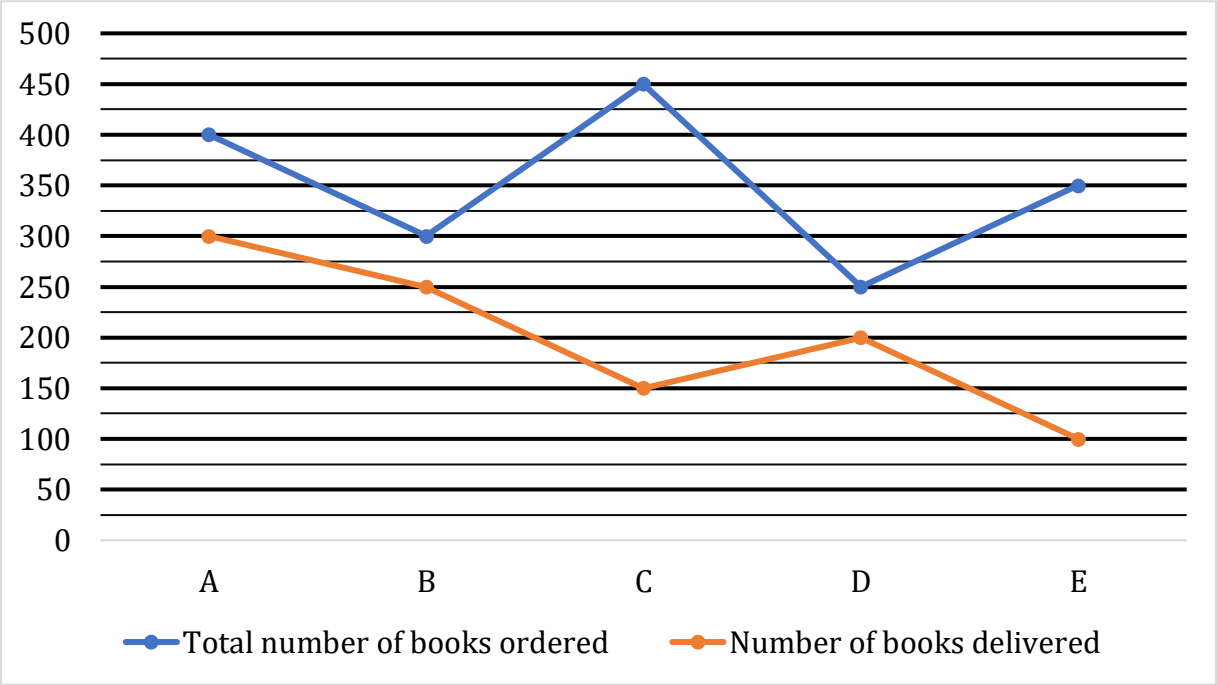
Data Interpretation Questions for SBI PO Exam

Directions (1-5): The line graph given below shows total number of books (Hindi & English) ordered and the number of books delivered by five different shops A, B, C, D and E. Read the following line chart carefully and answer the questions given below.



Note: (i): Total ordered books = Number of books delivered + Number of books undelivered.
(ii) Number of English books ordered is more than that of Hindi books.

Q1. Number of English books ordered from shop A is 60% of the total books ordered and 80% of the English books are delivered. Find the number of undelivered Hindi books from shop A.
(a) 58
(b) 50
(c) 52
(d) 60
(e) 48

Q2. Difference between the number of English books and Hindi books ordered from shop B and C is 100 and 250 respectively. 10% and 20% of the total books ordered from shop A and E are undelivered Hindi books from shop B and C respectively. Find the total number of English books delivered from shop B and C.
(a) 330
(b) 320
(c) 300
(d) 310
(e) 200

Q3. Find the average number of undelivered books from all the shops is how many more/less than the average of the delivered books.
(a) 40
(b) 55
(c) 60
(d) 45
(e) 50

Q4. Number of books (Hindi & English) delivered by shop F is 20% more than the number of books ordered from shop D and the ratio of the total number of books ordered from shop A and F is 1: 2. Find the number of books undelivered by shop F is what percentage of the number of books ordered from shop D.
(a) 200%
(b) 300%
(c) 150%
(d) 100%
(e) 120%

Q5. Selling price of a Hindi book is Rs. 200 and the Selling price of an English book is Rs. 300 in shop C and all the people opt the cash on delivery option for payment. Find the total revenue generated from the delivered books by C.
(a) Rs. 100000
(b) Rs. 120000
(c) Rs. 953000
(d) Rs. 245000
(e) Can't be determined

Directions (6-10): Table given below shows total number of people (Male & female) visited four different malls (A, B, C and D) on Monday. The table also shows total number of males visited these malls. Read the data carefully and answer the questions.

Malls	Total number of people	Total number of males
A	200	4X
B	120	4Y
C	180	5Y
D	200	3X

Note: Total number of males visited in A and C is 220 and the total number of males visited B and D is 170.

Q6. Find the ratio of the number of females visited mall C and A together to the number of females visited mall B and D together.
(a) 18: 19
(b) 15: 11
(c) 16: 15
(d) 12: 17
(e) None of these

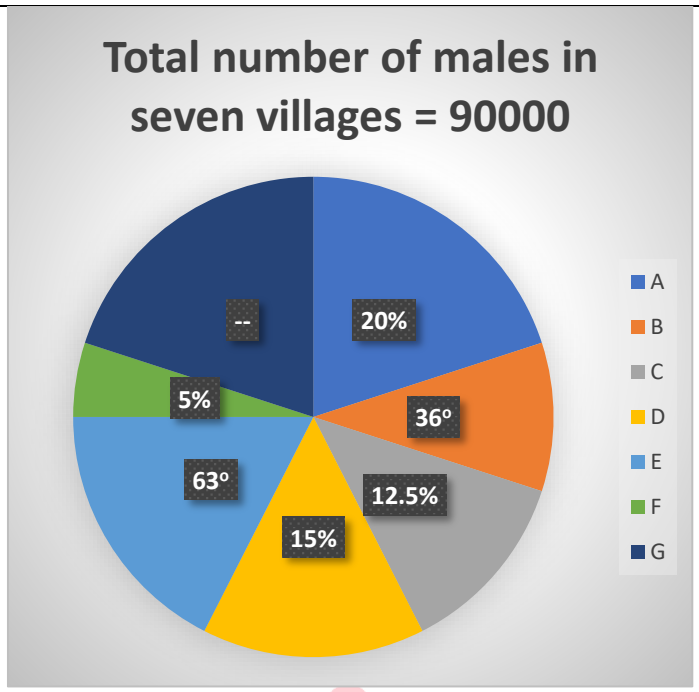
Q7. Find the number of people visited mall A and D together is what percentage more/less than the number of people visited mall B and C together.
(a) 10%
(b) 20%
(c) 6%
(d) 33.33%
(e) 4%

Q8. Each female who visited mall B on Monday did the shopping of Rs. 2000 and each male who visited the mall B on Monday did the shopping of Rs. 1500, the find the total amount spent by all the people who visited mall B on Monday.
(a) Rs. 205000
(b) Rs. 203000
(c) Rs. 202000
(d) Rs. 252000
(e) Rs. 200000

Q9. Number of people visited mall A on Tuesday is 20% more than that of people visited mall C on Monday. If the ratio of number of females visited mall B on Monday to that of females visited mall A on Tuesday is 2: 3, then find the how many numbers of males increase/decrease in the mall A on Tuesday with respect to Monday.
(a) 36
(b) 44
(c) 28
(d) 40
(e) 45

Q10. In mall E, Number of people visited on Monday is 10% less than that of people visited A and C together on Monday. If the number of males visited mall E is half of the number of males visited B and C together on Monday, then find the number of females visited mall E.
(a) 166
(b) 160
(c) 252
(d) 155
(e) 154

Directions (11-15): The pie chart given below shows distribution of total number of males in seven different villages. Some values given are in percentage, some are in degree and some values are missing. Read the pie chart carefully and answer the following questions based on it.
Note: Calculate the missing values, if required to answer the question.



Q11. Number of males in village B is what percentage more or less than that in village F.
(a) 50%
(b) 200%
(c) 100%
(d) 150%
(e) 125%

Q12. If total number of males in village D is 150% of total number of females of village A, then find the total population (males + females) of village A.
(a) 27000
(b) 24000
(c) 21000
(d) 32000
(e) 18000

Q13. Find the average number of males in village E, F and G.
(a) 15000
(b) 12750
(c) 8500
(d) 14250
(e) 17250

Q14. Find the difference between number of males in village C and F together and that in village A and E together.
(a) 9000
(b) 11250
(c) 15750
(d) 18000
(e) 15000

Q15. Number of females in village B are 2500 less than number of males in same village. Find the females in village B are approximately what percentage of males in village B.
(a) 67%
(b) 78%
(c) 81%
(d) 62%
(e) 72%

Directions (16-20): The table shows shoes sold by a company in four (January, February, March and April) different months of a year. Read the following table carefully and answer the questions given below.

Months	Shoes sold
January	200
Till February	350
Till March	400
Till April	650

Q16. If the ratio of non – defective to defective shoes sold in March is 2:3 and defective shoes sold in April is 250% more than that in March, then find the sum of non-defective shoes sold in April & March.
(a) 145
(b) 165
(c) 135
(d) 155
(e) 175

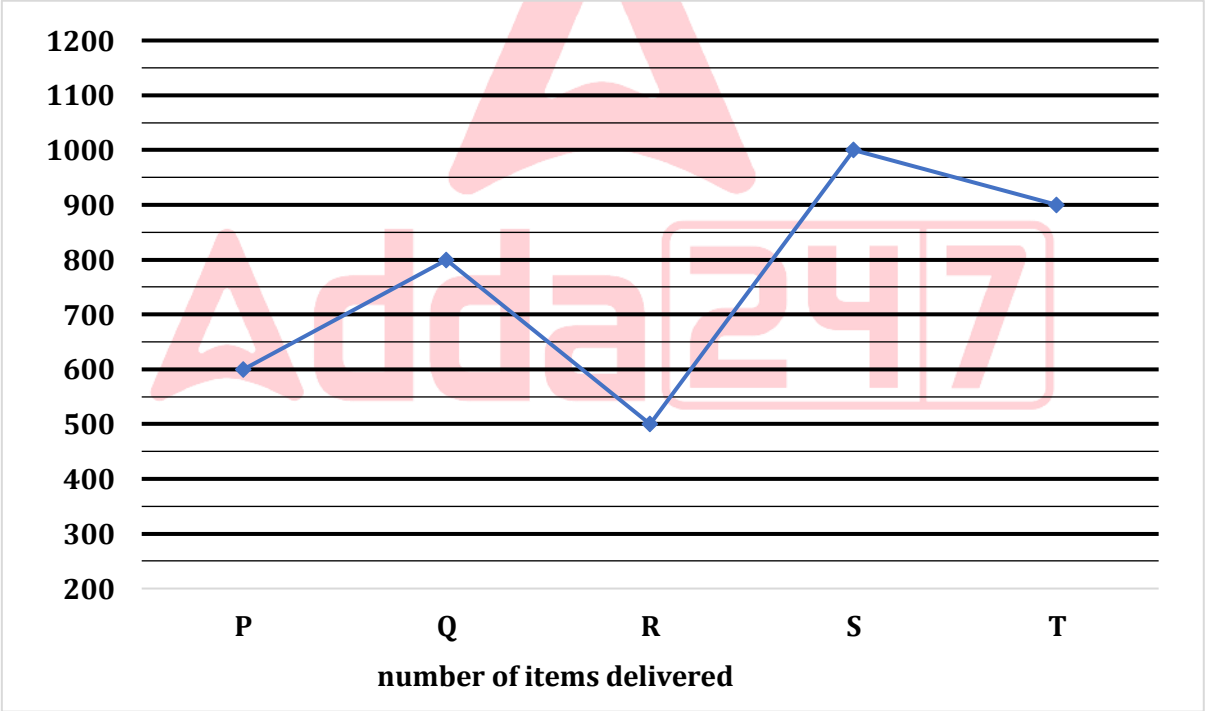
Q17. If shoes sold till May is 900, then the shoes sold in February is what percentage of shoes sold in May?
(a) 25%
(b) 40%
(c) 75%
(d) 45%
(e) 60%

Q18. The shoes sold in April are 40% of the shoes manufactured in the same month. If 40% of unsold shoes in April are sold in May, then find the ratio of shoes sold in January to shoes sold in May.
(a) 1:1
(b) 4:5
(c) 5:4
(d) 3:4
(e) 4:3

Q19. The shoes sold in February are three-fourths of the boots manufactured in the same month. If 28% of boots are unsold in February, then find the difference between boots sold in February and shoes sold in March.
(a) 76
(b) 68
(c) 102
(d) 94
(e) 62

Q20. Average shoes sold in January and April is what percentage more or less than the shoes sold in March?
(a) 225%
(b) 350%
(c) 400%
(d) 175%
(e) 250%

Directions (21-26): The line chart given below shows total number of items delivered by five different (P, Q, R, S and T) delivery men and table shows the percentage of items which were rejected by customers out of total items delivered by respective delivery men.



Delivery men	Percentage of items rejected
P	20
Q	25
R	10
S	40
T	30

Note – Number of items delivered = items rejected + items not rejected by customer.

Q21. If 'A' be 50 less than average number of items which were rejected by the customers to delivery man P, R and S together, then find A.

(a) 140
(b) 180
(c) 100
(d) None of these
(e) 160

Q22. Find the number of items delivered by delivery man S which are not rejected are what percent more or less than total items which are rejected by customers from delivery man Q and R together?

(a) 110% less
(b) 125% more
(c) 125% less
(d) 140% more
(e) 140% less

Q23. Find the ratio of number of items which are rejected by customers from delivery man S and Q together to total number of items which are not rejected by customers from delivery man T?

(a) 12 : 11
(b) 11 : 12
(c) 20 : 21
(d) 21 : 20
(e) None of these

Q24. Find the average number of rejected items by the customer from all the five delivery men.

(a) 218
(b) 208
(c) 232
(d) 192
(e) 184

Q25. Find the sum of number of items which are delivered by delivery man P and T are how much more or less than the square of 39.

(a) None of these
(b) 33
(c) 11
(d) 28
(e) 21

Q26. If delivery man Z delivers 25% more items than average number of non-rejected items of Q and S together, while rejected items by customer from Z are 200% of the rejected items of P and R together, then find the number of items which are not rejected by customer from Z.
(a) 410
(b) 415
(c) 425
(d) 455
(e) None of these

Direction (27-32): Study the given table carefully to answer the following questions.
The table shows the number of optical (glass & plastic) sold by two different stores (X & Y) of four different companies (A, B, C and D).

Companies	Glass optical		Plastic optical	
	Store X	Store Y	Store X	Store Y
A	5p-3q	5q	r	36
B	6q	40	85	65
C	p	44	48	22
D	22	28	34	36

Note: (i) Sum of glass optical sold by store X of companies B and C is 76.
(ii) r is 2 less than (p +q).
(iii) Glass optical sold by both the stores in company A are same.

Q27. The number of glass optical sold by company F is the average of the number of glass optical sold by companies A, C and D. The ratio of glass to plastic optical sold by company F is 5:4. Find the number of optical sold by store Y of company F, if the total number of optical (glass & plastic) sold by store X of company F is 52.
(a) 72
(b) 74
(c) 76
(d) 78
(e) 82

Q28. The cost price of a glass and a plastic optical of company B is in the ratio of 5:4. Store X of company B sold all its optical (glass & plastic) making a profit of 20% and the revenue generated by it is Rs 23,040. Find the difference between the cost price of a glass optical to that of a plastic optical of company B.
(a) Rs 35
(b) Rs 20
(c) Rs 25
(d) Rs 30
(e) Rs 40

Q29. Total number of optical (glass & plastic) purchased by females of company D is 50% more than that of males. If the ratio of the number of glasses to plastic optical purchased by females is 5: 7, then find total number of males who purchased plastic optical of company D. (Note- Each person purchased only one optical).

(a) 20
(b) 22
(c) 24
(d) 26
(e) 28

Q30. By how much percent the value of p should be increased to make it equal to the value of r.

(a) 50%
(b) 40%
(c) 30%
(d) 60%
(e) 25%

Q31. The average number of glass optical sold by store X of companies A and B is how much less than the average number of plastic optical sold by store Y of companies D and C?

(a) 28
(b) 22
(c) 26
(d) 30
(e) 32

Q32. Find the ratio of glass optical sold by store X to plastic optical store Y of all four companies.

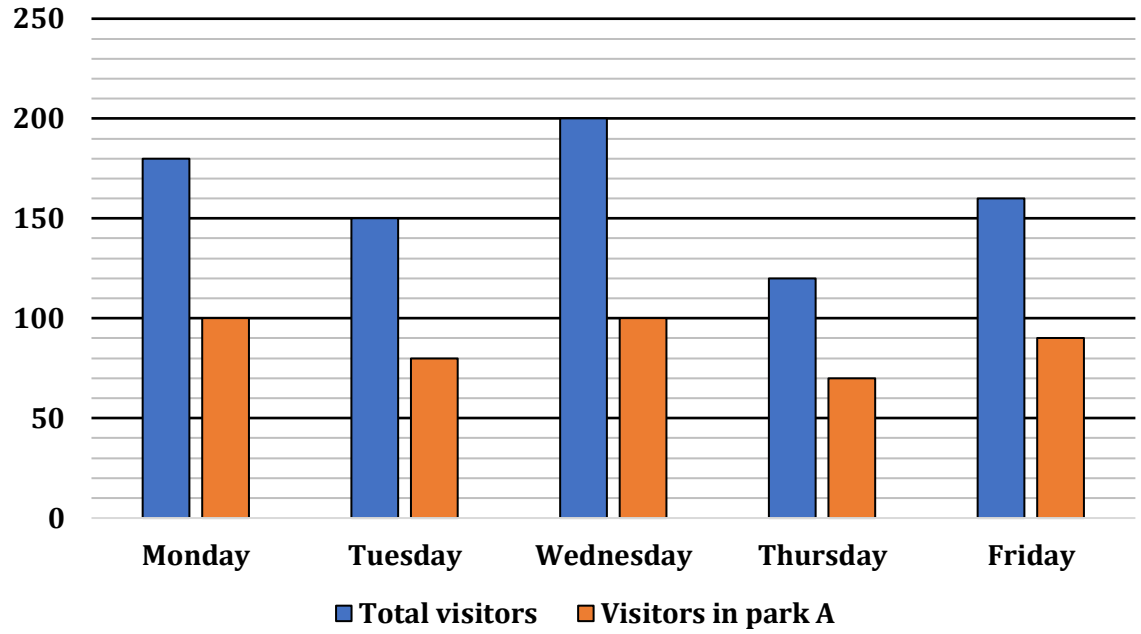
(a) 113: 77
(b) 148: 159
(c) 113: 97
(d) 153: 107
(e) None of these

Directions (33-38): Read the following bar graph carefully and answer the questions given below.

The bar graph shows total number of visitors (males & females) in two parks (A & B) and the number of visitors (males & females) in park A on five different days (Monday to Friday).

Note: I. Number of male visitors in park A on each day is 40.

II. Total number of female visitors in park A and park B together on each day is 70.



Q33. In park B on any day, the price of ticket for each male and each female is Rs x and Rs y respectively. The ratio of revenue generated on Tuesday to Wednesday is 38:51 while the difference in the revenue on both the days is Rs 650. Find the difference between x & y.

(a) 7
(b) 8
(c) 5
(d) 6
(e) 10

Q34. On which day the difference between the number of females visiting both the parks A and B is maximum.

(a) Monday
(b) Tuesday
(c) Wednesday
(d) Thursday
(e) both (a) & (c)

Q35. Find the ratio of average number of female visitors in park A on all the days to the total number of male visitors in park B on all the days together.

(a) 41:54
(b) 12:19
(c) 31:71
(d) 12: 65
(e) 20:51

Q36. The difference between male and female visitors in park A on Wednesday is how much percent more or less than the difference between male and female visitors in park B on Friday.

(a) 33.33%

(b) 66.67%

(c) 8.33%

(d) 12.50%

(e) 14.28%

Q37. If among the females visiting park A, on each day 25% of the visitors are below 18 years of age, then find the total number of females visiting park A who are above 18 years on all the days together. (Note: Some females who visit park A each day are exactly 18 years old).

(a) 180

(b) 150

(c) 210

(d) Can't be determined

(e) None of these

Q38. What can be sum of the number of maximum couples visiting park B on all the days together. (1 couple = 1 Male + 1 Female)

(a) 90

(b) 70

(c) 80

(d) 100

(e) 60

Directions (39-43): The table shows total books (horror & fiction) sold by four (A, B, C & D) different stores. The table also shows percentage of horror books sold by these stores out of total books sold. Read the following table carefully and answer the questions given below.

Stores	Total books (horror & fiction) sold	Percentage of horror books sold
A	800	$\left(\frac{3Y}{40}\right)\%$
B	Y-150	40%
C	8X+20	$\left(\frac{Y}{10}-5\right)\%$
D	20X	(X-5) %

Note: (i) Fiction books sold by store A are 320.

(ii) Horror books sold by store B is 135 more than the fiction books sold by store C.

Q39. Novels sold by store D are $\sqrt{Y+41}$ and fantasy books sold by store D are $\frac{X}{3}$% of the fiction books sold by store C. Find the ratio of the sum of novels and fantasy books sold by store D to horror books sold by A.

(a) 11 : 78
(b) 9 : 80
(c) 7 : 81
(d) 10 : 83
(e) 13 : 89

Q40. If X% of total horror books available in store A are unsold and the total books (horror and fiction) available in store A is 2120, then find the difference between unsold fiction books in store A and horror books sold in store B. (Note: Books available = sold books + unsold books)

(a) 340
(b) 280
(c) 300
(d) 240
(e) 370

Q41. Total books (horror & fiction) sold in store E are 40% more than that in store C. If $\frac{200}{7}$% of horror books sold out of total books (horror & fiction) sold by store E, then the fiction books sold by store E is how much percent more or less than the horror books sold by store A (approx.)?

(a) 7%
(b) 4%
(c) 13%
(d) 19%
(e) 21%

Q42. Total revenue generated by store B by selling all the books (horror & fiction) is Rs16900. If price of each horror book sold by store B is Rs(X-10), then find the price of each fiction book sold by store B (in Rs).

(a) 0.5Y
(b) $\frac{X}{12}$
(c) X+0.02Y
(d) $\frac{Y}{80}$
(e) $\sqrt{X+4}$

Q43. The average number of fiction books sold by stores A & D are how much percent of the total books (horror & fiction) sold by store C?

(a) 78%
(b) 89%
(c) 73%
(d) 91%
(e) 86%

Directions (44-48): The line graph shows total people (males and females) who joined four (P, Q, R and S) different gyms. It also shows the number of males is how much percentage more than the females in these gyms. Read the following line graph carefully and answer the questions given below.

Q44. 25% of females who joined gym P purchased a six-month membership, and the rest females purchased a yearly membership. If the total people (males and females) who joined gym P and purchased six-month membership is 250, then find the males who purchased yearly membership is how much more or less than the males who purchased six-month membership. (Note: In gym P only two type (6 month and yearly) of membership are available)

(a) 15
(b) 20
(c) 25
(d) $\sqrt{400}$
(e) Both (b) & (d)

Q45. The ratio of males who joined gym Q for cardio and aerobics is 9:7 respectively. If the females who joined gym Q for aerobics are one-fourth of the males who joined gym Q for aerobics, then the females who joined Q for cardio are what percentage of males who joined gym P? (Note: Gym Q provides only two types of activities i.e. cardio and aerobics)

(a) 20%
(b) 50%
(c) 12.5%
(d) 25%
(e) 45%

Q46. Males who joined gym X are 75% of the females who joined gym S. If the average of females who joined gyms X, R, and P is 140, then find the ratio of total people (males and females) who joined gym X to that of gym P.
(a) 43:112
(b) 47:119
(c) 41:120
(d) 49:111
(e) 44:117

Q47. Find the difference between males who joined gym P and Q together to females who joined R and S together.
(a) 575
(b) 525
(c) 675
(d) 650
(e) 625

Q48. If the monthly fees of males and females who joined gym R are Rs.1000 & Rs.1200 respectively and the monthly expenditure of gym R is Rs.2 lakh, then find the profit earned for gym R. (Note: No person extra left/joined the gym R except the data given)
(a) 3.05 lakh
(b) 3.90 lakh
(c) 1.80 lakh
(d) 2.25 lakh
(e) 3.25 lakh

Direction (49–51): Table given below shows the data about work done by three people (P, Q & R) in pairs. Read the table carefully and answer the questions.

Pair of people	Actual Work Done (In Units)	Maximum Time Taken (In Hours)
P & Q	100	20
Q & R	120	24
P & R	NA	30

Note: NA means value is missing, you have to calculate according to the questions.

Q49. For the work which did by pair P & Q, P worked for one hour then he took rest for next 30 minutes. In similar pattern, he completed his entire duration of work. If unit of work done by P previously and now is same (unit of work done by P to that of Q in both cases is in the ratio of 2 : 3), then find by what percent of net efficiency increased by P.
(a) 20%
(b) $\frac{100}{3}$%
(c) 25%
(d) $\frac{50}{3}$%
(e) $\frac{30}{7}$%

Q50. For the work which did by pair Q & R, If Q & R each works with 60% more than his minimum efficiency and both takes equal time of rest after each one hour of work, then find for how many minutes after each hour Q & R take rest.
(a) 24
(b) 15
(c) 22.5
(d) 45
(e) 30

Q51. For the work which did by pair P & R, If P & R works for one hour and then rests for next 24 minutes. In similar manner, he completes his entire duration of work. If the ratio of efficiency of pair P & R to the average of minimum efficiency of pairs P & Q and Q & R is 8 : 5, then find total work done by P & R (in units)?
(a) 192 units
(b) 198 units
(c) 184 units
(d) 189 units
(e) 204 units

Solutions

Solutions (1-5):

Shops	Number of books ordered	Number of books delivered	Number of books undelivered
A	400	300	400-300= 100
B	300	250	300-250= 50
C	450	150	450-150= 300
D	250	200	250-200= 50
E	350	100	350-100= 250

S1. Ans.(c)
Sol. Number of English books ordered from shop A = $\frac{3}{5} \times 400 = 240$
Number of Hindi books ordered from shop A = 400 – 240 = 160
Number of English books delivered by shop A = $\frac{4}{5} \times 240 = 192$
Number of Hindi books delivered by shop A = $300 - 192 = 108$
Number of undelivered Hindi books by shop A = $160 - 108 = 52$

S2. Ans.(d)
Sol. Let the number English books ordered be X from shop B
Let the number Hindi books ordered be Y from shop B
For shop B
ATQ,
X + Y = 300……..(1)
X – Y = 100……(2)

Adding (1) and (2)
2X = 400
X = 200
Y = 100
For shop C
Let the number English books ordered be P from shop C
Let the number Hindi books ordered be Q from shop C
ATQ,
P + Q = 450……..(1)
P – Q = 250……(2)
Adding (1) and (2)
2P = 700
P = 350
Q = 100
Undelivered Hindi books from shop B = $400 \times \frac{1}{10} = 40$
Unrelieved Hindi books from shop C = $\frac{1}{5} \times 350 = 70$
Number of English books delivered from shop B and C = 200-(50 – 40) +350- (300 – 70) =190+120=310

S3. Ans.(e)
Sol. Average number of undelivered books from all the shops = $\frac{100+50+300+50+250}{5} = \frac{750}{5} = 150$
Average number of delivered books from all shops = $\frac{300+250+150+200+100}{5} = 200$
Required difference = 200 – 150 = 50

S4. Ans.(a)
Sol. Number of books delivered by shop F = $\frac{6}{5} \times 250 = 300$
Total number of books ordered from shop F = $\frac{2}{1} \times 400 = 800$
Number of books undelivered by shop F = 800-300 = 500
Required percentage = $\frac{500}{250} \times 100 = 200\%$

S5. Ans.(e)
Sol. As we don't know the number of English books and Hindi books delivered
Hence, we can't determine the revenue
Solutions (6-10):
ATQ, 4X + 5Y= 220…….(1)
3X + 4Y = 170 …….(2)
Solving (1) and (2)
Y = 20
X = $\frac{170-80}{3} = 30$
Now,

Malls	Total number of people	Number of Males	Number of females
A	200	120	80
B	120	80	40
C	180	100	80
D	200	90	110

S6. Ans.(c)
Sol. Required ratio = $\frac{160}{150} = 16:15$

S7. Ans.(d)
Sol. Required percentage = $\frac{400-300}{300} \times 100\% = 33\frac{1}{3}\%$

S8. Ans.(e)
Sol. Amount spent by females who visited mall B = $40 \times 2000 = Rs.80000$
Amount spent by males who visited mall B = 1500×80 = Rs. 120000
Required sum = 120000 + 80000 = Rs. 200000

S9. Ans.(a)
Sol. Number of people visited mall A on Tuesday = $\frac{6}{5} \times 180 = 216$
Number of females visited mall A on Tuesday = $\frac{3}{2} \times 40 = 60$
Number of males visited mall A on Tuesday = $216 - 60 = 156$
Required difference = 156 – 120 = 36

S10. Ans.(c)
Sol. Number of people visited mall E = $\frac{9}{10} \times (380) = 342$
Number of males visited mall E = $\frac{180}{2} = 90$
Number of females visited mall E = 342 – 90 = 252

Solutions (11-15):
Convert degree into percentage
Males in village B = $\frac{36}{360} \times 100 = 10\%$
Males in village E = $\frac{63}{360} \times 100 = 17.5\%$
Males in village G = $(100 - 20 - 10 - 12.5 - 15 - 17.5 - 5) = 100 - 80 = 20\%$

S11. Ans.(c)
Sol. Required percentage = $\frac{10-5}{5} \times 100 = 100\%$

S12. Ans.(a)
Sol. Number of males in village D = $\frac{15}{100} \times 90000 = 13500$
Number of females in village A = $13500 \times \frac{100}{150} = 9000$
Number of males in village A = $\frac{20}{1000} \times 90000 = 18000$
So, population of village A = $9000 + 18000 = 27000$

S13. Ans.(b)
Sol. Required average = $\frac{1}{3} \times \frac{17.5+5+20}{100} \times 90000 = 12750$

S14. Ans.(d)
Sol. Required difference = $\frac{[(20+17.5)-(12.5+5)]}{100} \times 9000 = 18000$

S15. Ans.(e)

Sol. Number of males in village B $= \frac{10}{100} \times 90000 = 9000$

Number of females in village B $= 9000 - 2500 = 6500$

So, required percentage $= \frac{6500}{9000} \times 100 = 72.22\% \approx 72\%$

Solutions (16-20):

Shoes sold in January = 200

Shoes sold in February = 350 – 200 = 150

Shoes sold in March = 400 – 350 = 50

Shoes sold in April = 650 – 400 = 250

S16. Ans.(b)

Sol. Defective shoes sold in March = $50 \times \frac{3}{5} = 30$

Non defective Shoes sold in March = $50 \times \frac{2}{5} = 20$

Defective shoes sold in April = $350 \times \frac{30}{100} = 105$

Non defective Shoes sold in April = $250 - 105 = 145$

Required sum = $20 + 145 = 165$

S17. Ans.(e)

Sol. Shoes sold in May = 900 – 650 = 250

Required percentage = $\frac{150}{250} \times 100 = 60\%$

S18. Ans.(e)

Sol. Shoes manufactured in April = $\frac{250}{40} \times 100 = 625$

Unsold shoes in April = $625 - 250 = 375$

Shoes sold in May = $375 \times \frac{40}{100} = 150$

Required ratio = $200 : 150 = 4 : 3$

S19. Ans.(d)

Sol. Boots **manufactured** in February = $\frac{4}{3} \times 150 = 200$

Boots sold in February = $200 \times \frac{72}{100} = 144$

Required difference = $144 - 50 = 94$

S20. Ans.(b)

Sol. Average shoes sold in January and April = $\frac{200+250}{2} = 225$

Required Percentage = $\frac{225-50}{50} \times 100 = 350\%$

Solutions (21-26):

For Delivery man P:

Total items delivered= 600

Total rejected items= $600 \times \frac{20}{100} = 120$

Total non-rejected items= $600 - 120 = 480$

Similarly for other delivery men,

Delivery man	Total items	Rejected items	Non-rejected items
P	600	120	480
Q	800	200	600
R	500	50	450
S	1000	400	600
T	900	270	630

S21. Ans.(a)
Sol. Average number of rejected items to P, R and S
$= \frac{120+50+400}{3} = 190$
Required value, A$= 190 - 50 = 140$

S22. Ans.(d)
Sol. Items which are not rejected by customer to delivery man S = 600
Items which were rejected by costumer to delivery man Q and R together
$= 250$
Required Percentage $= \frac{600-250}{250} \times 100 = 140\%$

S23. Ans.(c)
Sol. Required ratio $= (400 + 200): 630 = 20: 21$

S24. Ans.(b)
Sol. Required average$= \frac{120+200+50+400+270}{5}$
$= \frac{1040}{5} = 208$

S25. Ans.(e)
Sol. Sum of number of items delivered by delivery man P and T
$= 600 + 900 = 1500$
Required value$= 1521 - 1500 = 21$

S26. Ans.(a)
Sol. Total number of items delivered$= \frac{125}{100} \times \frac{(600+600)}{2} = 750$
Total rejected items$= \frac{200}{100} \times (120 + 50) = 340$
Required non-rejected items$= 750 - 340 = 410$

Solutions (27-32):
$6q + p = 76$.....(i)
And
$5p - 3q = 5q$
$5p = 8q$
$q = \frac{5}{8}p$.....(ii)

Put (ii) in (i)

$6 \times \frac{5}{8}p + p = 76$

$\frac{15}{4}p + p = 76$

$\frac{19}{4}p = 76$

p = 16

q = $\frac{5}{8} \times 16 = 10$

r = (p+q) – 2 = (10+16)-2 = 24

Companies	Glass optical		Plastic optical	
	Store X	Store Y	Store X	Store Y
A	5p-3q = 50	5q= 50	r= 24	36
B	6q = 60	40	85	65
C	p= 16	44	48	22
D	22	28	34	36

S27. Ans.(b)

Sol. Glass optical sold by F = $\frac{50+50+16+44+22+28}{3} = 70$

Plastic optical sold by F = $\frac{4}{5} \times 70 = 56$

Total optical (glass & plastic) sold by F = 70 +50 = 126

Number of optical (glass & plastic) sold by store X of company F= 52

Number of optical (glass & plastic) sold by store Y of company F = 126 – 52 = 74

S28. Ans.(d)

Sol. Let the cost price of glass and plastic optical be 5x and 4x respectively

ATQ,

$(60 \times 5x + 85 \times 4x)\frac{120}{100} = 23040$

$(300x + 340x)\frac{6}{5} = 23040$

$640x = 19200$

$x = 30$

Required difference $= 5x - 4x = x =$ Rs 30

S29. Ans.(e)

Sol. Total optical (glass & plastic) sold by D = 22 + 28 + 34 + 36 = 120

Number of females who purchased optical (glass & plastic) from D = $\frac{3}{5} \times 120 = 72$

Number of males who purchased optical (glass & plastic) from D = $\frac{2}{5} \times 120 = 48$

Number of plastic optical purchased by females from D = $\frac{7}{12} \times 72 = 42$

Number of males who purchased plastic optical from company D = 70 – 42 = 28

S30. Ans.(a)

Sol. Required percentage = $\frac{24-16}{16} \times 100 = 50\%$

S31. Ans.(c)
Sol. Average number of glass optical sold by store X of companies A and B
$= \frac{50 + 60}{2} = 55$
Average number of plastic optical sold by store Y of companies D and C
$= \frac{22+36}{2} = 29$
Required difference = 55 – 29 = 26

S32. Ans.(b)
Sol. Total glass optical sold by store X = $(50 + 60 + 16 + 22) = 148$
Total plastic optical sold by store Y = $(36 + 65 + 22 + 36) = 159$
Required ratio = 148 : 159

Solutions (33-60):
Total visitors in park B on Monday = 180 – 100 = 80
Total visitors in park B on Tuesday = 150 – 80 = 70
Total visitors in park B on Wednesday = 200 – 100 = 100
Total visitors in park B on Thursday = 120 – 70 = 50
Total visitors in park B on Friday = 160 – 90 = 70

Days	**Park A**		**Park B**	
	Males	**Females**	**Males**	**Females**
Monday	40	100 – 40 = 60	80 – 10 = 70	70 – 60 = 10
Tuesday	40	80- 40 = 40	70 – 30 = 40	70- 40 = 30
Wednesday	40	100 – 40 = 60	100 – 10 = 90	70 – 60 = 10
Thursday	40	70 – 40 = 30	50 – 40 = 10	70 – 30 = 40
Friday	40	90 – 40 = 50	70 – 20 = 50	70 – 50 = 20

S33. Ans.(c)
Sol. Revenue generated on Tuesday = $\frac{38}{13} \times 650 = Rs1900$
Revenue generated on Wednesday = $\frac{51}{13} \times 650 = Rs2550$
ATQ,
40x + 30y = 1900 .....(i)
90x + 10y = 2550 .....(ii)
From (i) & (ii)
$x = 25, y = 30$
Required difference = 30 – 25 = 5

S34. Ans.(e)
Sol. On Monday & Wednesday the difference between the number of females visiting both the parks A and B is maximum.

S35. Ans.(d)
Sol. Average number of female visitors in park A on all the days = $\frac{60+40+60+30+50}{5} = 48$
Total number of male visitors in park B on all the days together = 70+ 40 + 90 + 10 + 50 = 260
Required ratio = $48 : 260 = 12 : 65$

S36. Ans.(a)
Sol. Difference between male and female visitors in park A on Wednesday = $60 - 40 = 20$
Difference between male and female visitors in park B on Friday = 50 - 20 = 30
Required percentage = $\frac{30-20}{30} \times 100 = 33.33\%$

S37. Ans.(d)
Sol. We don't know the number of females who are exactly 18 years of age.
So, can't be determined.

S38. Ans.(c)
Sol. Maximum number of couples in park B on Monday = 10
Maximum number of couples in park B on Tuesday = 30
Maximum number of couples in park B on Wednesday = 10
Maximum number of couples in park B on Thursday = 10
Maximum number of couples in park B on Friday = 20
Required number = 10 + 30 + 10 + 10 + 20 = 80

Solutions (41-45):
Fiction books sold by store A = 320
Horror books sold by A = $800 - 320 = 480$
Percentage of Horror books sold by A = $\frac{480}{800} \times 100 = 60\%$
$\frac{3Y}{40} = 60$
$\boldsymbol{Y = 800}$
Total books sold by B = Y – 150
= 800-150 = 650
Horror books sold by B = $650 \times \frac{40}{100} = 260$
Fiction books sold by B = 650 – 260 = 390
Fiction books sold by C = $260 - 135 = 125$
Percentage of horror books sold by C = $\frac{800}{10} - 5 = 75\%$
Percentage of fiction books sold by C = $100 - 75 = 25\%$
25%=125
100%= 500
Total books sold by C = 500
Horror books sold by C = $500 \times \frac{75}{100} = 375$
$8X + 20 = 500$
$8X = 480$
$\boldsymbol{X = 60}$
Total books sold by D = $20X = 20 \times 60 = 1200$
Percentage of horror books sold by D = (60-5)% = 55%
Fiction books sold by store D = $1200 \times \frac{45}{100} = 540$
Horror books sold by D = $1200 - 540 = 660$

Stores	Total books (horror & fiction) sold	Horror books sold	Fiction books sold
A	800	480	320
B	650	260	390
C	500	375	125
D	1200	660	540

S39. Ans.(b)

Sol. $\frac{X}{3}\% = \frac{60}{3} = 20\%$

Novels sold by store D = $\sqrt{Y+41} = \sqrt{800+41} = 29$

Fantasy books sold by store D = $\frac{125}{100} \times 20 = 25$

Required ratio = $(29+25): 480 = 54 : 480 = 9:80$

S40. Ans.(a)

Sol. Percentage of horror books are unsold in store A = X% = 60%

Horror books are unsold in store A = $\frac{480}{40} \times 60 = 720$

Total horror books available in store A = $720 + 480 = 1200$

Total fiction books available in store A = $2120 - 1200 = 920$

Unsold fiction books in store A = $920 - 320 = 600$

Required difference = $600 - 260 = 340$

S41. Ans.(b)

Sol. Total books (horror & fiction) sold in store E = $\frac{140}{100} \times 500 = 700$

Horror books sold in store E = $\frac{2}{7} \times 700 = 200$

Fiction books sold by store E = 700 – 200 = 500

Required percentage = $\frac{500-480}{480} \times 100 = 4.16 \approx 4\%$

S42. Ans.(d)

Sol. Price of each horror book sold by store B = $X - 10 = 60 - 10 = Rs50$

Total revenue generated by store B by selling all the horror books = $260 \times 50 = Rs\ 13000$

Total revenue generated by store B to sold all the fiction books = $16900 - 13000 = Rs\ 3900$

Price of each fiction book sold by store B = $\frac{3900}{390} = Rs\ 10$

S43. Ans.(e)

Sol. The average number of fiction books sold by stores A & D = $\frac{320+540}{2} = 430$

Required percentage = $\frac{430}{500} \times 100 = 86\%$

Solutions (56-60):

In gym P

Let females be 2x

And males = $2x \times \frac{150}{100} = 3x$

Given, $2x + 3x = 600$

$x = 120$

So, females = 240

And males =$3x = 360$

In gym Q

Let females be y

And males = $y \times \frac{400}{100} = 4y$

Given, $y + 4y = 800$

$y = 160$

So, females = 160

And males = $4y = 640$

In gym R

Let females be z

And males = $z \times \frac{300}{100} = 3z$

Given, $z + 3z = 500$

$z = 125$

So, females = 125

And males = $3z = 375$

In gym S

Let females be 2d

And males = $2d \times \frac{250}{100} = 5d$

Given, $2d + 5d = 700$

$y = 100$

So, females = 200

And males = $5d = 500$

Gyms	Total people (males and females)	Males	Females
P	600	360	240
Q	800	640	160
R	500	375	125
S	700	500	200

S44. Ans.(e)

Sol. Females who joined gym P purchased six-month membership = $\frac{1}{4} \times 240 = 60$

Females who joined gym P purchased yearly membership = $\frac{3}{4} \times 240 = 180$

Total people (males and females) who joined gym P purchased yearly membership

$= 600 - 250 = 350$

Males who purchased yearly membership = 350-180=170

Males who purchased six-month membership = 250-60=190

Required difference = $190 - 170 = 20$

S45. Ans.(d)

Sol. Males who joined gym Q for cardio = $640 \times \frac{9}{16} = 360$

Males who joined gym Q for aerobics = $640 - 360 = 280$

Females who joined gym Q for aerobics = $\frac{1}{4} \times 280 = 70$

Females who joined gym Q for cardio = $160 - 70 = 90$

Required percentage = $\frac{90}{360} \times 100 = 25\%$

S46. Ans.(c)

Sol. Males who joined gym X = $\frac{3}{4} \times 200 = 150$

Females who joined gym X = $\left(140 \times 3 - (125 + 240)\right) = 420 - 365 = 55$

Required ratio = $(150 + 55) : 600 = 41:120$

S47. Ans.(c)

Sol. Required difference = $(360 + 640) - (125 + 200)$

$= 1000 - 325 = 675$

S48. Ans.(e)

Sol. Required profit = $(1000 \times 375 + 1200 \times 125) - 200000$

$= 325000 = 3.25$ lakh

S49. Ans.(b)

Sol. Given, P worked for one hour then he took rest for next 30 minutes

P takes 30 minutes rest in two hours

So, in 20 hours total rest taken by P = $30 \times 10 = 300$ minutes = 5 hours

So, P worked 15 hours and rest 5 hours

Given, in both cases unit work done by P is same

So, work done by P in both cases = $100 \times \frac{2}{5} = 40\ units$

Original efficiency of P = $\frac{40}{20} = 2$units/hour

Increased efficiency of P = $\frac{40}{15} = \frac{8}{3}$ units/hour

Required percentage = $\frac{\frac{8}{3}-2}{2} \times 100 = \frac{100}{3}\%$

S50. Ans.(d)

Sol. Minimum efficiency of Q and R = $\frac{120}{24} = 5\ units/hour$

New efficiency of Q and R = $5 \times \frac{160}{100} = 8\ units/hour$

Total time taken by Q and R to complete the work with new efficiency = $\frac{120}{8} = 15\ hours$

Total rest time = 24-15 = 9 hours

Total minutes after each hour Q and R take rest = $\frac{540}{24} \times 2 = 45$ minutes

S51. Ans.(a)

Sol. P & R work for one hour and 24 minutes rest

So, P & R take 24 minutes rest in two hours

So, in 30 hours total rest taken by P & R = $24 \times 15 = 360$ minutes = 6 hours

So, P & R work for 24 hours work and rest for 6 hours.

Average of minimum efficiency of pairs P & Q and Q & R = $\frac{\left(\frac{100}{20}+\frac{120}{24}\right)}{2} = \frac{10}{2} = 5\ units/hour$

So, efficiency of P & R = $5 \times \frac{8}{5} = 8\ units/hour$

Total work done by P & R = $8 \times 24 = 192\ units$