Tabular DI Tricks & Tips

A. **Funda 1 Calculating (Approximating) Fractions**

When trying to calculate (approximate) a fraction p/q, add a value to the denominator and a corresponding value to the numerator before calculating (approximating).

Example,
What is the value of 1789/762?

First the denominator. We can either take it close to 750 or to 800. Lets see how it works in both cases. We know that the answer is between 2 and 3, so for adding values/subtracting values from the denominator or the numerator, I will consider a factor of 2.5.

Case 1: 762 is 12 above 750, so I will subtract 12 from the denominator. Keeping the factor of 2.5 in mind, I will subtract 25 from the numerator.
My new fraction is,

$$\frac{1789-25}{762-12} = \frac{1763}{750} = 1763?$$

$$\left(\frac{4}{3000}\right) = \frac{7.052}{3} = 2.350666$$

Actual answer is 2.34776.
As you can see, with very little effort involved in approximation, we arrived really close to the actual answer.

Case 2: 762 is 38 below 800, so I will add 38 to the denominator. Keeping the factor of 2.5 in mind, I will add 95 to the numerator.
My new fraction is,

$$\frac{1789+95}{(762+3)} = \frac{1884}{800} = 2.355$$

As you can see, even this is close to the actual answer. The previous one was closer because the magnitude of approximation done in the previous case was lesser.

B. **Funda 2 Comparing Fractions**

If you add the same number to the numerator and denominator of a proper fraction, the value of the proper fraction increases.
If you add the same number to the numerator and denominator of an improper fraction, the value of the improper fraction decreases.
Note: You can remember this by keeping in mind that,

$$\frac{1}{2}\ and\ \frac{3}{2} > \frac{4}{3} > \frac{5}{4} > \frac{6}{5} \ldots$$

Example,

Arrange the following in increasing order: $\frac{117}{229}, \frac{128}{239}, \frac{223}{449}$.

Lets first compare $\frac{117}{229}$ & $\frac{128}{239}$.

If we added 11 to the numerator and the denominator of the first proper fraction, the resulting proper fraction would be $\frac{128}{240}$, which will be bigger in value than the original (as per Funda 2).

We know that $\frac{128}{240}$ is smaller than $\frac{128}{239}$, as the latter has a lower base.

So, $\frac{117}{229}$?

$$\frac{117}{229}$$

Now lets compare $\frac{117}{229}\ and\ \frac{223}{449}$.

If we added 11 to the numerator and the denominator of the second proper fraction, the resulting proper fraction would be $\frac{234}{460}$, which will be bigger in value than the original.

If we doubled the numerator and denominator of the first proper fraction, the resulting proper fraction would be $\frac{234}{458}$.

We know that $\frac{234}{460}$ is smaller than $\frac{234}{458}$, as the latter has a lower base.

So, $\frac{223}{449}$?

$\frac{223}{449}$

Using the above two results, we can say that $\frac{223}{449}$

Note: This question can be solved much simply by just looking at the numbers and approximately comparing them with 12. I used this long explanation to illustrate the funda given above.

Following are a few other shortcuts that might come in handy during DI-related calculations.

C. **Funda 3 Percentage Growth**

If the percentage growth rate is r for a period of t years, the overall growth rate is approximately: $rt + t * (t-1) * \frac{r^2}{2}$

Note: Derived from the Binomial theorem, this approximation technique works best when the value of 'r' is small. If the rate is above 10%, then this approximation technique yields bad results. Also, if the rate is 5% then r = 0.05; if the rate is 7.2% then r = 0.072.

D. **Funda 4 Comparing Powers**

Given two natural numbers a and b such that a > b > 1,

ab will always be less than ba

Note: There are only two exceptions to this funda. I hope someone in the comments will point them out (anyone?).

Tabular Form

Tabular form or Tables is an easy area to score marks in the aptitude section of IBPS, SBI PO and SSC exams. One or two problems in the exam are asked on Tabular form of Data Interpretation.
A tabular form is a representation of data in a table format. It is easy and convenient to represent data in a tabular form. The data is present in rows and columns and one can draw conclusions from it easily. It is the most organized method to represent data.
Let us now look at the different types of Data Interpretation questions that are asked from the tabular form.

Problem I: Total 24500 people who are in the given profession and (of these) percentage of female and males.

Question 1: What is the ratio of the total number of males in the medical and teaching profession together to the ratio of females in the same professions together?
*Tip: Ratio is the comparison of like terms in its simplest form.

Solution:
Step 1: As we need to find the ratios, we use the formula
Males (Medical + Teaching): Female (Medical + Teaching)

Step 2: By substituting the values in the above formula
(40% x 11%x 24500)+(20% x 21% x 24500) : (60% x 11% x 24500)+(80% x 21% x 24500)

Step 3: By eliminating 24500 and percentage as it is common, according to the concept of ratio we get,
(40 x 11) + (20 x 21) : (60 x 11) + (80 x 21)

Step 4: By Simplification,
22 + 21 : 33 + 84 = 43 : 117

Therefore, The ratio of total number of Males: Females in the medical and teaching profession together is 43:117
*Note: Don't write the steps during examination as it consumes a lot of time. Directly jump to the step 3 as 24,500 is common and step 2 can directly be eliminated.

Question 2: Total number of people in the teaching profession is what percent of total number of people in law?
*Tip-In this question we are suppose to find the percentage change

Solution:
Step 1: As we need to find the percentage change, we need to use percentage formula
x is what of % of y = (x/y)100 [Formula]
X-Total number of people in teaching program
Y- Total number of people in law

Step 2: By substitution,
(Total number of people in teaching program/ total number of people in law) x100

Step 3: By substituting values in the above formula,
(21% x 24500/24% of 24500) x 100

Step 4: By simplification,
21/24 x 100

Step 5: By simplification,
7/8 x 100
= 87.5%
Therefore, the total percentage of people in the teaching profession is 87.5% of the total percentage of total people in law.

Question 3: What is the total number of males from all the profession together?
1) 11472 2)12784 3)12348 4)12453 5) None of these

Solution:
Step 1: As we need to find the total number of males in all the profession, we are suppose to take (the percentage of males in one profession x percentage of the total number of people in that profession x total number of people) and thus we need to add all the values together.

(40% of 11% of 24500)+(70% of 18%of 24500)+(55% of 24% of 24500)+(20% of 21% of 24500)+ (65% of 16% of 24500)+(56% of 10% of 24500)

Step 2: By Simplification,
(40 x 11) + (70 x 18) + (55 x 24) + (20 x 21) + (65 x 16) + (56 x 10) = 5040

Therefore the answer is Option 5 – None of these.
In examination on average about 30 to 36 seconds are allotted to solve a question. Though this question appears to be simple the process of calculation is really lengthy as we cannot eliminate any number. The quickest way to solve this question is to skip the question or else leave the question for the end.

Question 4: The female in the Engineering professions are what percent of males in the management profession.
1) 71.71 2) 96.43 3) 83.16 4)68.54 5) None of these
Solution:
Step 1: As we need to find the percentage change, we use the percentage formula,
x is what percent of y = x/y x 100
x- Females of Engineering
y-Males of Management

Step 2: By using the percentage formula in finding out the female engineering profession percentage to male percentage in management profession
Females of Engineering/Males of Management x 100

Step 3: By substituting the values in the formulas,
30% of 18% of 24500/56 x 10 x 24500

Step 4: By simplification,
30 x 18 /56 x 10 x 100

Step 5: By simplification
54/56 X 100 = 96.43%

Therefore, the answer is option 2 – 96.3%.
Remember don't waste your time in writing down steps. Directly jump to step 4 and eliminate all unnecessary steps. Solve this sum on the bases of assumption, it will help you to save some time.

Question 5: What is the ratio of number of males in the banking profession to the number of males in the engineering profession.
Solution:
Step 1: We use the formula as we need to find the ratio of males in banking to ratio of males in Engineering
Males (Banking) : Males (Engineering)

Step 2: By substituting the values in the formulas,
65% x 16% of 24500 : 70% x 18% of 24500

Step 3: By simplification,
65 x 16 : 70 x 18

Step 4: By Simplification,
52 : 63

Therefore, the ratio of number of males in the banking profession to the number of males in engineering profession is 52:63.

Tables refer to the arrangement of data in the form of rows and columns.

Positives	Negatives
1. Data is available in a compiled form; hence there is no ambiguity in interpretation.	1. Trends cannot be easily established in the table.
2. Data Values are directly given and hence one need not spend time finding the accurate Values.	2. One can get confused over the sheer volume of the data.

Shortcuts to crack DI sets containing Tables

1) Do not get carried away by the sheer amount of data, the set may be easy for all you know!!
Check out this table from CAT 2002.

The following table gives details regarding the total earnings of 15 employees and the number of days they have worked on complex, medium and simple operations in the month of June 2002. Even though the employees might have worked on an operation, they would be eligible for earnings only if they have a minimum level of efficiency.

	Total Earnings				Total Dan			
Enip.no	**Complex**	**Medium**	**Simple**	**Total**	**Complex**	**Medium**	**Simple**	**Total**
2001147	82.98		636.53	719.51	3.00	0.00	2100	26.00
2001148	51.53		461.73	513.26	3.33	1.67	16.00	21.00
2001149	171.71		79.10	250.81	5.50	4.00	8.50	18.00
2001150	100.47		497.47	597.95	6.00	4.67	7.33	18.00
2001151	594.43	159.64		754.06	9.67	13.33	0.00	23.00
2001156	89.70			89.70	8.00	0.00	1.00	9.00
2001158	472.31	109.73		582.04	1.39	9.61	0.00	11.00
2001164	402.25	735.22	213.67	1351.14	5.27	12.07	0.67	18.00
2001170	576.57			576.57	21.00	0.00	0.00	21.00
2001171	286.48	6.10		292.57	8.38	4.25	0.38	13.00
2001172	512.10	117.46		629.56	10.00	8.50	3.50	22.00
2001173	1303.88			1303.88	25.50	0.00	0.50	26.00
2001174	1017.94			1017.94	26.00	0.00	0.00	26.00
2001179	46.56	776.19		822.75	2.00	19.00	0.00	21.00
2001180	116.40	1262.76		1379.19	5.00	19.00	0.00	24.00

1. The number of employees who have earned more than 50 rupees per day in complex operations is _____.
(1) 4 (2) 3 (3) 5 (4) 6

2. The number of employees who have earned more than 600 rupees and who have more than 8094 attendance (there are 25 regular working days in June 2002, and some employees might be working overtime as well) is_____.
(1) 4 (2) 3 (3) 6 (4) 7

3. The employee number of the person who has earned the maximum earnings per day in medium operations is_____.
(1) 2001180 (2) 2001164 (3) 2001172 (4) 2001179

4. Among the employees who were engaged in complex and medium operations, the number of employees whose average earning per day in complex operations is more than the average earning per day in medium operations is_____.
(1) 2 (2) 3 (3) 5 (4)7

At the first glance, it seems that this table has too data intensive and hence should not be attempted. But on second thoughts if you look at the questions, you will find that this is a simple set pertaining to counting some values. So rather than getting carried away by the volume of data, you need to have a look at the questions as well.

2) Modify the question such that the answers can be easily calculated.
Check out this table pertaining to CAT 2005.

The table below reports annual statistics related to rice production in select states of India for a particular year.

State	Total Area (in million hectares)	% of Area under Rice Cultivation	Production (in million tonnes)	Population an millions)
Himachal Pradesh	6	20	1.2	6
Kerela	4	60	4.8	32
Rajastan	34	20	6.8	56
Bihar	10	60	12	83
Karnataka	19	50	19	53
Havana	4	80	19.2	21
West Bengal	9	80	21.6	80
Gujarat	20	60	24	51
Punjab	5	80	24	24
Madhya Pradesh	31	40	24.8	60
Tamil Nadu	13	70	27.3	62
Maharashtra	31	50	48	97
Uttar Pradesh	24	70	67.2	166
Andhra Pradesh	28	80	112	76

5. How many states have a per capita production office (defined as total rice production divided by its population) greater than Gujarat?
   (1)3 (2) 4 (3)5 (4) 6

6. An intensive rice-producing state is defined as one whose annual rice production per million of population is at least 4,00000 tons. How many states are intensive rice-producing states?
   (1)5 (2)6 (3)7 (4)8

Explanation: In the first question, we need to find the ratio of 'production to population' i.e. divide the second-last column with the last one and find out how many of these values are greater than that of Gujarat. However one may find that this division results in values in fractions and hence difficult to compute. Instead, if we were to modify the question and calculate the ratio of 'population to production' and find out how many of these values are less than that of Gujarat, the entire calculation becomes oral. For example, for Gujarat this value is between 2 and 3. We can find that the only states for which this value is less than that of Gujarat are Haryana (1…), Punjab (1), Maharashtra (2…) and Andhra Pradesh (0…).
Similarly in the second question, we need to simply figure out that the values of the second last column need to be multiplied by 10 and this needs to be divided by the values of the last column. The states where this value is more than 4 is Haryana, Gujarat, Punjab, Madhya Pradesh, Tamil Nadu, Maharashtra, Uttar Pradesh and Andhra Pradesh.

Now Let us come to the most Important Thing.

"**Demystifying Data Interpretation**"
Look anyone can solve DI question, if there is no time limit given. But in Exam we are required to solve the question in limited Time.

Few Necessary Skills which are required for Mastering DI are Listed as below:
1. Read the data very carefully. Even the minutest word must not be overlooked since many a times even single word/group of words could become critical.
2. If there are more than one graphs/charts/tables, understand the relationship between them clearly before you proceed to solve the questioned asked.
3. Answer only the questions asked. Do not answer/calculate things which have not been asked for.
4. Be careful to use proper units and beware of charts and tables with non-uniform units.
5. Avoid simple calculation mistake and revise your answer at least once before moving to next question.

Tips to reduce calculation time
In DI most of the questions are usually based on percentage increase and decrease, ratios and averages. A simple trick for solving data interpretation problems quickly is:
- Learn tables till 20.
- learn fractions till 1/20 to improve your speed
- Waste little time in finding averages: Here if you have to find averages for sales in branches B1 to B6 for the year 2014, use this shortcut:

What you usually do: [80+75+95+85+75+70]/6
Instead: 70 + [10+5+25+15+5]/6=70+ [60/6]= 80
With this technique, you will reduce calculation time and are also bound to make fewer mistakes.

Types of Data Analysis & Interpretation

1. Tabular representation
2. Bar charts
3. Line Graphs
4. Pie charts
5. Caselets
6. Spider charts
7. Missing DI
8. Miscellaneous charts.

We will now go on and analyse each of the types of charts.

Tabular Representation

Some important Tricks and Concepts generally used in tabular DI:

1. Average :
   Average =total of data/No.of data

2. Percentage :
   If we have to find y% of x, then
   y% of x=(x*y)/100

3. Ratio & Proportion :
   - The ratio of a to b is written as a : b = a/b
   - The idea of proportions is that two ratio are equal.
   - If a : b = c : d, we write a : b : : c : d

The following exercise will help you to clearly understand Tables and the kind of questions that might be created on tables.

Exercise – 1

Directions (Q. 1-6): These questions are based on the following information regarding the price changes that a certain pharmaceutical company is considering for its products.

1. A man is prescribed a combination of Antacid and Anti-Hypertensive in the ratio 2 : 3 for the first week and of Anti-Hypertensive and Anti-Flatulent in the ratio 3 : 4 for the second week. The purchased all the medicines under the existing price. His expenditure in the second week is what % more than in the first week?
   1) 24% more 2) 18% less 3) 26% more 4) 25% less 5) Data Inadequate

2. If a family has a hypertensive and an asthmatic patient, where the person with hypertension has to consume three tablets of Anti-Hypertensive per day and the asthmatic patient has to take two tablets of Anti-Asthmatic every alternate day, what will be the increase in expenditure on the two patients for 30 days?
   1) Rs 37.50 2) Rs 42.75 3) Rs 46.50 4) Rs 38.50 5) Rs 39.25

3. What is the percentage increase in the expenditure of a person for one year if he consumes 32 tablets of Antacid in one week?

4. A person is prescribed to take two spoonfuls of Expectorant thrice everyday for a period of 20 weeks. Assuming that each bottle of Expectorant contains 90 spoonfuls, find the expenditure according to the existing prices.
   1) Rs 210 2) Rs 200 3) Rs 168 4) Rs 240 5) Rs 220

5. In the question no. (1), average cost per tablet for the first week is what % less than the average cost per tablet for the second week?
   1) 17.9% 2) 17.02% 3) 24.5% 4) 25.6% 5) Can't say

Exercise – 2

Directions (Q. 6-10): Read the table and answer the questions that follows

Distribution of Students at Harvard University according to Professional Courses

6. If 60% of the boys and 70% of the girls are successful in the courses taken by them, then what is the combined pass percentage? (Approximately)
   1) 65.9 2) 64.2 3) 62 4) 67 5) 66.8

7. In which course is the percentage of girls (among the total number of students) higher than the percentage of girls in any other course?
   1) Business Management 2) Computers 3) finance
   4) Others 5) Cannot be determined

8. By what percentage is the number of the students doing Computers more than the number of students doing Business Management?
   1)67.2 2)63.1 3)62 4)68.5 5)65.8

9. The percentage of girls engineers doing Business Management are:
   1) 11.2 2) 2.2 3) 15 4) 14 5) None of these

10. Talking all the courses together, by what percentage do the number of boys exceed the number of girls?
    1) 521.4% 2) 421.4% 3) 321.4% 4) 221.4% 5) None of these

Answers with Explanation:

1. 4; The constant present in the first week combination is either similar or different from the constant present in the second week combination. Hence we can't find the expenditures of first and second weeks. Hence data inadequate.

2. 1; Three tablets/day would mean the hypertensive has to be taken 90 times in 30 days.

The increase is of Rs 2.50 for 10 tablets
Hence increase will be of 2.50 × 9 = 22.50 for 90 tablets
Asthmatic has to consume 30 tablets.
∴ increase = 5.00 × 3 = 15.00
∴ total increase = 22.50 + 15 = 37.50.

6. c; Take the Weighted average.
Total number of boys=611
Total number of girls=145
So, Ratio of boys to girls= 611:145= 4.21:1≈4:1

Tips on Solving Table Chart Problems:

A. Read the data very carefully, as the smallest detail may change the meaning of the question completely. Similarly, the instructions have to be understood carefully to prevent wasting time in calculating data that is not required, and also to find out exactly what is the answer that is sought.

B. Try to understand the data provided carefully, before jumping to answer the questions. The questions are designed to be deceptive, and proper understanding of the requirements is a must. If the Data provided is of the combined variety or if there are more than one data table/charts/graphs, try to understand the relation between the given tables.
For Example, one table may talk about absolute sales figures, while the other table may talk of sales as a percentage of production. Hence, any question on excess production or Goods in stock, will require data from both tables.

C. Be very careful of the units used in the tables, and the units in which the answers (options) are provided. A mistake in the units may yield an entirely different answer. Also be careful of whether the answer is required in decimal or percentage. Such errors are common and easily avoidable.

Here is an example consisting tabular data:
Example 1:

Category of Assistance	Average number receiving per month		Total cost per help year(in crores of Rs.)		Cost paid by Centre for the year (in crores of Rs.)	
	1995	1996	1995	1996	1995	1996
A	36097	38263	38.4	34.8	18.4	17.4
B	6632	5972	5.0	3.2	2.6	1.6
C	32545	31804	76.4	59.4	13.0	10.0
D	13992	11782	26.4	42.6	6.6	10.6
E	21275	228795	216.6	242.8	55.0	62.6

Example 1.1:
The category receiving the least percentage help from the centre (in the entire data) is:
(A) Category B in 1995 **(B)** Category C in 1996
(C) Category B in 1996 **(D)**Category D in 1995

Solution:
In this type of question, it is better to examine the alternatives given rather than trying to find the least percentage from the table. Let us now calculate the required percentage of the given alternatives:
(A) Category B in I995 =(2.65.0)×100=52% (Even without calculation, you can eliminate this choice.)
(B) Category C in 1996 was =(10.059.4)×100=16.8%
(C) Category B in 1996 was =(1.63.2)×100=50% (Even without calculation, you can eliminate this choice.)
(D) Category D in 1995 =(55.0216.6)×100=25.4%
From this we arrive at the answer **(B)** since this is the least percentage.

Example 1.2:
The difference between the average costs paid by the Centre during 1995 and 1996 is
(A) Rs. 66 lakh **(B)** Rs. 13.2 crore **(C)** Rs. 132 lalth **(D)** Rs. 13.2 lakh

Solution:
Adding all the cost figures in the 1995 column, i.e. 18.4+2.6+13.0+6.6+55.0, you get 95.6.
The average in 1995: =95.6+ Number of categories =95.6+5 = Rs. 19.12 Crore
Similarly, the average in 1996: =(17.4+1.6+10.0+10.6+62.6)5 = Rs. 20.44 Crore
The difference = Rs. (20.44−19.12) Cr = Rs. 1.32 Cr = Rs. 132 **lakh**
The correct answer is **(C)**.
(Note how the answer needed conversion from crores to lakhs).

Example 1.3:
Monthly cost to the city receiving E category assistance in 1996 is most nearly:
(A) Rs. 1.8 crore less than that in 1995
(B) Rs. 2.1 crore more than that in 1995
(C) Rs. 2.1 cnore less than that in 1995
(D) Rs. 1.8 crore more than that in 1995
Solution:
Here, straight calculation is only needed. We need to look at the total assistance figures.
In 1995: 216.612=18.05
In 1996: 242.812=20.23
Difference = 2.183 crore ≈ **Rs. 2.1 crore**
The correct answer is **(B).**

Example 1.4:
Assuming that 50% of the persons receiving category B help in 1995 were adults caring for minor children, but the city's contribution towards maintaining these adults was 40% of the total contribution to B program in 1995, average amount paid by the city for each adult per year in 1995 is most nearly:
(A) Rs. 5900 **(B)** Rs. 6000 **(C)** Rs. 7500 **(D)** Rs. 3000.
Solution:
50% of persons receiving B category help during 1995 =3316
City's contribution to maintenance: =5.0×0.4
= Rs. 2 crore =2,00,00,0003316
= Rs. 6031.36
= **Rs. 6000** nearly
The correct choice is **(B)**.

Example 1.5:
Monthly costs to the city of category D during 1995 and 1996 bear a ratio (most nearly)
(A) 2 : 3 **(B)** 5 : 3 **(C)** 3 : 2 **(D)** 3 : 5
Solution:
Again, we can straightaway determine the answer through simple calculation.
Since a ratio is required to be calculated, we can avoid the division by 12.
Directly from the table we have, total assistance in 1995 and 1996 for Category D as 26.4 and 42.6.
Hence the ratio is 26.4:42.6=3:5 nearly.

Sample Question
Direction: Refer to the following table and answer the given questions.
Number of cars sold by 6 Stores in 5 different months

Stores / Months	P	Q	R	S	T	U
Jan	133	161	213	225	282	196
Feb	183	123	277	176	239	268
March	278	154	226	98	178	198
April	178	272	269	284	293	277
May	264	107	237	167	379	237

The above Table shows:
- The number of cars sold by store P (In Jan = 133, Feb = 183, March = 278, April = 178, May = 264)

Like this we can see the others. Lets do solve some questions.

1. Number of cars sold by store T in march is what percent less then number of cars sold by Store P in may? (Rounded off to nearest integer)
   (a) 29% (b) 31% (c) 37% (d) 33%

Solution:
Number of cars sold by Store T in March = 178
Number of cars sold by store P in May = 264
Required percentage = (264 – 178 /264) * 100 (in question asked less then number that's why we deducted) = (86/264) * 100 = 32.57%
So rounded figure it will be 33%, **Answer D**

2. What is the average number of cars sold by all the given stores in Feb?
   (a) 207 (b) 211 (c) 219 (d) 223

Solution:
To find average we have to add all the figures of Feb month and then divided by 6
= 183 + 123 + 277 + 176 + 239 + 268/6 = 1266/6 = 211, **Answer B**

3. Total number of cars sold by store Q during all the given months together is what percent of the total number of cars sold by store S during all the given month together?
   (a) 82% (b) 88% (c)92% (d) 86%

Solution:
Total number of cars sold by store Q during all the given months together = 161 + 123 + 154 + 272 + 107 = 817
Total number of cars sold by store S during all the given months together = 225 + 176 + 98 + 284 + 167 = 950
Required percentage = (817/950) * 100= 86%, **Answer D**

4. What is the difference between total number of cars sold by all the given stores together in Jan and total number of cars sold by all the given stores together in April?
   (a) 353 (b) 379 (c) 363 (d) 347

Solution:
Total number of cars sold by all the given stores together in Jan = 133 + 161 + 213 + 225 + 282 + 196 = 1210
Total number of cars sold by all the given stores together in April = 178 + 272 + 269 + 284 + 293 + 277 = 1573
Required difference = 1573 – 1210 = 363, **Answer C**

5. What is the respective ratio between total number of cars sold by stores P and R together in March and total number of cars sold by stores T and U together in May?
   (a) 9:11 (b) 11:13 (c) 5:7 (d) 13:17

Solution:
Total number of cars sold by stores P and R together in March = 278 + 226 = 504
Total number of cars sold by stores T and U together in May = 379 + 237 = 616
Ratio= 504 : 616 = 9 : 11, **Answer A**

Directions: Study the table and answer the questions that follows:
Data Related to Human Resource of a Multinational Company (X) which has 146 Offices across 8 Countries.

Countries	Offices	Total No. of Employees	Respective ratio of Male and Female Employees	Percentage of Post-Graduate Employees
A	16	2568	5:7	75
B	18	2880	11:5	65
C	14	2310	10:11	40
D	22	3575	3:2	60
E	13	2054	7:6	50
F	17	2788	20:21	75
G	24	3720	8:7	55
H	21	3360	9:5	80

1. If the number of male post-graduate employees in country H is 1800, what percent of female employees in that particular country is post-graduate?
   [1] 76 **[2]** 74 **[3]** 72 **[4]** 64 **[5]** 68

In country H, 80% are post-graduate. That is = [80/100]*3360 = 2688
Male is given 1800. Hence, female post-graduate employees = 2688 – 1800 = 888
Total female employees is = [5/14]*3360 = 1200
Hence, required percentage = [888/1200]*100 = 74 Percent. **Answer [2] is correct.**

2. In which of the given countries is the percentage of women employees to the number of employees (both male and female) in that country the second lowest?
   [1] G **[2]** B **[3]** E **[4]** H **[5]** D

These types of question are too much calculative. But you can apply the reasoning process to solve these questions a little more quickly.
The question asks the percentage of female to total employees. This can be arrived at from the ratio that's given in the table under the third column. **So, just focus upon that ratio and focus upon the countries given in the options.** (i.e. Countries G, B, E, H and D only).
Country B = 11:5 à [5/16]*100
Now, let's say this is approximately 30% (16*3 = 48 which is close to 50).
Country D = [2/5]*100 = 40%
Country E = [6/13]*100 = approx. 45%
Country G = [7/15]*100 = approx. 45%
Country H = [5/14]*100 = approx. 35%
Now, second highest is Country H. Question solved. **Answer [4] is correct.**

3. What is the respective ratio between total number of male employees in countries B and H together and total number of female employees in countries C and D together?
   [1] 63:52 **[2]** 51:38 **[3]** 77:64 **[4]** 69:44 **[5]** 57:40

These sort of questions requires faster calculation. No other alternative is there!
Total male employees from countries B and H = [11/16]*2880 + [9/14]*3360 = 1980 + 2160 = 4140
Total female employees from Countries C and D = [11/21]*2310 + [2/5]*3575 = 1210 + 1430 = 2640
Required ratio = 4140:2640 = 69:44. **Answer [4] is correct.**

4. What is the difference between average number of post-graduate employees in countries A, B and D together and average number of post-graduate employees in countries F, G and H together?
   [1] 282 **[2]** 276 **[3]** 316 **[4]** 342 **[5]** 294

Again. Mastery at calculation is required. **But here's a reasoning approach to simplify the calculations.**
75% of 2568 is required. Divide 2788 in four parts and add three parts. Thus 2568/4 is 642 and 642*3 = 1926
65% of 2880 is required. Divide 2880 in ten parts and add six parts and half of 7th part. Thus 288*6 + 288/2 = 1728 + 144 = 1872
60% of 3575 is required. Divide 3575 in 5 parts and add three parts. Thus 3575/5 = 715 and 715*3 = 2145
Average of these three is = [1/3]*[1926+1872+2145] = 1981
Using similar procedures, average of other three is calculated as = 2275
Difference = 2275 – 1981 = 294. **Answer [5] is correct.**

5. Which of the given countries has the highest number of average employees per office?
   [1] F **[2]** H **[3]** B **[4]** C **[5]** D

This question is similar to question no. 2. Calculating the averages of the given options only gives
B = 2880/18 = 1440/9 = 160
C = 2310/14 = 330/2 = 165
D = 3575/22 = 325/2 = 162.5
F = 2788/17 = 164
H = 3360/21 = 480/3 = 160
Highest is in country C.
Answer [4] is correct.

Table Charts Questions Answers

Study the following table chart and answer the questions based on it. Expenditures of a Company(in Lakh Rupees) per Annum Over the given Years.

Year	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
1998	288	98	3.00	23.4	83
1999	342	112	2.52	32.5	108
2000	324	101	3.84	41.6	74
2001	336	133	3.68	36.4	88
2002	420	142	3.96	49.4	98

I. What is the average amount of interest per year which the company had to pay during this period**?**

A. Rs. 36.66 lakhs B. Rs. 36.36 lakhs C. Rs. 36.26 lakhs D. Rs. 36.06 lakhs

Answer : Option **A**
Explanation:
Average amount of interest paid by the Company during the given period will be
23.4+32.5+41.6+36.4+49.45lakh =36.66lakhs23.4+32.5+41.6+36.4+49.45 lakh=36.66lakhs

II. The total amount of bonus paid by the company during the given period is approximately what percent of the total amount of salary paid during this period**?**

A. 5% B. 1% C. 1.5% D. 2%

Answer : Option **B**
Explanation:
Here we simply need to calculate that bonus is what percent of salary.
We will just sum all bonus and salary to get the percentage as below,
$(3.00 + 2.52 + 3.84 + 3.68 + 3.96288 + 342 + 324 + 336 + 420 * 100)\% = (171710 * 100)\%$
$= 1\% approx. (3.00 + 2.52 + 3.84 + 3.68 + 3.96288 + 342 + 324 + 336 + 420 * 100)\%$
$= (171710 * 100)\% = 1\% approx.$

III. Total expenditure on all these items in 1998 was approximately what percent of the total expenditure in 2002?

A. 61% B. 47% C. 59% D. 69%

Answer : Option **D**
Explanation:
Required percentage we can easily calculate from the above table chart.
Required percentage will be,
$(288 + 98 + 3.00 + 23.4 + 83420 + 142 + 3.96 + 49.4 + 98 * 100)\% = (495.4713.36 * 100)\%$
$= 69.45\%(288 + 98 + 3.00 + 23.4 + 83420 + 142 + 3.96 + 49.4 + 98 * 100)\% = (495.4713.36 * 100)\%$
$= 69.45\%$

IV. Calculate the total expenditure of the company over these items during the year 2000 from the table chart given.

A. Rs. 543.44 lakhs B. Rs. 544.44 lakhs C. Rs. 545.44 lakhs D. Rs. 546.44 lakhs

Answer : Option **B**
Explanation:
Total expenditure of the Company during 2000
= Rs. (324 + 101 + 3.84 + 41.6 + 74) lakhs
= Rs. 544.44 lakhs.

V. The ratio between the total expenditure on Taxes for all the years and the total expenditure on Fuel and Transport for all the years respectively is approximately?

A. 4:13 B. 7:13 C. 10:13 D. 11:13

Answer : Option **C**
Explanation:
Required Ratio will be
$(83 + 108 + 74 + 88 + 9898 + 112 + 101 + 133 + 142) = (451586) = 11.3 = 1013$

Study the following table carefully and answer the questions given below it: Number of Different categories of vehicles sold in the country over the years (in thousands)

Year	Heavy	Light Commercial Vehicles	Cars	Jeeps	Two Wheelers
1990	26	64	232	153	340
1991	45	60	242	172	336
1992	72	79	248	210	404
1993	81	93	280	241	411
1994	107	112	266	235	442
Total	331	408	1268	1011	1933

1. In which of the following years was the number of light commercial vehicles sold approximately 25% of the number of 2-wheelers sold?
   A. 1991
   B. 1992
   C. 1993
   D. 1994

   Answer : Option **D**
   Explanation:
   In the year 1994,
   Number of light commercial vehicles sold were 112
   Number of 2-wheelers sold were 442
   So,
   $(112442 * 100) = 25.33\%(112442 * 100) = 25.33\%$

2. If the same percentage increase in the number of Heavy Vehicle as in 1994 over 1993 is expected in 1995, approximately how many heavy vehicles will be sold in 1995?
   A. 141
   B. 156
   C. 176
   D. 181

   Answer : Option **A**
   Explanation:
   In this question, by referring the table chart, first we need to calculate the increase(in percentage) in sale of Heavy Vehicle in 1994 over 1993
   Heavy Vehicle sold in 1993 = 81
   Heavy Vehicle sold in 1993 = 107
   Increase = 107 – 81 = 26
   Now 26 is what percent of 81**?**
   $(2681 * 100)\% = 32\%\ aprox.\ (2681 * 100)\% = 32\%\ aprox.$
   So increase in sale were 32% in 1994, so get the answer we need to calculate the 132% of 107.
   $132100 * 107 = 141.24132100 * 107 = 141.24$

3. The number of Heavy Vehicles sold in 1993 was approximately what percent of the total number of Vehicles sold in 1992?
   A. 6%
   B. 7%
   C. 8%
   D. 9%

   Answer : Option **C**
   Explanation:
   Required percentage =(8172+79+248+210+404∗100)%=(811013∗100)%=7.99%=8%approx
   Required percentage =(8172+79+248+210+404∗100)%=(811013∗100)%=7.99%=8%approx

4. In which year was the number of 2-wheelers sold as a percentage of the total number of Vehicles sold during that year, the highest?
   A. 1990

B. 1991
C. 1992
D. 1993

Answer : Option **A**

5. The percentage increase in the sales in 1993 over the previous year was maximum for which of the following categories of vehicles**?**
   A. Two Wheeler
   B. Jeeps
   C. Light Commercial Vehicles
   D. Cars

   Answer : Option **C**

The following table gives the sales of batteries manufactured by a company over the years. Study the table chart and answer the questions based on it.

Year	4AH	7AH	32AH	35AH	55AH	Total
1992	75	144	114	102	108	543
1993	90	126	102	84	126	528
1994	96	114	75	105	135	525
1995	105	90	150	90	75	510
1996	90	75	135	75	90	465
1997	105	60	165	45	120	495
1998	115	85	160	100	145	605

1. What was the approximate percentage increase in the sales of 55AH batteries in 1998 compared to that in 1992?
   A. 31%
   B. 33%
   C. 34%
   D. 36%

   Answer : Option **C**
   Explanation:
   Increase is = 145-108 = 37
   Now we need to calculate that 37 is what percent of 108.
   (37108∗100)%=34.25%(37108∗100)%=34.25%

2. In the case of which battery, there was a continuous decrease in sales from 1992 to 1997**?**
   A. 35 AH
   B. 4 AH
   C. 32 AH
   D. 7 AH

   Answer : Option **D**
   Explanation:
   After analysing table chart, it is clear that the sales of 7AH batteries have been decreasing continuously from 1992 to 1997.

3. What is the difference in the number of 35AH batteries sold in 1993 and 1997**?**
   A. 39000
   B. 40000
   C. 43000
   D. 49000

Answer : Option **A**
Explanation:
Required difference = [(84 – 45) * 1000] = 39000.

4. The total sales of all the seven years is the maximum for which battery**?**
   A. 35 AH
   B. 4 AH
   C. 7 AH
   D. 32 AH

   Answer : Option **D**
   Explanation:
   The total sales (in thousands) of all the seven years for various batteries are : a t.
   For 4AH = 75 + 90 + 96 + 105 + 90 + 105 + 115 = 676
   For 7AH = 144 + 126 + 114 + 90 + 75 + 60 + 85 = 694
   For 32AH = 114 + 102 + 75 + 150 + 135 + 165 + 160 = 901
   For 35 AH = 102 + 84 + 105 + 90 + 75 + 45 + 100 = 601
   For 55 AH = 108 + 126 + 135 + 75 + 90 + 120 + 145 = 799.
   Clearly, sales are maximum in case of 32AH batteries.
   Practice Problems on Table DI

Directions (6-10): Study the following table carefully and answer the question given below it.

Various Food-grains sold by various farmers at various prices (Price per Kg.)

Farmers/Food Grains	Rice	Corn	Bajra	Paddy	Jowar
A	30	22.5	22	24	18
B	36	28	24.5	25	24
C	40	24	21	26	20.5
D	34.5	27.5	28	25	25
E	36	32	30	28.5	27

1. If farmer D and farmer E, both sell 240 kgs. of Bajra each what would be the respective ratio of their earnings?
   A) 9 : 13 B) 14 : 15 C) 17 : 19 D) 11 : 13 E) 10 : 19

   Solution: Option B
   Required ratio = 240 * 28 : 240 * 30 = 14 : 15

2. What is the average price per kg of Bajra sold by all the farmers together?
   A) 22 B) 25.10 C) 23.3 D) 33.5 E) 41.15

   Solution:
   Average price of Bajra = (22 + 24.5 + 21 + 28 + 30)/5 = Rs. 25.10 per kg

3. If farmer C sells 180 kgs. each of Corn , Paddy and Jowar grains how much would be earn?
   A) Rs. 15200 B) Rs.12690 C)Rs.11050 D) Rs.19500 E) Rs.14500

   Solution: Option B
   Farmer C's earnings = (180*24 + 180*26 + 180*20.5) = Rs. 12690

4. If farmer A sells 350 kg of Rice , 150kg of Corn and 250 kg of Jowar , how much would he earn?
   A) Rs.24510 B) Rs.11452 C) Rs. 15420 D) Rs. 18375 E) Rs.11450

   Solution: Option D
   Farmer's A earnings = (350 * 30 + 150 * 22.5 + 250 * 18) = Rs.18375

5. Earnings on 150 kg of Paddy sold by farmer B are approximately what per cent of the earnings on the same amount of Rice sold by the same farmer?
A) 48% B) 52% C) 69% D) 70% E) 65%

Solution: Option C
Required % = (25/36)*100 = 69%(approx.)

Directions (1-5): Study the following table to answer the given questions.

Centre	Post	Clerk	Field Officer	Supervisor	Specialist Officer
Bangalore	2000	5000	50	2050	750
Delhi	15000	17000	160	11000	750
Mumbai	17000	19500	70	7000	900
Hyderabad	3500	20000	300	9000	1150
Kolkata	14900	17650	70	1300	1200
Lucknow	11360	15300	30	1500	650
Chennai	9000	11000	95	1650	500

1. What is the difference between total number posts and clerks?
A) 42563 B) 45278 C) 32690 D) 25478 E) 52480

Option C
Solution: Number of posts = 72760
Number of clerks = 105450
Difference = 105450 – 72760 = 32690

2. In Kolkata , number of Specialist Officers is approximately what per cent of that of Officers?
A) 12% B) 10% C) 6% D) 8% E) 11%

Option D
Solution: Required % = (1200/14900)*100 = 8%

3. In Chennai, the number of Clerks is approximately how much per cent more than that of Officers?
A) 10% B) 22% C) 18% D) 21% E) 30%

Option B
Solution: Required % = (2000/9000)*100 = 22%

4. Which centre has the highest number of candidates?
A) Delhi B) Bangalore C) Mumbai D) Kolkata E) Chennai

Option C
Solution:
Number of candidates:
Bangalore -> 2000 + 5000 + 50 + 2050 + 750 = 9850
Delhi -> 15000 + 17000 + 160 + 11000 + 750 = 43910
Mumbai -> 170000 + 19500 + 70 + 7000 + 900 = 44470
Kolkata -> 14900 + 17650 + 70 + 1300 + 1200 = 35120

5. Which centre has 300% more number of Clerks as compared to Bangalore?
A) Delhi B) Mumbai C) Bangalore D) Chennai E) Hyderabad

Option E
Solution:
Number of Clerks in Hyderabad = 20000 which is 300% more than 5000 at Bangalore.

Directions (6-10): Study the following table and answer the given questions.

Colleges	% of students studying in Arts (out of total student strength)	% of students studying Commerce (out of total student strength)	Number of students studying Science (out of total student strength)
A	20	55	750
B	30	20	750
C	25	25	1040
D	50	30	960

Note:

I. Data relate to the number of students studying in colleges A,B, C and D in the year 2009. The mentioned colleges offer courses in three streams only – Arts, Commerce and Science.

II. Total students strength = students studying (Arts + Commerce + Science)

1. Number of students studying Arts in college C is what percent of number of students studying Arts in college D?

A) 18(2/3) B) 21(2/3) C) 17(1/2) D) 20(3/2) E) 11(1/3)

Solution: Option B
In college C , Percentage of students who study science = 100 – 25 – 25 = 50%
Therefore , 50% == 1040
Then, Students who study Arts = (1040/50)*25 = 520
In college D , Percentage of students who study Science = 100 – 50 – 30 = 20
Therefore, 20% == 960
Then, Students who study Arts = (960/20)*50 = 2400
Required % = (520/2400)*100 = 65/3 = 21(2/3)

2. What is the total number of students studying Commerce in colleges C and D together?

A) 1078 B) 2000 C)1850 D) 1960 E) 2144

Option D
Solution:
Students who study Commerce :
College C = (1040/50)*25 = 520
College D = (960/20)*30 = 1440
Sum = 520 + 1440 = 1960

3. What is the average number of students studying Science in all the mentioned colleges?

A) 780 B) 875 C) 750 D) 800 E) 700

Solution: Option B
Average number of students who study Science = (750 + 750 + 1040 + 960)/4 **= 3500/4 = 875**

4. What is the difference between the total student strength of college A and B together and that of colleges C and D together**?**

A) 1850 B) 1999 C) 1480 D) 2250 E) 2380

Option E
Solution:
Total number of students:
College A ,
Therefore , 25% == 750
Then, 100% == (750/25)*100 = 3000
College B,
Therefore, 50% == 750
Then, 100% == (750/50)*100 = 1500

College C,
50%== 1040
Then , 100% == 1040*2 = 2080
College D,
20% == 960
Then, 100% == (960/20)*100 = 4800
Required difference = (4800+2080) – (3000+1500)
= 6880 – 4500 = 2380

5. Total number of students studying Arts and Commerce together in college A is what percent more than that of college B**?**
A) 156 B) 110 C) 200 D) 150 E) 198

Solution: Option C
In college A,
Percentage of students who study Science = 100 – 20 – 55 = 25%
Therefore, 25% == 750
Students who study Arts = (750/25)*20 = 600
Students who study Commerce = (750/25)*55 = 1650
Sum = 600+1650 = 2250
In college B,
Percentage of students who study in Science = 100 – 30 – 20 = 50%
Therefore , 50% == 750
Students who study Arts = (750/50)*30 = 450
Students who study Commerce = (750/50)*20 = 300
Sum = 450+300 = 750
Required % = [(2250-750)/750]*100 = 200

Directions(1-5): Study the following table carefully to answer the questions given below it.

Department	Manager		Officer	
	Total number	Male:Female	Total number	Male:Female
Operations	1200	13:11	1800	7:11
Public Relations	800	9:7	1500	7:8
Finance	1500	17:13	2200	9:13
Advertising	900	4:5	600	7:5
Sales	1400	4:3	1600	17:15
Procurement	700	18:17	1200	9:11

1. What is the difference between total number of male officers in Advertising and Public Relations Departments and the total number of female managers in these two departments?
A) 110 B) 150 C) 200 D) 180 E) 205

Solution: Option C
Advertising Department:
Male Officers = (600*7)/12 = 350
Female Managers = (900*5)/9 = 500
Public Relations Department:
Male Officers = (1500*7)/15 = 700
Female Managers = (800*7)/16 = 350
Required Difference = (350+700) – (500+350) = 1050 – 850 = 200

2. What is the respective ratio between total number of female managers from operations and finance departments and the total number of male officers from these two departments?
A) 2:3 B) 3:4 C) 2:5 D) 2:7 E) 1:2

Solution: Option B
Female Managers :
Operations Department = (11*1200)/24 = 550
Finance Department = (13*1500)/30 = 650
Male Officers :
Operational Department = (1800*7)/18 = 700
Finance Department = (2200*9)/22 = 900
Required Ratio = (650+550) : (700+900) = 3 : 4

3. Total number of female employees (Managers and Officers) in procurement department is by what percent more than their male counter part?
A) 8% B) 10% C)20% D) 15% E) 11%

Solution: Option E
Females in procurement department :
Managers = [17/(17+18)]*700 = 340
Officers = (11/20)*1200 = 660
Total = 340 + 660 = 1000
Males in Procurement department :
Managers = 700 – 340 = 360
Officers = 1200 – 660 = 540
Total = 360 + 540 = 900
Required Percent = [(1000 – 900)/900]*100 = 11%

4. What is the ratio between total number of managers in public relation, finance and sales and operation departments and the total number of officers in finance, advertising sales and procurement departments respectively?
A) 7:8 B) 10:13 C) 9:11 D) 8:7 E) 10:17

Solution: Option A
Total number of managers in public relation, finance and sales and operation departments = 800 + 1500 + 1400 + 1200 = 4900
Officers in finance, advertising sales and procurement departments
=2200 + 600 + 1600 + 1200 = 5600
Required Ratio = 4900 : 5600 = 7:8

5. Total number of female managers in finance department is what percent of the total number of male employees in sales department?
A) 42.5 B) 39.4 C) 33.2 D) 40.15 E) 24.8

Solution: Option B
Female managers in Finance department = 650
Total male employees in sales department = (1400*4)/7 + 850 = 1650
Required Percent = (650/1650)*100 = 39.4

Directions(6-10): Data regarding number of books sold in either hard bound or paperback editions and also the categories of books sold in fiction and non- fiction categories by four different shops, in a particular mouth (Feb. 2015).

Book Shops	Respectiveratio between number of hardbounds sold and number of paperbacks sold	Number of paperbacks sold out of total books sold	%age of fictious (hardbound + paperback) sold out of total books sold
A	2:3	1200	60
B	1:5	1000	65
C	1:3	600	70
D	3:5	675	75

6. What is the average number of fiction books sold by shop A and B together?
   A) 900
   B) 990
   C)1000
   D) 1500
   E) 1100

   Option B
   Solution:
   Fiction books sold:
   Shop A = 60% of [(5/3)*1200]= 1200
   Shop B = (1200*65)/100= 780
   Required % = (1200+780)/2 = 990

7. What is the respective ratio between the number of non-fiction books sold by shop C and number of non-fiction books sold by shop D?
   A) 14(1/7)%
   B) 11(1/9)%
   C) 9(1/11)%
   D) 8(1/17)%
   E) 15(1/8)%

   Option B
   Solution:
   Total books sold :
   Shop B = 1200
   Shop D = (8/5)*675 = 1080
   Required % = [(1200-1080)/1080]*100
   = 100/9 = 11(1/9)%

8. In March 2015, the number of paperback editions sold by shop D was 20% more than the same sold by the same shop in the previous month. The number of paperback editions sold in March 2015 by shop D constituted 50% of the total number of books sold by shop D in March 2015. What was the total number of books sold in March 2015 by shop D**?**
   A) 1620
   B) 1600
   C) 1550
   D) 1490
   E) 1560

   Option A
   Solution:
   Paperback books sold by shop D in March 2015
   = (675*120)/100 = 810
   Total number of books sold in March 2015 = 810*2 = 1620

9. The number of hard bound editions sold by shop C is what percent less than that sold by shop A**?**
   A) 77%
   B) 65%
   C) 75%
   D) 80%
   E) 60%

   Option C
   Solution:
   Hard bound editions sold by shop C = (1/3)*600 = 200
   Hard bound editions sold by shop A = (2/3)*1200 = 800
   Required % = [(800-200)/800]*100 = 75%

10. The number of non-fiction sold by shop B is what % of the number of non-fiction books sold by shop A?
    A) 33.15%
    B) 39.99%
    C)48.5%
    D) 50%
    E) 52.5%

Option E
Solution:
Total books sold by shop B = (6/5)*1000 = 1200
Non-fiction books sold = 1200 *(35/100) = 420
Total books sold by shop A = (5/3)*1200 = 2000
Non-fiction books sold = 2000*(40/100) = 800
Required % = (420/800)*100 = 52.5%

Study the following table carefully and answer the questions that follow:
Monthly Expenditure (In thousand) by 5 persons on Rent, Food, Children's Education, Clothes and Travelling.

Expenditure/Person	Rent	Food	Children's Education	Clothes	Travelling
A	12.4	4.8	7.5	5.4	4.5
B	6.0	7.8	12.4	12.6	5.8
C	5.6	6.4	14.6	6.4	5.3
D	13.6	7.8	12.5	16.4	9.5
E	14.4	8.4	13.2	7.5	7.4

1. What is the respective ratio between the expenditure of person-A on food and the expenditure of person-E on clothes?
   A) 15:18
   B) 10:19
   C) 11:14
   D) 16:25
   E) 10:15

Option D
Solution: Required ratio = 4.8 : 7.5 = 16:25

2. Total expenditure on rent by all the persons together is what per cent of expenditure of D on children's education?
   A) 550
   B) 320
   C) 416
   D) 500
   E) 450

Option C
Solution: Total expenditure on rent = (12.4 + 6 + 5.6 + 13.6 + 14.4)thousands
= Rs.52 thousands
Required thousands = (52/12.5)*100 = 416

3. What is difference between the expenditure of person-B on Travelling and the expenditure of person-A on food?
   A) Rs.3000
   B) Rs.1500
   C) Rs.1000
   D) Rs.1100
   E) Rs.2000

Option D
Solution:
Required difference = 5800 – 4800 = Rs.1000

4. What is the average expenditure of person-C on all the five commodities together?
   A) Rs.7580
   B) Rs.6500
   C) Rs.8050
   D) Rs.9000
   E) Rs.7660

Option E
Solution:
Required average expenditure by person-C = [(5.6 + 6.4 + 14.6 + 6.4 + 5.3)*1000]/5
= Rs.7660

5. Expenditure of which person on all the five commodities together is second highest?
   A) E
   B) D
   C) B
   D) A
   E) C

Option A
Solution:
Total expenditure of five commodities:
A => (12.4+4.8+7.5+5.4+4.5)*1000 = Rs. 34600
B => (6+7.8+12.4+12.6+5.8)*1000 = Rs.44600
C => Rs.38300
D => (13.6 + 7.8+12.5+16.4+9.5)*1000 =Rs.59800
E => (14.4+8.4+13.2+7.5+7.4)*1000 = Rs.50900

Study the table carefully to answer the questions that follow:
Distance (in kms) travelled by six trucks on six different days of the week

Truck/Day	P	Q	R	S	T	U
Monday	240	250	320	325	330	300
Tuesday	320	264	308	314	318	314
Wednesday	324	294	330	312	310	325
Thursday	288	300	310	278	260	275
Friday	366	302	288	292	270	268
Saturday	292	284	260	274	280	242

1. What is the average distance travelled by truck S in all the days together?
   A) 299(1/6)
   B) 250(1/3)
   C) 310(1/5)
   D) 111(1/3)
   E) 90(1/5)

Option A
Solution:
Required average distance covered by truck S = (325+314+312+278+292+274)/6
= 1795/6 = 299(1/6)km

2. If to travel the given distance , the time taken by truck Q on Friday was 8 hours , what was its speed on that day?
   A) 40.5kmph
   B) 37.75kmph

C) 30.45kmph
D) 42kmph
E) 50kmph

Option B
Solution: Speed of truck Q on Friday =302/8 = 37.75kmph

3. If the speed of truck P on Monday was 19.2 kmph, what was the time taken by it to cover the given distance?
A) 13hrs.
B) 12.5 hrs.
C) 15.6hrs.
D) 9.5hrs.
E) 10.14hrs.

Option B
Solution: Required time = 240/19.2 = 12.5 hours

4. If on Tuesday truck R and truck T travelled at the same speed, what was the respective ratio of time taken by truck R and time taken by truck T to cover their respective distances?
A) 147:164
B) 144:171
C) 150:161
D) 154:159
E) 110:113

Option D
Solution: Required ratio = 308:318 = 154:159

5. What is the total distance travelled by all the trucks together on Saturday**?**
A) 1245km
B) 1450km
C) 1632km
D) 1200km
E) 1550km

Option C
Solution:
Total distance travelled by the trucks on Saturday
= (292+284+260+274+280+242)km = 1632km

Directions (1-5): Study the following table carefully to answer the questions. The table given the percentage of marks obtained by six students in six different subjects. Here, P, Q, R, S, T, U are the six different subjects.

Student	P(out of 60)	Q(out of 40)	R(out of 80)	S(out of 50)	T(out of 120)	U(out of 75)
A	80	65	58	68	75	87
B	55	70	67	74	88	78
C	74	54	72	84	62	76
D	68	76	82	56	72	64
E	75	68	64	72	80	72
F	82	78	75	67	68	82

1. What is the average percentage of marks obtained by all the students in subject 'P'?
A) 72(1/3)
B) 72(1/2)
C)78(1/5)
D)77(1/4)
E) 77(1/5)

Option A
Solution: Required average % = (80+55+74+68+75+82)/6 = 72(1/3)

2. What is the overall percentage of marks obtained by B in all the subjects?
A) 70% B) 78% C) 72% D) 88% E) 82%

Option C
Solution: Required % = (55 + 70 + 67 + 74 + 88 + 78)/6 = 72%

3. What are the total marks obtained by all the students together in subject T**?**
A) 527 B) 625 C)600 D)534 E) 550

Option D
Solution: Total marks obtained = 90 + 105.6 + 74.4 + 86.4 + 96 + 81.6 = 534

4. What are the average marks obtained by all the students in subject 'R' (approx.)?
A) 60 B) 56 C) 50 D) 64 E) 78

Option B
Solution: Required average marks = (46.4 + 53.6 + 57.6 + 65.6 + 51.2 + 60)/6 = 55.7 = 56(approx.)

5. What are the total marks obtained by student C in subjects Q, S and T**?**
A) 130 B) 140 C) 138 D) 155 E) 145

Option C
Solution:
Marks obtained by C in subject Q = 54*(40/100) = 21.6
subject S = 84*(50/100) = 42
subject T = 62*(120/100) = 74.4
Therefore ,required total marks = 21.6 + 42+ 74.4 = 138

Directions (6-10): Study the table carefully and answer the questions that follow:
Description of Literate and Illiterate population of six villages.

Villages	% of Literate Population	Literate Male :Literate Female	Illiterate Male : Illiterate Female
A	48%	7:5	13:7
B	60%	8:7	3:5
C	72%	4:5	3:4
D	60%	5:4	6:5
E	50%	7:3	14:11
F	64%	5:3	7:5

1. The number of literate women in village B is 39760 and that of illiterate women in village C is 25600. By what percent is the population of village B is less that that of village C?
A) 13.07 B) 13.25 C)10.10 D) 11.25 E) 21.5

Option D
Solution:
Literate men in village B = (8/7)*39760 = 45440
Literate males and females = 45440 + 39760 = 85200
If 60% ==== 85200
then 100% ==== (85200/60)*100 = 142000
Illiterate males in village C = (3/4)*25600 = 19200
Illiterate population = 25600 + 19200 = 44800
If 28% ====44800
then 100%====(44800/28)*100 = 160000
Therefore ,required % = (160000 – 142000)*100/160000 = 11.25

2. If the number of literate women in village D is 32200, what is the number of illiterate population in the same village?
A) 48575 B) 57042 C)45000 D) 54050 E) 48300

Option E
Solution:
Literate males in village D = (5/4)*32200 = 40250
Total literates = 32200 + 40250 = 72450
60%====72450
40%====(72450*40)/60 = 48300

3. If the population of village F is 168000, what is the number of literate males?
A)76800 B) 67200 C)45072 D) 57480 E) 65770

Option B
Solution:
Literate population in village F = (168000*64)/100 = 107520
Number of literate males = (5/8)*107520 = 67200

4. If the illiterate female population of village E be 77000, what is the total population of that village?
A) 257850 B) 331250 C) 350000 D) 425600 E) 324560

Option C
Solution:
Illiterate males in village E = (14/11)*77000 = 98000
Total illiterate = 77000 + 98000 = 175000
Therefore ,total population = 2 *175000 = 350000

5. If the number of literate males in village A be 35840, the number of illiterate males in the same village?
A) 45022 B) 43264 C) 41500 D) 40000 E) 42781

Option B
Solution:
Literate females in village A =(5/7)*35840 = 25600
Total literate population = 25600 + 35840 = 61440
48% ====61440
52%====(61440/48)*52 = 66560
Illiterate males = (13/20)*66560 = 43264

Directions (1-5): The table shows the number of people staying in five different localities and the percentage-wise breakup of Men, Women and Children. Study the table carefully and answer the related questions.

Locality	Total number of people	% of men out of the total people	% of women out of the total people	% of children out of the total people
A	18000	45	35	20
B	16000	55	35	10
C	15000	40	45	15
D	12000	35	40	25
E	20000	45	32	23

1. If 20% of the men staying in locality D are working in Infosys and the 40% of the women staying in locality B are working in HCL, then what is the difference between the number of men staying in locality D who are working in Infosys and the number of women staying in locality B who are working in HCL?
A) 900 B) 1300 C)1000 D)1400 E) 800

Solution: Option D
Number of men staying in locality D who are working in Infosys = 12000*(35/100)*(20/100) = 840
Number of women staying in locality B who are working in HCL = 16000*(35/100)*(40/100) = 2240
Required difference = 2240 – 840 = 1400

2. Number of children staying in localities A and B together is approximately what percent of the number of children staying in localities D & E together?
A) 48% B) 68.42% C)50% D) 42.54% E) 60.15%

Solution: Option B
Number of children staying in A and B together = 18000*(20/100) + 16000*(10/100) = 5200
Number of children staying in D & E together = 12000*(25/100) + 2000*(23/100) = 7600
Required % = (5200/7600)*100= 68.42%

3. If 40% of the women staying in locality C are graduate and 60% of the men staying in locality E are post graduate then what is the ratio between the number of graduate women staying in locality C and the number of post graduate men staying in locality E?
A) 1:2 B) 3:2 C)1:4 D) 5:2 E) 4:5

Solution: Option A
Number of graduate women staying in C = 15000*(45/100)*(40/100)= 2700
Number of post graduate men staying in E = 20000*(45/100)*(60/100)= 5400
Required ratio = 1:2

4. What is the difference between the total number of men staying in all the localities together and that of women staying in all the localities together**?**
A) 6500 B) 6300 C) 6000 D) 6500 E) 6250

Solution: Option E
Number of men staying in A, B, C, D and E =
18000*(45/100) + 16000*(55/100) + 15000*(40/100) + 12000*(35/100) + 20000*(45/100) =
8100+8800+6000+4200+9000= 36100
Number of women staying in A, B, C, D and E =18000*(35/100) + 16000*(35/100) + 15000*(45/100) + 12000*(40/100) + 20000*(32/100) = 6300+5600+6750+4800+6400 = 29850
Required Difference = 36100 – 29850 = 6250

5. If 40% of the men staying in locality A are self employed, then the self employed men staying in locality A is approximately what percent of the number of women staying in locality B**?**
A) 60% B)58% C)45% D) 42% E) 55%

Solution: Option B
Number of self-employed men staying in locality A = 18000*(45/100)*(40/100) = 3240
Number of women staying in locality B = 16000*(35/100) = 5600
Required % = (3240/5600)*100 = 57.86%= 58%(approx.)

Directions (6-10): The table shows the distribution of total number of phones manufactured and percentage of defective phones in five different companies in six different years . Study the table carefully and answer the related questions.

N= Number of phones manufactured D= Percent of defected phones

Company	A		B		C		D		E	
Year	N	D	N	D	N	D	N	D	N	D
2012	12000	2	15000	1.6	29000	2.4	41000	2.3	28600	4
2013	64000	1.4	17000	1.8	27000	2.6	28500	3	23400	3
2014	72000	2.1	14000	1	31000	2	27500	2	25900	2
2015	8000	2.4	22000	1.5	32000	3.1	24500	1	29400	1
2016	16000	1.8	26000	1.2	33000	1.8	32800	3.5	30500	0.8
2017	7800	1	25000	2.1	34000	2.3	17800	1.5	31600	1.5

6. Number of non-defected phones manufactured by company D in 2017 is approximately what % of the number of non-defected phones manufactured by company C in 2014?
A) 60% B) 58% C) 74% D) 55% E) 42%

Solution: Option B
Number of non-defected phones manufactured by company D in 2017 = 17800*(98.5/100) = 17533
Number of non-defected phones manufactured by company C in 2014
= 31000*(98/100) = 30380
Required % = (17533/30380)*100 = 57.71% = 58%(approx.)

7. What is the ratio between the number of non-defected phones manufactured by company B in 2013 and that of company D in 2016?
A) 8347:15826 B) 8475:10457 C) 4757:7458
D) 5784:8453 E) 6456:11450

Solution: Option A
Number of non-defected phones manufactured by company B in 2013 = 17000*(98.2/100) = 16694
Number of non-defected phones manufactured by company D in 2016 = 32800*(96.5/100) = 31652
Required ratio = 8347:15826

8. What is the total number of non-defective phones manufactured by company B in all the years together?
A) 147855 B) 247850 C) 221748 D) 117500 E) 117147

Solution: Option E
Number of non-defective phones manufactured by B in all the years = 15000*(98.4/100)+ 17000*(98.2/100)+ 14000*(99/100)+ 22000(98.5/100)+ 26000*(98.8/100)+ 25000*(97.9/100)
= 14760+ 16694+ 13860+ 21670+ 25688+ 24475 = 117147

9. What is the difference between the total number of phones manufactured by company C and that of company E in all the years together?
A) 17650 B) 15000 C) 16600 D) 15850 E) 18570

Option C
Solution: Required difference = 186000 – 169400 = 16600

10. Total number of defective phones manufactured by company A is approximately what % of the total number of defective phones manufactured by company D in all the years together?
A) 75% B) 80% C) 50% D) 100% E) 60%

Option B
Solution: Total number of defective phones by A in all the years = 12000*(2/100)+ 64000*(1.4/100)+ 72000*(2.1/100)+ 8000*(2.4/100)+ 16000*(1.8/100)+ 7800*(1/100)
= 240+896+1512+192+288+78 = 3206
Total number of defective phones by D in all the years = 41000*(2.3/100)+ 28500*(3/100)+ 27500*(2/100)+ 24500*(1/100)+ 32800*(3.5/100)+ 17800*(1.5/100)
=943+855+550+245+1148+267 = 4008
Required % = (3206/4008)*100 =79.99%= 80%