

## DATA INTERPRETATION-V

### DATA ANALYSIS

**Directions (Q. 1-5):** Study the following information carefully to answer the questions that follow:

In a school there are 800 students who have visited five different cities viz. Delhi, Ajmer, Varanasi, Mumbai and Jodhpur. Fifty four per cent of the total students are boys. One-fourth of the total number of girls visited Mumbai. Twenty five per cent of the total number of girls visited Delhi. Number of girls who visited Jodhpur is half the number of girls who visited Delhi. Five-sixth of the remaining girls visited Ajmer. Total number of students who visited Mumbai is 192. One-fourth of the total number of boys visited Varanasi. 101 boys have visited Ajmer. Two-third of the remaining number of boys have visited Delhi.

**Solutions (Q. 1-5):**

$$\text{Total number of boys} = \frac{54}{100} \times 800 = 432$$

$$\therefore \text{Total number of girls} = 800 - 432 = 368$$

$$\therefore \text{Number of girls visiting Mumbai} = \frac{1}{4} (368) = 92$$

$$\text{Number of girls visiting Delhi} = \frac{25}{100} (368) = 92$$

$$\text{Number of girls visiting Jodhpur} = \frac{1}{2} (92) = 46$$

$$\therefore \text{Remaining girls} = 368 - (92 + 92 + 46) = 138$$

$$\text{Number of girls visiting Ajmer} = \frac{5}{6} (138) = 115$$

$$\therefore \text{Girls visiting Varanasi} = 138 - 115 = 23$$

$$\text{Number of boys visiting Mumbai} = 192 - 92 = 100$$

$$\text{Number of boys visiting Varanasi} = \frac{1}{4} (432) = 108$$

$$\text{Number of boys visiting Ajmer} = 101$$

$$\text{Remaining boys} = 432 - (100 + 108 + 101) = 123$$

$$\text{Number of boys visiting Delhi} = \frac{2}{3} (123) = 82$$

$$\therefore \text{Number of boys visiting Jodhpur} = 123 - 82 = 41$$

The summary can be put in a tabular form

City	Boys	Girls	Total
Mumbai	100	92	192
Delhi	82	92	174
Jodhpur	41	46	87
Ajmer	101	115	216
Varanasi	108	23	131
<b>Total</b>	<b>432</b>	<b>368</b>	<b>800</b>

1. What is the respective ratio between the number of girls who visited Delhi and number of boys who visited Mumbai?

- a) 23 : 24      b) 23 : 50      c) 23 : 25      d) 50 : 23      e) None of these

**ANSWER:** c

$$\text{Required ratio} = 92 : 100 = 23 : 25$$

2. What is the average number of boys who visited Delhi, Varanasi and Jodhpur together?

- a) 82                      b) 77                      c) 86                      d) 76                      e) None of these

**ANSWER:** b

$$\text{Required average} = \frac{82 + 41 + 108}{3} = \frac{231}{3} = 77$$

3. What is two-third of the total number of girls who visited Jodhpur and Varanasi together

- a) 46                      b) 48                      c) 54                      d) 58                      e) None of these

**ANSWER:** a

$$\text{Required value} = \frac{2}{3}(46 + 23) = 46$$

4. Total number of students who visited Jodhpur is approximately what percent of number of girls who visited Ajmer?

- a) 90                      b) 81                      c) 66                      d) 70                      e) 76

**ANSWER:** e

$$\text{Required per cent} = \frac{87}{115} \times 100 \cong \frac{3}{4} \times 100 \cong 76$$

5. What is the total number of students who visited Varanasi?

- a) 121                      b) 143                      c) 111                      d) 153                      e) None of these

**ANSWER:** e

$$\text{Required total} = 131$$

**Directions (Q. 6-10):** Study the information carefully to answer the questions that follow:

In a college there are 900 students who are doing Post Graduate (PG) in any one of the subjects, out of the five different subjects viz. Zoology, Botany, Mathematics, Physics and Statistics. The ratio between the boys and the girls among those is 5 : 4 respectively. 20% of the total girls are doing PG in Zoology and 25% of the total girls are doing PG in Statistics. Total number of students doing PG in Botany is 220. Total students who are doing PG in Mathematics is 150. Respective ratio between the number of girls and the number of boys doing PG in Statistics is 2 : 3. Twenty per cent of the total number of boys are doing PG in Botany. The ratio between the number of girls and boys doing PG in Mathematics is 1 : 2 respectively. There are equal number of boys and girls who are doing PG in Physics. 180 students are doing PG in Zoology.

**Solutions (Q. 6-10):**

$$\text{Boys in the college} = \left(\frac{900}{5+4}\right) \times 5 = 500$$

$$\text{Girls in the college} = 900 - 500 = 400$$

$$\text{Girls doing PG in Zoology} = \frac{20}{100} \times 400 = 80$$

$$\text{Girls doing PG in Statistics} = \frac{25}{100} \times 400 = 100$$

Since girls and boys doing PG in statistics are in the ratio of 2 : 3,

$$\text{Boys doing P.G. in Statistics} = \frac{100}{2} \times 3 = 150$$

Total number of students doing PG in Botany = 220

$$\text{But number of boys doing PG in Botany} = \frac{20}{100} \times 500 = 100$$

$$\therefore \text{Number of girls doing PG in Botany} = 220 - 100 = 120$$

Out of 150 students doing PG in Maths, girls and boys are in the ratio of 1 : 2

$$\therefore \text{Boys doing PG in Math's} = \left(\frac{150}{1+2}\right) \times 2 = 100$$

$$\text{Girls doing PG in Maths} = 150 - 100 = 50$$

$$\therefore \text{Girls doing PG in Physics} = 400 - (80 + 100 + 120 + 50) = 50$$

$$\therefore \text{Boys doing PG in Physics} = 50$$

$$\text{Boys doing PG in Zoology} = 180 - 80 = 100$$

Summarize the data in tabular form

Subject	Boys	Girls	Total
Zoology	100	80	180
Botany	100	120	220
Statistics	150	100	250
Maths	100	50	150
Physics	50	50	100
<b>Total</b>	<b>500</b>	<b>400</b>	<b>900</b>

6. What is the total number of students doing PG in Physics and Statistics together?  
a) 400                      b) 300                      c) 350                      d) 250                      e) None of these

**ANSWER:** c

$$\text{Students doing PG in Physics and Statistics} = 100 + 250 = 350$$

7. What is the respective ratio between the boys doing PG in Mathematics and the number of girls doing PG in Botany?  
a) 3 : 4                      b) 6 : 1                      c) 5 : 6                      d) 2 : 3                      e) None of these

**ANSWER:** c

$$\text{Required Ratio} = 100 : 120 = 5 : 6$$

8. What is the difference between the boys doing PG in Zoology and the number of girls doing PG in Mathematics?  
a) 50                      b) 60                      c) 30                      d) 40                      e) None of these

**ANSWER:** a

$$\text{Required difference} = 100 - 50 = 50$$

9. In which PG course the number of girls is the highest and in which PG course the number of boys is the lowest (respectively)?  
a) Botany and Mathematics      b) Mathematics and Physics  
c) Botany and Zoology      d) Botany and Physics      e) Statistics and Physics

**ANSWER:** d

Girls are highest in Botany and boys are lowest in Physics

10. Number of girls doing PG in Statistics is what percent of the number of boys doing PG in Physics?  
a) 250                      b) 280                      c) 310                      d) 220                      e) 200

**ANSWER:** e

$$\text{Required percentage} = \frac{100}{50} \times 100 = 200$$

## PRACTICE QUESTIONS

**Directions (11-15):** Study the following information carefully and answer the questions that follow:

In a state, Government recruited 4000 teachers for teaching five different subjects viz. Science, Mathematics, Hindi, Social Science and English. Fifteen percent of the total number of teachers are recruited for teaching Science. Three-tenth of the total number of teachers is recruited for teaching Mathematics. Teachers recruited for teaching Hindi are two-third of the number of teachers recruited for Mathematics. 12 percent of the remaining teachers are recruited for teaching Social Science. Rest of the teachers are recruited for teaching English.

11. What is the total number of teachers recruited for teaching Hindi and English together?  
a) 1932                      b) 2042                      c) 2032                      d) 1942                      e) None of these
12. Number of teachers recruited for teaching Mathematics is approximately what percentage of the total number of teachers recruited for Hindi and Science together?  
a) 72                      b) 74                      c) 78                      d) 82                      e) 86
13. What is the difference between the number of teachers recruited for teaching Social Science and the number of teachers recruited for teaching English?  
a) 1144                      b) 1064                      c) 1024                      d) 1124                      e) None of these

14. If 42 percent of the total number of teachers recruited for teaching Science and Mathematics together is male. What is the total number of female teachers recruited for teaching Science and Mathematics together?

- a) 1034      b) 1064      c) 1024      d) 1044      e) None of these

15. What is the respective ratio between the number of teachers recruited for teaching Social Science and the number teachers recruited for teaching of Mathematics?

- a) 7 : 51      b) 3 : 50      c) 17 : 50      d) 50 : 15      e) None of these

**KEY:** (11) c      (12) e      (13) b      (14) d      (15) e

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