotel A, 30% of male customers and 70% of female customers were from Town X. what was the number of customers in hotel A from town X on Wednesday?

- A. 161
- B. 183
- C. 181
- D. 153
- E. 157

7. The number of customers (male + female) in hotel A and B are increased by 50% and 15% respectively from Thursday to Saturday. If the total number of female customers in hotel A and B together was equal on Thursday and Saturday, what was the total number of male customers in hotel A and B together on Saturday?

- A. 458
- B. 438
- C. 442
- D. 448
- E. 452

8. In hotel B, the ratio of female customers on Tuesday and Friday was 2 : 3. If on Friday, female customers constituted 50% of the number of customers (male + female), then what was the number of customers (male + female) in hotel B on Friday?

- A. 288
- B. 296
- C. 294
- D. 282
- E. 276

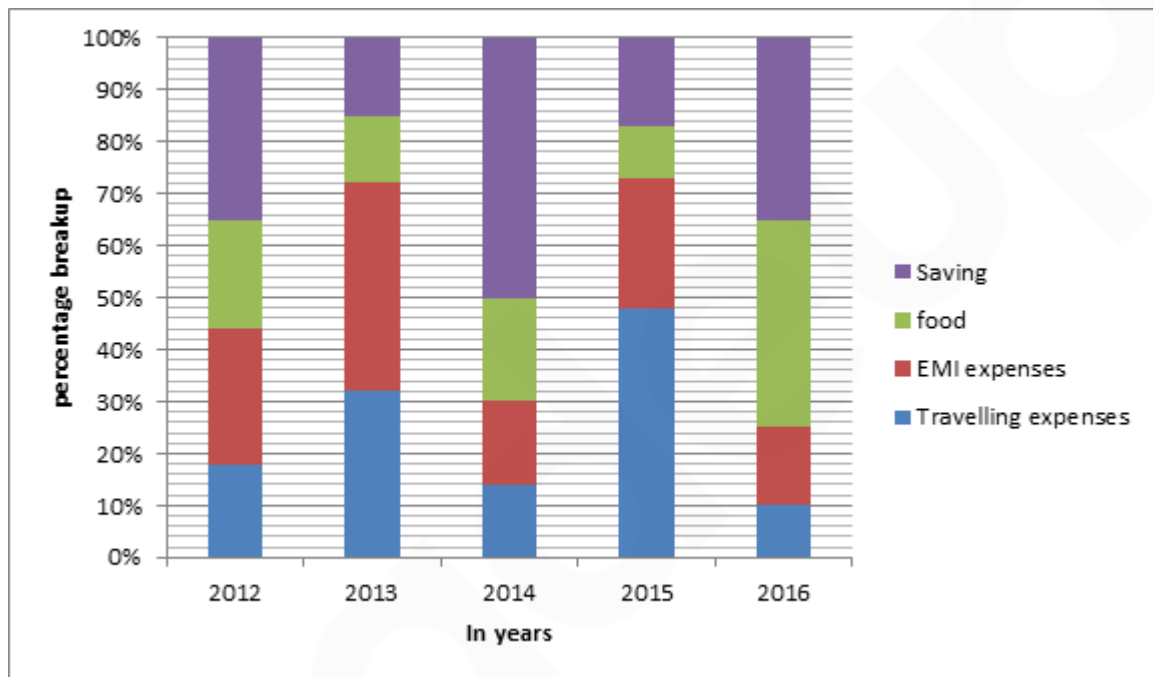
9. In hotel A, what is the difference between the total number of male customers on Monday and Tuesday together and that on Wednesday and Thursday together?

- A. 183
- B. 177
- C. 185
- D. 187
- E. 181

10. What is the average number of male customers in hotel B on Monday, Wednesday and Thursday?

- A. 134
- B. 188
- C. 185
- D. 175
- E. 184

Directions (11-15): The following bar graph shows the percentage break-up of a Sunil's salary from year 2012 to 2016. With the given information, find the following questions.



11. If the ratio on saving in the year 2013 and 2016 are in the ratio 3 : 5. Then what is the ratio of EMI expenses in the year 2013 and 2016.

- A. 56:5
- B. 8:15
- C. 56:15
- D. Can't be determined
- E. none of these

12. If the saving in 2012 is $\frac{4}{5}$ th of the saving in 2014. Then what is the total expenditure spent on food in 2012. (Given that total expense in 2014 is INR 1,85,000)

- A. INR 40,400
- B. INR 44,400
- C. INR 21,100
- D. INR 45,100
- E. none of these



13. Every year there is an increase of 100% in monthly salary as compared to previous year's monthly salary then what is the ratio of monthly salary in 2016 to the expenses on travelling in 2013.

- A. 8:1
- B. 1:25
- C. 80:3
- D. 25:1
- E. none of these

14. If the total expenses in year 2011 is INR 3, 00,000 and there is an increase of 18% in 2012. Then how much Sunil has spent on travelling and EMI combine in 2012?

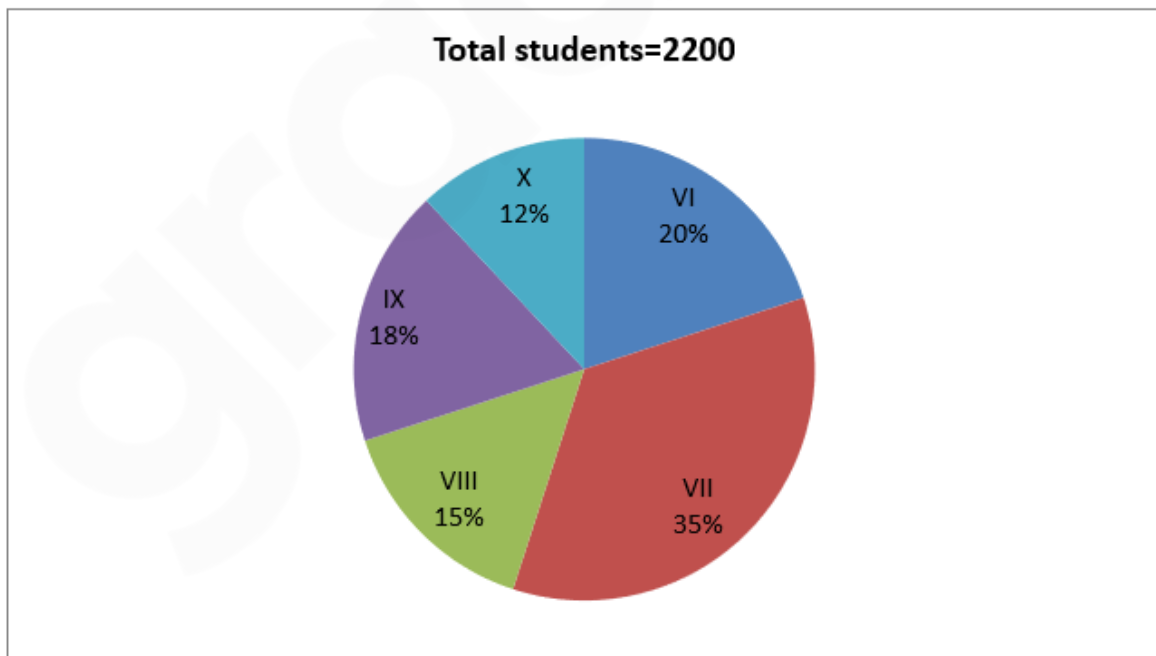
- A. INR 1,53,740
- B. INR 1,40,330
- C. INR 1,50,740
- D. INR 92,400
- E. INR 1,55,760

15. What approx. percentage of average money spend by Sunil on food to that of average money saved by him during all these years if his salary per annum was INR 5,00,000

- A. 65%
- B. 70%
- C. 68%
- D. 69%
- E. 66%

Direction (16-20): Study the pie chart carefully and answer the given questions.

The pie chart shows the percentage breakup of students in different classes from VI to X in the year 2017



16. The total number of students study in class VI and class IX together is approximately what percentage more than that of the total number of students study in class X?

- A. 125%
- B. 280%
- C. 217%
- D. 189%
- E. 77%

17. If in class VI, the ratio of boys to girls is 6:5 and the total number of girls in class VI is 50 less than that of the total number of girls in class VII. Find the ratio of the total number of boys in class VI to class VII.

- A. 5:7
- B. 7:11
- C. 9:13
- D. 6:13
- E. 4:5

18. If in 2018, the total number of students in class VI and class VII is increased by 10% each and the total number of students in class VIII is decreased by 20% then what is the difference between the total number of students in class VI and VII together in 2018 to that of the total number of students in class VIII in 2018?

- A. 976
- B. 1067
- C. 1156
- D. 1078
- E. 878

19. If the total number of boys in class VIII is "x" and the total number of boys in class IX is "x+40". The total number of girls in class VIII and class IX together is 306. Then find the value of "x".

- A. 190
- B. 210
- C. 174
- D. 184
- E. 196

20. What is the difference between the total number of students in class VII and class VIII together to that of the total number of students in class IX and class X together?

- A. 480
- B. 520
- C. 440
- D. 400
- E. 560



Direction (21-25): The table given below represents number of bikes of five different brands sold from 2001- 2005, with the help of data given in the table, answer the following questions.

Brand/Year	2001	2002	2003	2004	2005
Honda	5000	5800	5600	5920	6000
Suzuki	8500	8800	8700	8640	8800
Yamaha	6300	6400	6700	6900	7000
TVS	8810	8820	8540	8490	8500
Bajaj	5500	5700	5910	5630	6000

21. In how many years the increase of selling is greater than 10% for any brand?

- A. 2
- B. 3
- C. 1
- D. 4
- E. None of these

22. The sales of Yamaha increased from 2001 to 2005 by what percentage?

- A. 11.11%
- B. 12%
- C. 13.33%
- D. 10.6%6
- E. None of these

23. The average sale of Bajaj from 2001 to 2005 is what percentage of total sales of Suzuki from 2001-2005?

- A. 12.22%
- B. 15.23%
- C. 14%
- D. 13.23%
- E. None of these

24. What is the ratio of average sales of TVS in year 2002 and 2005 to the average sales of Honda in year 2001 and 2004?

- A. 111:142
- B. 441:173
- C. 273:433
- D. 433: 273
- E. None of these

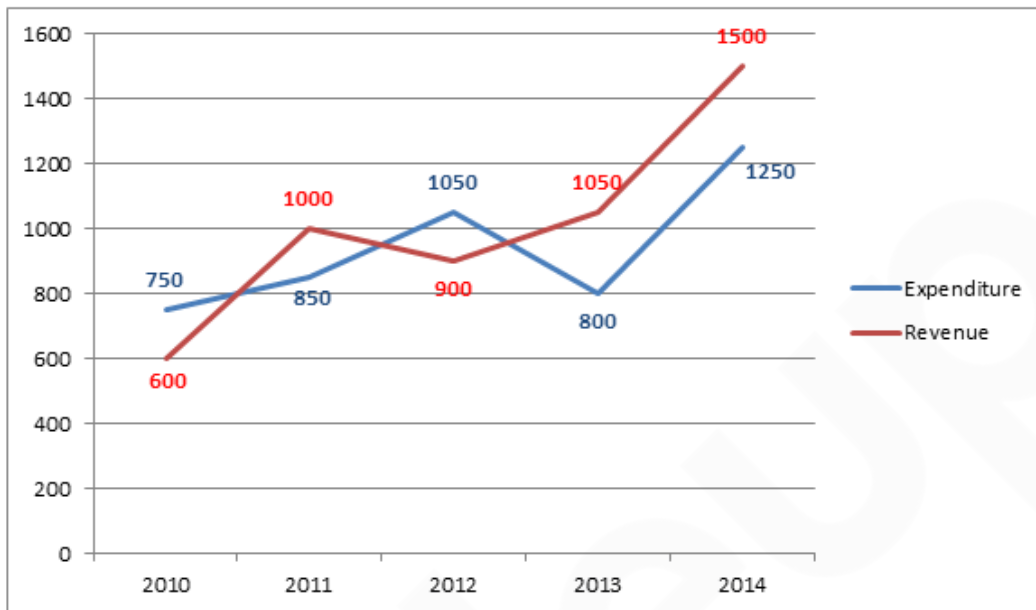
25. If sales of Suzuki in the year 2006 is increased by 5% and sales of Yamaha decreased by 5%, then what is the difference of averages of sales of Suzuki in year 2001 and 2006 and average sales of Yamaha in 2002 and 2006?

- A. 2330
- B. 2345
- C. 1170
- D. 2000
- E. None of these



Directions (26-30): Answer the questions based on the information given below:

The following line graph shows revenue and expenditure of a company A for 5 year (in Lakhs):



26. What is the average revenue of the company over the years?
 A. 1000 lakhs B. 1010 lakhs C. 1050 lakhs
 D. 2020 lakhs E. None of these
27. What is the difference between revenue and expenditure of company A over the year?
 A. 350 lakhs B. 250 lakhs C. 200 lakhs
 D. 300 lakhs E. None of these
28. What is the average expenditure of the company A over the years?
 A. 940 lakhs B. 900 lakhs C. 1000 lakhs
 D. 1010 lakhs E. None of these
29. What is the ratio of sum of expenditure in the year 2012 and 2013 to that of revenue in year 2014?
 A. 21: 25 B. 25: 21 C. 30: 37
 D. 37: 30 E. None of these
30. In which year was the profit percentage highest?
 Given that: Profit = $\left[\frac{\text{Revenue} - \text{Expenditure}}{\text{Expenditure}} \right] \times 100$
 A. 2011 B. 2012 C. 2013
 D. 2014 E. 2010



ANSWERS

1. Ans. B.

$$A + B = 2 \times 27.5 = 55$$

$$A + P = 2 \times 39.5 = 79$$

$$B + P = 2 \times 42 = 84$$

$$A + B + 2P = 79 + 84$$

$$2P = 163 - 55$$

$$P = 54$$

$$\text{Now, } A = 79 - 54 = 25$$

$$A + T = 2 \times 27 = 54$$

$$\text{So, } T = 54 - 25 = 29$$

2. Ans. E.

$$B = 55 - 25 = 30$$

$$B + R = 2 \times 25.5 = 51$$

$$\text{So, } R = 51 - 30 = 21$$

$$D + R = 2 \times 36.5 = 73$$

$$D = 73 - 21 = 52$$

$$\text{And, } S + D = 2 \times 42.5 = 85$$

$$S = 85 - 52 = 33$$

$$\text{Therefore, average of D, R and S} = \frac{52+21+33}{3} = 35.33$$

3. Ans. A.

$$T + E = 2 \times 36 = 72$$

$$E = 72 - 29 = 43$$

$$Q + E = 2 \times 44.5 = 89$$

$$Q = 89 - 43 = 46$$

$$\text{Ratio} = 46:43$$

4. Ans. C.

$$C + Q = 2 \times 42 = 84$$

$$C = 84 - 46 = 38$$

Sum of ages of A, B, C, D and E together after five years

$$= (25 + 30 + 38 + 52 + 43) + 25 = 213$$

$$\text{Average} = \frac{213}{5} = 42.6$$

5. Ans. D.

Age of P and Q is decreased by 50%. So,

$$\text{New age of P} = \frac{50}{100} \times 54 = 27$$

$$\text{New age of Q} = \frac{50}{100} \times 46 = 23$$

And, age of A and B is increased by 20%. So,

$$\text{New age of A} = \frac{120}{100} \times 25 = 30$$

$$\text{New age of B} = \frac{120}{100} \times 30 = 36$$

$$\text{Ratio} = \frac{27+23+21+33+29}{30+36+38+52+43} = \frac{133}{199}$$

6. Ans. A.

The number of customers in hotel A from town X on Wednesday =

$$= 60\% \text{ of } 30\% \text{ of } 350 + 40\% \text{ of } 70\% \text{ of } 350$$

$$= 63 + 98 = 161 \text{ ans.}$$

7. Ans. D.

Total number of customers in hotel A on Saturday = $400 \times 150 / 100 = 600$

Total number of customers in hotel B on Saturday = $120 \times 115 / 100 = 138$

Total number of female customers in hotel A and B together on

Thursday = $(400 \times 65 / 100 + 120 \times 25 / 100) = 290$

Total number of female customers in hotel A and B together on

Saturday = $600 + 138 - 290 = 448 \text{ ans.}$

8. Ans. D.

Number of female customers on Friday = $50\% \text{ of } 188 \times (3/2) = 141$

Number of customers (male + female) in hotel B on Friday = $141 / 50\% =$

$$141 / (1/2) = 141 \times 2 = 282.$$

9. Ans. E.

Required difference =

$$(60\% \text{ of } 350 + 35\% \text{ of } 400) - (30\% \text{ of } 190 + 40\% \text{ of } 280)$$

$$= 350 - 169$$

$$= 181 \text{ Ans.}$$

10. Ans. A.

Required average =

$$= (40\% \text{ of } 480 + 60\% \text{ of } 200 + 75\% \text{ of } 120) / 3$$

$$= (192 + 120 + 90) / 3$$

$$= 402 / 3$$

$$= 134 \text{ ans.}$$



11. Ans. C.

Let total salary in 2013 be INR x

Total salary in 2016 be INR y

According to the given information:

The ratio on saving in the year 2013 and 2016 are in the ratio 3 : 5.

$$\Rightarrow \frac{15\% \text{ of } x}{35\% \text{ of } y} = \frac{3}{5}$$

$$\frac{x}{y} = \frac{3}{5} \times \frac{35}{15} = \frac{7}{5} \dots\dots\dots (1)$$

$$\therefore \text{Ratio of EMI expenses} = \frac{40\% \text{ of } x}{15\% \text{ of } y}$$

$$\Rightarrow \text{Ratio of EMI expenses} = \frac{0.4x}{0.15y}$$

Now taking the values of x/y from (1)

$$\Rightarrow \text{Ratio of EMI expenses} = \frac{7}{5} \times \frac{40}{15} = 56:15$$

Hence, the required ratio is 56: 15

12. Ans. B.

Total expense in 2014 = INR 1, 85,000

⇒ Saving in 2014 = 50% of 1, 85,000

⇒ Saving in 2014 = INR 92,500

According to the given information:

The saving in 2012 is 4/5th of the saving in 2014

∴ Saving in 2012 = 4/5 × 92,500 = INR 74,000

Let the total expense in 2012 be INR x

∴ 35% of x = 74,000

$$\Rightarrow x = \frac{74,000 \times 100}{35}$$

Now, expenditure on food in 2012 is 21% of x

$$\Rightarrow \text{Expenditure on food in 2012} = \frac{74,000 \times 100}{35} \times \frac{21}{100}$$

⇒ Expenditure on food in 2012 = INR 44,400

13. Ans. D.

Let the monthly salary in 2013 be INR 100

According to the given information:

Every year there is an increase of 100% in monthly salary as compared to previous year's monthly salary

Then salary in 2014 = INR 200

⇒ Salary in 2015 = INR 400

⇒ Salary in 2016 = INR 800

Now, expenses on travelling in 2013 = 32% of salary

⇒ Expenses on travelling in 2013 = INR 32

∴ Required ratio = 800/32 = 25: 1



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14. Ans. E.

Total expenses in year 2011 = INR 3, 00,000

There is an increase of 18%

∴ Total expense in 2012 = 3, 00,000 + 18% of 3,00,000

⇒ Total expense in 2012 = INR 3, 54,000

Now, Expense on travelling in 2012 = 18% of 3, 54,000

⇒ Expense on travelling in 2012 = INR 63,720

EMI expense in 2012 = 26% of 3, 54,000

⇒ EMI expense in 2012 = INR 92,040

Combine expense = 63,720 + 92,040 = INR 1, 55,760

15. Ans. C.

Money spend by Sunil on food = 21% + 13% + 20% + 10% + 40%

Average money spend by Sunil on food = 104%/ 5 = 20.8% of 5, 00,000

⇒ Average money spend by Sunil on food = INR 1, 04,000

Now, Money saved by Sunil = 35% + 15% + 50% + 17% + 35%

Average money saved by Sunil = 152%/ 5 = 30.4% of 5, 00,000

⇒ Average money saved by Sunil = INR 1, 52,000

∴ Required ratio = $\frac{1,04,000}{1,52,000} \times 100 = 68.42\% \approx 68\%$

16. Ans. C.

The total percentage of students in class VI and class IX

together = 20 + 18 = 38%

The percentage of students in class X = 12%

So, required percentage = $\frac{38-12}{12} * 100$

= 26/12 * 100

= 217% (**Approx**)

17. Ans. D.

The total number of students in class VI = $\frac{2200}{100} * 20 = 440$

The ratio of boys to girls is 6:5 in class VI (**Given**)

The total number of girls in class VI = $\frac{440}{11} * 5 = 200$

The total number of boys in class VI = 440 - 200 = **240**

The total number of girls in class VII = 200 + 50 = 250

The total number of students in class VII = $\frac{2200}{100} * 35 = 770$

The total number of boys in class VII = 770 - 250 = **520**

So, required ratio = $\frac{240}{520} = 6 : 13$



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18. Ans. B.

The total number of students in class VI in 2017 = $\frac{2200}{100} * 20 = 440$

The total number of students in class VI in 2018 = $\frac{440}{100} * 110 = 484$

The total number of students in class VII in 2017 = $\frac{2200}{100} * 35 = 770$

The total number of students in class VII in 2018 = $\frac{770}{100} * 110 = 847$

The total number of students in class VI and class VII together in 2018 = $484 + 847 = 1331$

The total number of students in class VIII in 2017 = $\frac{2200}{100} * 15 = 330$

The total number of students in class VIII in 2018 = $\frac{330}{100} * 80 = 264$

So, required difference = $1331 - 264 = 1067$

19. Ans. A.

The total number of students in class VIII = $\frac{2200}{100} * 15 = 330$

The total number of students in class IX = $\frac{2200}{100} * 18 = 396$

The total number of students in class VIII and class IX together = $330 + 396 = 726$

The total number of girls in class VIII and class IX together = 306 (Given)

The total number of boys in class VIII and class IX together = $726 - 306 = 420$

If the total number of boys in class VIII is "x" and the total number of boys in class IX is "x+40" (Given),

So,

$$x + x + 40 = 420$$

$$2x = 380$$

$$x = 190$$

So, the total number of boys in class VIII is 190.

20. Ans. C.

So, required percentage = $\frac{(35\% + 15\%) - (18\% + 12\%)}{100} * 2200$

$$= \frac{20}{100} * 2200$$

$$= 440$$



21. Ans. C.

Firstly, we will consider it for every brand one by one
Honda, from 2001 to 2005 sales increased more than 10% in the year 2002 as: $(800/5000) \times 100 = 16\%$
Suzuki, from 2001 to 2005 sales never increased more than 10%
Yamaha, from 2001 to 2005 sales never increased more than 10%
TVS, from 2001 to 2005 sales never increased more than 10%
Bajaj, from 2001 to 2005 sales never increased more than 10%
Hence, sales increased more than 10% for Honda in the year 2002.

22. Ans. A.

The sales of Yamaha in year 2001 = 6300

The sales of Yamaha in year 2005 = 7000

$$\begin{aligned} \text{Now, percentage increase in sales} &= \frac{\text{Sales in 2005} - \text{sales in 2001}}{\text{Sales in 2001}} \times 100 \\ &= \frac{7000 - 6300}{6300} \times 100 = 11.11\% \end{aligned}$$

23. Ans. D.

From the given table,

The sales of Bajaj, in 2001 = 5500

In 2002 = 5700

In 2003 = 5910

In 2004 = 5630

In 2005 = 6000

Average sale of Bajaj through these five years

$$= \frac{5500+5700+5910+5630+6000}{5} = 5748$$

Total sales of Suzuki in five years

$$= 8500+8800+8700+8640+8800 = 43440$$

$$\text{Now, Percentage} = \frac{5748}{43440} \times 100 = 13.23\%$$

24. Ans. D.

from the given table,

Sales of TVS bike in year 2002 = 8820

Sales of TVS in year 2005 = 8500

Average sale of TVS in these two years

$$= (8820+8500)/2 = 8660$$

Now, sales of Honda in year 2001 = 5000

Sales of Honda in year 2004 = 5920

Average sale in these two years = $(5000+5920)/2 = 5460$

Ratio = 8660: 5460 = 433: 273



25. Ans. B.

By the given table,

Sales of Suzuki in year 2005 = 8800

Sales in year 2006 due to 5% increase = $8800 + 440 = 9240$

Average sales of Suzuki in year 2005 and 2006 = $(8800+9240)/2 = 8870$

Sales of Yamaha in year 2005 = 7000

In 2006, due to decrease of 5% sales = $7000 - 350 = 6650$

Sales of Yamaha in year 2002 = 6400

Average of sales in 2002 and 2006 of Yamaha = $(6400+6650)/2 = 6525$

Now difference of average sales of Suzuki and Yamaha

= $8870 - 6525 = 2345$

26. Ans. B.

Total revenue of the company =

$600 + 1000 + 900 + 1050 + 1500 = 5050$ lakhs

Therefore, average revenue of a company

= $\frac{5050}{5} = 1010$ lakhs

So option (b) is the correct answer.

27. Ans. A.

Total revenue of the company =

$600 + 1000 + 900 + 1050 + 1500 = 5050$ lakhs

Total expenditure of the company =

$750 + 850 + 1050 + 800 + 1250 = 4700$ lakhs

Required difference = $5050 - 4700 = 350$ lakhs

So option (a) is the correct answer.

28. Ans. A.

Total expenditure of the company =

$750 + 850 + 1050 + 800 + 1250 = 4700$ lakhs

Therefore, average expenditure of a company

= $\frac{4700}{5} = 940$ lakhs

So option (a) is the correct answer.

29. Ans. D.

Sum of expenditure in 2012 and 2013 = $1050 + 800 = 1850$ lakhs

Revenue in 2014 = 1500 lakhs

Therefore, required ratio = $1850 : 1500 = 37 : 30$

So option (d) is the correct answer.



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30. Ans. C.

$$\text{Profit} = \left[\frac{\text{Revenue} - \text{Expenditure}}{\text{Expenditure}} \right] \times 100$$

$$\text{Profit in 2013} = \frac{1050 - 800}{800} \times 100 = 31.25\%$$

$$\text{Profit in 2014} = \frac{1500 - 1250}{1250} \times 100 = 20\%$$

So option (c) is the correct answer.

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