Quiz Date: 6th May 2020

Q1. **Quantity** I: Overall profit percentage if the cost prices of two shirts are equal. One shirt is sold for 20% profit and the other is sold for 10% loss.

Quantity II: Profit % made in selling each meter if the profit made in selling 20 m of a cloth equals the cost price of 5 m of that cloth.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I ≥ Quantity II
- (d) Quantity I ≤ Quantity II
- (e) Quantity I = Quantity II or No relation
- Q2. The largest possible right circular cylinder is cut out from a wooden cube of edge 7 cm.

Quantity I: volume of the cube left over after cutting out the cylinder

Quantity II: Surface area of cube remained after cutting out the cylinder.

Note: compare the magnitudes of both quantities.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I ≥ Quantity II
- (d) Quantity I ≤ Quantity II
- (e) Quantity I = Quantity II or No relation
- Q3. **Quantity I:** Value of y. A vessel contains 2.5 liters of water and 10 liters of milk. 20% of the contents of the vessel are removed. To the remaining contents, x liters of water are added to reverse the ratio of water and milk. Then y liters of milk are added again to reverse the ratio of water and milk.

Quantity II: 120 ltr.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I ≥ Quantity II
- (d) Quantity I ≤ Quantity II
- (e) Quantity I = Quantity II or No relation
- Q4. P can complete a piece of work in 16 days which Q can complete in 32 days. P and Q work on alternate days.

Quantity I: Time taken by them to complete the work if P starts on day 1.

Quantity II: time taken by them to complete the work if Q starts on day 1.

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I ≥ Quantity II
- (d) Quantity I ≤ Quantity II
- (e) Quantity I = Quantity II or No relation
- Q5. **Quantity I:Value of p,** $p^2 18p + 77 = 0$

Quantity II: Value of q, $3q^2 - 25q + 28 = 0$

- (a) Quantity I > Quantity II
- (b) Quantity I < Quantity II
- (c) Quantity I ≥ Quantity II
- (d) Quantity I ≤ Quantity II
- (e) Quantity I = Quantity II or No relation

Directions (6-10): What will come in place of the question mark (?) in the following number series?

Q6.7, 20, 46, 98, 202, (?)

- (a) 420
- (b) 410
- (c) 310
- (d) 320
- (e) 450



(?)

Q7. 210, 209, 213, 186, 202,

- (a) 138
- (b) 77
- (c) 177
- (d) 327
- (e) 322
- Q8. 567, 295, 159, 91, 57, (?)
- (a) 27
- (b) 29
- (c) 30
- (d) 39
- (e) 40
- Q9. 45, 186, 283, 344, 377, (?)
- (a) 397
- (b) 387
- (c) 390
- (d) 380

- (e) 405
- Q10. 10, 6, 12, 35, (?), 591.75
- (a) 130
- (b) 129.5
- (c) 127.25
- (d) 133
- (e) 224.25

Directions (11-15): Study the information given below in the passage and answer the questions that follow:

In a village there are certain number of population. 20% of population are between age group of (41 – 60) years 25% of the remaining population are between the age group of below 20 years. Rest of the population are between age group of (20 - 40) year. 80% of the total population of age group (20 - 40) years and 60% of the age group (41 - 60) years are graduate. 75% of total population of age group below 20 years are still studying in various classes from 1st to 12th.

The total persons who are graduate also involved in other activities like music, sports, yoga. 40% of the age group (20-40) years are involved in music only, 25% in sports only and rest are involved in Yoga only. The total no. of population below age of 20 years is 10,000. There is no person above 60 years. The persons of age group (41-60) are involved in yoga only.

Q11. Total no. of population who are graduate are what percent of total no. of graduate persons who are involved in only music and only sports together?

- (d) Can't be determined
- (e) ^{188%}

Q12. Total no. of population who is still studying in various classes from 1st to 12th is what percent more or less than the total no. of population who is involved in voga only (approximately)?

- (a) 54% less
- (b) 48% more
- (c) 48% less
- (d) 42% more
- (e) 58% less

Q13. Total no. of persons who are involved in only music and only sports together are what percent of total population of the village?

- (a) 3.12%
- (b) 28.2%
- (c) 31.2%
- (d) 38.2%
- (e) 37.2%
- Q14. If the ratio of male to female in the population of age group (20 40) years and (41 60) years is 3:2 and 3:1 respectively and 35% of females of age group (20-40) years play hockey and 36% of females of age group (41-60) years play Ludo then what is the ratio of females who play hockey to the ratio of females who do not play Ludo?
- (a) 8:21
- (b) 11:3
- (c) 23:9
- (d) 21:8
- (e) 14:9
- Q15. Total no. of person who are involved in only music and only sports together are what percent more or less than the total no. of population who is involved in yoga only?
- (a) 25/3% more
- (b) 25/3% less
- (c) 35/8% more
- (d) 25/9% less
- (e) 25/8% more





Solutions

S1. Ans.(b)

Sol. Quantity 1: Let C.P. of both shirts be Rs. 100

Total C.P. = Rs. 200

Total S.P. of both shirts = $1.2 \times 100 + 0.9 \times 100 = \text{Rs.} 210$

Overall profit = $\frac{(210-200)}{200} \times 100 = 5\%$

Quantity 2 : Let C.P. of one-metre cloth be Rs. x

And S.P. of one-metre cloth be Rs. y

Then,

20y - 20x = 5x

$$\Rightarrow 20y = 25x$$

$$\Rightarrow \frac{y}{x} = \frac{5}{4}$$
Profit% $\frac{(5-4)}{4} \times 100 = 25\%$
Quantity 2 > Quantity 1

S2. Ans.(b)

Sol. Quantity 1 : Volume of cube left =
$$7^3 - \pi \left(\frac{7}{2}\right)^2 \times 7$$

= $343 - \frac{22}{7} \times \frac{49 \times 7}{4}$
= $343 - 269.5$
= 73.5 cm^3

Quantity 2 : Surface area of cube left =
$$6 \times 7^2 - 2$$
. $\pi \left(\frac{7}{2}\right)^2 + 2\pi \left(\frac{7}{2}\right)^7$ = $294 - 77 + 154$ = 371 cm^2 Quantity 2 > Quantity 1

S3. Ans.(e)

Sol.

Quantity 1: Liters of milk removed =
$$\frac{1}{5} \times 10 = 2$$
 ltr.
Liters of water removed = $\frac{1}{5} \times 2.5 = 0.5$ ltr.

$$\frac{2+x}{8} = \frac{4}{1}$$

$$\Rightarrow x = 30$$

$$\frac{32}{8+y} = \frac{1}{4} \Rightarrow y = 128 - 8 = 120 \text{ ltr.}$$
Quantity 2: 120 ltr

Quantity I = Quantity II.



Sol.

Let, total units of work be 32 units

Then P does 2 units per day.

& Q does 1 unit per day.

Quantity 1:

3 units are done in 2 days.

30 units are done in 20 days.

On 21st day P does 2 units and work gets completed.

Quantity 2:

3 units are done in 2 days

30 units are done in 20 days.

On 21st day Q does 1 unit work.

P completes the remaining one unit in another $\frac{1}{2}$ day

Total days =
$$21\frac{1}{2}$$

Quantity 2 > quantity 1

Quantity $1 \ge$ quantity 2

S5. Ans.(c)
Sol. Quantity 1:
$$p^2 - 18p + 77 = 0$$

 $\Rightarrow p^2 - 11p - 7p + 77 = 0$
 $\Rightarrow (p - 11)(p - 7) = 0$
 $\Rightarrow p = 11, 7$
Quantity 2: $3q^2 - 25q + 28 = 0$
 $\Rightarrow 3q^2 - 21q - 4q + 28 = 0$
 $\Rightarrow (3q - 4)(q - 7) = 0$
 $\Rightarrow q = 7, \frac{4}{3}$

S6. Ans.(b)

Sol.

The pattern of the number series is:

$$7 \times 2 + 6 = 20$$

 $20 \times 2 + 6 = 46$
 $46 \times 2 + 6 = 98$
 $98 \times 2 + 6 = 202$
 $202 \times 2 + 6 = 404 + 6 = 410$

S7. Ans. (b) Sol.

The pattern of the number series is:

$$210 - 1^3 = 209$$

 $209 + 2^2 = 213$
 $213 - 3^3 = 186$
 $186 + 4^2 = 202$
 $202 - 5^3 = 202 - 125 = 77$

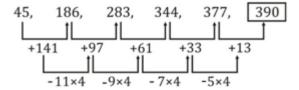
S8. Ans.(e)

Sol.

Pattern is
$$-272$$
, -136 , -68 , -34 , -17
 \therefore ? = 57 - 17 = 40

Sol.

Series is



S10. Ans.(b)

Sol.

The pattern is:

$$\times$$
 0.5 + 1, \times 1.5 + 3, \times 2.5 + 5, \times 3.5 + 7.....

$$\Rightarrow$$
 35 × 3.5 + 7 = 129.5

S (11-15):

Let total population of village = x

$$\therefore x \times \frac{80}{100} \times \frac{25}{100} = 10,000$$

$$\Rightarrow$$
 x = 50,000

Population of age group (41 - 60) years

$$=\frac{20}{100}\times50,000$$

$$= 10.000$$

Population of age group (20 - 40) years

$$=50,000 - (10,000 + 10,000)$$

S11. Ans.(b)

Sol

Total no. of population who are graduate

$$=\frac{80}{100} \times (30,000) + 10,000 \times \frac{60}{100}$$

$$= 30,000$$

Total no. of persons who are involved in music and sports only

$$=\frac{80}{100}\times30,000\times\frac{65}{100}$$

∴ Required percentage =
$$\frac{30,000}{15,600} \times 100$$

$$=192\frac{4}{13}\%$$

S12. Ans.(c)

Sol.

Total no. of persons who are still studying in various classes from 1st to 12th

$$=\frac{75}{100}\times10,000$$

$$= 7,500$$

Total persons who involved in yoga

$$= \frac{80}{100} \times 30,000 \times \frac{35}{100} + \frac{60}{100} \times 10,000$$

$$= 8,400 + 6,000$$

$$= 14,400$$

∴ Required percentage =
$$\frac{14,400-7500}{14,400} \times 100$$

$$=\frac{575}{48}\simeq48\%$$
 less





S13. Ans.(c)

Sol.

Total person who involved in music

and sports only
$$= \frac{40}{100} \times \frac{80}{100} \times 30,000 + \frac{25}{100} \times \frac{80}{100} \times 30,000$$

$$\therefore$$
 Required percent age = $\frac{15,600}{50,000} \times 100$

$$= 31.2\%$$

S14. Ans.(d)

Sol.

Total females of age group (20 - 40)

years who play hockey

$$= \frac{2}{5} \times \frac{35}{100} \times 30,000$$

Total females of age group (41-60)

years who do not play

Ludo =
$$\frac{1}{4} \times \frac{64}{100} \times 10,000$$

∴ Required ratio =
$$\frac{42}{16} = \frac{21}{8}$$

S15. Ans.(a)
Sol.
Total persons who involved in music and sports only = 15,600
Total persons who involved in yoga only
$$= \frac{35}{100} \times \frac{80}{100} \times 30,000 + \frac{60}{100} \times 10,000$$

$$= 14,400$$

$$\therefore \text{ Required percentage} = \frac{15,600-14,400}{14,400} \times 100$$

$$= 8\frac{1}{3}\% \text{ more}$$

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