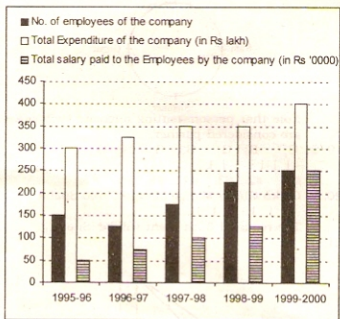


190. From the data provided above we can infer that
- 1) Each reader can read newspapers in at least two languages.
  - 2) Each reader can read newspapers in only one of the languages.
  - 3) Each reader can read newspapers in the three languages discussed.
  - 4) Each reader can read newspapers in more than one language.
191. If UP has 25,00,000 newspaper readers and Rajasthan has 15,00,000, how many more readers buy English newspapers in UP than in Rajasthan (approximately)?
- 1) 10,75,000
  - 2) 18,00,000
  - 3) 12,00,000
  - 4) 3,00,000
192. About what percentage of readers in Rajasthan read Urdu newspapers?
- 1) 10%
  - 2) 40%
  - 3) 50%
  - 4) 60%

**Directions (Q. 193-196):** The graph below gives the data of the number of employees working in a Company, the total expenditure of the Company, and the total salary paid to the employees by the Company over the years. Study the graph carefully to answer these questions.



193. What was the percentage increase in the number of employees of the Company from 1995-96 to 1997-98?
- 1) 21.33%
  - 2) 25%
  - 3) 33.33%
  - 4) 16.67%
194. What was the average number of employees who worked in the Company over the given years?
- 1) 185
  - 2) 195
  - 3) 235
  - 4) 175
195. What was the difference between the average of the total salaries paid by the Company over the given years and the total salary paid by the Company in the year 1997-98?

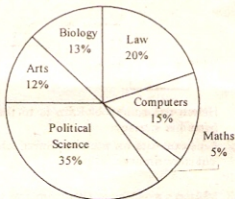
- 1) Rs 2,00,000
  - 2) Rs 2,50,000
  - 3) Rs 4,00,000
  - 4) Rs 1,50,000
196. The total expenditure of the company in 1995-96 was approximately what per cent of the average of the total expenditures of the Company over the given years?
- 1) 82%
  - 2) 79%
  - 3) 76%
  - 4) 87%

**Directions (Q. 197-200):** Study the following pie-charts carefully to answer these questions.

**Percentage of Students in a College Studying Various Subjects and the Percentage of Girls out of these**

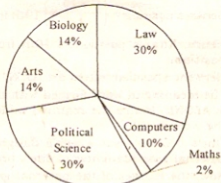
**Total students: 1800**  
(1200 girls + 600 boys)

**Percentage of students in various subjects**



**Total Girls: 1200**

**Percentage of girls in various subjects**



197. The number of girls studying Arts in college is
- 1) 242
  - 2) 168
  - 3) 120
  - 4) 276
198. For which subject is the number of boys the minimum?
- 1) Law
  - 2) Biology
  - 3) Arts
  - 4) Maths
199. For Political Science, what is the ratio of boys and girls?
- 1) 4 : 3
  - 2) 3 : 4
  - 3) 2 : 3
  - 4) 4 : 5
200. The number of girls studying Arts is what per cent more than the number of boys studying Arts?
- 1) 170%
  - 2) 150%
  - 3) 80%
  - 4) 250%

# **Answers and explanations**

1. 2; R O A D

+3 +3 +3 +3

U R D G

Similarly,

S W A N

+3 +3 +3 +3

V Z D Q

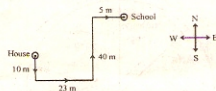
2. 2;

6C7 8F10 11J14 15O19 20U25

And,

C +3 F +4 J +5 O +6 U

3. 2;



Hence the school of Ram is to the North-East from his house.

4. 2; A person sits on a chair. Since 'chair' is called 'cot' our answer is 'cot'.

5. 2

6. 3; Mohan's position = 9th from the top.

Kiran's position =  $(35 - 7 + 1) = 29$ th from the top.

Sohan's position =  $\left(\frac{9+29}{2}\right) = 19$ th from the top.

Hence, Kiran's position is 10th from Sohan's position.

7. 2; Here the specified letters are: O, N, E, L and A. The meaningful word formed with these letters is ALONE. Hence the required middle letter of the word is 'O'.

8. 4; One's brother's son's wife's daughter implies paternal granddaughter of one's brother.

Now, the mother of the paternal granddaughter of one's brother implies wife of one's nephew.

Thus, we can conclude that Arun is the paternal uncle of the female's husband.

9. 4; In others there is a gap of one letter between the first and the second letters of the group.

10. 3;

A B C D → O P Q R, W X Y Z → K L M N

11. 3;

D ↓ F ↓ ↓ I ↓ ↓ ↓ M ↓ ↓ ↓ R  
E G H J K L N O P Q

12. 3; The sister of one's mother is one's maternal aunt. Hence the man is the husband of the boy's maternal aunt.

13. 1;  $45^\circ + 180^\circ - 270^\circ = -45^\circ$

ie  $45^\circ$  anticlockwise from initial position.

Hence, the required direction is South-west.

14. 4; Third Wednesday falls on 15th of the month. Fourth Wednesday will fall on 22nd of the month.

Fifth Wednesday will fall on 29th of the month.

Fifth Friday will fall on 31st of the month.

15. 4; Suppose

Ranjeev's age =  $x$  years

Ranjeev's brother's age =  $x + 6$  years

Ranjeev's father's age =  $x + 6 + 32$

=  $x + 38$  years

Ranjeev's mother's age =  $x + 38 - 3$

=  $x + 35$  years

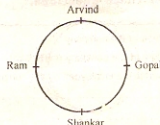
Ranjeev's sister's age =  $x + 35 - 25$

=  $x + 10$  years

16. 4;  $n(n-1) = 600 \therefore n = 25$

17. Here,  $\frac{x(x-1)}{2} = 105 \therefore x = 15$

18. 4;



Note that persons sitting opposite each other are considered partner.

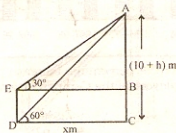
19. 2;  $G_1 \quad B_1 \quad G_2 \quad B_2 \quad G_3 \quad B_3 \quad G_4$   
1 1 1 1 1 1 1

#1 #2 #3 #4 #5 #6 #7

20. 4; Chiku Guava Mango Mango Chiku Sitaful  
1 1 1 1 1 1 ...

The required 30th plant will be 'Sitaful'.

21. 2;



Here DE = Pole

AC = Tower =  $10 + h$

AB =  $h$  m

DC =  $x$  m = EB

In  $\triangle AEB$  we have

$$\tan 30^\circ = \frac{AB}{EB} = \frac{1}{\sqrt{3}} = \frac{h}{x} \dots (i)$$

$$\text{or, } x = \sqrt{3}h$$

In  $\triangle ACD$ , we have

$$\tan 60^\circ = \frac{AC}{CD} = \frac{10+h}{x}$$

$$\text{or, } \sqrt{3} = \frac{10+h}{x}$$

$$\therefore x = \frac{10+h}{\sqrt{3}} \dots (ii)$$

From (i) and (ii), we get

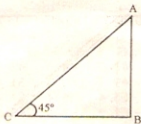
$$\sqrt{3}h = \frac{10+h}{\sqrt{3}}$$

$$\text{or, } 3h = 10 + h \quad \text{or, } h = 5 \text{ m}$$

$$\therefore AC = 10 + h = 15 \text{ m}$$

[Remember the result in the above case: height of tower = 1.5  $\times$  height of the pole]

22. 2;



Here CB = Breadth of the river

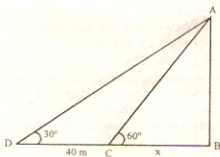
AB = height of the tower

In  $\triangle ABC$ , we have

$$\tan 45^\circ = \frac{AB}{BC} = 1$$

$$\text{ie } AB = BC$$

23. 1;



Here AB = height of the tree

BC = breadth of the river

In the above situation

$$BC = \frac{1}{2} \times DC$$

$$\therefore BC = \frac{1}{2} \times 40 = 20 \text{ m}$$

**Note:** Also remember that in such case:

$$\frac{BD}{BC} = 3, \text{ or } \frac{BD}{DC} = 1.5$$

24. 3; The required probability

$$= \frac{1}{4} \times \frac{1}{5} \times \frac{2}{5} = 0.02$$

25. 4; Required probability

$$= \frac{{}^5C_2 + {}^4C_2}{{}^9C_2} = \frac{10+6}{36}$$

$$= \frac{16}{36} = \frac{4}{9}$$

26. 2;

	West Indies		Australia		Required Probability
	Possible score Ist game	Possible score IInd game	Possible score Ist game	Possible score IInd game	
Case-I	1	2	2	$2 \Rightarrow .05 \times .5 \times .5 \times .5$	
Case-II	2	1	2	$2 \Rightarrow .5 \times .05 \times .5 \times .5$	
Case-III	2	2	2	$1 \Rightarrow .5 \times .5 \times .5 \times .05$	
Case-IV	2	2	1	$2 \Rightarrow .5 \times .5 \times .05 \times .5$	
Case-V	2	2	2	$2 \Rightarrow .5 \times .5 \times .5 \times .5$	
					Total probability = 0.0875

$$27. 3; \text{ Required probability} = 1 - \frac{{}^8C_2}{{}^{13}C_2}$$

$$= 1 - \frac{28}{78} = \frac{25}{39}$$

28. 3; Suppose there are 100 candidates for entrance.

$\therefore$  No. of capable candidates = 40

and No. of incapable candidates = 100 - 40 = 60

Now, No. of capable candidates who pass the test = 80% of 40 = 32

No. of incapable candidates who pass the test = 25% of 60 = 15

Note that these successful candidates become college students.

Thus, there are 32 + 15 = 47 colleges students in all, of which 32 are capable.

Hence, proportion of capable college students

$$= \frac{32}{47} \times 100 \approx 68\%$$

29. 2; Total candidates = 2000

No. of boys = 900

No. of girls = 1100

No. of students who passed

$$= \frac{32 \times 900}{100} + \frac{38 \times 1100}{100}$$

$$= 288 + 418 = 706$$

No. of students who failed = 2000 - 706 = 1294

$$\text{Required percentage} = \frac{1294}{2000} \times 100 = 64.7\%$$

30. 3; Suppose the salary of the officer is Rs 1000. Then:

Amount deducted for house rent

= 10% of 1000 = Rs 100  
 Amount spent on children's education  
 = 15% of (1000 - 100) = Rs 135  
 Amount spent on clothes  
 = 10% of (900 - 135)  
 = 10% of 765  
 = Rs 76.50

Thus the amount left = 765 - 76.50  
 = Rs 688.50

Now, relate the amount left with the actual amount left.

We get:

The required salary =  $\frac{1000}{688.5} \times 1377 = \text{Rs } 2000$

**Note:** Salary

$$= 1377 \left( \frac{100}{100-10} \right) \left( \frac{100}{100-15} \right) \left( \frac{100}{100-10} \right)$$

$$= 1377 \times \frac{100}{90} \times \frac{100}{85} \times \frac{100}{90} = 2000$$

31.2; Required per cent decrease

$$= \frac{30}{130} \times 100 = \frac{300}{13} = 23 \frac{1}{13} \%$$

32.1; Required price of the single ticket

$$= \frac{84}{105} \times \frac{100}{1} \times \frac{100}{125} = 84 \times \frac{100}{105} \times \frac{100}{125} = \text{Rs } 64$$

33.2; We have

$$x \times \frac{120}{100} \times \frac{120}{100} = 540$$

$$\text{or, } x = \frac{540 \times 100 \times 100}{120 \times 120} = 375 \text{ cm}$$

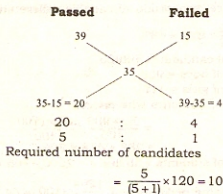
34.4; Required quantity of water

$$= \frac{40 \times (90 - 80)}{80} = \frac{40 \times 10}{80} = 5 \text{ litres}$$

35.4; Required quantity of water

$$= \frac{9 \times (50 - 30)}{30} = \frac{9 \times 20}{30} = 6 \text{ ml}$$

36.3;



37.4; Required measure of the 6th observation

$$= 11 \times 90 - (5 \times 87 + 5 \times 84)$$

$$= 990 - (435 + 420) = 135$$

38.1; We have

$$(x + 12) 36 - x.40 = 32 \times 12$$

$$\therefore x = 12$$

Hence, the required original strength = 12

39.3; Required average age of the two women

$$= \frac{(35 + 45) + (8 \times 2)}{2} = \frac{(80 + 16)}{2} = 48$$

40.4; The number of police involved in the security

$$\text{operation} = \frac{3}{5} \times 135 = 3 \times 27 = 81$$

Thus, the required number of supporters  
 =  $81 \times 9 = 729$

**41-44:**

We have

$$A : B = 2 : 1$$

$$B : C = 9 : 2$$

$$C : D = 1 : 2$$

$$D : E = 1 : 2$$

$$A : B : C : D : E$$

$$2 : 1$$

$$9 : 2$$

$$1 : 2$$

$$1 : 2$$

$$\frac{2 \times 9 \times 1 \times 1}{18} : \frac{1 \times 9 \times 1 \times 1}{9} : \frac{1 \times 2 \times 1 \times 1}{2} : \frac{1 \times 2 \times 2 \times 1}{4} : \frac{1 \times 2 \times 2 \times 2}{8}$$

$$A > B > E > D > C$$

$$41.1 \quad 42.3 \quad 43.2 \quad 44.3 \quad 45.1 \quad 46.2$$

$$47.4 \quad 48.4 \quad 49.1 \quad 50.3 \quad 51.4 \quad 52.2$$

$$53.1 \quad 54.2 \quad 55.4 \quad 56.4 \quad 57.4 \quad 58.2$$

$$59.4 \quad 60.4 \quad 61.2 \quad 62.4 \quad 63.2 \quad 64.1$$

$$65.1 \quad 66.1 \quad 67.4 \quad 68.2 \quad 69.4 \quad 70.3$$

$$71.3 \quad 72.2 \quad 73.2 \quad 74.2 \quad 75.4 \quad 76.3$$

$$77.2 \quad 78.2 \quad 79.1 \quad 80.1 \quad 81.2 \quad 82.3$$

83.4

84.4; 12.5 million tonnes (mt) is the present capacity. It will be enhanced to 22.9 mt by 2011-12.

85.4; 1 is an assumption made when the NAC talks about the amount required for the 'fair implementation' of the NREG Act.

The proposal in 2 has been made for 3,427 such blocks. And 3 follows from the last sentence of the first para. Hence all are correct.

$$86.4 \quad 87.4 \quad 88.2 \quad 89.4$$

90.3; This has been explained by the author while talking about why artists are supposed to be wiser than men of experience.

91.1; Read the first two sentences of the fourth para.

$$92.1 \quad 93.4 \quad 94.1 \quad 95.1 \quad 96.1$$

97.4; The passage says that "percolation is the major factor with nuts."

98.4; Hence he qualifies his statement with "depending upon the material".

99.3; The problem lies with difference in size.

100.2; The pressure increases in proportion to the liquid's height.

101.4; We have

$$3x + 50x = 1325$$



$$\text{or } x = \frac{1325}{53} = 25$$

$$\therefore 50x = 50 \times 25 = 1250$$

Hence the required amount = Rs 1250

102. 2; According to the given information,

$$\frac{50,000 \times 12}{60,000 \times (12 - x)} = \frac{20}{18}$$

$$\text{or, } \frac{50,000 \times 12 \times 18}{60,000 \times 20} = 12 - x$$

$$\text{or, } x = 3 \text{ months}$$

103. 1; We have

$$\frac{8000 \times 12}{x \times 6} = \frac{1}{1}$$

$$\text{or, } x = \text{Rs } 16,000$$

104. 4; Required number of items

$$= \frac{(3000 + 1000)}{(60 - 40)} = \frac{4000}{20} = 200$$

- 105.2;  $(17 + 19 =)$  36% of the cost price = Rs 162

$$\therefore 100\% \text{ of the cost price} = \frac{162}{36} \times 100 = \text{Rs } 450$$

106. 2; Suppose the work consists of 168 pillars

$\therefore$  LCM of 7, 8 and 3 = 168].

$$1\text{st person can finish } \frac{168}{7} = 24 \text{ pillars in a day.}$$

$$2\text{nd person can finish } \frac{168}{8} = 21 \text{ pillars in a day.}$$

$$\text{All the three persons can finish } \frac{168}{3} = 56 \text{ pillars in a day.}$$

The above information implies that the boy (third person) can finish  $(56 - 24 - 21) = 11$  pillars in a day.

Thus the ratio of efficiencies of 1st person, 2nd person and the boy = 24 : 21 : 11

$$\begin{aligned} \therefore \text{share of 1st person} &= \frac{24}{(24 + 21 + 11)} \times 1400 \\ &= \frac{24 \times 1400}{56} = 24 \times 25 \\ &= \text{Rs } 600 \end{aligned}$$

$$\therefore \text{share of 2nd person} = 21 \times 25 = \text{Rs } 525$$

$$\text{And share of the boy} = 11 \times 25 = \text{Rs } 275$$

107. 1; Ratio of efficiencies of the three persons

$$= \frac{24}{6} : \frac{24}{8} : \frac{24}{3} = \left( \frac{24}{6} : \frac{24}{8} \right)$$

$$= 4 : 3 : 1$$

$$\therefore \text{Boy's share} = \frac{1}{(4 + 3 + 1)} \times 600 = \text{Rs } 75$$

108. 3; Total time taken to finish the work

$$= 10 + \frac{15(210 - 10)}{(15 + 15 \times 2)} = 10 + \frac{15 \times 200}{45}$$

$$= 10 + \frac{200}{3} = 76 \frac{2}{3} \text{ days}$$

109. 1; Suppose the capacity of the tank is 60 litres.

$\therefore$  LCM of 10, 12 and 15 = 60]

In that case, 1st and 2nd tap can add 6 litres and 5 litres respectively in one minute, whereas all the three tap together can add 4 litres per minute.

The above information implies that the third tap can empty  $(6 + 5 - 4 =)$  7 litres per minute. Hence, the required time to empty the tank by

$$\text{the third tap} = \frac{60}{7} = 8 \frac{4}{7} \text{ minutes}$$

110. 2; Again, suppose the capacity of the tank is 60 litres.

$\therefore$  LCM of 12, 15 and 20 = 60]

The two filler taps can add 5 litres and 4 litres per minute. Whereas when all the three taps are opened, the tank gets 3 litres per minute. The above information implies that the third tap can empty  $(5 + 4 - 3 =)$  6 litres per minute. Hence, the required time to empty the tank by waste pipe

$$= \frac{60}{6} = 10 \text{ minutes}$$

- 111.1; The two filler taps can fill the tank in

$$\left[ \frac{20 \times 30}{(30 + 20)} \right] = 12 \text{ minutes.}$$

The above information implies that half of the tank will be filled in 6 minutes.

Hence, it took  $(24 - 6 =)$  18 minutes to fill the remaining half of the tank when the outlet pump was open.

Thus, the total time required to empty half of the cistern

$$= \frac{18 \times 6}{18 - 6} = \frac{18 \times 6}{12} = 9 \text{ minutes}$$

Thus the capacity of the tank =  $100 \times 9 \times 2 = 1800$  litres

112. 2; Suppose the distance is 270 km.

$\therefore$  LCM of 54 and 45 = 270]

Without stoppage, time taken in the whole

$$\text{journey} = \frac{270}{54} = 5 \text{ hours}$$

With stoppage time taken in the whole journey

$$= \frac{270}{45} = 6 \text{ hours}$$

$$\therefore \text{stoppage per hour} = \frac{(6 - 5)}{6} = 10 \text{ min.}$$