SBI PO Mains Previous Year Question Paper 2020 - Quantitative Aptitude

Direction: Study the information carefully and answer the questions that follow.

A, B and C started a business by investing Rs. 800, Rs. 1600 and Rs. 2000 respectively. In the second quarter, they invested amounts in the ratio 1 : 4 : 2. In the next quarter again, they invested amounts in the ratio 3 : 2 : 3. In the last quarter, the ratio of their investments were same as in the 2 nd quarter. Also, in the last quarter, the respective amounts of A, B and C was double than the respective amounts invested in 2 nd quarter. The total investment of C before 4 th quarter was Rs 1400 more than that of A during the same duration. Also, ratio of B's share in profit to total profit at the end of year was 66 : 153.
Please note: All the investments were for one quarter only.

Q 1. Find the total investment of A, B and C.
A. Rs 10,200
B. Rs 11,300
C. Rs 9,800
D. Rs 10,080
E. None of these

Q 2. If A, B, C invested same amount in 1st quarter as given in the question in 1st quarter and the same amount as given in 2nd quarter in the question in 2nd, 3rd and 4th quarter, then what would be the profit of A at the end of year out of a total profit of Rs. 19,350?
A. Rs. 2510
B. Rs. 3320
C. Rs. 2560
D. Rs. 3150
E. None of these

Q 3. If the investments of A, B and C in third quarter were changed and were now in the ratio 2 : 4 : 1 (other investments being the same), then what would be the total investment of all three in third quarter, if the average investment of A, B, and C was Rs. 3100 for whole year?
A. Rs. 700
B. Rs. 800
C. Rs. 500
D. Rs. 900
E. None of these

Direction: Each question below contains a statement followed by Quantity I and Quantity II. Find both to find the relationship among them. Mark your answer accordingly.

Q 4.

Quantity I: A bag contains 50 balls which are green, orange and yellow. Number of orange balls in the bag, if probability of picking green ball is ⅗ and and that of either a green or orange ball is ⅘.

Quantity II: A bag contains 40 balls green, orange and yellow. The probability of picking orange ball is ⅜. If the first ball was orange and without replacement, probability of picking a green ball is 4/13. Number of yellow balls.

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 can be established

Direction: In the following question two Quantities i.e., Quantity I and Quantity II are given. You have to determine the relation between Quantity I and Quantity II.

Q 5.

Quantity I: 'a', 'b' and 'c' are positive integers. Quantity I: Value of a in $\{(a+b)^2 - (a-b)^2\} / \{8ab\ (a+b)^2\} = 1$

Quantity II: Value of c in $\{(c+b)^3 - (c-b)^3\} / \{b^2+3c^2)^2\} = 1/8b$

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 can be established

Direction: In the following question two Quantities i.e., Quantity I and Quantity II are given. You have to determine the relation between Quantity I and Quantity II.

Q 6.

$$\text{I: } \frac{a^{-b}}{a^{-a}} = a^b \times c$$

$$\text{II: } \frac{a^3 \times b^3}{a \times b^2} = \frac{b^3 \times d^4}{d \times b}$$

Quantity I: Value of 'c'

Quantity II: Value of 'd'

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 can be established

Direction: Study the following information and answer the questions that follow.
A number series is given as 20, a, b, c, d, 65
Where a, b, c and d are missing terms. It is also given that:
I. $a - 20 = (x^2 + y)$
II. The value of b is greater than a and the difference of b and a is equal to the $[(x + 1)^2 + y]$.
III. The value of c is $[(x + 2)^2 + y]$ more than b and the value of d is $[(x + 3)^2 + y]$ more than c.
Note: x is equal to the HCF of 2 prime numbers and the value of y is equal to the smaller root of the quadratic equation $z^2 - z - 6 = 0$.

Q 7. What is the value of d?
A. 40
B. 38
C. 42
D. 48
E. 50

Q 8. Which of the following is/are divisible by (y + 5)?
A. Only d
B. Only a and b
C. Only b and d
D. Only a, b and d
E. Only b and c

Q 9. Find the ratio between value of c and d respectively.
A. 3 : 2
B. 4 : 3
C. 3 : 4
D. 2 : 3
E. None of the above

Q 10. Find the ratio between value of c and d respectively.
A. 3 : 2
B. 4 : 3
C. 3 : 4
D. 2 : 3
E. None of the above

Q 11. If another series follows the same pattern as the given series and the first term of this new series is 29, then find the fifth term of this new series.
A. 67
B. 56

C. 42
D. 63
E. 51

Direction: Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and give answer.

Q 12. Find the cost price of the article.
Statement I: The article is marked up by T% and it is sold at discount of 20%. The profit earned on selling the article is 44%.
Statement II: If shopkeeper offers a discount of 40% on marked price, then he earns the profit of Rs. 16
Statement III: If shopkeeper doesn't offer any discount on marked price, then the selling price will be Rs. 160 more than the cost price of the article.

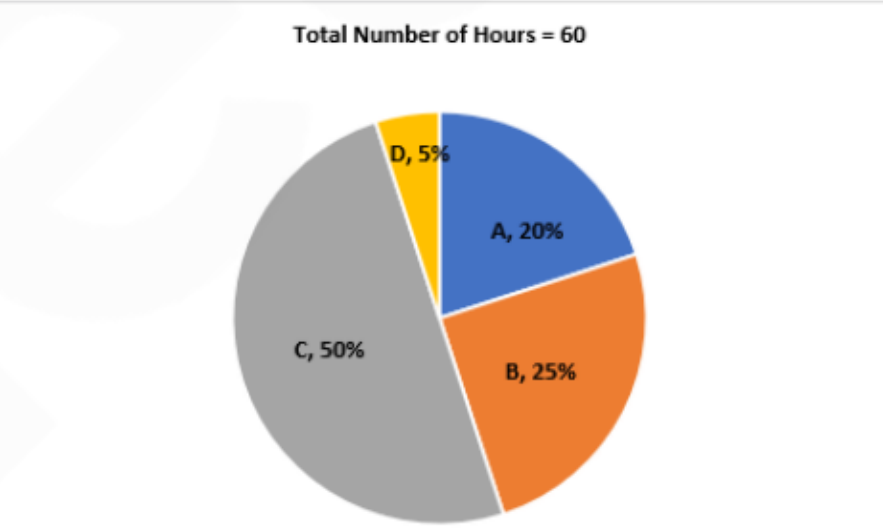
A. Only the data given in statements I and II together is sufficient to answer the question.
B. Only the data given in statements I and III together is sufficient to answer the question.
C. The data given in any two statements together is sufficient to answer the question.
D. The data given in all three statements I, II and III together is sufficient to answer the question.
E. The data given in all three statements I, II and III together is not sufficient to answer the question.

Directions: Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and give answer.

Q 13. P, Q and R entered into a partnership by investing certain amount for 12 months, T months and (12 – T) months respectively. Find the value of T.
Statement I: Q invested 50% more amount than the amount invested by P and R invested twice of the amount invested by Q.
Statement II: At the end of the partnership, total profit earned by them is Rs. 700 and Q gets Rs. 100 as his share of profit.
Statement III: At the end of the partnership, profit share of P and R is in the ratio of 1 : 2

A. Only the data given in statements I and II together is sufficient to answer the question.
B. Only the data given in statements I and III together is sufficient to answer the question.
C. The data given in any two statements together is sufficient to answer the question.
D. The data given in either statement I and II together or statement I and III together is sufficient to answer the question.
E. The data given in all three statements I, II and III together is not sufficient to answer the question.

Direction: Study the given information carefully and answer the following questions. Three yoga masters i.e., A, B, C and D conducted yoga sessions in a society. These yoga sessions are of three types viz. Basic (of 1 hour each), Regular (of 2 hours each) and Advanced (of 3 hours each). The pie chart given below shows the percentage distribution of total number of hours for which the given yoga masters conducted sessions in the society.



Q 14. If yoga master C conducted 4 Regular sessions and atleast one session of each type was conducted by him, then find the maximum number of Basic sessions that were conducted by Yoga master C

A. 20
B. 22
C. 19
D. 18
E. Cannot Be Determined

Q 15. If number of basic sessions conducted by B are more than number of regular sessions conducted by him which in turn are more than number of advanced sessions conducted by him, then find the minimum number of basic sessions conducted by Yoga master B

A. 4
B. 6
C. 2
D. 8
E. 5

Q 16. If number of basic sessions conducted by A were twice of the number of advanced sessions conducted by him, then find the total number of sessions conducted by A

A. 4
B. 6

C. 7
D. 9
E. 8

Direction: Study the following information and answer the following questions.
A dishonest milkman has X litre mixture of milk and water in the ratio 5 : 1 respectively. He sold mixture to three persons A, B and C in the same order. After selling milk to each person, he added certain amount of milk or water or both in the remaining mixture. The difference between milk and water with the milkman just before selling it to person C is 250 L. The table given below shows how the exchange took place.

Person	Quantity Sold (In Litre)	Milk Added (In Litre)	Water Added (In Litre)	Mixture Left (In Litre)
A	120	80	0	560
B	Y	60	10	M
C	70	3R	R	Z

Q 17. Find the value of X
A. 760 L
B. 640 L
C. 600 L
D. 720 L
E. None of these

Q 18. What is the value of Y?
A. 280 L
B. 220 L
C. 460 L
D. 320 L
E. 300 L

Q 19. If the ratio of milk and water in the final mixture is 9 : 2, then what is the value of Z?
A. 440 L
B. 360 L
C. 390 L
D. 520 L
E. None of these

Q 20. If the cost price of pure milk is Rs. 40 per litre and water is available free of cost, then find the percentage profit earned by the milkman on selling the mixture of milk to B, if he sold it at Rs. 45 per litre.

A. 25%
B. 26.5%
C. 30%
D. 31.25%
E. 34.5%

Q 21. If after selling the mixture to B, the amount of milk and water to be added to the remaining mixture is reversed, then what will be the concentration of milk in the mixture M?

A. 500/7%
B. 400/7%
C. 300/7%
D. 600/7%
E. 450/7%

Direction: Study the given information carefully and answer the following questions.

Four students i.e. A, B, C and D appeared for written and practical examinations of year 2019-20 The information given below is known:

Total Maximum Marks = Maximum marks of written Exam + Maximum marks of practical Exam

Total Maximum weighted score = Maximum marks in written exam × weighted % + Maximum marks in practical exam × weighted % Weighted score = Marks obtained in written exam × weighted % + Marks obtained in practical exam × weighted %

Weighted percentage of written exam is 60% and that of practical exam is 40%

Also, maximum marks of written exam is 80 and that of practical exam is 60

It is given that: Total weighted score of A is 52 . Total weighted score of B is 52 and B obtained 55 marks in practical exam. C obtained 50 marks in practical exam. Marks obtained by D in written examination is 70 and D obtained 75% marks in practical exam.

Q 22. If total weighted score of C is 65, then find the ratio of marks obtained by C and that by B in written examination.

A. 3 : 2
B. 4 : 5
C. 5 : 4
D. 6 : 5
E. None

Q 23. If D scored $7\frac{1}{7}$% more marks in written exam and C scored 60 marks in written exam, then find the difference between obtained weighted score of C and D is what percent of total maximum possible weighted score?

A. 8.56%
B. 9.72%
C. 10.34%
D. 7.52%
E. None

Direction: Study the given information carefully and answer the following questions.
Four students i.e. A, B, C and D appeared for written and practical examinations of year 2019-20
The information given below is known:
Total Maximum Marks = Maximum marks of written Exam + Maximum marks of practical Exam
Total Maximum weighted score = Maximum marks in written exam × weighted % + Maximum marks in practical exam × weighted % Weighted score = Marks obtained in written exam × weighted % + Marks obtained in practical exam × weighted %
Weighted percentage of written exam is 60% and that of practical exam is 40%.
Also, maximum marks of written exam is 80 and that of practical exam is 60
It is given that: Total weighted score of A is 52 . Total weighted score of B is 52 and B obtained 55 marks in practical exam. C obtained 50 marks in practical exam. Marks obtained by D in written examination is 70 and D obtained 75% marks in practical exam

Q 24. If the average marks of A, B, C and D in the practical exam is 47.5 and both A and C scored equal marks in written exam, then what is the average weighted scores of C and D?
A. 56
B. 58
C. 60
D. 52
E. None of these

Q 25. If ratio of marks scored by a 5 th student X in the written exam and practical exam is 5 : 3 and the weighted score of X is 52.5, then what is the sum of the marks scored by X in written and practical exams?
A. 96
B. 98
C. 100
D. 92
E. None of these

Direction: Study the given information carefully and answer the following questions.
There was a football tournament of three teams i.e. A, B and C in which each team played 2 matches.
Score pattern of the tournament is:
• A team gets 2 points for scoring a goal against the opponent team.
• A team gets 3 points for scoring a goal against the opponent team from the outside area.

• There is a penalty of 1 point if a team concedes a goal.
• Only three players from each team scored the goals.
A – B Match: B is the winner of this game. Total points scored by B in this match is 4 . Also, team A scored 2 goals and none of the players scored the goal from the outside area.
A – C Match: C scored 0 points in the match. Only one player from team A scored a goal from outside area. A scored 4 points in this match.
B – C Match: B gets 6 points from match. Team C scored 1 goal more than Team B. One player from team B scored a goal from outside area but none from team C.

Q 26. The given 3 teams are ranked on the basis of total marks in such a way that the highest scoring team is ranked 1, the second highest scoring team is ranked 2 and the least scoring team is ranked 3. Rank 3 got a total of Rs. 60,000 as prize money. If the ratio of the prize money of the rank 1, rank 2 and rank 3 team is 8 : 5 : 3, which of the following combinations of team and prize money is correct?
A. A, Rs. 1,00,000
B. C, Rs. 1,60,000
C. B, Rs. 1,60,000
D. C, Rs. 1,20,000
E. B, Rs. 1,00,000

Q 27. What is the maximum possible sum of the total number of goals scored by those players of all three teams, who score more than one goal in a tournament?
A. 18
B. 14
C. 12
D. 15
E. 9

Q 28. In the tournament, total points scored by team B is what percent more than total points scored by team A?
A. 50%
B. 75%
C. 100%
D. 125%
E. 80%

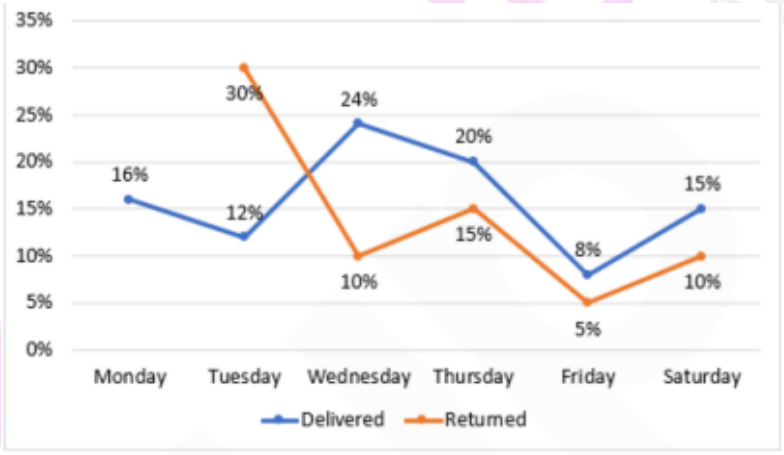
Q 29. Find the ratio between the number of goals scored by team B in its match against team C to the number of goals scored by team A in its match against team C
A. 2 : 1
B. 3 : 1
C. 4 : 3

D. 3 : 4
E. Cannot be Determined

Q 30. .Find the total number of goals scored by team A and team B together in the tournament.
A. 13
B. 14
C. 12
D. 10
E. 9

Direction: Study the line graph given below to answer the following questions.

The line graph given below shows the percentage of orders delivered from Monday to Saturday of week III out of the orders received on Sunday of Week II and it also shows the number of orders returned on any given day as a percentage of total number of orders delivered till previous day.



Note:
• Number of orders which were yet to be delivered after Saturday of week III were 25.
• Orders cannot be returned on the same day of delivery. It has to be returned on next day of delivery and no order was returned on Sunday of Week III.

Q 31. Find the average number of orders delivered on Monday, Tuesday and Thursday of week III.
A. 70
B. 80
C. 60
D. 50
E. 75

Q 32. What is the ratio between the number of orders returned on Wednesday to that returned on Friday?

A. 9 : 7
B. 4 : 5
C. 5 : 4
D. 7 : 9
E. None of the above

Q 33. If 25 orders were returned on Sunday of week III, then what percent of the total number of orders placed on Sunday of week II were not returned by the customers till Sunday of week 2?

A. 64%
B. 66%
C. 68%
D. 70%
E. 72%

Q 34. If the average number of orders returned from Tuesday to Sunday of week III is 30, then the number of orders returned on Sunday of week III is what percent more/less than the number of orders returned on Tuesday of week III?

A. 50% more
B. 87.5% less
C. 62.5% more
D. 87.5% more
E. 62.5% less

Q 35. Find the ratio between the total number of orders delivered from Monday to Thursday of week III to the total number of orders returned on Wednesday, Friday and Saturday together

A. 3 : 2
B. 4 : 1
C. 1 : 4
D. 6 : 5
E. 5 : 1