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Data Interpretation

COURSE BOOK

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1 Data Table

Data collected in a systematic form in a table are called the tabular arrangement. And this information collection is called 'Table'. Horizontal lines of table are called rows and vertical lines of table are called 'columns'. They have distinct heads called 'captions' units of measurement are given with captions.

In these questions, data regarding common discipline as students applying for a particular specialisation, student, who passed and failed, production over a period of a few year imports, exports, incomes of employees are given in tabular arrangement. Here, candidate is expected to understand the given information and then answer the questions followed by table.

Types of questions asked in examinations. There are two types of questions which are asked in various Bank Probationary Officer examinations.

SOLVED EXAMPLES

TYPE 1 : INFORMATION IS GIVEN DIRECTLY IN THE TABLE

Here, we have to answer the questions directly based on the given information in the table. Here, we have not to apply mathematical operation to rearrange the information in the table. These questions are based on simple mathematical operations like addition, subtraction, ratio, percentage, average, etc.

Directions (1 to 5) : ***Study the following table carefully to answer the questions that follows.***

Number of Workers Employed in Six Units of a Factory During the Years

Unit / Year	A	B	C	D	E	F
1998	145	88	115	120	140	136
1999	128	76	122	112	152	132
2000	136	96	132	124	158	140
2001	183	92	125	135	166	126
2002	160	107	140	118	170	146
2003	152	110	148	128	175	150

1. In the year 2000, the number of employed workers by unit 'C' is what per cent of the total number of employed workers by all the units in the same year (Rounded off to two places of decimal) ?

(a) 16.39 (b) 17.21 (c) 16.88 (d) 17.31

(e) None of these.

Sol. (e) Total number of employed workers by all the units in year 2000

$= 136 + 96 + 132 + 124 + 158 + 140 = 786$

$\therefore$ Required percentage $= \frac{132}{786} \times 100 = 16.79\%$

2. For all the given years, what is the differences between the average number of workers in units D and E ?

(a) 37 (b) 33 (c) $33\frac{2}{3}$ (d) $37\frac{1}{3}$

(e) None of these.

Sol. (d) Total number of workers in unit D = 120 + 112 + 124 + 135 + 118 + 128 = 737

$\therefore$ Average number of workers in unit $D = \frac{737}{6}$

Total number of workers in unit D = 140 + 152 + 158 + 166 + 170 + 175 = 961

$\therefore$ Average number of workers in unit $E = \frac{961}{6}$

Hence, required difference $= \frac{961}{6} - \frac{737}{6} = \frac{224}{6} = 37\frac{1}{3}$

3. In which year, the percentage increase/decrease in the number of employed workers is minimum for unit F ?

(a) 1999 (b) 2000 (c) 2002 (d) 2003

(e) None of these.

Sol. (d)

Year	Percentage change in number of employees
1999	$\frac{136-132}{136}\times 100 = 2.94\%$ (D)
2000	$\frac{140-132}{132}\times 100 = 6.06\%$ (I)
2001	$\frac{140-126}{140}\times 100 = 10\%$ (D)
2002	$\frac{146-126}{126}\times 100 = 15.87\%$ (D)
2003	$\frac{150-146}{146}\times 100 = 2.74\%$ (D)

Hence, it is minimum for year 2003.

4. For all the given years, in which unit the average number of employed workers were maximum ?

(a) D (b) A (c) C (d) E

(e) None of these.

Sol. (d) $A = \frac{904}{6} = 150.6$, $B = \frac{569}{6} = 94.8$

$C = \frac{782}{6} = 130.3$, $D = \frac{737}{6} = 122.8$

$E = \frac{961}{6} = 160.2$, $F = \frac{830}{6} = 138.3$

Average is maximum in E.

5. In the years 1998 and 1999, what is the approximate ratio between the number of employed workers in all the units ?

(a) 13 : 14 (b) 37 : 36 (c) 10 : 6 (d) 13 : 11 (e) 4 : 3.

Sol. (b) Total number of employed workers in all units in 1998
= 145 + 88 + 115 + 120 + 140 + 136 = 744
Total number of employed workers in all units in 1999 = 128 + 76 + 122 + 112 + 152 + 132 = 722
$\therefore$ Required ratio = 744 : 722 $\approx$ 37 : 36

TYPE 2 : INFORMATION IS EXTRACTED FROM GIVEN TABLE

Here, we are not given required information directly. First, we have to destruct information from the table. Then, we can use it for our purpose.

SOLVED EXAMPLES

Directions (6 to 10) : ***Study the following table to answer the given questions.***

Percentage of Marks Obtained by Seven Students in Six Subjects

Subject / Student (max. marks)	English (60)	History (40)	Computers (130)	Maths (150)	Science (120)	Economics (80)
Meera	100	80	50	90	90	60
Subodh	80	70	80	100	80	40
Kunal	90	70	60	90	70	70
Soni	60	60	65	80	80	80
Richu	50	90	62	80	85	95
Prem	40	60	64	70	65	85
Vijay	80	80	35	65	50	75

6. What are the total marks obtained by Meera in all the subjects ?

(a) 448 (b) 580 (c) 470 (d) 74.67
(e) None of these.

7. What are the average marks obtained by these seven students in history ? (Rounded off to two digits)

(a) 72.86 (b) 27.32 (c) 24.86 (d) 29.14
(e) None of these.

8. How many students have got 60% or more marks in all the subjects ?

(a) One (b) Two (c) Three (d) None
(e) None of these.

9. What is the overall percentage of Kunal ?

(a) 64 (b) 65 (c) 75 (d) 64.24
(e) None of these.

10. In which subject is the overall percentage the best ?

(a) Maths (b) Economics (c) History (d) Science
(e) None of these.

Sol. We can construct the following table from the given table

	Marks In					
Student	**English**	**History**	**Computers**	**Maths**	**Science**	**Economics**
Meera	60	32	65	135	108	48
Subodh	48	28	104	150	96	32
Kunal	54	28	78	135	84	56
Soni	36	24	84.5	120	96	64
Richu	30	36	80.60	120	102	76
Prem	24	24	83.20	105	78	68
Vijay	48	32	45.50	97.5	60	60

6. (a) Total marks obtained by Meera = 60 + 32 + 65 + 135 + 108 + 48 = 448

7. (d) Total marks obtained by all seven students in

History = 32 + 28 + 28 + 24 + 36 + 24 + 32 = 204

$\therefore$ Average marks $= \frac{204}{7} = 29.14$

8. (e)

Student	**Overall percenta**	**Student**	**Overall percentage**
Meera	$\frac{448}{580}\times 100 = 77.24$	Richu	$\frac{444.6}{580}\times 100 = 76.6$
Subodh	$\frac{458}{580}\times 100 = 78.9$	Prem	$\frac{382.2}{580}\times 100 = 65.9$
Kunal	$\frac{435}{580}\times 100 = 75$	Vijay	$\frac{343}{580}\times 100 = 59.14$
Soni	$\frac{424.5}{580}\times 100 = 73.19$		

Hence, except Vijay every one got more than 60%.

9. (c) It is clear from the previous solution 8.

10. (a) Percentage will depend on average marks in each subject.

Subject	Average Marks
English	$\frac{(60+48+54+36+30+24+48)}{7}=42.86$
History	$\frac{(32+28+28+24+36+24+32)}{7}=29.14$
Computers	$\frac{(65+104+78+84.5+80.60+83.20+45.50)}{7}=77.26$
Maths	$\frac{(135+150+135+120+120+105+97.5)}{7}=123.21$
Science	$\frac{(108+96+84+96+102+78+60)}{7}=89.14$
Economics	$\frac{(48+32+56+64+76+68+60)}{7}=57.71$

Subject	Overall Percentage
English	$\frac{42.86}{60}\times100=71.40$
History	$\frac{29.14}{40}\times100=72.85$
Computers	$\frac{77.26}{130}\times100=59.43$
Maths	$\frac{123.21}{150}\times100=82.4$
Science	$\frac{83.14}{120}\times100=69.28$
Economics	$\frac{57.71}{80}\times100=72.13$

Hence, overall percentage is best for maths.

PRACTICE TEST–I

Directions (1 to 5) : ***Study the following table carefully and answer the questions given below :***

Number of Tickets Sold in a Week of Five Movies in the Multiplexes in Six Different Cities
(Number in thousands)

Movie / City	A	B	C	D	E
Mumbai	20	15	35	26	18
Delhi	17	19	21	25	28
Kolkata	32	24	19	21	17
Chennai	18	21	32	28	34
Hyderabad	16	34	26	29	22
Lucknow	15	27	20	35	26

1. **The number of tickets of Movie B sold in Hyderabad was approximately what percentage of the total number of tickets of the same movie sold in all the cities togethers ?**
   (a) 15 (b) 18 (c) 12 (d) 20 (e) 24.
2. **What is the difference between the number of tickets of Movie D sold in Kolkata and the number of tickets of Movie B sold in Lucknow ?**
   (a) 700 (b) 7000 (c) 14000 (d) 9000
   (e) None of these.
3. **What is the average number of tickets of Movie C sold in all the six cities ?**
   (a) 15500 (b) 2550 (c) 24000 (d) 25500
   (e) None of these.
4. **The number of tickets of Movie E sold in Chennai is what percentage of number of tickets of Movie A sold in Mumbai ?**
   (a) 170 (b) 70 (c) 30 (d) 130
   (e) None of these.
5. **In which city was the total number of tickets of all the five movies together sold the minimum ?**
   (a) Delhi (b) Chennai (c) Lucknow (d) Kolkata
   (e) None of these.

Directions (6 to 10) : ***Study the table carefully to answer the questions that follow :***

Number of Workers Working During Six Months in Various Factories (Number in hundreds)

Month	Factory				
	A	B	C	D	E
January	65	41.2	72.4	63.5	83
February	78	30	61	60	74
March	42	65	71.6	76	70.3
April	51	72.8	83.5	21.8	66
May	60	68.2	61.2	80.2	56.9
June	63.5	52.5	73.2	57	44.7