Quiz Date: 26th March 2020

Direction (1 – 5): What approximate value will come in the place of question (?) marks:

Q1. 219.89 % of 44.92 + $(?)^3$ + $\sqrt{80.98}$ = $(18.11)^2$
(a) 12
(b) 6
(c) 11
(d) 9
(e) 2

Q2. 2655.98 - ? % of 1139.97 + 24.97 × 12.21 = $(49.98)^2$
(a) 24
(b) 36
(c) 48
(d) 56
(e) 40

Q3. $\frac{575.98}{?}$ × 13.98 + 35.89 % of 450.09 = 15.11% of 2199.97
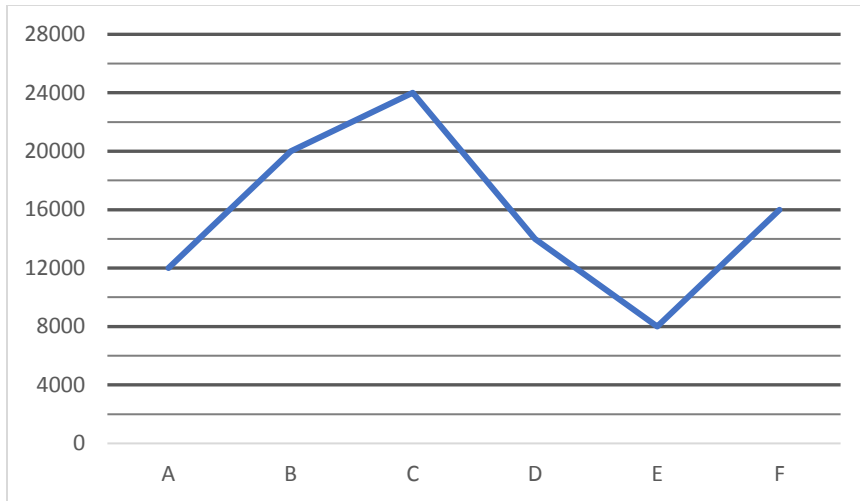(a) 40
(b) 30
(c) 28
(d) 48
(e) 64

Q4. ? % of 4279.93 – $(23.87)^2$ + 2672.87 ÷ 2.93 = 276.87 × 4.93
(a) 18
(b) 20
(c) 10
(d) 15
(e) 25

Q5. $\frac{176.83+?}{19.97}$ × 16.99 + 199.87 = $(24.87)^2$
(a) 340
(b) 303
(c) 323
(d) 300
(e) 289

Directions (6-10): Given line graph shows the total number of students (Boys + Girls) doing graduation in six different colleges in a city.

Bar-graph given below shows the percentage distribution of students according to their subjects in graduation of college C (Each student takes only one subject in graduation and following six subjects are available in every college).
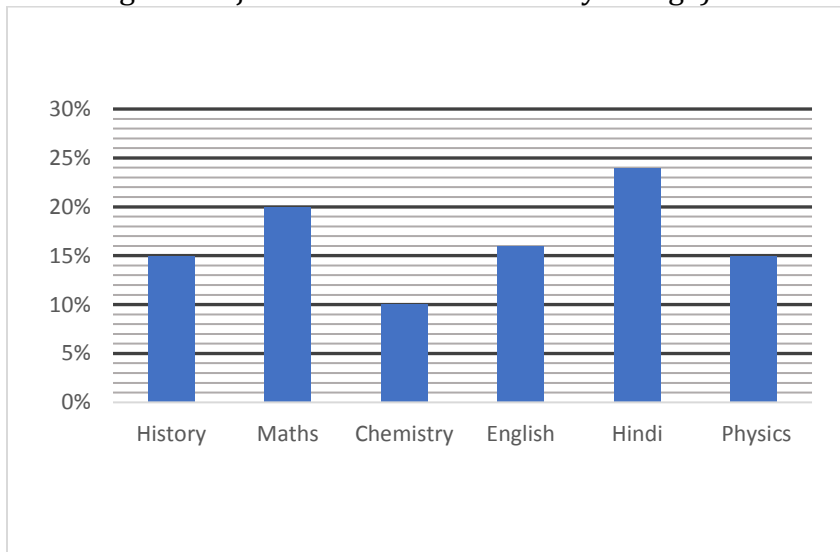
Q6. If number of girls studying History in college F is 18% of the students studying Physics and Chemistry together in college C and the number of boys studying History in college F are 15% more than number of girls studying same subject in the same college then number of students studying History in college F are what percent of those studying History in college C?

(a) $\frac{135}{2}$%

(b) 60%

(c) $\frac{125}{2}$%

(d) $\frac{129}{2}$%

(e) 70%

Q7. Number of students studying Maths in college A is 25% less than students studying Physics in college B. Number of girls studying Physics in college B is 10% more than number of students studying Chemistry in college C. Find number of boys studying Physics in college B is approximately how much percent more or less than Maths students in college A. (if boys and girls studying Physics in college B are in ratio of 4 : 3)

(a) 21%

(b) 18%

(c) 27%

(d) 31%

(e) 24%

Q8. If number of students studying English in college D are 75% more than number of students studying Hindi in college E and total number of these students in college D and college E are X less than number of Hindi students in college C. Find difference between X and English studying students in college D, if ratio of X and Chemistry students in college C is 61:96.

(a) 1095

(b) 1170

(c) 1220

(d) 1290

(e) 1330

Q9. If ratio of number of girls in college A, B, C and D are 2 : 6: 5 : 4. And number of girls in college D is 30% more than total number of students studying Chemistry and English in college C, Then find average of number of boys from college A, B & C?

(a) $9878\frac{2}{3}$

(b) 9990

(c) $9890\frac{1}{3}$

(d) 9900

(e) $9900\frac{2}{3}$

Q10. If total number of students in Maths & English together in college D is 5040 which is $85\frac{5}{7}$% of total number of Physics and Chemistry students in same college. Then find ratio of total number of Hindi and History students in college D to students studying History in college C?

(a) 26 : 31

(b) 77 : 90
(c) 11 : 18
(d) 17 : 27
(e) 56 : 65

Directions (11 -15): The following pie-chart shows the percentage distribution of power banks of different companies and the bar graph shows the percentage of these power banks sold by two e-commerce sites-Amazon and Flipcart. Study the graph carefully to answer the following questions.

Total no. of power banks launched by different companies = 2,50,000
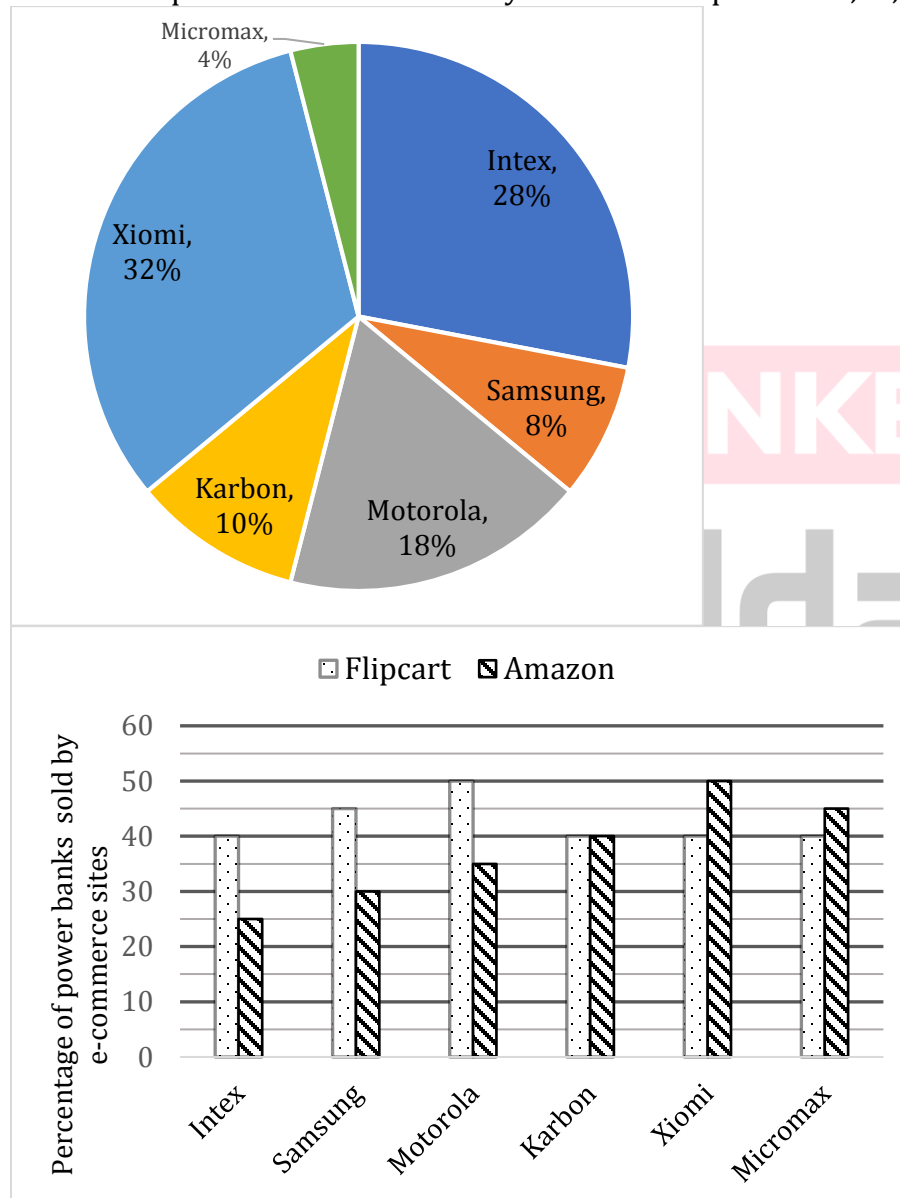
Q11. What is the total no. of power banks remained unsold of Intex, Motorola and Karbon together?
(a) 32,650
(b) 36,250

(c) 36,450
(d) 35,620
(e) 36,520

Q12. Total no. of power banks sold by Samsung and Micromax through both e-commerce companies is approximately what percent of total no. of power banks of Intex which remained unsold?
(a) 99%
(b) 92%
(c) 96%
(d) 86%
(e) 88%

Q13. Total no. of power banks of Xiomi sold by both sites is approximately what percent of total no. of power banks of all companies except Xiomi sold by Flipcart?
(a) 98%
(b) 94%
(c) 89%
(d) 92%
(e) 86%
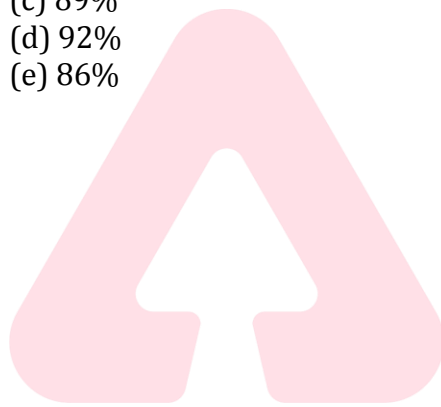
Q14. What is the ratio of no. of power banks of Xiomi to that of Intex which remained unsold?
(a) 49 : 16
(b) 16 : 49
(c) 33 : 49
(d) 32 : 49
(e) 11 : 16

Q15. Total no. of power banks of Motorola and Karbon together sold by Flipcart is what percent more or less than the total no. of power banks of Xiomi sold by Amazon?
(a) 1.875% less
(b) 17.85% more
(c) 187.5% less
(d) 18.75% more
(e) 18.75% less

Solutions

S1. Ans.(b)
Sol.
$$\frac{220}{100} \times 45 + (?)^3 + \sqrt{81} \approx (18)^2$$
$$(?)^3 = 324 - 108$$
$$(?)^3 = 216$$
? = 6

S2. Ans.(e)
Sol.
$$2656 - \frac{?}{100} \times 1140 + 25 \times 12 \approx (50)^2$$
$$\frac{?}{100} \times 1140 = 2656 + 300 - 2500$$
$$? = \frac{456 \times 100}{1140}$$
? = 40

S3. Ans.(d)
Sol.
$$\frac{576}{?} \times 14 + \frac{36}{100} \times 450 \approx \frac{15}{100} \times 2200$$
$$\frac{576}{?} \times 14 = 330 - 162$$
$$? = \frac{576 \times 14}{168}$$
? = 48

S4. Ans.(e)
Sol.
$$\frac{?}{100} \times 4280 - (24)^2 + \frac{2673}{3} \approx 277 \times 5$$
$$\frac{?}{100} \times 4280 = 1961 - 891$$
$$? = \frac{1070 \times 100}{4280}$$
? = 25

S5. Ans.(c)
Sol.
$$\frac{177+?}{20} \times 17 + 200 \approx (25)^2$$
$$\frac{(177+?)}{20} \times 17 = 625 - 200$$
$$177 + ? = 500$$

? = 323

S6. Ans.(d)
Sol.
Number of girls studying History in college F
$= \frac{18}{100} \times (10 + 15) \times \frac{24000}{100} = 1080$
Number of boys studying History in college F
$= \frac{115}{100} \times 1080 = 1242$
Required % $= \frac{(1242+1080)}{\frac{15 \times 24000}{100}} \times 100$
$= \frac{2322}{3600} \times 100 = 64\frac{1}{2}\%$

S7. Ans.(e)
Sol.
Number of girls studying Physics in college B
$= \frac{110}{100} \times \frac{10}{100} \times 24000 = 2640$
Number of boys studying Physics in college B
$= \frac{2640 \times 4}{3} = 3520$
Number of Math's students in college A
$= (3520 + 2640) \times \frac{75}{100} = 4620$
Required% $= \frac{4620 - 3520}{4620} \times 100$
$= \frac{500}{21}\% \approx 24\%$

S8. Ans.(b)
Sol.
X $= \frac{\frac{10 \times 24000}{100}}{96} \times 61 = 1525$
Let number of English students in college D be x.
And number of Hindi students in college E be y.
Then, $x = \frac{175}{100}y$ ...(i)
And $x + y = \frac{24 \times 24000}{100} - 1525 = 4235$ ...(ii)

From (i) and (ii)
x = 2695
required difference = 2695 – 1525 = 1170

S9. Ans.(a)
Sol. Let number of girls in college A, B, C and D be 2x, 3x, 5x, and 4x respectively.
ATQ
$$4x = \frac{130}{100} \times (10 + 16) \times \frac{24000}{100}$$
$$4x = 8112 \Rightarrow x = 2028$$
Required average$= \frac{1}{3}[(12,000 - 4056) + (20,000 - 12,168) + (24,000 - 10,140)]$
$$= 9878\frac{2}{3}$$

S10. Ans.(b)
Sol. Total number of Physics and Chemistry students in college D $= \frac{7}{6} \times 5040 = 5880$
Total number of Hindi and History students in college D
$= 14,000 - (5040 + 5880) = 3080$
Required ratio $= \frac{3080}{15 \times \frac{24000}{100}} = 77 : 90$

S (11-15)
Power banks launched by Various companies
Intex → 28 × 2500 = 70,000
Samsung → 8 × 2500 = 20,000
Motorola → 18 × 2500 = 45000
Karbon → 10 × 2500 = 25,000
Xiomi → 32 × 2500 = 80,000
Micromax → 4 × 2500 = 10,000

S11. Ans.(b)
Sol.
Required no. of power banks which remained unsold
$$= \frac{35}{100} \times 70000 + \frac{15}{100} \times 45000 + \frac{20}{100} \times 25000$$
= 24500 + 6750 + 5000
= 36,250

S12. Ans.(c)
Sol.
Total no. of power banks of Samsung and Micromax which were sold by both sites
$$= \frac{75}{100} \times 20000 + \frac{85}{100} \times 10000$$
= 15000 + 8500
= 23500

No. of power banks of Intex which remained unsold

$$= \frac{35}{100} \times 70,000$$

$$= 24,500$$

$\therefore$ Required percentage $= \frac{23500}{24500} \times 100$

$\simeq 96\%$

S13. Ans.(a)

Sol. Total no. of power banks of Xiomi sold by both sites $= \frac{90}{100} \times 80000$

$= 72000$

Total no. of power banks of all other companies except Xiomi sold by Flipcart

$= 40 \times 700 + 45 \times 200 + 50 \times 450 + 40 \times 250 + 40 \times 100$

$= 28000 + 9000 + 22500 + 10000 + 4000$

$= 73500$

$\therefore$ Required percentage $= \frac{72000}{73500} \times 100 \simeq 98\%$

S14. Ans.(b)

Sol.

Required ratio $= \frac{10 \times 800}{35 \times 700}$

$= \frac{16}{49}$

S15. Ans.(e)

Sol.

Total power banks of Motorola & Karbon sold by Flipcart

$= 50 \times 450 + 40 \times 250$

$= 32,500$

No. of power banks of Xiomi sold by Amazon

$= 50 \times 800$

$= 40,000$

$\therefore$ Required percentage

$$= \frac{40000 - 32500}{40000} \times 100$$

$= 18.75\%$ less

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