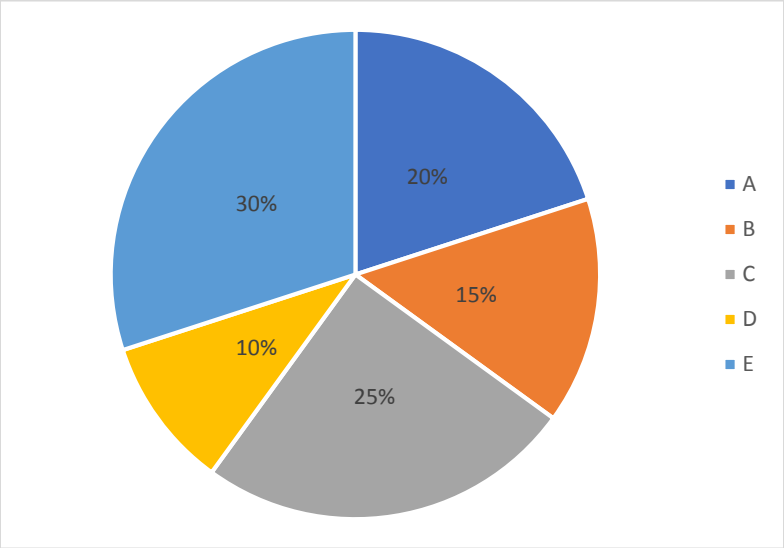
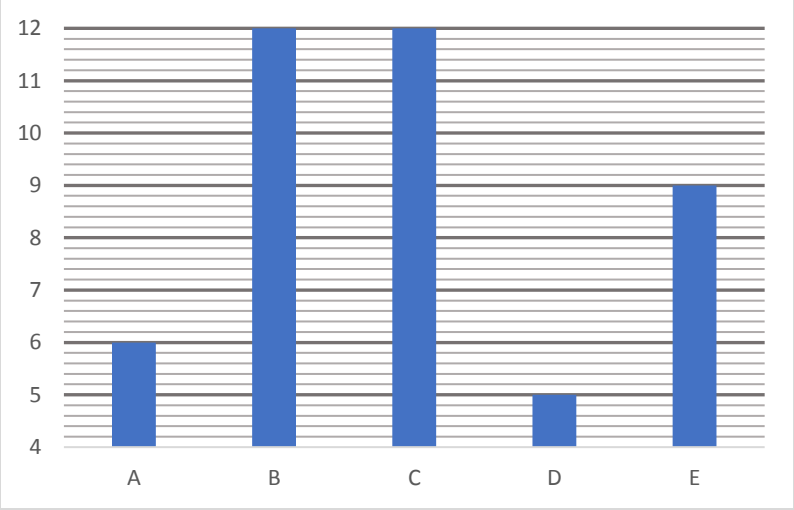
Quiz Date: 9th March 2020

Directions (1-5): Study the given graph carefully and answer the following questions.
The pie graph shows the percentage distribution of work done by 5 persons and bar graph shows the number of days they worked to complete their part of work.





Q1. P is 10% more efficient than A and Q is 20% more efficient than B. If A and D starts working together and after 9 days they left the work and remaining work completed by P and Q together, then find in how many days(approximate) they finished the remaining work?
(a) 29 days

(b) 10 days

(c) 12 days

(d) 8 days

(e) 15 days

Q2. If A, B, C, D and E all work together, then find in how many days they will complete the work?

(a) $7\frac{2}{3}\ days$

(b) $9\ days$

(c) $8\frac{1}{3}\ days$

(d) $9\frac{1}{3} days$

(e) None of these

Q3. S is half efficient of B and C together. S, A, and E all started the work and after 6 days they were replaced by C. find time taken by C to complete the remaining work.

(a) 20 days

(b) 25 days

(c) 28 days

(d) 35 days

(e) 24 days

Q4. A and B started doing the work. After 8 days they both left and D joined the work and he completed his part of the work. Now the remaining work completed by X in 16 days. In how many days X can complete the work alone?

(a) 25 days

(b) 20 days

(c) 35 days

(d) 30 days

(e) 27 days

Q5. If the total wage received for whole work was Rs 34560, then find the share of D in total wage.
(a) Rs 3546

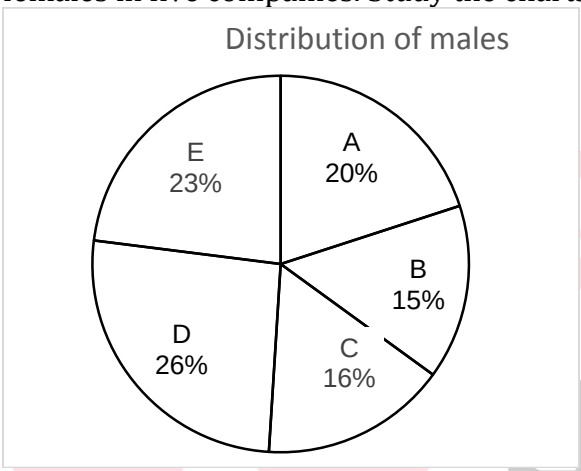
(b) Rs 5436

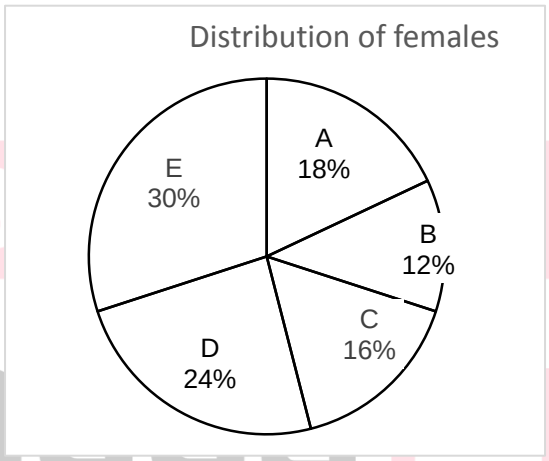
(c) Rs 4356

(d) Rs 3456

(e) Rs 4536

Directions (6-10): Following pie charts show the percentage distribution of males and females in five companies. Study the charts carefully to answer the questions that follow.





Q6. If ratio of between number of females to number of males in company B is 32 : 45 then number of males in company E is what percent more than the number of females in company C.(approx.)
(a)53%
(b)62%
(c)65%
(d)80%
(e)75%

Q7. If the average of total male and females of all the company together is 21000 and difference between male to female in company C is 320(no. of males > no. of females) then find the total females in company A.
(a) 3422
(b)3500
(c) 3420
(d) 2000

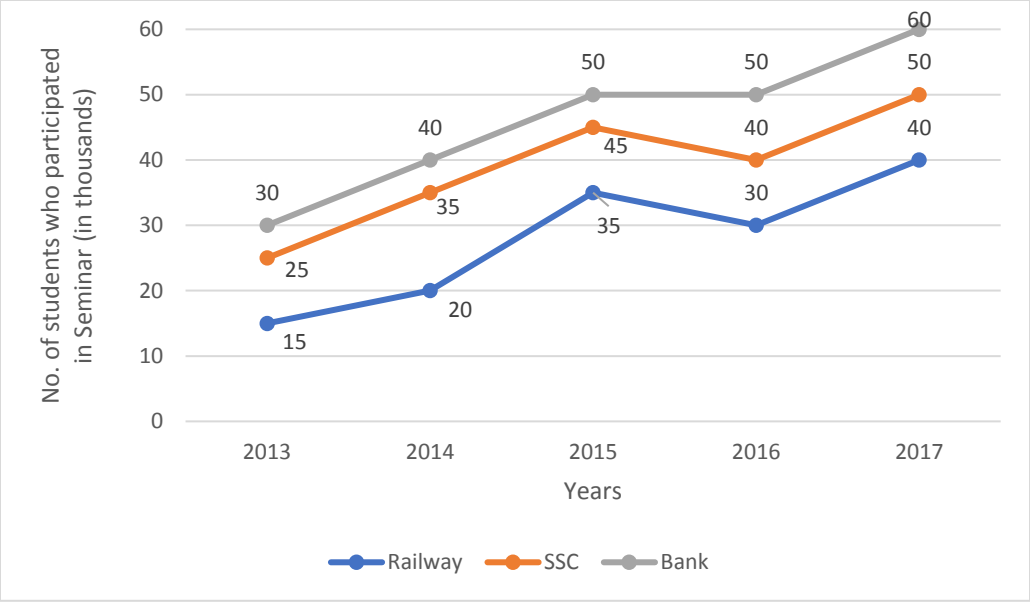
(e) none of these

Q8. Find the average of number of males in company D and company C and females in company B if ratio of total number of males to total number of females is 3:2 and number of males in the company D is 3900.
(a) 2500
(b) 1500
(c) 1600
(d) 1700
(e) 2600

Q9. If ratio between total females to total males is $x^3 : (x + 1)^2$ (x is a whole number), then find the minimum possible value of x, given that number of males in company A is 25% more than the number of females in the same company.
(a) 4
(b) 1
(c) 6
(d) 3
(e) 2

Q10. Ratio between average of number of male of company A, B and C to the average of number of females of company A, B and E is 51 : 65 then total females are how much percent more than total males.
(a) 8.45%
(b) 7.34%
(c) 7.14%
(d) 8.33%
(e) 9.33

Directions (11-15): The following line graph shows the total no. of students who are preparing for three different exam viz. SSC, Bank and Railway who participated in a seminar organized by career power in five different years.
The table shows the ratio of male to female who participated in seminar.
Study both the graph carefully and answer the questions that follows.



Year	Ratio of male to female who participated in seminar		
	Bank(M:F)	SSC(M:F)	Railway(M:F)
2013	4:1	4:1	4:1
2014	5:3	5:2	7:3
2015	7:3	7:2	6:1
2016	3:2	5:3	3:1
2017	2:1	7:3	3:2

Q11. The total no. of male students in 2014 from all exam who are participating in seminar is approximately what percent of total no. of female students from all exam who are participating in seminar in 2013?
(a) 547%
(b) 457%
(c) 455%
(d) 452%
(e) 745%

Q12. If 10% of male students and 5% of female students preparing for Bank exam in year 2015 asked questions to the speaker in seminar and 10% of total students preparing for SSC asked the question to the speaker in the same year, then total no. of student from banking who asked question is what percent of the total no. of students from SSC who asked question in year 2015?(Rounded off to two decimal places)
(a) 90.54%
(b) 92.44%
(c) 94.44%
(d) 9.444%

(e) 98.44%

Q13. What is the average no. of male students preparing for Railway exam who participated in seminar throughout all the five years ?
(a) 22 thousands
(b) 25 thousands
(c) 20.5 thousands
(d) 21.5 thousands
(e) 19.5 thousands

Q14. Total no. of male students preparing for Bank exam in 2016 and 2017 together is approximately what percent more than the total no. of female students preparing for SSC exam who participated in the seminar together in the same years?
(a) $133\frac{2}{3}\%$
(b) $133\frac{1}{3}\%$
(c) $138\frac{1}{3}\%$
(d) $131\frac{1}{3}\%$
(e) $135\frac{1}{3}\%$

Q15. In 2012 the career power had organized the seminar in which the total no. of student participating in seminar who are preparing for bank, SSC and Railway exam was 10%, 20% and 25% less than that in 2013 respectively and total no. of boys who participated in the seminar in year 2012 preparing for Bank, SSC and railway exam were 1000, 1500 and 2000 less than that in 2013 respectively. Find the total no. of girls participated in seminar in 2012 preparing for Bank, SSC and Railway exam together?
(a) 6,850
(b) 5, 670
(c) 7,650
(d) 6,750
(e) 7,550

Solutions

S(1-5):

Days taken by A to complete the work alone $= \frac{6}{20} \times 100 = 30\ days$

Days taken by B to complete the work alone$= \frac{12}{15} \times 100 = 80\ days$

Days taken by C to complete the work alone $= \frac{12}{25} \times 100 = 48\ days$

Days taken by D to complete the work alone$= \frac{5}{10} \times 100 = 50\ days$

Days taken by E to complete the work alone $= \frac{9}{30} \times 100 = 30\ days$

Let total work be 1200 units (LCM)

So, the efficiency of A = 40 units/day
the efficiency of B = 15 units/day
the efficiency of C = 25 units/day
the efficiency of D = 24 units/day
the efficiency of E = 40 units/day

S1. Ans (b)
Sol. Efficiency of P $= 40 \times \frac{110}{100} = 44$ units/day
And efficiency of Q $= 15 \times \frac{120}{100} = 18$ units/day
Let time taken by P and Q together to finish the remaining work be T days.
ATQ
$(40 + 24) \times 9 + (44 + 18) \times T = 1200$
$T = \frac{1200-576}{62} \approx 10\ days$

S2. Ans (c)
Sol. Required days $= \frac{1200}{40+15+25+24++40} = \frac{1200}{144}$
$= \frac{25}{3} = 8\frac{1}{3}\ days$

S3. Ans (e)
Sol. Efficiency of S $= \frac{15+25}{2} = 20\ days$
Let time taken by C to complete the remaining work be T days
ATQ
$(20 + 40 + 40) \times 6 + 25 \times T = 1200$
$T = 24\ days$

S4. Ans (d)
Sol. Let efficiency of X be X units/day
ATQ
$(40 + 15) \times 8 + \frac{10}{100} \times 1200 + X \times 16 = 1200$
$440 + 120 + 16X = 1200$
$X = 40$ units/day
So, required time $= \frac{1200}{40} = 30\ days$

S5. Ans (d)
Sol. Required amount $= 34560 \times \frac{10}{100} = Rs\ 3456$

S6. Ans.(b)
Sol.
Let total no. of males = x
total no. of females = y
ATQ,
$\frac{12 \times y}{100} \times \frac{100}{15 \times x} = \frac{32}{45}$
$\frac{y}{x} = \frac{8}{9}$
Number of males and females 8a, 9a
No. of males in E $\rightarrow \frac{23 \times 9a}{100} = 2.07a$
No. of females in C $= \frac{16 \times 8a}{100} = 1.28a$
Required % $= \frac{0.79a}{1.28a} \times 100 \approx 62\%$

S7. Ans.(e)
Sol.
Total males and females = 21000 × 2 = 42000
Now let total no. of males is 'x' and total no. of females is 'y'
ATQ,
$\frac{16 \times x}{100} - \frac{16 \times y}{100} = 320$
x – y = 2000 ...(i)
x + y = 42000 ...(ii)
Solving (i) and (ii)
x = 22000
y = 20000
Female in company A $= \frac{18 \times 20000}{100} = 3600$

S8. Ans.(a)
Sol.
Total no. of males $= \frac{3900 \times 100}{26} = 15000$
Total no. of females $= \frac{15000 \times 2}{3} = 10{,}000$
Required average $= \frac{3900 + 2400 + 1200}{3} = 2500$

S9. Ans.(e)
Sol.
Let number of females in company A = 4y
So, number of males in company B = 5y

Total number of males $= \frac{5y}{20} \times 100 = 25y$
Total number of females $= \frac{4y}{18} \times 100 = \frac{200}{9}y$
ATQ,
$$\frac{200y}{9 \times 25y} = \frac{x^3}{(x+1)^2}$$
$$\frac{8}{9} = \frac{x^3}{(x+1)^2}$$
Value of x = 2

S10. Ans.(d)
Sol.
Let total no. males = x
total no. of females = y
So, average no. of male in company A, B and C
$$= \frac{(20+16+15)x}{100 \times 3} = \frac{17x}{100}$$
Average no. of females of company A, B and E
$$= \frac{(18+12+30)y}{100 \times 3} = \frac{20y}{100}$$
Ratio $\rightarrow$
$$\frac{17x}{100} : \frac{20y}{100} = 51 : 65$$
$$\frac{x}{y} = \frac{12}{13}$$
Required percentage $= \frac{1}{12} \times 100 = 8.33\%$

S11. (b)
Sol.
Total male students participating in seminar in 2014
$= \left(\frac{5}{8} \times 40 + \frac{5}{7} \times 35 + \frac{7}{10} \times 20\right)$ thousands
= 64 thousands
Total female students who participated in 2013
$= \left(\frac{1}{5} \times 30 + \frac{1}{5} \times 25 + \frac{1}{5} \times 15\right)$ thousands
= 14 thousands
$\therefore$ Required percentage $= \frac{64}{14} \times 100 \simeq 457\%$

S12. (c)
Sol. Total students (both male and female) preparing for banking who asked questions in seminar in 2015
$$= \frac{10}{100} \times \frac{7}{10} \times 50 + \frac{5}{100} \times \frac{3}{10} \times 50$$
= (3.5 + 0.75) = 4.25 thousands

Total students preparing for SSC who asked question in 2015
$= \frac{10}{100} \times 45000 = 4.5$ thousands
$\therefore$ Required percentage $= \frac{4.25}{4.5} \times 100 = 94.44\%$

S13. (c)
Sol.
Required average $= \frac{1}{5} \times \left(\frac{4}{5} \times 15 + \frac{7}{10} \times 20 + \frac{6}{7} \times 35 + \frac{3}{4} \times 30 + \frac{3}{5} \times 40\right)$
$= \frac{1}{5} \times 102.5 = 20.5$ thousands

S14. (b)
Sol.
Total no of male students preparing for bank exam in 2016 and 2017 together
$= \frac{3}{5} \times 50 + \frac{2}{3} \times 60 = 70$ thousands
Total no of female students preparing for SSC exam in 2016 and 2017 together
$= \frac{3}{8} \times 40 + \frac{3}{10} \times 50 = 30$ thousands
$\therefore$ Required percentage $= \frac{40}{30} \times 100 = 133\frac{1}{3}\%$

S15. (d)
Sol.
In 2012,
Total students who participated in seminar preparing for
Banking
$= 30{,}000 \times \frac{90}{100} = 27{,}000$
SSC $= \frac{80}{100} \times 25{,}000 = 20{,}000$
Railway $= \frac{75}{100} \times 15{,}000 = 11{,}250.$
No. of boys who participated in seminar in 2012
Banking $= \frac{4}{5} \times 30{,}000 - 1000 = 23{,}000$
SSC $= \frac{4}{5} \times 25{,}000 - 1500 = 18{,}500$

Railway = $\frac{4}{5} \times 15{,}000 - 2000 = 10,000$

∴ Required no of girls = (27, 000 – 23,000)
+ (20,000 – 18,500) + (11,250 – 10,000) = 6, 750