Quiz Date: 16th March 2020

Directions (1 – 5): Each of given question is followed by two statements i.e. Statement I & II. You have to determine which statement (s) is/are sufficient/necessary to answer the question and mark answer accordingly.
(a) Only statement II is sufficient
(b) Either statement I or II is sufficient
(c) Both statements together are not sufficient to answer
(d) Only statement I is sufficient
(e) Both statements together are necessary to answer

Q1. What is the length of train?
I. Train crosses same length of standing train in 36 sec while cross a platform in 54 sec.
II. length of platform is 400 meter more than that of train.

Q2. In what time Raj alone can complete the work?
I. Raj & Veer together can complete the same work in 9 days less than that of Raj.
II. Time taken by Veer to complete the same work is 4 days more than that of Raj & Veer together.

Q3. What is area of rectangle?
I. Length and breadth of the rectangle is in ratio of 5:4 and perimeter of the rectangle is same as the perimeter of a square.
II. Length and breadth of rectangle is $11\frac{1}{9}\%$ *more than and* $11\frac{1}{9}\%$ *less than* side of square respectively.

Q4. What is the ratio of milk & water in the mixture of Milk and Water?
I. If 10 lit milk is added in the mixture then the ratio of milk and water becomes 3:1.
II. If 5 lit water is added to initial mixture then milk quantity is two times that of water.

Q5. Find the value of $3^x + 4^y$?
I. The sum of x & y is 5.
II. The multiplication of x & y is 6 and x is smaller than y.

Directions (6-10): The following questions are accompanied by three statements (I), (II), and (III). You have to determine which statement(s) is/are sufficient /necessary to answer the questions
Q6. A group of six students in a class noticed that the sum of their ages is one less than square of a prime number. Then find the average age of the group?
I. Two elder students have average age of 70 years and one youngest student has an age of 40 years.
II. All students are between 50 years and 85years of age.
III. Difference of the age of youngest and eldest student is 35 yeras.
(a) Only I
(b) Only II
(c) Only I and III

(d) Cannot be answered even including all three statement
(e) None of these

Q7. What is the total surface area of a cylinder?
I. If ratio of base radius and height of the cylinder is 2 : 5.
II. Total circumference of top and bottom surface is 176 cm and volume is numerically 18,480 more than its curved surface area.
III. If radius of the cylinder is 21cm less than its height.
(a) Only II
(b) Only II or either I or III.
(c) Can't be determined
(d) Only II or Only I & III
(e) None of these

Q8. In a bag there are 9 white and 12 red and black balls. Find the number of red balls in that bag?
I. When 1 black ball is thrown away then probability of 2 black balls from the bag is 1/19.
II. When 6 white ball is taken away from the bag then probability of taking 1 red ball from the bag is 2/5.
III. Probability of choosing one black is equal to the probability of choosing one red balls from the bag.
(a) Only I and III
(b) Only II
(c) Only I and II
(d) All I, II and III
(e) Any one of three statements

Q9. A shopkeeper gets a loss of Rs.70 when he sold an article at 20% discount on M.P. Find cost price of Article.
I. % of mark up above cost price is equal to % discount given on M.P.
II. When no discount is given, article sold at profit of Rs 350.
III. Ratio of selling price to marked price is 4:5.
(a) Only I
(b) Only II
(c) Either Only I or Only II
(d) I and II together
(e) Any of the statements

Q10. What is the sum of four numbers?
I. The biggest no. is 10 more than the 2nd smallest number.
II. The sum of smallest and biggest number is 2 less than the sum of other two numbers.
III. The ratio of biggest number to the smallest number is 6:5.
(a) Only II & III
(b) Only I & II
(c) Any two of the three statements
(d) All statement is required

(e) None of these

Directions (11-15): The following questions are accompanied by two statements I and II. You have to determine which statements(s) is/are sufficient/necessary to answer the questions.

(a) Statement **I** alone is sufficient to answer the question, but statement **II** alone is not sufficient to answer the question.

(b) Statement **II** alone is sufficient to answer the question, but statement **I** alone is not sufficient to answer the question.

(c) Both the statements taken together are necessary to answer the question, but neither of the statements alone is sufficient to answer the question.

(d) Either statement **I** or statement **II** by itself is sufficient to answer the question.

(e) Statements **I** and **II** taken together are not sufficient to answer the question.

Q11. What is the minimum passing mark in a test?
I. Sandy Scored 40% marks in the test & scored 80 marks more than Dipak & Dipak scored 120 marks in the test.
II. Sandy scored 20 marks more than minimum passing mark.

Q12. What is the cost price of article if sonu mark up the article 40% above its C.P.?
I. Sonu gave 20% discount on mark price & earned Rs. 24 as Profit.
II. If Sonu gives two successive discounts of 10% then he earns Rs. 26.8 Profit.

Q13. Find the speed of boat in still water?
I. Time taken by boat to row a place 36 km away in upstream & then back is $4\frac{1}{2}$ hrs.
II. If the speed of stream is doubled then time taken by boat to row to place which is 36 km away in upstream & then back is $8\frac{1}{4}$ hrs.

Q14. What was the profit made by shopkeeper on article?
I . Shopkeeper sold article on 5% discount at Rs. 3800.
II . If shopkeeper sold article on marked price, he would made a profit of 25%.

Q15. Identify the number.
I. The number is a whole number.

II. 25% of 40 is greater than 20% of the number by 2.

Solutions

S1. Ans(e)
Sol. let length of both trains be l m and speed of the running train be x m/s
Let length of platform be d met.
From statement I, $x = \frac{l+d}{54}$
And $x = \frac{2l}{36} = \frac{l}{18}$
From both statements

$x = \frac{l+l+400}{54} = \frac{l}{18}$ (Since d=l+400)
L=400 meter

Clearly, both statements together are necessary to answer

S2. Ans(e)
Sol.
Let time taken by Raj & Veer together to complete the work = x days

from statement I,
Raj can complete the same work = x+9 units
From statement II,
Veer can complete the same work = x+4 units
ATQ,

$$\frac{1}{x+9} = \frac{1}{x} - \frac{1}{x+4}$$

On solving both equations we get,
X= 6.
Required result = 15 days.
Clearly, Both statements together are necessary to answer

S3. Ans(c)
Sol.
From statement I
Let length and breadth of the rectangle is 5x and 4x unit respectively.
From statement II
Let side of the square = 9y
On solving both equations, we get
Both statements together are not sufficient to answer

S4. Ans(e)
Sol. from statement I,

Let total quantity of mixture be X + Y lit
Initial milk quantity = X lit
Initial Water quantity = Y lit
$\frac{x+10}{y} = \frac{3}{1}$
From statement II,
$\frac{x}{y+5} = \frac{2}{1}$
From statement I & II, 2x = 5y
$\frac{x}{y} = \frac{5}{2}$
Clearly, Both statements together are necessary to answer

S5. Ans. (e)
Sol.
From statement I
x+y =5
We can't get required result
From statement II
xy= 6 and $x < y$
on solving both statements
we get the result
x=2 and y=3
required result = 73

S6. Ans.(b)
Sol.
Let x be the age of any one of the six students and sum of age of these six students be S years
From II only
50< x <85 i.e. 300< S <510
In this range only 361 is the square of a prime number.
So the required sum=360
And average=60 years

S7. Ans.(d)
Sol.
From Only II
Let height of cylinder be h cm
$2 \times 2\pi r = 176$ [r → radius of circle]
r = 14 cm
ATQ
$\pi r^2 h - 2\pi rh = 18480$
h=35 cm
thus we can find total surface area
From I and III
Let radius and height be 2x cm and 5x cm respectively
5x-2x=21

x=7 cm
we can find total surface area
Only II or Only I & III

S8. Ans.(e)
Sol.
Total number of balls= 9+12=21 balls
Let number of red balls in the bag be x then number of black balls = 12-x
We can find number of red balls from any of the three statements.

S9. Ans.(c)
Sol.
From I
Discount % = 20% = Mark up%
If cost price is 100x then Markup price 120x and selling price is → 96x
So ATQ,
100x – 96x = 70

$$\text{C. P} = 100\text{x} = \frac{70}{4\text{x}} \times 100\text{x} = 1750$$

From II
Let mark up price is → 100x
Then selling price is → 80x
ATQ,
100x – 80x = 350 + 70
20x = 420
100x = 2100
80x = 1680
C.P. → 1680 + 70 = 1750
So, Either I or II alone required.

S10. Ans.(e)
Sol.
Let the four numbers be 'a', 'b', 'c' and 'd' with 'a' being the smallest, 'b' being the second smallest, 'c' being the second largest and 'd' being the largest number
From I, II and III
(a + d)-2= (b + c)

$$\frac{d}{a} = \frac{6}{5}$$

And
d-10= b
Here, there are 3 equations and four variables.
So can't be determined

S11. Ans.(c)
Sol. From I
Sandy scored = 120 + 80 = 200
Let maximum mark be x
$\frac{40}{100} \times x = 200$
x = 500

From II
Minimum passing mark = 200 – 20 = 180
∴ From I & II

S12. Ans.(d)
Sol. Let CP be Rs. 100 x
∴ MP = Rs. 140 x
From I,
SP = $140x \times \frac{80}{100} = 112x$
ATQ,
112x – 100x = 24
x = 2
∴ CP = Rs. 200
From II
Two successive discounts = $10 + 10 - \frac{10 \times 10}{100} = 19\%$
SP = $140x \times \frac{81}{100}$ = Rs. 113.4x
ATQ,
113.4x – 100x = 26.8
∴ x = 2
∴ CP = Rs. 200
Either I or II is sufficient.

S13. Ans.(c)
Sol. Let speed of boat in still water be x km/hr. & speed of stream be y km/hr.
From - I

$\frac{36}{x+y}+\frac{36}{x-y}=\frac{9}{2}$
From – II
$\frac{36}{x+2y}+\frac{36}{x-2y}=\frac{33}{4}$
∴ From both equation x & y can be solved.

S14. Ans. (c)
Sol.
Form I,
Selling price of article = 3800 Rs.
Marked price of article = $\frac{3800}{95}\times 100$
= 4000
From II
Cost price = $\frac{4000}{125}\times 100$
= 3200
From I & II
Profit of shopkeeper = 3800 – 3200 = 600 Rs.

S15. Ans.(b)
Sol.
Statement (I) is clearly not sufficient as there are infinite whole numbers.
From statement II,
Let the number be x
$\frac{25}{100}\times 40-\frac{20}{100}\times x=2$
$\Rightarrow x=40$
∴ Statement II is sufficient.