

Quiz Date: 10th July 2020

Direction (1 – 5) : Read the data carefully and answer the questions.

A survey conducted on 6400 people in a town about which mobile network gives high speed data. 25% of the total town population selected only Airtel network. 15% of the total town population selected only Vodafone network. 7% of the total town population selected only Idea network. 12% of the total population of town selected only Aircel network. 16% of the total town population selected only Jio network. 6% of the total population of town selected Airtel & Vodafone only. 8% of the total town population selected Airtel, Vodafone & Jio only. 5% of the total population of town selected Vodafone, Aircel & Jio only and 6% of the total population of town selected all the five networks.

Q1. Total population of town who selected only Idea, only Aircel & only Jio network together are what percent less than total population of town who selected only Airtel & only Vodafone together?

- (a) 10.5%
- (b) 12.5 %
- (c) 11.5%
- (d) 15.5%
- (e) 16.5%

Q2. Find total population of town who selected at most two mobile networks?

- (a) 5164
- (b) 5162
- (c) 5184
- (d) 5158
- (e) 5188

Q3. Find total population of town who selected at least two mobile networks?

- (a) 1200
- (b) 1400
- (c) 1800
- (d) 1600
- (e) 2000

Q4. Find ratio between total population of town who selected all Vodafone, Aircel & Jio only to total population of town selected all the five networks?

- (a) 6 : 5
- (b) 5 : 4
- (c) 5 : 7
- (d) 5 : 9
- (e) 5 : 6

Q5. Total population who selected Jio network only is what percent more than total population who selected all Airtel, Vodafone & Jio only?

- (a) 120%

- (b) 140%
- (c) 160%
- (d) 100%
- (e) 96%

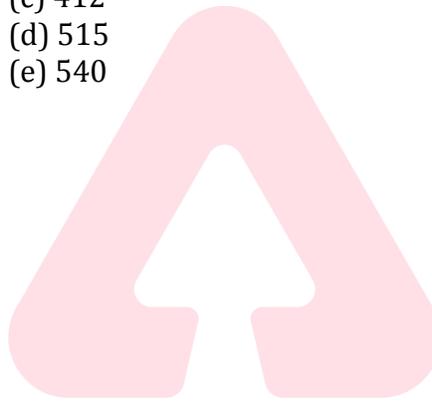
Directions (6-10): What will come at the place of question mark in the following number series questions?

Q6. 2, 13, 35, 68, 112, ?

- (a) 173
- (b) 178
- (c) 163
- (d) 167
- (e) None of these

Q7. 650, 601, 565, 540, 524, ?

- (a) 512
- (b) 514
- (c) 412
- (d) 515
- (e) 540



Q8. 16, 24, 36, 54, 81, 121.5, ?

- (a) 182.25
- (b) 174.85
- (c) 190.65
- (d) 166.55
- (e) 158.95

Q9. 8, 4, 6, 15, 52.5, ?

- (a) 236.25
- (b) 218.25
- (c) 212.25
- (d) 222.25
- (e) 230.25

Q10. 108, 72, 36, 24, 12, ?

- (a) 10
- (b) 6
- (c) 8
- (d) 7
- (e) 9

Q11. Raman took a loan of Rs. 15000 from Laxman. He was agreed that for the first three years rate of interest charged would be at 8% Simple Interest per annum and at 10% Compound Interest (compounded, annually) from the fourth year onwards. Ram did not pay anything until the end of the fifth year. How much would he repay if he clears the entire amount, only at the end of fifth year ? (inRs.)

- (a) Rs. 22506
- (b) Rs. 22105
- (c) Rs. 22900
- (d) Rs. 22500
- (e) Rs. 22450

Q12. Sapna borrowed a certain sum of money from Kavita under the following repayment scheme based on simple interest. 8% p.a. for the initial 2 years, 9.5% p.a. for the next 4 years, 11% p.a. for the next 2 years, 12% p.a. after the 8 years. Find the amount which a sum of Rs. 9,000 taken for 12 years becomes at the end of 12 years ?

- (a) Rs 20160
- (b) Rs 22350
- (c) Rs 23470
- (d) Rs 24567
- (e) None of these

Q13. The difference between CI and SI on a sum for 2 years at 10% per annum when the interest is compound annually is Rs 16. If the interest were compounded half yearly the difference in the interest will be

- (a) Rs 24.81
- (b) Rs 31.61
- (c) Rs 32.40
- (d) Rs 26.90
- (e) Rs 28.41

Q14. The simple interest accrued on an amount of Rs. 14,800 at the end of three years is Rs. 6,216. What would be the compound interest accrued on the same amount at the same rate in the same period?

- (a) Rs. 6986.1142
- (b) Rs. 7042.2014
- (c) Rs. 7126.8512
- (d) Rs. 8321.4166
- (e) Rs. 7216.8515

Q15. Uday invested Rs 20,000 with rate of interest 20% per annum. The interest was compounded half yearly for first one year and in the next year it was compounded yearly. What will be the total interest earned at the end of two years?

- (a) Rs 8800
 (b) Rs 9040
 (c) Rs 8040
 (d) Rs 8200
 (e) Rs 8400

Solutions

S(1 - 5) :

$$\text{Total town population selected only Airtel network} = 6400 \times \frac{25}{100} = 1600$$

$$\text{Total town population selected only Vodafone network} = 6400 \times \frac{15}{100} = 960$$

$$\text{Total town population selected Idea network only} = 6400 \times \frac{7}{100} = 448$$

$$\text{Total population of town selected Aircel network only} = 6400 \times \frac{12}{100} = 768$$

$$\text{Total town population selected Jio network only} = 6400 \times \frac{16}{100} = 1024$$

$$\text{Total population of town selected Airtel \& Vodafone only} = 6400 \times \frac{6}{100} = 384$$

$$\text{Total town population selected Airtel, Vodafone \& Jio only} = 6400 \times \frac{8}{100} = 512$$

$$\text{Total population of town selected Vodafone, Aircel \& Jio only} = 6400 \times \frac{5}{100} = 320$$

$$\text{Total population of town selected all the five networks} = 6400 \times \frac{6}{100} = 384$$

Total town population selected only Airtel network	1600
Total town population selected only Vodafone network	960
Total town population selected Idea network only	448
Total population of town selected Aircel network only	768
Total town population selected Jio network only	1024
Total population of town selected both Airtel \& Vodafone only	384
Total town population selected all Airtel, Vodafone \& Jio only	512
Total population of town selected all Vodafone, Aircel \& Jio only	320

Total population of town selected all the five networks	384
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S1. Ans (b)

Sol.

Total population of town who selected only Idea, only Aircel & only Jio network together
 = 448 + 768 + 1024
 = 2240

Total population of town who selected only Airtel & only Vodafone together
 = 1600 + 960
 = 2560

$$\text{Required percentage} = \frac{2560 - 2240}{2560} \times 100$$

$$= 12.5\%$$



S2. Ans (c)

Sol.

Total population of town selected at most two mobile networks
 = 1600 + 960 + 448 + 768 + 1024 + 384
 = 5184

S3. Ans(d)

Sol.

Total population of town selected at least two mobile networks
 = 384 + 512 + 320 + 384
 = 1600

S4. Ans(e)

Sol.

$$\text{Required ratio} = \frac{320}{384}$$

$$= 5 : 6$$

S5. Ans (d)

Sol.

$$\text{Required percentage} = \frac{1024 - 512}{512} \times 100$$

$$= 100 \%$$

S6. Ans.(d)

Sol.

Pattern is

$$2 + 1 \times 11 = 2 + 11 = 13$$

$$13 + 2 \times 11 = 13 + 22 = 35$$

$$35 + 3 \times 11 = 35 + 33 = 68$$

$$68 + 4 \times 11 = 68 + 44 = 112$$

$$112 + 5 \times 11 = 112 + 55 = 167$$

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S7. Ans.(d)

Sol.

Pattern is

$$650 - 7^2 = 601$$

$$601 - 6^2 = 565$$

$$565 - 5^2 = 540$$

$$540 - 4^2 = 524$$

$$524 - 3^2 = 515$$

S8. Ans.(a)

Sol.

Pattern is

$$\times \frac{3}{2}, \times \frac{3}{2}, \times \frac{3}{2} \dots \dots \dots$$

$$\therefore 121.5 \times \frac{3}{2} = 182.25$$

S9. Ans.(a)

Sol.

Pattern is

$$\times 0.5, \times 1.5, \times 2.5, \times 3.5, \times 4.5 \dots \dots$$

$$\therefore 52.5 \times 4.5 = 236.25$$

S10. Ans.(c)

Sol.

Pattern is

$$108 \div 1.5 = 72$$

$$72 \div 2 = 36$$

$$36 \div 1.5 = 24$$

$$24 \div 2 = 12$$

$$12 \div 1.5 = 8$$

S11. Ans. (a)

Sol. At the three years amount will be = $10000 + \frac{15000 \times 3 \times 8}{100}$
= 18600 Rs.

Now, after three years C.I. annually

So amount = $18600 \left(1 + \frac{10}{100}\right)^2$
= 22506 Rs.

S12. Ans (a)

Sol. The S.I. obtained after 12 years would be = $\frac{9000 \times 8 \times 2}{100} \times \frac{9000 \times 9.5 \times 4}{100} + \frac{9000 \times 11 \times 2}{100} \times \frac{9000 \times 12 \times 4}{100}$

= Rs 11160

Amount = P + S.I.

= 9000 + 11160

= Rs 20160

S13. Ans.(a)

Sol.

Let sum is Rs P

$$\therefore CI - SI = \frac{PR^2}{100^2}$$

$$\Rightarrow \frac{P \times 10^2}{100^2} = 16$$

$$\Rightarrow P = 1600$$

Now, when interest compounded half yearly then difference

$$= 1600 \left[\left(1 + \frac{5}{100}\right)^4 - 1 \right] - \frac{1600 \times 2 \times 10}{100}$$

$$= \frac{1600 \times 34481}{160000} - 16 \times 20$$

= Rs 24.81

S14. Ans.(c)

Sol.

According to question, Rate

$$= \frac{6216 \times 100}{14800 \times 3} = 14\%$$

$$\therefore C.I. = 14800 \left[\left(1 + \frac{14}{100} \right)^3 - 1 \right]$$

$$= \text{Rs. } 7126.8512$$

S15. Ans.(b)

Sol.

Amount when compounded half yearly for first year

$$A = 20000 \left[\left(1 + \frac{10}{100} \right)^2 \right]$$

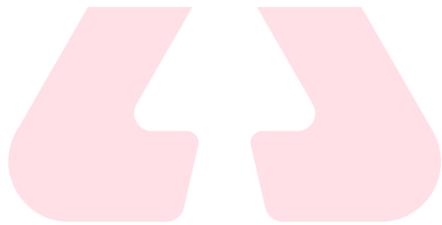
$$= 24,200$$

And C.I. after one year = 4200

$$\text{C.I. after two years} = 24200 \times \frac{20}{100} + 4200$$

$$= 4840 + 4200$$

$$= 9040$$



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